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Engineering | Environmental | Testing

Report Type:

Construction Environmental Management Plan

Project Address:

Charles Street Square, Parramatta NSW

Client Name:

Northrop Consulting Engineers P/L

28 August 2020

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We give you the right information to make the right decisions

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Figure 1 Site Location

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A Environmental Work Method Statement (including ERSED Plan)
B Environmental Management Plan
C Waste and Resources Management Plan
D Asbestos Management Procedure

GLOSSARY OF TERMS

ANZECC	Australian and New Zealand Environmental and Conservation Council
ASS	Acid Sulphate Soils
CEMP	Construction Environmental Management Plan
DA	Development Approval
DP&I	Department of Planning and Infrastructure
DPI	Department of Primary Industries
EMP	Environmental Management Plan
EMS	Environmental Management System
EPA	NSW Environment Protection Authority
ESAP	Environmentally Sensitive Area Plan
EWMS	Environmental Work Method Statement
LEP	Local Environmental Plan
OEH	Office of Environment and Heritage
PASS	Potential Acid Sulphate Soil
REF	Review of Environmental Factors
SEPP	State Environmental Planning Policy

1. INTRODUCTION

Alliance Geotechnical Pty Ltd (AG) was engaged by Northrop Consulting Engineers P/L (the client), to prepare a construction environmental management plan (CEMP) for the proposed development Charles Street Square, Parramatta NSW (refer **Figure 1**).

AG has the following project appreciation:

- The site is proposed for redevelopment, demolition, utility adjustments, civil infrastructure, planting and urban amenities; and
- A condition in the development application issued to council stipulates that a CEMP is required to inform the redevelopment design process.

AG were procured to:

- Prepare a CEMP, as per the development application issued to council, for the proposed construction activities of the client at the site.

The approximate geographic coordinates of the middle of the site, inferred from Google Earth were 33°48'49"S 151°00'37"E.

The locality of the site is set out in **Figure 1**. The general layout and boundary of the site is set out in **Appendix A**. The entire site covers an area of approximately 3,665m^2.

1.1. Project Description

The proposed development includes the demolition of current buildings, utility adjustments, some civil infrastructure, planting and urban amenities.

The purpose of this CEMP is to avoid or minimise the potential environmental impacts associated with the project. The CEMP sets out all the safeguards required to minimise any adverse impacts to the environment. The main environmental risks of the proposal are associated with sediment runoff into the local stormwater network, disruption of the local traffic network, loss of local amenity, discharge of groundwater and noise generated during construction. The Construction Methodology has identified mitigation measures that will be implemented to reduce and effectively manage these impacts. Any residual impacts will not be significant if the mitigation measures are implemented. The overall environmental risk level of the project has been identified as not significant.

1.1.1. Construction Activities

The project required a site management plan to be prepared in order to facilitate construction activities. The key aspects included:

- Works zone located off Charles Street and Phillip Street;
- Material storage area to the north of Charles Street (if required);
- Single point of entry and exit to the site compound to maximise security, eliminate entry from unauthorised visitors and maintain good environmental controls within the site;
- Protection of existing vegetation and trees; and
- Location of existing water, power and drainage services for temporary connection to site accommodation, as well as relocation if necessary.

Following the implementation of appropriate safety and environmental controls, including fencing, signage, sediment and erosion controls, and delivery and placement of site amenities as per the site management plan, construction works may proceed.

1.1.2. Construction Timetable and Hours of Work

Site establishment will commence as soon as possible and works are expected to be completed within one year of commencement. In general, the proposed work hours are Monday to Friday 7 am to 5 pm, Saturday 8 am to 4 pm, with no construction works scheduled to take place on Sundays or public holidays.

Some night work and work outside of the above mentioned may need to be complete as part of these works, inclusive of delivery of plant to the site. These works are to be managed by the contractor and must be approved by the relevant authorities prior to commencement. .

The construction phase of the project is expected to take between 6 and 12 months to complete, including final fit out.

1.2. Objectives of CEMP

The objectives of the CEMP are to:

- Outline the environmental objectives and outcomes to be achieved in the project's construction;
- Identify measures to protect the environment, and ensure compliance with environmental legislation drawing from the commitments outlined in the development application issued to council;
- Review and manage identified environmental risks of construction;
- Specify the detailed requirements on how environmental mitigation measures should be implemented in practice;
- Detail the legal and other obligations of the project and ensure compliance;
- Ensure that personnel are fully aware of their environmental obligations under this plan, relevant regulations and the contract;
- Define responsibilities and reporting lines for the environmental mitigation matters during construction;
- Identify the need for, and facilitate obtaining external permits;
- Facilitate consultation and communication with external stakeholders such as the local community and government agencies;
- Provide a basis for environmental audits, monitoring and reporting of the construction works;
- Ensure all employees are provided with sufficient training, development and support to recognise, avert and if necessary, effectively manage an environmental accident or non-conformance; and
- Ensure all project sites are returned to a satisfactory condition on completion of the Contract.

1.3. Context of CEMP

1.3.1. Environmental Management System

This CEMP is an integral part of the site Environmental Management System (EMS) as it details specific construction phase requirements that will ensure regulatory policy, continual improvement, objectives and targets are met throughout construction of the proposed development.

The CEMP is also the key environmental management document that Project Managers rely on to ensure appropriate environmental management practices are followed during the project activities. A controlled copy of the CEMP will be located on the client electronic server and will be available to all members of the client team. The CEMP will also be available at the site office.

1.3.2. Policy

The site EMS is governed by national and state legislation and guidelines including:

- *Environmental and Planning Assessment Regulation (2000);*
- *Protection of the Environment Operations Act (1997);*
- *SafeWork NSW How to Manage and Control Asbestos in the Workplace (2019);*
- *SafeWork NSW How to Safely Remove Asbestos (2019); and*
- *NSW EPA Guidelines for Consultants Reporting on Contaminated Site (2020).*

1.3.3. Subcontractor Management

All subcontractors utilised by the client throughout the course of the project will be made aware of their environmental obligations and requirements of this CEMP. It is envisaged that all subcontractors will work under the requirements of this CEMP.

The environmental performance of potential subcontractors is assessed prior to their award and environmental conditions are incorporated into relevant sub contracts. All sub-contractors will be subject to the site induction and assessment process. If a sub-contractor fails to carry out their environmental responsibilities under the contract, they will be issued with a non-conformance and managed accordingly.

2. PLANNING REQUIREMENTS

2.1. Development and Approval Process

The client is responsible for obtaining all legislative approvals and maintaining environmental documentation throughout the project. They will ensure that all activities undertaken as part of the Project are done so in accordance with the development application issued to council.

As part of the project review process, legislative and other requirements applicable to the project scope have been identified in the client Legal Register. The client Construction Manager will ensure that all applicable approvals, permits and licenses are held for the project.

The client will subscribe to legal and other database (Workplace Enviro Australia Pty Ltd) which specifically details the environmental legislation applicable to our operations. This can be found at https://www.worksafe.com.au/environmental-law.php.

All relevant environmental legal requirements are identified at a corporate level and recorded on an Environmental Legal Obligation Register. A review of legislative changes and their impact on the client operations is conducted monthly at a corporate level and communicated to site through the EHS Manager. Changes to local legislative and other requirements are reviewed by the EHS Manager. Any changes will be communicated to the client and the Environmental Legal Obligation Register and other areas of the CEMP will be amended to ensure legal compliance.

2.2. Statutory Obligations and Requirements

The development application issued to council identified the applicable planning instruments and legislation. The approvals that have the potential to be required are listed in the following table (**Table 1**) and have been incorporated in the Environmental Management Plan in **Appendix A**. For more information about the statutory obligations refer to the development application.

Table 1 - Potential list of environmental approvals prior or during construction.

Regulatory Requirements					
Activity requiring approval	**Legislation, Licences, Permits or Consents**	**Authority**	**Date required / construction stage**	**Date obtained / person responsible**	**Reporting requirements**
Construction work likely to result in a relic being discovered, exposed, moved, damaged or destroyed	Permit under Section 139 of the Heritage Act 1977	NSW Heritage Council	During detailed design / Before construction	Project Manager	Prepare and submit an Archaeological Research Design and Methodology to the NSW Heritage Council. Submit application for approval of S139 exception based on discussions with NSW Heritage Council.
Excavations intercepting groundwater	Water access licence under Part 5 of the Water Act 1912	DPI Water	During detailed design / Before construction	Project Manager	Consult with the DPI-Water during detailed design and before submitting any licence applications. Provide the geotechnical assessment and pre-construction groundwater monitoring results with the licence application.
Dewatering of open excavations	Licence to discharge under the Protection of the Environment Operations Act 1997 Commercial Trade Wastewater Agreement	City of Parramatta Council Sydney Water	During detailed design / Before construction	Project Manager	Negotiations with City of Parramatta Council are required to discharge groundwater to existing stormwater system. Preparation and submission for a licence with the EPA may be required. Application for trade waste agreement with Sydney Water
Tree removal / pruning as a result of the project	Tree removal / pruning permit under the Parramatta Local Environment Plan	City of Parramatta Council Sydney Water	Before removal or pruning of any trees	Project Manager	Consult with City of Parramatta Council. Written consent is required from Council.
Excavation / Handling / Removal of asbestos containing soil materials	Class A or B Asbestos Removal licence issued by Safe Work NSW	Safe Work NSW	During detailed design / Before construction	Project Manager	Notification to Safework NSW at least 5 days prior to scheduled asbestos works.

2.3. Environmental Work Method Statements

All environmental hazards and risks have been identified and have been considered when developing the Environmental Work Method Statements (EWMS) for the project. The EWMS is a working document and has been developed with the most current understanding of the environmental conditions, potential impacts, design and work practices. As the project progresses the aspects and impacts may require revision to remove aspects that are no longer present and add new or future aspects. Revisions will be conducted in conjunction with the project team.

2.3.1. Environmental Objectives, Targets and Program

The client objectives and targets have been developed to align with these identified environmental aspects and impacts that may arise as a result of the project.

In addition, the client will maintain an aspects and impacts register as part of the EMS. The register will identify construction activities, and asses the environmental risk associated with each activity. The objectives and targets have been developed to align with these identified aspects and impacts.

The objectives and targets program (**Table 2**) also details specific actions, reporting requirements, responsibilities and timeframes to ensure that these objectives and targets are achieved. **Table 2** identifies relevant overall Environmental objectives and targets that this project contributes to. This Environmental Management Plan and Sub-Plans (**Appendix A**), in conjunction with the objectives and targets program, form the overall environmental management program for the client.

Table 2 - Objectives and Targets Program.

Objective	Target	Actions	Reporting	Responsible	Time-frame
A **Minimise Harm** Minimise harm to the environment as a result of our works	A1 No major environmental incidents.	► To be managed through the implementation of Construction Environment Management Plan and Incident Response Plans and standalone tasks managed by the Project Manager.	► In accordance with project incident Response Plan and in Monthly Reports.	► Overall responsibility for this target lies with the Project Manager. ► All incidents to be reported in Monthly Reports.	► Review of incidents and potential incidents as they occur. ►Overall review through monthly reporting.
B **Employee awareness** To continually improve our environmental performance (and implementation of environmental practices) through increased employee knowledge and development of a positive attitude.	B1 Develop and maintain a program of ongoing environmental training.	► Develop and refer to the client Training Guidelines and Procedures.	► Training records to be maintained in accordance with the client Training Guidelines and Procedures. ► Environmental training activities and their effectiveness are to be reported in the six-monthly audits	► Overall responsibility for this target lies with the Project Manager.	► The environment training program is to be reviewed every six months for effectiveness monthly. Opportunities for improved training are to be raised and implemented as required.
C **Waste minimisation** To adopt waste minimisation principles and appropriate waste management practices through all stages of the clients operation.	C1 Track and review the amount of waste produced on site on a monthly basis.	► To be managed through implementation of Construction Environment Management Plan	► To be reported in Monthly Report	► Overall responsibility for this target lies with the Project Manager. ► All incidents to be reported in Monthly Reports.	► Overall review every six months.
D **Waste disposal** To classify and treat waste spoil generated from construction activities.	D1 No instances of illegal transportation and disposal of either classified or unclassified waste.	► Undertake soil sampling of spoil to increase understanding of material for disposal within the vicinity of the Church. ► Develop and implement Construction Environment Management Plan	► Ensure log books are filled out. ► Maintain a waste log on- site. ► To be reported in Monthly Reports	► Project Manager is to report on waste tracking in Monthly Reports. ► Undertake appropriate waste classification, treatment, handling and disposal of all waste.	► Additional soil sampling for areas are to commence before construction. ► Excess spoil may be tested in situ before construction or in stockpiles during construction.
E **Dust minimisation** To prevent excess generation of dust	E1 Dust related complaints are minimised and any instances of dust related complaints from the public are closed out within the timeframe agreed with the complainant.	► To be managed through implementation of Construction Environment Management Plan	► To be reported in Monthly Reports	► Overall responsibility for this target lies with the Project Manager. ► All incidents to be reported in Monthly Reports.	► Overall review monthly.

F Vegetation To prevent unnecessary vegetation clearance	F1 No instances of unapproved vegetation / damage.	► To be managed through implementation of Construction Environment Management Plan and Arborists Report	► To be reported in Monthly Reports	► Overall responsibility for this target lies with the Project Manager. ► All incidents to be reported in Monthly Reports.	► Overall review monthly.
G Noise Minimisation To minimise noise disturbance to residents	G1 No work outside approved working hours. G2 No work to contravene licence conditions, approvals, permits	► To be managed through implementation of Construction Environment Management Plan.	► To be reported in Monthly Reports	► Overall responsibility for this target lies with the Project Manager. ► All incidents to be reported in Monthly Reports.	► Overall review monthly.
H Erosion and sedimentation To minimise erosion and sediment loss	H1 No instances of sediment loss off-site due to inappropriate or poorly maintained erosion and sediment controls.	► To be managed through implementation of Construction Environment Management Plan.	► To be reported in Monthly Reports	► Overall responsibility for this target lies with the Project Manager. ► All incidents to be reported in Monthly Reports.	► Overall review monthly.
I Heritage To avoid impacts on heritage items / places	I1 No unapproved impact on heritage items and places.	► To be managed through implementation of Construction Environment Management Plan	► To be reported in Monthly Reports	► Overall responsibility for this target lies with the Project Manager. ► All incidents to be reported in Monthly Reports.	► Overall review monthly.
J Vibration To minimise instances of property damage from vibration generated from construction activities	J1 No instances of structural damage caused by vibration.	► To be managed through implementation of Construction Environment Management Plan.	► To be reported in Monthly Reports	► Overall responsibility for this target lies with the Project Manager. ► All incidents to be reported in Monthly Reports.	► Overall review monthly.
K Visual amenity To minimise visual impacts caused by construction	K1 Visual amenity complaints are minimised and any complaints from the public in regard to static construction activities are closed out within the timeframe agreed with the complainant.	► To be managed through implementation of Construction Environment Management Plan.	► To be reported in Monthly Reports	► Overall responsibility for this target lies with the Project Manager. ► All incidents to be reported in Monthly Reports.	► Overall review monthly.

L Traffic and access To avoid disruption to traffic and access	L1 Traffic and access related complaints are minimised and any instances of traffic related complaints from the public and closed out within the timeframe agreed with the	► To be managed through implementation of Construction Environment Management Plan.	► To be reported in Monthly Reports	► Overall responsibility for this target lies with the Project Manager. ► All incidents to be reported in Monthly Reports.	► Overall review every six months.

2.3.2. Critical Construction Activities

The entire site has a site-specific Environmental Work Method Statements (EWMS). This is included as **Appendix A**.

An EWMS is an approved work plan outlining specific environmental controls required during specific construction activities. The EWMS highlights site-specific issues and appropriate environmental control measures (such as sediment and erosion control devices, exclusion fencing, etc). By implementing the controls on the EWMS, the requirements of the Environmental Management Plan, and therefore the CEMP will be achieved. Works in all areas will be conducted in accordance with the approved EWMS.

All EWMS's will also incorporate any environmentally sensitive areas outlined in previous investigations/ reports. The areas outlined will typically take the form of overhead plans showing locations of sensitive areas along the entire project. These will contain, but not be limited to:

- Topographic features including slopes, watercourses and drainage lines;
- Location of known indigenous and non-indigenous heritage items (if any);
- Potential and known areas of contamination (if any); and
- Threatened species, habitat areas and vegetation cover both native and exotic.

EWMS's that are appropriate in areas outside Environmentally Sensitive Areas may take the form of a written document outlining appropriate environmental controls.

All EWMS may be revised during the course of construction if additional environmental controls are required. All EWMS require Project Manager approval prior to commencement of works.

3. IMPLEMENTATION AND OPERATION

3.1. Environmental Management Plan

The management of environmental aspects relevant to construction works are detailed in the Environmental Management Plan and other designated Sub-Plans, as per **Appendix A**. **Appendix A** also includes all safeguards to be implemented.

3.2. Structure and Responsibilities

A summary of the organisational structure and responsibilities illustrating the relationship of key members of the client management team, is provided below. Any subcontractors used on the proposed development will be required to work in accordance with this CEMP and as such are treated as the client team members in terms of Environmental Roles and Responsibilities.

The client Project Manager will maintain an up-to-date version of the organisation chart for each management team with names of responsible individuals. This is to be displayed at each worksite and should include contact details.

Roles and Responsibilities

The client team members responsible for the proposed development will undertake environmental duties in accordance with the CEMP requirements listed in the environmental management plan and sub-plans (Appendix A) and in conjunction with the relevant Position Description.

Client team members have an obligation to protect the environment through carrying out their work with due diligence. All client team members and subcontractors must:

- Comply with the requirements of the CEMP as they apply to the type of work the employee is involved in;
- Report all incidents or activities that may result in environmental harm; and
- Implement appropriate measures to control environmental risks.

Project Manager

- Provide the leadership and direction whereby environmental protection is and remains an integral element of all program and project activities.
- Support the implementation of the CEMP.
- Be familiar with the relevant regulatory and project requirements and their effect on delivery;
- Ensure compliance with this CEMP;
- Aim to achieve an outstanding outcome of CEMP implementation;
- Obtain and comply with all necessary environmental approvals / licences;
- Implement, maintain, monitor, report and advise the RMT on all environmental management;
- Provide direction and guidance to engineers and supervisors to implement the CEMP;
- Ensure that all the environmental incidents are reported and investigated;

- Ensure all subcontractors are informed of environmental management requirements; and
- Monitor and act to ensure environmental management requirements are implemented throughout the life of the workplace.

EHS Manager

- Establish the Environment Policy.
- Establish environmental objectives and targets.
- Develop and support strategies to meet these objectives and targets.
- Develop the site environmental aspects and impacts register.
- Encourage environmental innovation and ensure that environmental initiatives are incorporated in the approach to project management and performance.
- Coordinate ongoing training in environmental awareness for all levels of the Construction staff.
- Coordinate, manage and approve the preparation the project's Construction Environmental Management Plan.
- Review environmental legislation and communicate relevant information to the wider team.
- Develop and review internal environmental documents for the client (E.g. CEMP, procedures etc).
- Ensure compliance with all environmental approvals and permit requirements.

Site Supervisors

- Comply with the relevant environmental regulatory and project requirements as identified in the CEMP.
- Exercise diligence in enforcing work practices that minimise adverse environmental impacts.
- Ensure the development and implementation of environmental controls for the work activity.
- Ensure all employees in the workplace (including contractors) comply with environmental requirements.
- Require all employees to report environmental risks or hazards.
- Liaise with employee / subcontractors so that prompt responses are given when environmental issues are raised.
- Participate in regular environmental inspections
- Ensure that workplace environmental records are maintained.
- Assist the construction manager in ensuring that all environmental incidents are reported, investigated and corrective action taken to prevent recurrence.

- Assist the project team in the implementation and maintenance of environmental controls.
- Ensure that all relevant employees and contractors receive environmental inductions and ongoing training as appropriate.
- Participate in regular workplace inspections to ensure compliance with the CEMP.
- Assist with environmental hazard and risk identification and elimination.
- Assist in the development and management of tasks to ensure statutory requirements relating to environmental management and performance are met.
- Provide support and advice to the Project Teams on environmental management matters as required.

3.3. Training and Environmental Awareness

All persons working at the site must undergo the following training prior to starting the work and acknowledge receipt of same by signing relevant project documentation:

- A site induction including the requirements of the CEMP, EWMS and ESAPs;
- Emergency response training;
- Familiarisation with the site environmental features requiring protection and controls; and
- Specific environmental training of relevant employees as required.

All visitors to the site must be accompanied by a person working at the site who has been fully inducted as per the requirements of persons working at the site. In addition, visitors must undergo the following training:

- General site induction;
- Familiarisation with site evacuation plan; and
- Familiarisation with site features and hazard awareness.

Toolbox talks will also be utilised for training and environmental awareness.

3.4. Communication

3.4.1. External Stakeholders

A full list of contact details for external stakeholders is included in the Communications Management Plan.

The Project Manager will be notified immediately of any complaints relating to management of environmental issues.

All consultation and communication will be carried out in accordance with the Stakeholder Management Plan, which will include a complaint handling procedure. Environmental complaint details will be recorded in accordance with the Stakeholder Management Plan. All complaints will be registered on the database and managed accordingly.

3.4.2. Community Consultation

The client team will:

- Be responsible for informing the community about the construction works including methods, duration and timing of construction and be the primary contact for any community enquiries or issues.
- Notify residents of any access obstructions (in advance of the obstruction) through advice in the local press and/or letters. Accurate public information and signs will also be displayed while construction works are in progress.
- Will consult with Local Councils, the Road and Maritime Services (RMS), emergency services and bus companies (as required) prior to any full or partial road closures. A Traffic Management Plan and associated Traffic Control Plans would be submitted to RMS as part of application for a road occupancy licence, if required.

A community information telephone line will be the primary phone contact for the community regarding the project. The community information telephone line will be on display at the site entrance and will be maintained to handle questions and complaints during construction hours, and outside hours in case of emergencies.

3.5. Emergency Preparedness and Response

3.5.1. Emergency response and Contacts

An Emergency Management Plan is required to be developed to assign responsibilities and define the process to be followed in the event of an emergency situation occurring at the project.

Emergency response contacts will be on display in the site office.

3.5.2. Incident Management

The client has an Incident Management Plan (IMP) which incorporates processes to be followed specifically in the event of any environmental emergency that causes or has the potential to cause environmental harm. The IMP has been developed in accordance with the Emergency Response Plan and the EHS Emergency Planning Procedure. A controlled copy is located in Head Office. All site inductions will include employee responsibilities with respect to the IMP.

The IMP includes:

- The names of key emergency personnel;
- Personnel responsibilities and contact details;
- The location of on-site information on hazardous materials, including MSDSs and spill containment material, type and location;
- Evacuation routes;
- The procedures to follow to minimise/control environmental incidents; and
- Procedures for notifying the public and/or the EPA if required.

An environmental incident is defined as an event that has resulted in, or could have adverse environmental impact, such as a major chemical spill. If such an incident is deemed to have occurred, the client shall implement the IMP, and report all incidents to the EHS Manager and City of Parramatta

Council immediately. Any such events will be reported in accordance with the site's procedures and the project manager is to report the incident as required under legislation.

During the personnel training and induction program, the client emphasises to all personnel working on the site that all events must be immediately reported, documented and investigated accordingly.

The incident investigation shall include the following basic elements:

- Identify the cause of the incident;
- Identify the necessary corrective action(s);
- Identify personnel responsible for carrying out corrective action(s);
- Implement or modifying controls necessary to avoid repetition;
- Record any changes in written procedures required; and
- Notify the client of all significant environmental issues immediately.

Action completion will be monitored, and evidence of close-out maintained. Once completed and actions closed, Environmental Incident Reports will be completed and kept onsite.

In the event of an environmental incident causing or threatening 'material harm' to the environment, the following authorities must be notified immediately (in this order):

- City of Parramatta Council
- NSW EPA
- Ministry of Health
- Safe Work NSW
- Local Council.

Fire and Rescue NSW Contact numbers can be found in the Incident Management Plan.

4. MONITORING AND REVIEW

4.1. CEMP Audit

Environmental audits are carried out as planned in accordance with the Audit Procedure. The client will conduct six monthly audits in addition to other inspections, to verify compliance with the CEMP, EMS and Legal Compliance.

The audit schedule will be incorporated into the site diary and will be conducted in accordance with the Audit Procedure.

The internal audits conducted on this project will address the following areas:

- Compliance with EMS.
- Compliance with legal and other requirements (e.g. licence and project approval conditions).
- All monitoring and operational reports required by any Licences are adequate.
- Environmental mitigation measures specified in EMP are being implemented and are effective.
- Environmental training records are in order.
- Environmental reports are being completed and acted on.
- Environmental events are being recorded and acted on.
- Environmental targets are being achieved.

4.2. Environmental Site Checklist

During the project works, environmental monitoring will be conducted to ensure compliance to legislation, as well as the objectives and targets stipulated in this CEMP.

All regular environmental monitoring activities such as vehicle checks, inspections and audits will be detailed on the site's diary, which is reported against monthly.

The frequency and specific monitoring criteria will be assessed periodically throughout the project to ensure that they are consistent with the aspects and impacts' section of the EHS Risk Register, as well as the current level of risk to the environment.

4.3. Non-Conformance and Corrective and Preventative Action

Environmental non-conformances are situations or events that do not comply with the safeguards and procedures stipulated by this CEMP. Any such finding is to be documented and kept up-to- date by the client in the Process Improvement Database (PI Database) which tracks and documents recommended improvement (RI) and non-conformances request (NCR).

Any corrective and preventative action plans identified are to be implemented by the client to the satisfaction of EHS Manager and City of Parramatta Council.

Records of all non-conformances and corrective action plans shall be held onsite for inspection by relevant authorities (if required).

4.4. Records

All documentation received, generated or stored pertaining to environmental matters of this project will be managed in accordance with the Quality Management System, in particular document approval, identification, storage, protection, retention, distribution, revision, retrieval and when appropriate disposal.

Environmental records, which will be collated and held on site by the Project Manager and Environment Officer during the construction phase of the Project, shall include the following:

- Licences, permits, consents or conditions of approval as relevant
- CEMP, ESAPs and EWMSs
- Training and inductions weekly
- Weekly environmental checklist
- Environmental audits
- Non-conformance and corrective and preventative actions
- Complaints
- Environmental event/incident and investigation reports
- Waste dockets
- Plant and equipment registers and daily checks
- MSDSs and chemical registers training and induction registers
- Environmental complaint records
- Environmental monitoring data and reports

4.5. CEMP Review

This CEMP is a 'live' document with the ability to change as the project situation changes. These changes can be in the form of recommendations from the EHS Manager, the Project Manager, the client or site employees. An environmental management review can be called by the client at any time to assess the performance of the CEMP and to suggest changes.

The CEMP will be reviewed at a minimum of six-monthly intervals or a lesser frequency if required by other factors such as the results of audit reports, complaints, incidents or changes in site conditions or scope of works. Reviews will be carried out by consulting documents such as Development Approval, subcontractor documentation, Environmental Work Method Statements, incident logs, complaint logs, variation orders to scope of works, completed inspection check sheets and Inspection and Test Plans as appropriate.

Changes to the CEMP will be recorded and issued as per the document control at the start of this CEMP. The review will adequately address all sections of the CEMP and action them

5. STATEMENT OF LIMITATIONS

The findings presented in this plan are based on information provided by the client, specific searches of relevant, government historical databases and anecdotal information that were made available during the course of this investigation. To the best of our knowledge, these observations represent a reasonable interpretation of the general condition of the site at the time of report completion.

This plan has been prepared solely for the use of the client to whom it is addressed, and no other party is entitled to rely on its findings.

No warranties are made as to the information provided in this plan. All conclusions and recommendations made in this plan are of the professional opinions of personnel involved with the project and while normal checking of the accuracy of data has been conducted, any circumstances outside the scope of this report or which are not made known to personnel and which may impact on those opinions is not the responsibility of Alliance Geotechnical Pty Ltd. Should information become available regarding conditions at the site including previously unknown sources of contamination, AG reserves the right to review the plan in the context of the additional information.

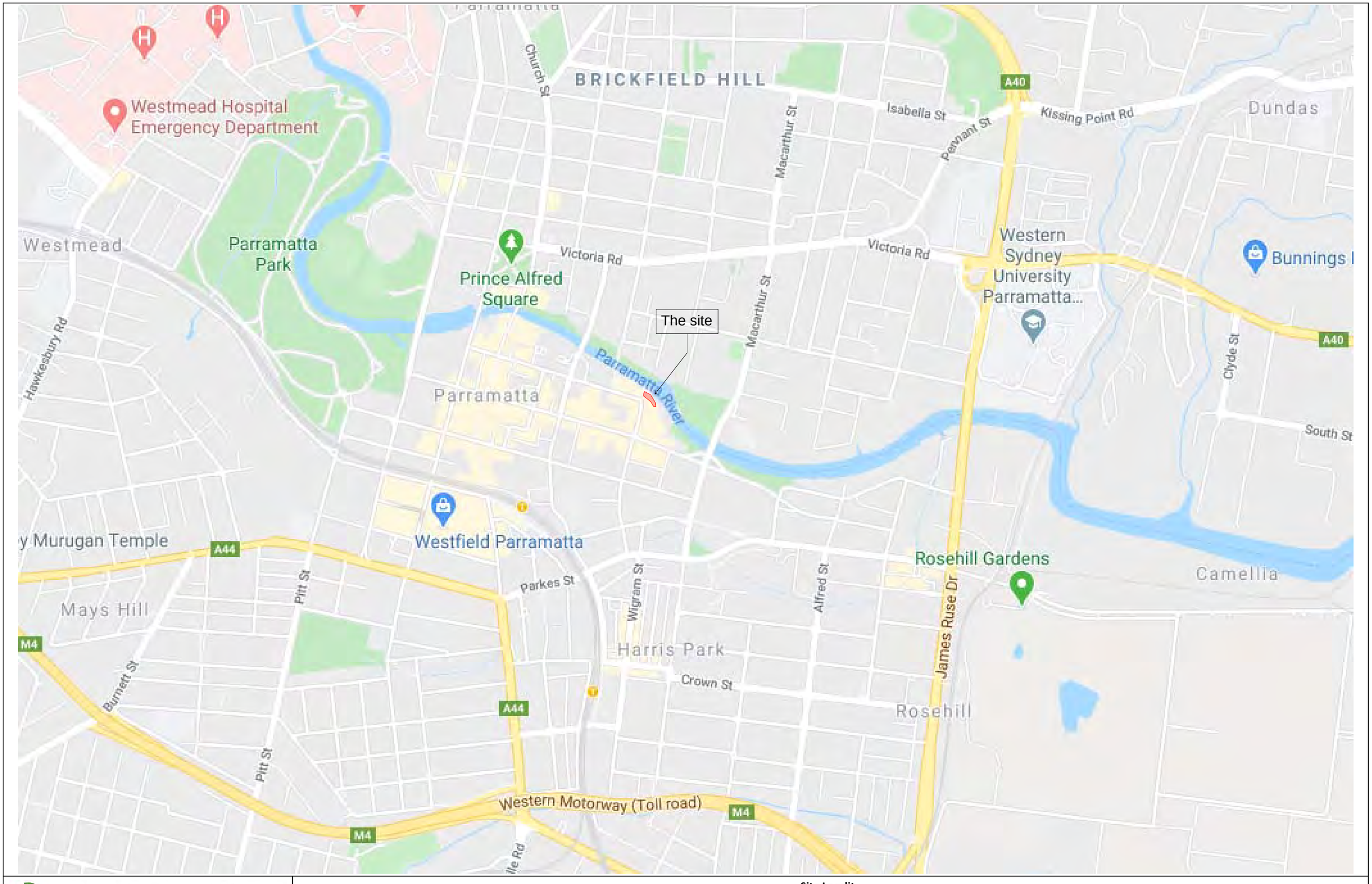
This plan must be reviewed in its entirety and in conjunction with the objectives, scope and terms applicable to AG's engagement. The plan must not be used for any purpose other than the purpose specified at the time AG was engaged to prepare the plan.

Logs, figures, and drawings are generated for this report based on individual AG consultant interpretations of nominated data, as well as observations made at the time site walkover/s were completed.

Data and/or information presented in this report must not be redrawn for its inclusion in other plans or documents, nor should that data and/or information be separated from this report in any way.

Should additional information that may impact on the findings of this plan be encountered or site conditions change, AG reserves the right to review and amend this plan.

FIGURES



Site Locality

Client Name:	Northrop Consulting Engineers P/L	N	Figure Number:	1
Project Name:	Construction Environmental Management Plan		Figure Date:	18 June 2020
Project Location:	Charles Street Square, Parramatta NSW		Report Number:	7957ER-4-1

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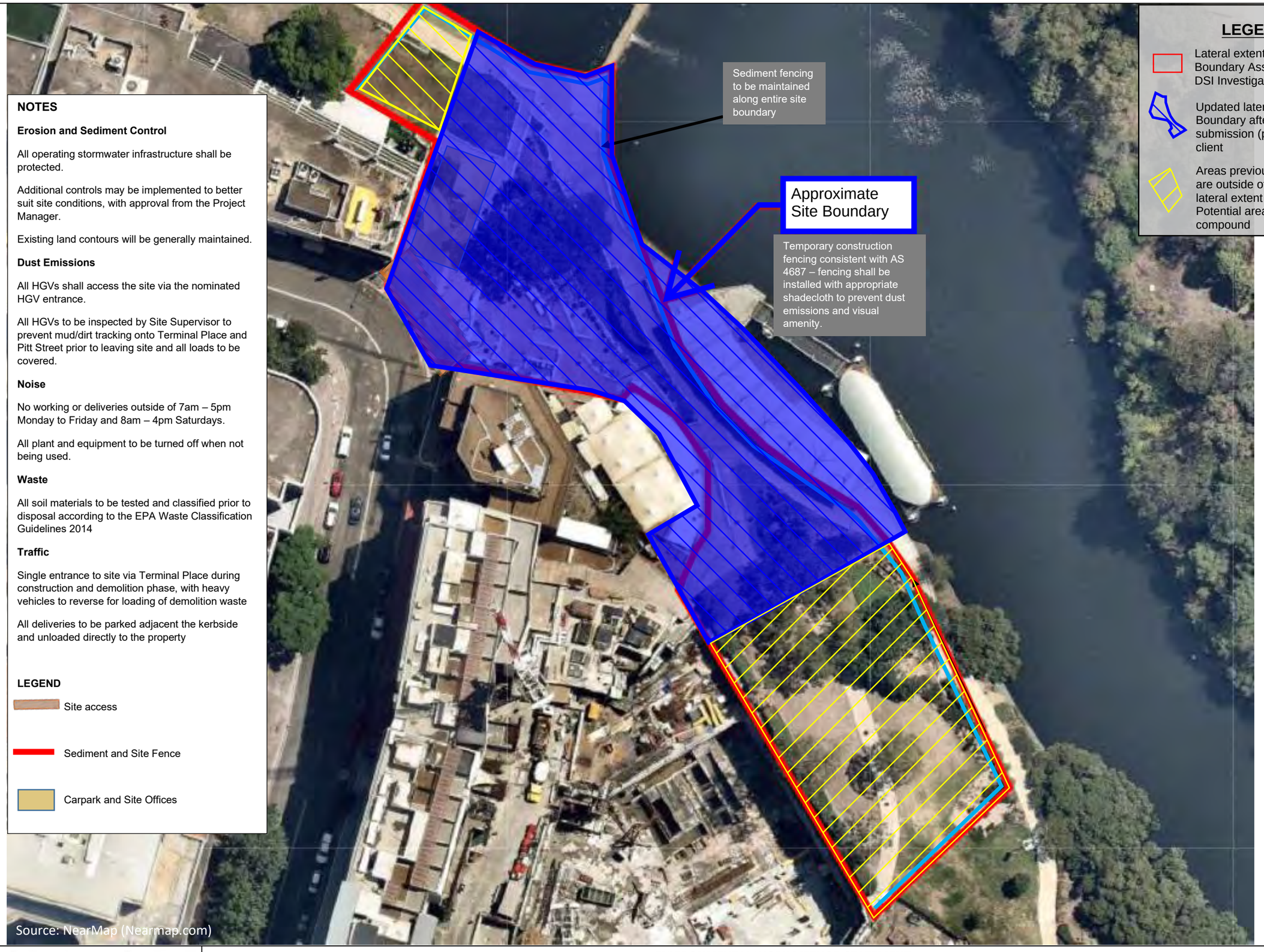
APPENDICES

APPENDIX A

Environmental Work Method Statement (EWMS) (including Concept Sediment and Erosion Plan)



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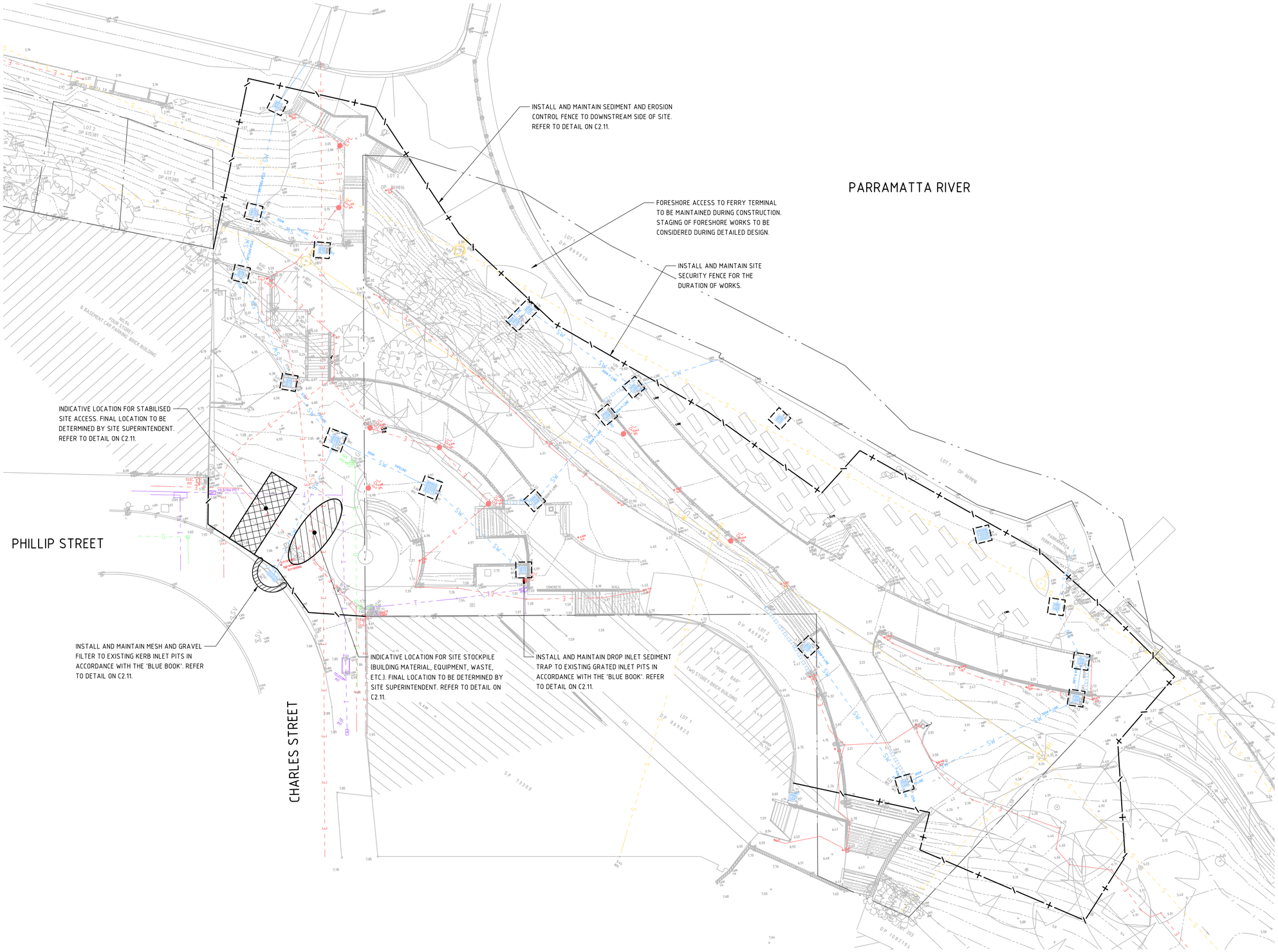
ENVIRONMENTAL WORK METHOD STATEMENT

Client Name:	Northrop Consulting Engineers P/L	Figure Number:	2
Project Name:	Construction Environmental Management Plan	Figure Date:	20 August 2020
Project Location:	Charles Street Square, Parramatta, NSW	Report Number:	7957-ER-4-1_Rev02

N



NOT FOR CONSTRUCTION

REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	DESIGN DEVELOPMENT ISSUED FOR QS REVIEW	J.P		T.H	24.04.20
2	ISSUED FOR REF	D.T		T.H	22.05.20

CLIENT: Welcome to City of Parramatta

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ARCHITECT: SPACKMAN MOSSOP MICHAELS

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PROJECT: CHARLES STREET SQUARE

DRAWING TITLE: CONCEPT SEDIMENT AND EROSION CONTROL PLAN

JOB NUMBER: 182116

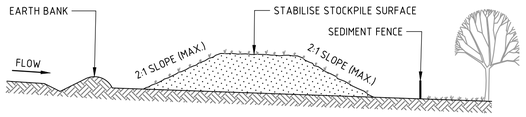
DRAWING NUMBER: C2.01

REVISION: 2

DRAWING SHEET SIZE = A1

DRAWN: J.PHILLIPS
DESIGNED: T.HOWE
JOB MANAGER: T.HOWE
VERIFIER:

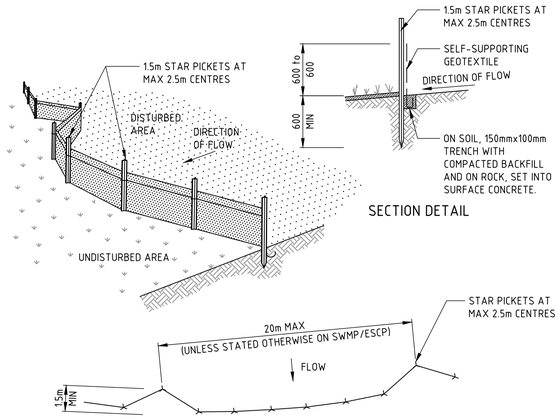
Found: W:\#jobs\2018\182116 - Charles Street Square\3D-Drawings\D-Northrop\C-CIVIL\2-CURRENT CAD FILES\182116_C2.01_CONCEPT SEDIMENT AND EROSION CONTROL PLAN.dwg
Plotted By: dtemhave
Date: 22-5-20 11:18am



CONSTRUCTION NOTES

1. PLACE STOCKPILES MORE THAN 2m (PREFERABLY 5m) FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWING 6-8) 1 TO 2m DOWNSLOPE.

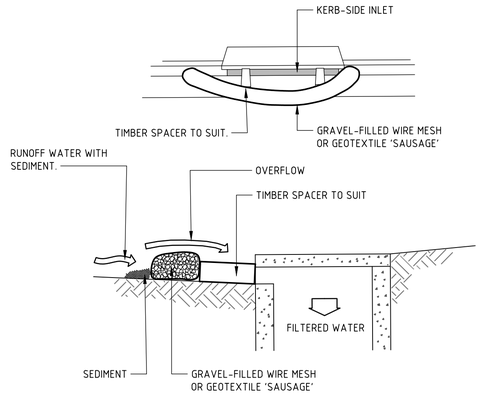
STOCKPILE
SD4.1



CONSTRUCTION NOTES

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

SEDIMENT FENCE - LANDSCAPED AREAS
SD6.8

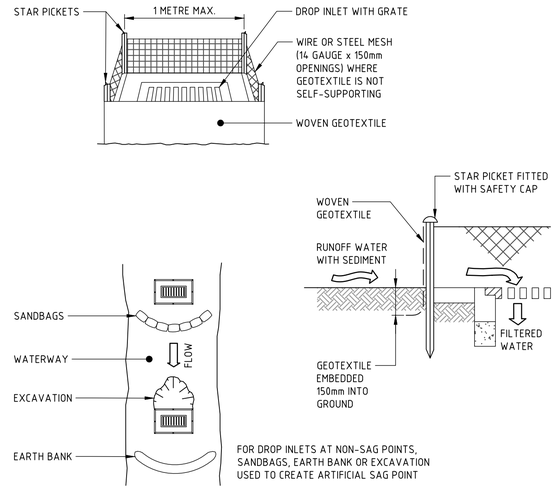


NOTE:THIS PRACTICE ONLY TO BE USED WHERE SPECIFIED IN APPROVED SWMP/ESCP.

CONSTRUCTION NOTES

1. INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.
2. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
3. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
4. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
5. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
6. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY FIRMLY ABUT EACH OTHER AND SEDIMENT-LADEN WATERS CANNOT PASS BETWEEN.

WIRE MESH AND GRAVEL SEDIMENT FILTER
SD6.11

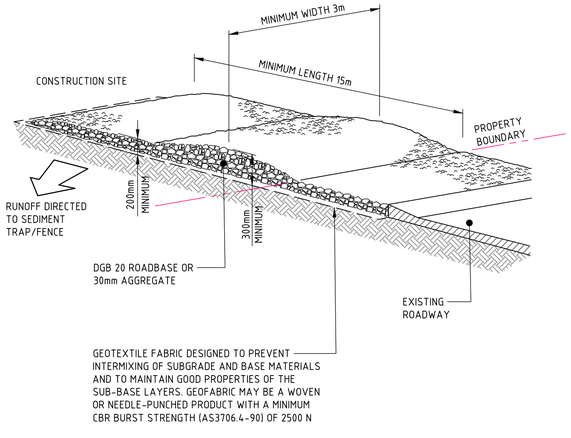


FOR DROP INLETS AT NON-SAG POINTS, SANDBAGS, EARTH BANK OR EXCAVATION USED TO CREATE ARTIFICIAL SAG POINT

CONSTRUCTION NOTES

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. FOLLOW STANDARD DRAWING 6-7 AND STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
4. DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

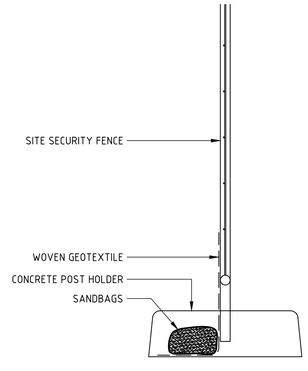
GEOTEXTILE INLET FILTER TRAPS
SD6.12



CONSTRUCTION NOTES

1. STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE.
2. COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
3. CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASE OR 30mm AGGREGATE.
4. ENSURE THE STRUCTURE IS AT LEAST 15 METRES LONG OR TO BUILDING ALIGNMENT AND AT LEAST 3 METRES WIDE.
5. WHERE A SEDIMENT FENCE JOINS ONTO THE STABILISED ACCESS, CONSTRUCT A HUMP IN THE STABILISED ACCESS TO DIVERT WATER TO THE SEDIMENT FENCE.

STABILISED SITE ACCESS
SD6.14



CONSTRUCTION NOTES

1. PLACE SANDBAGS ALONG BASE OF FENCE ON TOP OF GEOTEXTILE.
2. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE SECURITY FENCE. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
3. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.

SECURITY AND SEDIMENT FENCE - HARDSTAND AREAS

VERIFIER:
JOB MANAGER: T.HOWE
DESIGNED: T.HOWE
DRAWN: J.PHILLIPS

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REVISION	DESCRIPTION	ISSUED	VER'D	APP'D	DATE
1	DESIGN DEVELOPMENT ISSUED FOR QS REVIEW	J.P		T.H	24.04.20
2	ISSUED FOR REF	D.T		T.H	22.05.20

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PROJECT: CHARLES STREET SQUARE

DRAWING TITLE: SEDIMENT AND EROSION CONTROL DETAILS

JOB NUMBER: 182116
DRAWING NUMBER: C2.11
REVISION: 2
DRAWING SHEET SIZE = A1

Date : 22-5-20 11:18am Plotted By : dtenhave Found : W:\Jobs\2018\182116 - Charles Street Square\1D-Drawings\1D-Northrop\C-CIVIL\2-CURRENT CAD FILES\182116_C211_SEDIMENT AND EROSION CONTROL DETAILS.dwg

APPENDIX B

Environmental Management Plan

Person Responsible Abbreviations – SS (Site Supervisor), PM (Project Manager)

Outcome	Environmental Action	Timeframe	Monitoring / Reporting	Person Resp.
GENERAL				
To minimise the risk of environmental incidents and complaints and to effectively manage incidents and complaints if they occur.	All project staff and contractors will be inducted on the environmental sensitivities of the work site(s) and relevant safeguards prior to commencement.	Prior to construction	Induction records	PM
	The Project Manager will be notified immediately of any complaints relating to management of environmental issues.	As required	Complaint register	PM
	To ensure compliance with Section 148(3) of the Protection of the Environment Operations Act 1997, all employees and contractors will inform the Project Manager and as soon as they become aware of any pollution incidents that have caused or threaten material harm to the environment.	As required	Incident reports	All
Topography, Geology and Soils				
Ensure adequate restoration	Restore the landform of the site(s) as close as possible to the pre-works condition.	Completion	Weekly checklist / Site plan	PM
	The work site to be rehabilitated to as close to existing condition as possible following the completion of works.	During construction	Weekly checklist	PM
	Monitor adopted site stabilisation and restoration measures for effectiveness and modify them, as required.	Completion of works	Weekly checklist / Site plan	PM
	Compact post construction backfill level across the site to prevent settlement and uneven surfaces.	Completion of works	Weekly checklist / Site plan	PM
Sediment and Erosion Control				
No sedimentation of waterways.	Erosion and sediment control measures will be consistent with those specified in the DECC's Urban Erosion and Sediment Control Manual (DLWC, 1992) OR the NSW Government's Blue Book (4th Edition, 2004) on erosion and sediment control.	Site establishment	Weekly checklist Site plan	SS
	All surface runoff is to be diverted away from areas of soil disturbance and stockpiles of erodible material.	Site establishment	Site plan	SS
	We will establish erosion and sediment control measures as per the Loka Erosion and Sediment control plans before work begins and maintain them in effective working order during works, until the site has been stabilised to prevent on-site erosion and off-site transport of eroded sediments.	Site establishment / Prior to works / During construction	EWMS	SS

Outcome	Environmental Action	Timeframe	Monitoring / Reporting	Person Resp.
	We will establish appropriate sediment controls at the site boundary adjacent to any stormwater drains and channels to minimise sediment entering the stormwater system.	Site establishment	Weekly checklist	SS
	Sediment and erosion control devices will be inspected weekly and immediately after rainfall to ensure effectiveness over the entire duration of the project. Any damage to erosion and sediment controls will be rectified immediately.	During construction	Weekly checklist	SS
	Any stockpiles of soils or fill are to be managed in an appropriate manner to prevent dust, erosion and sediment runoff.	During construction	Weekly checklist Site plan	SS
	Measures will be taken to prevent tracking of soils/sediments from work sites to roadways and footpaths as a result of work vehicle/machinery movement.	During construction	Weekly checklist	SS
	Any sediment/soil transferred from work sites to adjacent roadways/footpaths will be swept up at least daily or prior to the onset of rainfall, and reused on site where appropriate.	During construction	Weekly checklist	SS
	Disturbance of any kind to ground surfaces will be kept to an absolute minimum.	During construction	Site plan	SS
	Equipment, plant and materials will be situated in designated lay-down areas with bunding where they are least likely to cause erosion or damage vegetation.	Prior to works	Site plan	SS
	In the event of rain developing during works execution, work site/s will be made secure against soil erosion.	Prior to rain	Weekly checklist	SS
	The Incident Management Plan (IMP) will include a contingency plan and emergency procedures for dealing with the unexpected onset of rainfall during the work period.	Prior to establishment	IMP	PM
	If possible, disturbed areas will be stabilised as soon as possible and in a progressive manner as works are completed.	Completion of works	Weekly checklist Site plan	SS
	Prepare and implement site specific environmental management plans for any work sites and construction compounds.	Prior to works	Site Plan	PM
Minimise tracking of sediment and mud onto public roads	Minimise transport of dust and mud onto public roads through the use of rumble grids or wheel washes. Ensure streets are swept as needed.	During construction	EWMS / Weekly checklist	SS
	All vehicles carrying waste materials capable of discharging free liquid will be watertight to prevent leaks and we will check them to confirm the absence of leaks before they leave the site.	During construction	Vehicle checklist	SS

Outcome	Environmental Action	Timeframe	Monitoring / Reporting	Person Resp.
Water Quality and hydrology				
No pollution of waterways by sewage.	Portable site amenities will not be located where a spillage could cause pollution to a watercourse or drainage line.	Site establishment	Site plan	SS
No pollution of waterways from fuels or chemicals.	A functioning 'spill kit' will be kept on site at all times for clean-up of accidental chemical/fuel spills.	During construction	Weekly checklist	SS
	All chemicals and fuels will be stored within designated bunded areas. The storage areas will be identified with appropriate signage.	During construction	Weekly checklist	SS
	Equipment will not be used if there are any signs of fuel, oil or hydraulic leaks. Leaks will be repaired immediately or the equipment will be removed from site and replaced with a leak-free item.	During machinery use	Plant checklists	SS
	All chemicals stored on site will be recorded on a register. The relevant Safety Data Sheets will also be kept on site.	During construction	SDS Chemical register	SS
	The Incident Management Plan (IMP) will include a contingency plan and emergency procedures for dealing with spillage of chemical/fuel.	Prior to construction	IMP	PM
Minimise pollution of waterways from upstream sources	We will apply water sensitive urban design planning controls on new development.	During detailed design	Design drawings	PM
Flora, Fauna and ecosystems				
No harm to or unapproved removal of vegetation.	Mature native trees (including standing dead trees) will not be removed without prior approval from the City of Parramatta Council.	Prior to vegetation removal	Correspondence	PM
	Vegetation clearance and disturbance will be kept to an absolute minimum.	Site establishment	EWMS	SS
	Where possible, clearing will be limited to trimming of branches rather than the removal of whole plants.	Vegetation trimming	EWMS	SS
	Arborist advice will be sought and implemented where there is a risk of damage to trees.	Site establishment	EWMS	PM
	If any damage occurs to vegetation outside of the nominated work area, the Project Manager will be notified so that appropriate remediation strategies can be developed.	During construction	EWMS / Correspondence	SS
	The Arborist to be consulted to provide recommendations regarding species selection for replacement or compensatory plantings.	As required	Correspondence	PM

Outcome	Environmental Action	Timeframe	Monitoring / Reporting	Person Resp.
	We will only cut roots when absolutely necessary and this will be done by a qualified arborist.	Vegetation trimming	EWMS	PM
	We will delineate the location and full extent of any lopping, trimming, clearing or other vegetation disturbance required for the works.	Site establishment	EWMS	PM
No harm to threatened flora or fauna species or ecological communities.	If any threatened species (flora or fauna) is discovered during the works, all work will stop immediately and the Project Manager will be notified. Work will only recommence once the impact on the species has been assessed and appropriate control measures provided.	During construction	Correspondence	PM
Minimise the spread of weeds	Any weed removal/control will be done by suitably qualified and/or experienced licensed sub-contractors.	As required	Monthly report	PM
	We will manage declared noxious weeds according to the requirements of the Noxious Weeds Act 1993.	As required	Site plan	PM
Noise and Vibration				
Minimise construction noise	Work and deliveries will only occur during the following times: Monday to Friday 7am to 6pm, Saturday 8am to 1pm. No construction work or deliveries will occur on Sundays or public holidays.	During construction	Inductions / Toolbox	PM
	Surrounding residences and businesses will be given reasonable notice of the proposed works (including proposed start date, work methods and works duration)	Prior to works	Correspondence	PM
	Equipment used will have efficient muffler design and be well maintained.	Prior to works	Vehicle checklist	SS
	We will install construction hoarding where required, to provide acoustic shielding to potentially noise affected residential receivers.	As required	Site plans	PM
	We will select smaller equipment options or rubber-tracked equipment where equipment is fit-for-purpose and it is economically feasible.	Prior to works	NA	PM
	We will maintain and operate all equipment efficiently, according to manufacturer's specifications, to reduce adverse noise impacts.	During construction	Vehicle checklist	PM

Outcome	Environmental Action	Timeframe	Monitoring / Reporting	Person Resp.
	We will consider alternative work practices, which generate less noise in high impact locations, for example using electric equipment instead of diesel- or petrol-powered equipment.	Prior and during works	NA	PM
	We will turn off plant and equipment when it is not being used.	During construction	Weekly checklist	SS
No noise complaints from high noise impact activities	We will schedule respite periods in consultation with the community for construction activities expected to generate noise levels at or in excess of 75 dB(A) at any receiver.	During construction	Correspondence	PM
	We will limit noise intensive works to the least sensitive times of the day, wherever possible.	During construction	Weekly checklist	PM
No vibration damage to surrounding buildings from construction activities	Where vibration from construction activities may affect residential receivers (human comfort), we will manage them according to the British Standard BS 6472-1992 and Australian Standard AS 2436-1981.	During construction	Monitoring report	PM
	Where vibration from construction activities may affect nearby structures, we will manage them according to British Standard BS 7385: Part 1- 1993 Evaluation and Measurement of Vibration on Buildings.	During construction	Monitoring report	PM
	We will consult with landowners and business owners to determine any specific vibration requirements. We will propose appropriate construction methods and schedules that comply with the agreed vibration requirements and Standards BS 6472-1992 and AS 2436-1981.	Prior to construction	Correspondence	PM
No vibration damage to heritage buildings from construction activities	For historic buildings, which have a higher sensitivity to vibration, we will manage impacts according to German Standard DIN 4150: Part 3.	During construction	Monitoring report	PM
Air Quality and Energy				
No construction site dust is to leave the site.	Time between ground disturbance and rehabilitation will be minimised as far as practical.	Construction planning	Weekly checklist	PM
	All work areas and stockpiles will be closely monitored for dust generation.	During construction	Weekly checklist	SS
	We will manage stockpiles to minimise dust generation, either by keeping them moist, or covering them.	During construction	Weekly checklist	PM
	In the event of dust generation, appropriate dust suppression measures (e.g. watering, covering exposed areas/stockpiles with tarpaulins or geotextile fabric, appropriate seeding and/or avoidance of dust generating activities during dry or windy conditions).	During construction	Weekly checklist	SS

Outcome	Environmental Action	Timeframe	Monitoring / Reporting	Person Resp.
	All loads of excavated material, soil, fill and other erodible matter that is transported to or from the work site will be kept covered at all times during transportation.	Materials transport	Weekly checklist	SS
	A street sweeper will clean streets and access roads as required.	During construction	Weekly checklist	SS
Minimise air pollution.	No matter of any kind is to be burnt.	During construction	Weekly checklist	SS
	All work vehicles/machinery will be maintained to a standard such that visible particulates in exhaust emissions are not visible for a continuous period of more than 10 seconds	Machinery use	Plant checklists	SS
	We will implement measures to minimise energy use and greenhouse gas emissions during construction, including appropriately maintaining equipment and machinery, and not leaving work vehicles or machinery running when not in use.	Machinery use	Weekly checklist	SS
	Vehicle movements will be limited to designated entries and exits, haulage routes and parking areas.	During construction	Weekly checklist	SS

Outcome	Environmental Action	Timeframe	Monitoring / Reporting	Person Resp.
Heritage				
Minimise damage to known or unknown items of heritage significance.	If there are unexpected or unidentified historic finds (of unknown origin or significance) during construction, we will cease work and seek the advice of a qualified archaeologist. The following procedure will guide the management of unexpected and previously unidentified finds during construction: • All work in the area is to cease immediately. • Alert the project manager. • If necessary, protect the area with fencing. • Engage a suitably qualified archaeologist to assess the find/s. • Assess the find using the guidelines for Assessing Significance for Historical Archaeological Sites and 'Relics' (NSW Heritage Branch, 2009) • If the archaeologist advises us to, we will prepare an Impact Assessment and Research design and methodology to submit to the Heritage Council for a Section 140 excavation permit or exception. • We will complete archaeological mitigation according to the prepared documents and the permit/exception issued by the Heritage Council. Once the site is mitigated to the satisfaction of the archaeologist and the Heritage Council, construction may resume.	During construction	Specific Management plan	All staff
Social and Visual environment				
No complaints about the visual condition of the construction site.	All work equipment and materials will be contained within the designated boundaries of the work site or works compound.	During construction	Weekly checklist Site plan	SS
	The spread of stockpiles, waste, and vehicle parking will be minimised.	During construction	Weekly checklist	SS
	Accurate public information signs will be displayed while work is in progress and until site restoration has been completed.	During construction	Site plan	PM
No complaints on prolonged loss of land use	On completion of the works, all vehicles, construction equipment, materials, and refuse relating to the works will be removed from the work site(s) and any adjacent affected areas.	At completion of construction	Weekly checklist	SS
	Work sites will be restored as close to their original condition as possible following the completion of the proposed works.	At completion of construction	Weekly checklist	PM

Outcome	Environmental Action	Timeframe	Monitoring / Reporting	Person Resp.
Minimise visual impacts to existing residents	We will retain existing vegetation (street trees) to help minimise the visual impact to nearby businesses.	During detailed design	Site plans	PM
Land use and services				
No customer complaints.	The Project Manager will be notified immediately of any complaints received and will respond as soon as possible.	During construction	Complaints register	PM
	Any accidental damage to property occurred by the works must be repaired and apologies issued at the project manager's discretion.	During construction	Communications register	PM
	All services in the vicinity of the works will be located in the field and pegged-out and noted in the Environmental Management Plan and/or work plans prior to excavation works - "Dial 1100 Before You Dig".	Prior to excavation	DBYD records	PM
	We will notify residents in advance of traffic, noise and service disruptions, for example, through advice in the local press and letters. Notification will follow Sydney Water's customer notification policies.	Prior to works	Communications register	PM
	We will repair any damage to tracks, steps or other recreational/management structures in consultation with relevant agencies/stakeholders.	During construction	Communications register	PM
	We will induct all project staff and contractors on the environmental sensitivities of the work site(s) and relevant mitigation measures before starting work.	Prior to works	Induction records	PM

Outcome	Environmental Action	Timeframe	Monitoring / Reporting	Person Resp.
Waste				
No pollution to land.	We will re-use suitable excavated spoil on site for backfilling, landscaping and other uses, wherever possible. If we cannot re-use suitable spoil on-site, we will investigate opportunities for off-site re-use. If we cannot identify re-use opportunities or the spoil is unsuitable due to its geotechnical or contamination characteristics, we will classify spoil according to the Waste Classification Guidelines (DECCW, 2009) and dispose of it at an appropriately licensed facility. We will identify suitable spoil storage areas along the project alignment, during the detailed design stage. We will classify and store spoil separately, to avoid contamination.	During construction	Disposal dockets	PM
	Documents and records of the transport and fates of all materials removed from the site will be kept and submitted to the project manager as proof of correct disposal and for audit purposes.	Waste disposal	Disposal dockets	PM
	Any fuel, lubricant or hydraulic fluid spillages will be collected using absorbent material and the contaminated material disposed of at a licensed waste depot.	As required	Disposal dockets	PM
	All wastes will be securely stored to ensure that any pollutants do not escape.	During construction	Weekly checklist	PM
	We will handle all storage, transport and handling of dangerous goods according to the relevant Australian Standards and guidelines.	During construction	Specific Management Plan / Onsite waste log and register	PM
Efficient use of resources.	Any potentially re-useable or recyclable materials and fittings will be removed and stored safely and securely.	During construction	Disposal dockets	PM
	We will avoid generating surplus materials by planning construction appropriately, including managing construction material quantities.	Procurement process	Specific Management Plan / Onsite waste log and register	PM
	We will minimise waste according to the hierarchy of avoid, re-use, recycle and finally disposal.	During construction	Specific Management Plan / Onsite waste log and register	PM

Outcome	Environmental Action	Timeframe	Monitoring / Reporting	Person Resp.
No asbestos contamination	We will survey hazardous material at all sites set for demolition, to determine the extent of any asbestos or other hazardous construction materials and waste.	Prior to works	Specific Management Plan / Onsite waste log and register	PM
	We will remove asbestos containing material according to the regulations and requirements of the NSW Work Health and Safety Regulation 2011 and the How to Safely Remove Asbestos Code of Practice issued by Safe Work NSW 2019	As required	Specific Management Plan / Onsite waste log and register	PM
	We will inspect visual clearance before re-opening asbestos removal areas for demolition	Prior to works	Specific Management Plan / Onsite waste log and register	PM
No hazardous waste contamination	We will manage other hazardous materials according to the relevant ANZECC, federal or state legislative guidelines.	As required	Specific Management Plan / Onsite waste log and register	PM
Assess and manage Potential and Actual Acid Sulphate Soils	A suitably qualified ASS specialist will prepare the Acid Sulphate Soil Management Plan, if required.	Prior to works	Specific Management Plan	PM
	Manage ASS according to the Acid Sulphate Soils Assessment Guidelines (ASSMAC, 1998)	During construction	Specific Management Plan / Onsite waste log and register	PM
	Materials specifications will include a requirement that materials are capable of resisting corrosion in ASS or aggressive conditions.	Prior to works	Design specifications	PM

Outcome	Environmental Action	Timeframe	Monitoring / Reporting	Person Resp.
Undertake spoil classification for appropriate spoil disposal	Based on the findings of the contamination assessment, we will test soils to classify material for disposal according to the DECCW Waste Classification Guidelines.	Prior to works	Specific Management Plan	PM
Ensure asbestos contaminated material is managed and / or disposed of appropriately	We will induct all site workers to ensure they are aware that asbestos may be present on-site and that if they find any or suspect they have found any asbestos, they must stop work and report it immediately to the site manager and/or manager.	Arrival to site	Induction records	PM
	The site supervisor will ensure that a licensed contractor is onsite during excavation / handling / removal of all asbestos contaminated materials. All works to be carried out as per Safework NSW Code of Practice: How to Safely Remove Asbestos (2019).	As required	Specific Management Plan / Onsite waste log and register	PM
	If asbestos is found, we will conduct validation sampling of the asbestos contaminated material excavation areas and analyse samples for asbestos. Should the soils beneath the asbestos contaminated material be impacted by asbestos fibres, we will excavate those soils and dispose of them appropriately off-site.	Prior to works	Specific Management Plan / Onsite waste log and register	PM
Ensure adequate handling of contaminated spoil	We will consult with property owners about proposed remediation and validation works, where the project will disturb known contaminated fill or soil.	Prior to works	Existing remediation action plan / Consultation records	PM
	If staff and contractors become aware of pollution incidents that have caused or threaten material harm to the environment, they must notify the project manager who will determine the appropriate course of action to comply with the NSW Protection of the Environment Operations Act 1997.	As required	Incident Management Plan	PM
Traffic and Access				
Minimise traffic impacts to local residents	We will complete a Traffic Management Plan in consultation with City of Parramatta Council.	Prior to works	Correspondence	PM
	We will comply with any council or RMS requirements regarding traffic control, access and road/footway restoration issues.	During construction	Site plan / TMP	PM
	Appropriate signs will be erected to inform public road users of the proposed works and any temporary road closures.	Site establishment	Weekly checklist	SS

Outcome	Environmental Action	Timeframe	Monitoring / Reporting	Person Resp.
	Work vehicles will not obstruct vehicular or pedestrian traffic on roadways, or access to private driveways, public facilities or businesses, unless absolutely necessary and only if appropriate notification has been provided to potentially affected property owners, local residents and businesses.	During construction	Site plan / Weekly checklist	SS
	We will notify emergency service providers of upcoming works at least two weeks before work starts and/or implement any traffic control plan for traffic movements.	Prior to works	Correspondence / TMP	PM
	We will position construction vehicles and equipment within the boundaries of the work site where possible or (where no on-site parking is available) in the nearest available roadway parking space so that it minimises disruption to other road users, businesses and the public.	During construction	Site plan / Weekly checklist	SS
Ensure safe access to site	We will use qualified traffic controllers to direct traffic around the work site.	During construction	TMP	PM
	Any proposed disruptions to site access as a result of delivery of large loads will be communicated to relevant stakeholders in adequate time. Alternative arrangements will be communicated as required.	During construction	Weekly checklist	PM
	The static signposting will cover information, regulatory, warning and guide signs as defined in national and RMS standards.	Site establishment	Site plan	PM
	We will liaise with the traffic authority in regard to works that occur within or bordering a road.	Prior to works	Correspondence	PM
Ensure construction sites are clearly delineated and secure	We will fence and secure worksites to avoid pedestrians inadvertently entering the work sites, during both work hours and outside work hours.	Site establishment	Site plan	PM

APPENDIX C

Waste and Resources Management Plan

WASTE AND RESOURCES MANAGEMENT PLAN

This procedure summarises requirements for waste produced in constructing the proposed development. Construction waste will be managed in accordance with the waste management hierarchy:

1. Avoid waste as a first priority.
2. Re-use waste, recycle or reprocess.
3. Dispose of waste as a last resort.

The construction of the proposed development will generate the most amount of waste from demolition of structures and from excavating spoil for the basement. The following waste types are likely to be present:

- General demolition waste, including waste concrete, bricks, timber, potential low-level ACM materials, metal and glass;
- Surplus materials used during site establishment, such as safety fencing and barriers possibly including plastics and metal;
- General construction waste, such as excess concrete, redundant pieces of pipe/fittings, broken bricks, timber, paper, plastic and metal; and
- Domestic waste, including food scraps, aluminium cans, glass bottles, plastic and paper containers, and putrescibles waste generated by site construction staff.

Construction will generate a relatively large amount of waste; however, the client will adequately manage and minimise impacts by implementing the waste mitigation measures listed in **Appendix A.**

The potential for reuse through backfilling will be limited by geotechnical factors and space constraints onsite.

Fill Material

Investigative sampling will be undertaken on all spoil materials that require excavation and disposal. Specific waste management plans will be developed as an outcome of the investigative sampling. The management plans will ensure crews confidently identify specific disposal options and techniques based on any contamination found at the project location.

Naturally occurring sand / Re-usable backfill material

The fill material will typically be underlain by Wianamatta group shale with sandstone beds. This naturally occurring layer typically may contain suitable geotechnical properties for backfilling however due to site space constraints, construction crews will excavate and dispose of all excavated material

When suitable quantities are achieved, validation samples will be taken for laboratory analysis and the results compared against the National Environment Protection Measures (NEPM 2013) residential A criteria (including material with low level asbestos cement material impacts). A spoil management plan will be developed to identify specific construction techniques to re-use excavated soils including backfilling sections of the project at a depth which requires a ‘clean fill’ capping layer to be placed on top of the backfill material.

Any excess material unable to be reused will undergo validation sampling and disposal in accordance with the EPA Resource Recovery Exemption and Waste Classification Guidelines.

APPENDIX D

Asbestos Management Procedure

ASBESTOS MANAGEMENT PROCEDURE

FRIABLE AND NON-FRIABLE ASBESTOS

Friable asbestos is defined by Safe Work NSW 2019 as material that is in powder form or that can be crumbled, pulverised or reduced to a powder by hand pressure when dry and contains asbestos. In relation to asbestos in soils, friable asbestos is further defined as free asbestos fibres, or friable asbestos (FA) and asbestos fines (AF). Asbestos fines are defined as small fragments of non-friable ACM that are sufficiently degraded or damaged to fit through a 7 mm grid filter, and there for deemed damaged enough to be friable (Safe Work NSW 2019). Non-friable asbestos is material containing asbestos that is not friable asbestos, including material containing asbestos fibres reinforced with a bonding compound. Asbestos removal work must only be carried out by an appropriately licenced person depending upon the type of asbestos. There are two types of licence and the differences between them are presented in **Table 3** below:

Table 3: The differences between Class A and Class B asbestos removal works

Class A licence/removal works	Class B licence/removal works
Can remove any amount of non-friable or friable asbestos or ACM.	Can remove any amount of non-friable asbestos or ACM (a licence is required to remove more than 10 m^2 of non- friable asbestos or ACM)
Can remove any amount of asbestos containing debris.	Can remove any amount of non-friable asbestos containing debris associated with the removal of ACM (a licence is required to remove more than 10 m^2 of non- friable asbestos or ACM)
An asbestos removal control plan (ARCP) must be prepared for any licenced asbestos removal works.	An ARCP must be prepared for and licenced asbestos removal works
A licenced asbestos removalist must notify a regulator in writing at least five days before the licenced asbestos removal work commences.	A licenced asbestos removalist must notify a regulator in writing at least five days before the licenced asbestos removal work commences.
A licensed asbestos assessor must carry out air monitoring before and during removal works and during the clearance works.	Air monitoring is not required but may be considered to ensure compliance with the duty to minimise or eliminate exposure to airborne asbestos
A NSW licensed asbestos assessor (LAA) must carry out a clearance inspection and issue a clearance certificate.	An independent competent person (a person not involved in the removal of asbestos for that specific job and no involved in the business or undertakings involved in the removal of asbestos for that specific job) must carry out a clearance
The asbestos removal supervisor must be present at the asbestos removal site whenever work is being carried out	The asbestos removal supervisor must be readily available whenever work is being carried out.

WASTE DISPOSAL

Disposal of fragments of ACM

All work shall be carried out in accordance with the Safe Work NSW How to Safely Remove Asbestos: Code of Practice, 2016 (Safe Work NSW 2016) made under section 274 of the Work Health and Safety Act 2011. Handling and disposal of asbestos waste material should also be carried out in accordance with the POEO Act, Protection of the Environment Operations (Waste) Regulation 2005 and Waste Classification Guidelines (NSW EPA, 2014).

Waste classification for off-site disposal of soil or fill

Waste classifications are required for any excavated soil or fill material which is to be disposed off-site. Soil or fill material to be taken off-site for disposal shall be assessed in accordance with the waste classification guidelines (NSW EPA, 2014).

Materials excavated from the site should be tracked from 'cradle to grave', in order to provide detailed and accurate information about the location and quantity of all materials both on and off-site from the time of their excavation until their disposal.

For any truck or bin leaving the site, the following information would be recorded:

- Origin of material;
- Material type;
- Approximate volume; and
- Truck and/or bin registration number.

For all soils known or having the potential to contain asbestos, the following applies:

The POEO Act defines 'asbestos waste' as any waste that contains asbestos, including fragments or fibres. It is understood that as a result, the NSW EPA considers asbestos contaminated soil to be an asbestos waste. In addition, the Protection of the Environment Operations (Waste) Regulation 2014 provides certain requirements for the transportation of asbestos. It is understood that the NSW EPA requires any management of soil containing asbestos waste on or off the site to be at least equal to controls set out by the Regulation.

All asbestos contaminated soil or fill leaving site will be transported in a leak proof covered vehicle and disposed of at a licensed facility in accordance with waste classification guidelines (NSW EPA, 2014).

ASBESTOS ACTION PLAN

Before ground disturbance takes place, asbestos-impacted fill material will be capped and contained or removed from the site surface and disposed of off-site as special waste (asbestos). The depth of the fill to be removed will be advised by a suitably qualified consultant and specified in the SWMS for the subject works. The following AAP will be utilised for these works, in addition to direction from an experienced occupational hygiene consultant.

IMPLEMENTATION

Responsibilities

A copy of this AAP will be kept on site at all times if asbestos is encountered during excavation works, and the project manager shall also be in possession of copies of this plan. Responsibilities are outlined in **Table 4** below.

Table 4 Summary of responsibilities

Position/ Organisation	Reports to	Summary of Responsibilities
The client	Safework NSW	• Manage any asbestos removal in accordance with scope of works and contract. • Ensure Work Health and Safety (WHS) requirements for the site are met by all subcontractors including the Occupational Hygienist. • Supervise work by subcontractors.
Asbestos Removal Contractor	The client	• Be licensed to undertake demolition and management of asbestos waste (ASA or ASB as required). • Undertake the works in accordance with the contract. • Undertake the works in a safe manner & ensure the environment and staff WHS is protected at all times during the works. • Implement measures outlined in the AAP.
Suitably qualified Consultant (e.g. occupational hygiene consultant / environmental scientist)	The client	• Should be experienced with hazardous materials management, asbestos identification and risk assessment. • Provide environmental and WHS consulting services in accordance with contract. • Ensure works are undertaken in compliance with the AAP and prepare any final environmental report/s required.
Suitably licenced and qualified asbestos removal supervisor	Asbestos Removal Contractor	• Should hold a suitable supervisor licence and be employed by a suitably licenced asbestos removal company for friable or non-friable removals. • Prepare ARCPs and provide notification to regulator of licensable asbestos removal 5 days prior to work commencing. • Ensure works undertaken in compliance with the AAP and with relevant guidance to meet legislative requirements such as the SafeWork NSW, code of practice, How to remove asbestos, and WA Department of Health Guidelines for asbestos in soils 2009.
Asbestos Awareness trained specialist Contractor	The client	• Undertake asbestos works in accordance to direct supervision from the licenced asbestos removalist supervisor, in the limited capacity of his or hers specific role. • Ensure works are undertaken in compliance with the AAP

Training and awareness

All relevant site personnel will undergo a site induction prior to commencement to ensure that staff and contractors are adequately trained to recognise environmental aspects, hygiene and WHS issues. The induction will incorporate the activities required to manage contamination issues as detailed in this plan.

All employees undertaking work in and around asbestos removal should have, as a minimum, undertaken Asbestos Awareness training, undertaken by a competent individual, such as a suitably experiences occupational hygienist or hazardous materials consultant and record of this induction should be kept on file by the client.

Where possible, employees undertaking removal should have appropriate TAFE or other accredited training in friable or non-friable asbestos removal.

Communication

All complaints received will be referred to the client Authorised Person(s) who will adopt an appropriate course of action to manage and address the complainant's concerns in a timely manner.

Adjoining residents must receive at least 2 working days' notice prior to the commencement if asbestos removal works. All notifications to adjoining residents will include:

- The date and time when asbestos removal works will commence;
- The name, address and business hours telephone number of the client and the name and licence number of the asbestos removalist and the number for Safe Work NSW;
- Appropriate warning signs informing people nearby that asbestos removal work is occurring; and
- Appropriate barricades installed prior to commencement of removal works as appropriate to prevent public access and prevent escape of asbestos fibres.

PERFORMANCE CRITERIA

The performance criteria for asbestos excavation are:

- No discernible release of contaminated sediment into any waterway as a consequence of the works;
- No discernible release of dust and asbestos fibres into the atmosphere as a consequence of the works;
- No pollution incidents;
- All staff are aware of the requirements of relevant sections of documents to be adhered to; and
- Effective communication is maintained with statutory authorities and all statutory requirements are carried out to control impacts on the environment and prevent pollution.

DOCUMENT REVISION

This AMP is required to be reviewed annually and to be updated or amended when/where necessary. A table of revisions is included at the beginning of this document.

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

It is the responsibility of the supervisor or person-in-charge of works proposed to be undertaken to ensure they have the current version of the AMP.

The up-to-date version of the AMP will be available from the client.

MANAGEMENT MEASURES AND MITIGATION STRATEGIES

Overview

This AAP is aimed at ensuring the health and safety of staff, contractors and visitors with regard to any fragments containing asbestos or potentially containing asbestos in or on the soil. The plan is to be implemented during all major works which comprises excavation and other subsurface works, construction/maintenance works which involve soil disturbance, construction and maintenance of subsurface services such as gas, electricity, stormwater, surface drainage, telephone cabling and water supply, installation of equipment (e.g. additional building foundations, extensions etc.) that require excavation of soils for placement of footings which are likely to disturb significant areas of vegetation and soil at the site where the fill has been identified to be impacted with fragments of ACM or potential ACM and friable asbestos fibres or potential friable asbestos fibres.

The objective of the plan is to describe procedures to minimise exposure of all site occupants to asbestos materials through the development and implementation of the management systems outlined herein.

It is the responsibility of the client to ensure that each time an action is undertaken in areas described above, that the action is recorded and signed off.

Asbestos impacted soil excavation works

When excavation works are carried out within the identified asbestos zones, works must be carried out under the direct supervision of a contractor holding an appropriate asbestos licence (either a Class A or Class B licence) from Safe Work NSW. The appropriate level of licence required is determined in consultation with the consultant prior to the engagement of the contractor. The consultant can be utilised to provide on-site support to ensure all works are conducted in accordance with the contractor's licensing conditions.

This will include putting the following measures in place to address potential impacts:

- Preparation of an ARCP. Details of what can be included in an ARCP, as provided in SafeWork NSW;
- Notification to SafeWork NSW five days prior to licensed asbestos removal works commencing.
- The area will be defined as containing asbestos and appropriate buffer zones (asbestos work area) will be established in accordance with the on-site recommendations of an occupational hygienist such as Parsons Brinckerhoff.
- Wash bays should be installed on-site to prevent tracking of contaminated soil outside the buffer zone.
- All relevant site personnel will undergo a site induction prior to entering the asbestos work area to ensure that staff and contractors are adequately trained to recognise environmental aspects, hygiene and WHS issues. The induction will incorporate the activities required to manage contamination issues as detailed in this plan.
- A water supply is to be on site for dust suppression during loading.
- At the end of each day an inspection of the work area will be made to ensure no asbestos impacted material is loose outside of the excavation area.
- Appropriate personal protective equipment (PPE) will be used within the asbestos work area including disposable overalls, a minimum P2 respirator (dust mask) and gloves.
- A decontamination area will be installed on site to enable on-site personnel to remove any dust that may contain asbestos fibres. Overalls, P2 masks, gloves and any other potentially contaminated PPE or equipment must be disposed of or properly decontaminated before leaving the decontamination area.

- Water from wash down and decontamination units will be filtered prior to re-use on site.
- Continuous asbestos fibre monitoring will be conducted by an independent hygienist such as Parsons Brinckerhoff at the perimeter of the area and within excavator cabs and checked daily in accordance with Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC: 3003(2005)], April 2005.
- If all material (and fill or soil) impacted with asbestos has been removed off site, an independent occupational hygienist such as Parsons Brinckerhoff should be engaged to carry out a visual assessment of the excavation base and walls following the completion of the surface excavation works.

It should be noted that any disturbance of the subsurface including excavation works constitute asbestos removal works.

PERSONAL PROTECTIVE EQUIPMENT

PPE will be used to protect individuals from actual or potential exposure to asbestos fibres. All personnel within the work area are to wear the appropriate equipment consisting of disposable overalls and respiratory protection.

Personnel undertaking asbestos removal work must be supplied with, and use, PPE that is suitable for the work being undertaken. The type of PPE to be provided must be identified or approved by a competent person as part of the SWMS/JHA process.

- Normal safety glasses are suitable for performing minor asbestos removal work. Due to the irritating nature of synthetic mineral fibre (SMF), safety goggles are recommended.
- Disposable coveralls are the preferred PPE clothing to be provided wherever possible. Coveralls should be of a suitable standard to prevent tearing or penetration of asbestos fibres.

All disposable overalls must be disposed of at the end of each duration of work (exposure). The asbestos removalist will be responsible for the selection, introduction, maintenance training and use of PPE for all workers.

The licenced asbestos contractor management will be responsible for the provision of their PPE in accordance with the contract provisions. The selection of PPE will be determined as per the Code of Practice on how to safely removed asbestos. Worn or damaged PPE must be discarded and suitably replaced.

BARRICADING AND SIGNAGE

The project will ensure that all necessary measures are in place for the effective exclusion of unauthorised persons to areas undergoing asbestos removal.

All areas of a workplace that contain ACM, including plant, equipment or components, must be signposted with warning signs, or labels, as appropriate to ensure personnel are not unknowingly exposed to asbestos when undertaking operational activities.

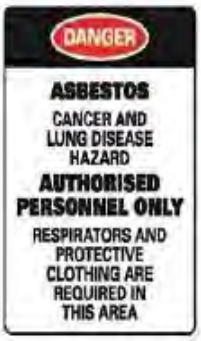
Where removal work is being undertaken the work area must be barricaded to prevent unauthorised personnel entering the hazardous area.

The location, type and positioning of signs and labels must be decided, or authorised, by a competent person. Asbestos warning signs must comply with the requirements of AS 1319-1994 for size, illumination, location and maintenance. Warning signs may include some of the following examples.


WARNING
ASBESTOS CONTAINING MATERIAL
CANCER AND LUNG DISEASE HAZARD
DO NOT DISTURB WITHOUT PROPER TRAINING AND EQUIPMENT


ASBESTOS
ABOVE CEILING
AUTHORISED ACCESS ONLY


DANGER
CONTAINS ASBESTOS FIBRES
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD


DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORISED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA