ENVIRONMENTAL CONSULTING SERVICES

Construction Soil and Water Management Sub-Plan

Proposed Commercial Development
8-10 Lee Street
Haymarket NSW 2000

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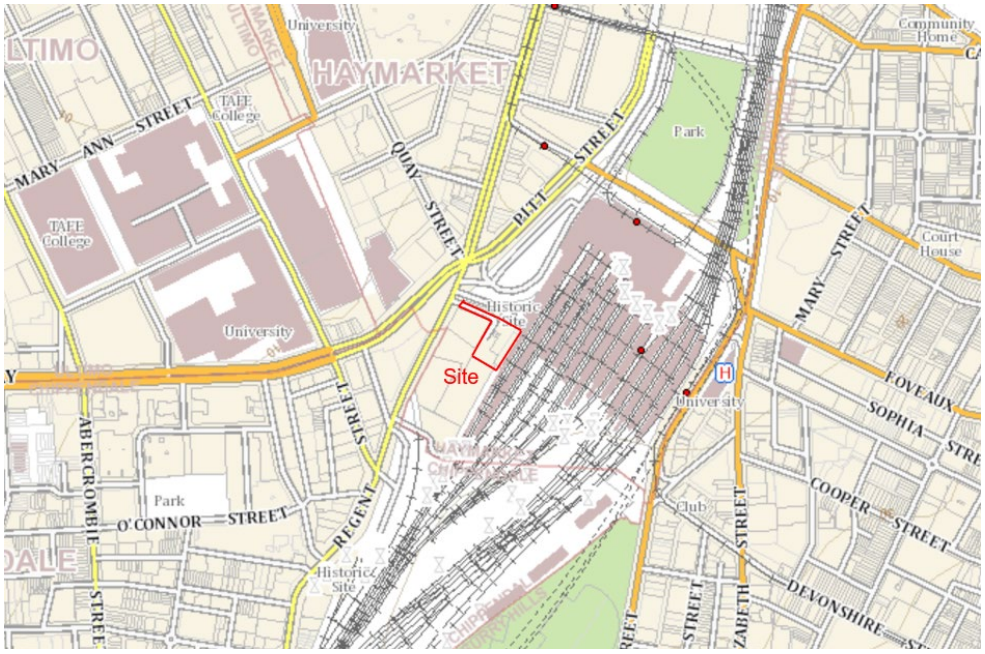
1.0 INTRODUCTION

Environmental Consulting Services Pty Ltd (ECS) was engaged to prepare the Construction Soil and Water Management Sub-Plan (CSWMSP) to be implemented during the development activities at 8-10 Lee Street in Haymarket (the Site). The location of the Site is shown on Figure 1.1 – Location Plan.

Figure 1.1 – Location Plan



The purpose of this CSWMSP is to ensure that appropriate environmental management practices are followed during the proposed construction activities associated with the development of the Site.

This CSWMSP has been prepared to address the following Development Consent condition (Department of Planning, Industry and Environment SSD 10405 Atlassian Central):

Construction Soil and Water Management Plan Sub-Plan

E20. Prior to the commencement of any demolition, earthworks or construction, the Applicant must prepare a Construction Soil and Water Management Sub-Plan (CSWMSP) and the plan must address, but not be limited to the following:

a) be prepared by a suitably qualified expert, in consultation with Council;
b) describe all erosion and sediment controls to be implemented during construction, as a minimum, in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book';
c) include an Acid Sulfate Soils Management Plan, if required, including measures for the management, handling, treatment and disposal of acid sulfate soils, including monitoring of water quality at acid sulfate soils treatment areas;
d) provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the site);
e) detail all off-site flows from the site; and
f) describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to, 1 in 5-year ARI and 1 in 100-year ARI.

This CSWMSP provides the basis for environmental management of soil and water throughout construction works associated with excavation and basement construction activities. It is expected that this CSWMSP will be relevant until excavation activities are completed and construction of basements up to ground level are completed and surrounding open spaces are sealed or landscaped.

Each Contractor will adopt this CSWMSP to manage soil and water (stormwater) risks specifically related to their scope of work on the Project.

Compliance with this CSWMSP is mandatory for all personnel and Contractors carrying out construction activities associated with excavation and basement construction.

1.1 Relationship to Other Plans

This CSWMSP must be implemented with any over-arching Construction Environment Management Plan (CEMP), environmental policies and project planning documentation.

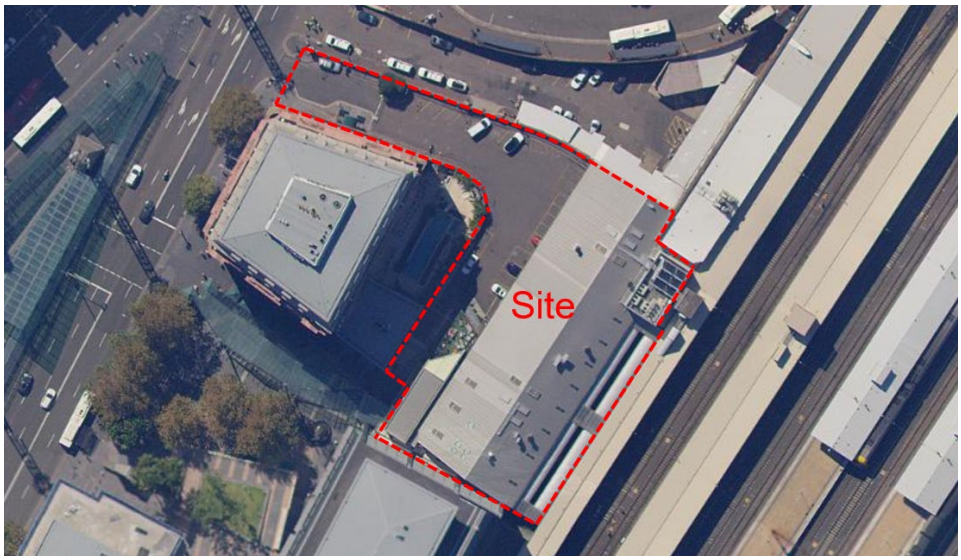
2.0 SITE IDENTIFICATION

The Site layout is presented in Figure 2.1 – Site Plan (Six Maps) with the Site identification details summarised in Table 2.1 – Site Identification.

Table 2.1 – Site Identification

Attribute	Detail
Site Address	8-10 Lee Street, Haymarket
Lot & Deposited Plan	Lot 116 in DP1078271 Lot 117 in DP1078271 Part of Lot 13 in DP1062447
Local Government Authority	City of Sydney
Current Zoning	B8 Metropolitan Centre
Site Area (m^2)	Overall site: 3400 m^2 Proposed Basement: 1800 m^2
Geographic Co-ordinates	NE: Latitude: -33.88358, Longitude: 151.20496 NW: Latitude: -33.88333, Longitude: 151.20415 SE: Latitude: -33.884174, Longitude: 151.204638 SW: Latitude: -33.884016, Longitude: 151.204308

Figure 2.1 – Site Plan



The Site is in an area that is predominantly used for commercial purposes and is bounded by the Adina Hotel (former Parcel Post Office) to the west and the 'CountryLink' and 'Intercity' railway platforms to the east.

Current improvements on the Site include the Parcels Shed, which operated in association with the former Parcels Post Office (now the Adina Hotel). The Site is currently used as the Sydney Railway Square Youth Hostel (YHA). The Site also includes the western entryway to the Devonshire Tunnel, which runs east-west through Central Station under the existing railway lines.

Surface levels on the Site fall gently to the north-west with existing surface elevations from RL21.2m to RL15.5m relative to AHD.

Stormwater run-off form the Site is anticipated to drain following the regional topography towards the north-west.

The inferred groundwater flow direction is north to north westerly towards Darling Harbour which is located approximately 1.1 km northwest of the Site.

3.0 PROJECT OVERVIEW

The new development is to be built over the existing heritage Parcels Shed located on the western boundary of Central Station with the Adina hotel to the west. The works includes a 38-storey mixed-use tower with basement loading dock facilities accessed off Lee Street, 2 storey lobby utilising the Parcels Shed building, lower ground and upper ground retail, YHA hostel and commercial tower with staff amenities to the mid-level and roof top areas and a pedestrian Link Zone works for TfNSW (Transport for NSW).

4.0 ENVIRONMENTAL RISKS

Typical potential environmental aspects and impacts associated with the excavation and construction activities and relevant to this CSWMSP have been considered to establish level of risk to the environment using the following criteria:

- The likelihood that a potential environmental impact will occur if the activity is not managed at this location during the proposed development.
- The consequence to the environment if the impact were to occur.

The risk matrix and risk rating applied to identified environment aspects and impacts are presented on Table 4.1 - Risk Matrix with the definition of consequences summarised in Table 4.2 - Consequences.

Table 4.1 – Risk Matrix

Environment Risk Matrix Ranking = sum of likelihood & consequence Legend 2,3,4,5 – Risk management required 6,7,8 – Tolerable with standard safeguards 9,10,11,12 - Tolerable			**Consequence**					
			6	**5**	**4**	**3**	**2**	**1**
			Incidental	**Minor**	**Moderate**	**Major**	**Severe**	**Catastrophic**
Likelihood	**1**	**Likely** Expected to occur during project	7	6	5	4	3	2
	2	**Occasional** May occur during project	8	7	6	5	4	3
	3	**Seldom** Unlikely to occur during project	9	8	7	6	5	4
	4	**Unlikely** Has occurred on similar projects	10	9	8	7	6	5
	5	**Remote** Has occurred in industry	11	10	9	8	7	6
	6	**Rare** Unheard of in industry	12	11	10	9	8	7

Table 4.2 - Consequences

Consequence Descriptions	6	5	4	3	2	1
	Incidental	Minor	Moderate	Major	Severe	Catastrophic
Environment	Localised (on site) short term effect on habitat, species or environmental media	Localised (on site) long term effect on habitat, species or environmental media, or widespread short term effect on habitat, species or environmental media	Localised (on site) irreversible effect on habitat, species or environmental media, or widespread long term effect on habitat, species or environmental media	Widespread irreversible effect on habitat, species or environmental media	Persistent reduction in ecosystem function	Loss of a significant portion of a species or loss of an ecosystem

Potential environmental aspects and impacts associated with the demolition activities are summarised in Table 4.3 – Demolition Aspects and Impacts.

Table 4.3 – Construction Soil and Water Aspects and Impacts

Category	Demolition Aspect	Potential Impact	Uncontrolled (with no controls in place)			Controls	Assessed Residual Risk
			Likelihood	Consequence	Uncontrolled Risk		
Sediment control	Inadequate sediment control	Sediment in stormwater runoff	Occasional	Minor	7	Establish sediment fence/sediment controls at potential discharge points from the site	9
	Vehicle tracking sediment off-site	Sediment in stormwater runoff	Occasional	Minor	7	Install wheel wash and/or wheel grate	9
Dust control	Dust generated during demolition work	Dust migration over the site boundary	Likely	Minor	6	Dust suppression adequately implemented during general demolition	8
Site management	In appropriate Chemical/fuel storage	Chemical/fuel losses cause soil or water contamination	Occasional	Incidental	8	Avoid the storage of dangerous goods or establish a dangerous goods store if required	11
	Equipment refueling	Fuel loses during refueling cause soil or water contamination	Occasional	Incidental	8	Establish a designated and controlled (bunded) refueling area	11
Soil quality	Contaminated soils exposed following demolition activities	Exposed soils represent a potential environmental risk	Occasional	Incidental	8	Undertake surface soil sampling	8
	Acid Sulfate Soils are encountered during excavation activities	Acid Sulfate Soils oxidizes and generates acid run-off	Rare	Minor	11	No action required	11
Flooding event	Minor flooding event 1 in 5-year ARI	Flooding inundates stormwater control measures	Occasional	Minor	7	Establish stormwater contingency management plan	8
	Major flooding event 1 in 100-year ARI	Flooding inundates stormwater control measures	Unlikely	Minor	9	Establish stormwater contingency management plan	11

5.0 IMPLEMENTATION

Overall responsibility for the implementation of this CSWMSP rests with Built. All employees and Contractors will meet the requirements of this CSWMSP. Management actions stated in this CSWMSP may be delegated in writing by Built to specific Contractors.

Key Project personnel including the Built Project Manager and Site Construction Manager, Civil Contractor Project Manager and Project Environmental Consultant will ensure that all management actions are undertaken to a satisfactory standard and that all personnel are aware of their responsibilities with respect to environmental matters associated with the demolition. A general outline of responsibilities in relation to environmental management is provided below:

Built Project Manager

- Overall accountability for the environmental management of the Project.
- Overall responsibility for development, implementation, maintenance and compliance with the CSWMSP.
- Ensure contracts contain relevant environmental provisions.
- Review and sign off on this CSWMSP and subsequent revisions.

Built Site Construction Manager(s)

- Accountability for the implementation of environmental management controls.
- Responsibility for and compliance with the CSWMSP.
- Ensure compliance with relevant environmental provisions contracts.
- Review effectiveness off on the implementation of this CSWMSP .

Civil Contractor Project Manager

- Overall responsibility for the development and implementation of the Contractor's own project specific management plans and safe work method statement.
- Ensure compliance with the requirements of this CSWMSP throughout its works.
- Ensure compliance with the requirements of the Contractors own project specific management plans and safe work method statement.

Environmental Consultant

- Responsible for environmental monitoring for the duration of the CSWMSP.
- Advise Ensure compliance with the requirements of this CSWMSP throughout works.

All Demolition Personnel (Built and Contractors)

- Comply with the requirements of this CSWMSP.
- Report all environmental incidents as they occur.
- Attend environmental inductions or any other training as required.
- Require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts and failing the effectiveness of such steps, direct that relevant actions be ceased immediately should an adverse impact on the environment be likely to occur.

5.1 Induction

Built will implement a site induction program that all contractors and employees are required to complete prior to undertaking any work. In addition to the standard site induction Built will develop and deliver a Project specific induction for all contractors and staff associated with the excavation and basement construction work. The Project specific induction will include the requirement for mandatory compliance with this CSWMSP by all personnel involved in excavation and basement construction activities.

5.2 Training

Built and Contractor personnel will have the experience, training and necessary licences to carry out the tasked required for the implementation of this CSWMSP. Specific environmental training will be provided as relevant by Built, or delegated to relevant Contractors, including:

- The Contractor will implement appropriate training to ensure its personnel are aware of their environmental responsibilities, including requirements set out in their works-specific management plans or safe work method statements.
- Built and the Contractor will each maintain a Training Register that records all training completed by its personnel, including records of attendance at awareness training and toolbox talks, as well as competency assessments.

5.3 Internal Communication

Internal communications will include discussions, electronic communications and printed material as required. Built has communication systems in place that will be used as appropriate during the Project.

All environmental issues including incidents and near misses will be raised as a regular component of toolbox talks, site meetings and transmitted electronically as necessary.

5.4 External Communication

Built is responsible for external communication in relation to matters concerning the project. This includes but is not limited to communications with the media and government agencies and particularly in relation to external reporting of incidents that may have occurred. This excludes emergency calls or required by law which may be made by anyone.

5.5 Incident Management

Built will implement incident management procedures, including for response to, investigation and reporting of incidents.

5.6 Complaint Management

Built will establish a complaint management procedure for the investigation, response and reporting of complaints.

Records will be kept of all complaints relating to the implementation of this CSWMSP made to Built and its Contractors, including:

- The date and time of the complaint.
- The method by which the complaint was made.
- Any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect.
- The nature of the complaint.
- The action taken by Built in relation to the complaint, including any follow-up contact with the complainant.
- If no action was taken by Built, the reasons why no action was taken.

The complaints record must be produced to any authorised officer of the EPA, SafeWork or Council who asks to see it.

The complaints record must be kept for at least four years after the complaint was made.

5.7 Inspection and Compliance Management

Regular inspections, including independent inspections, will be carried out to confirm compliance with the CSWMSP. Inspections should be conducted daily during excavation activities and observations recorded after each inspection. Inspection observations/findings that indicate non-compliance or

potential non-compliance with the CSWMSP will be recorded in a Corrective Actions Register for action and close out. The Corrective Actions Register will detail the source of the action, the action required, target close out date, actual close out date and the person responsible for the action item.

Inspections should also be undertaken during significant storm events and observations recorded. Such inspections during storm events are considered to represent a test of control adequacy.

5.8 CSWMSP Review

The CSWMSP is intended to be for excavation and basement construction activities that should reasonably be completed within 12 months. However, in the event that excavation and basement construction activities are not completed within 12 months, the CSWMSP should be formally reviewed by the Built Project Manager in consultation with relevant stakeholders. The CSWMSP should also be reviewed when any of the following occur:

- The scope of excavation works significantly changes;
- The Project implementation program significantly changes; or
- Opportunities for improvement, or deficiencies in the existing system are identified through Inspection Reports, Incident / Non-conformance Reports or site observations.

The CSWMSP will be revised by the Built Project Manager. A summary of changes will be recorded in the revision control chart and the revised CSWMSP distributed to personnel. Where changes are significant and impact on Site environmental management, a tool box talk will be presented to relevant staff and recorded.

The risk assessment will be reviewed periodically and updated to include newly identified site specific risks. This may occur in light of a major incident, series of minor repeat incidents, complaints, audit findings or if the excavation activity changes so as to have additional environmental impact which is not considered in the existing risk assessment.

Specific control measures required to undertake the excavation and basement construction works are set out in Sections 6.

6.0 SPECIFIC CONTROL MEASURES

Specific controls that have been identified to mitigates risk associated with the excavation and basement construction works are listed below. The list only includes safeguards that are recommended as all Risk Rankings were equal or greater to 6 or are recognized as standard safeguards.

Should any review of this CSWMSP identify a risk with a ranking of less than 6 then controls that are required to reduce the risk to a tolerable ranking must be established.

<u>Controls recommended as Risk Ranking equal to 6 or greater</u>

1. Establish sediment controls at all potential stormwater discharge points around the perimeter of the Site. Discharge points include overland drainage flow discharge from the Site and also grates and pipes connected to subsurface drains on the Site. These controls will include;

    - A concrete or asphalt bund across the entrance to the Site and across Ambulance Avenue. This bund needs to mitigate overland flow of stormwater off-site and direct surface water to the newly installed drainage system.
    - The installation of Enviropods at the drainage grates on Ambulance Avenue that receive run-off from the Site. All discharge grates must be bunded with sandbags to mitigate sediment influx into the grates.
    - The placement of sandbags around the existing stormwater drains along Lee Street.
    - The establishment of internal Site drains to direct stormwater to the drainage grates on Ambulance Avenue. These internal drains should be constructed so that in the event of a major rainfall event (1 in 5 ARI or greater), that has the potential to inundate the drainage system, surface water is redirected into the basement excavation of the building.

2. The construction of a wheel wash and/or truck wash at the north western end of ambulance Avenue.
3. Provide designated bins/skips and establish waste storage areas. All excavated material stockpiles must be within the basement excavation.
4. Use licensed vehicles for the transport and handling of excavated material.
5. Classify all excavated wastes and dispose of excavated waste in accordance with current regulations (NSW EPA waste classification guidelines) and retain records.
6. Dust suppression must be adequately implemented during excavation but minimizing the potential for the generation of runoff.
7. Avoid the storage of dangerous goods on Site or where necessary establish a bunded dangerous goods store.
8. Establish a designated and controlled (bunded) refueling area.

All tasks/scopes of work must be undertaken with standard safeguards establish and normal (industry standard) documentation in place.

It is noted that all excavation and basement construction activities must be carried out in a competent manner. Suitable equipment, facilities, training, work practices and other necessary precautions must be taken to minimise impacts to the environment and the risk of pollution. All plant and equipment used for excavation and basement construction must be maintained in a proper and efficient condition and operated in a proper and efficient manner.

All Built personnel and Contractors will implement reasonable and practicable measures to avoid or minimise impacts to the environment that may arise from the excavation and basement construction works. All Built personnel and Contractors will ensure that work is performed in a way that minimises impacts on the natural environment and complies with this CSWMSP and related procedures, relevant legislation, regulations and rules, licences, approvals and Project commitments.