



Lendlease
Construction Soil and Water Management Plan/
Dewatering Management Plan

Fort Street Public School
Upper Fort Street, Observatory Hill
Millers Point, NSW

30 September 2021

59861/134281 (Rev 6)

JBS&G Australia Pty Ltd

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Abbreviations

Term	Definition
AHD	Australian Height Datum
CEMP	Construction Environmental management Plan
CoS	City of Sydney
CSWMP	Construction Soil and Water Management Plan
DMP	Dewatering Management Plan
DPIE	Department of Planning, Infrastructure and Environment
JBS&G	JBS&G Australia Pty Ltd
OSD	Onsite Stormwater Detention
PAH	Polycyclic Aromatic Hydrocarbons
RAP	Remedial Action Plan
SINSW	School Infrastructure New South Wales
TRH	Total Recoverable Hydrocarbon

1. Introduction

1.1 Introduction and Background

JBS&G Australia Pty Ltd (JBS&G) was engaged by Lendlease Building Pty Ltd (the client), to prepare a Construction Soil and Water Management Plan (CSWMP) / Dewatering Management Plan (DMP) for the proposed Fort Street Public School Development, located on Upper Fort Street, Observatory Hill, Millers Point, NSW (the site). The site location and site layout are presented on **Figures 1 and 2**, respectively. The site covers an area of approximately 6,200 m².

Previous contamination investigation activities undertaken at the site identified the presence of fill material underlying the site reported to be impacted, chiefly with polycyclic aromatic hydrocarbon (PAH) and heavy metals. A remedial action plan (RAP) (JBS&G 2020¹) was subsequently prepared to document the procedures and standards to be followed in order to address the contamination impacts at the site, ensuring the protection of human health and the surrounding environment, such that the impact is remediated/managed in a manner as to make the site suitable for the proposed land use.

Lendlease has been appointed by School Infrastructure NSW (SINSW) as the principal contractor for the project delivery. By review of the development consent conditions (DPIE 2020²), it is understood that a Construction Environmental Management Plan (CEMP), including a CSWMP is required to be prepared for the project. Condition B21 stipulates the requisite aspects of the CSWMP which provided following.

“The Applicant must prepare a Construction Soil and Water Management Plan (CSWMP) and the plan must address, but not be limited to the following:

- 1. Be prepared by a suitably qualified expert, in consultation with Council;*
- 2. Describe all erosion and sediment controls to be implemented during construction, including as a minimum, measures in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the ‘Blue Book’;*
- 3. 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);*
- 4. Detail all off-Site flows from the Site; and*
- 5. 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.”*

It should be noted that no groundwater dewatering is required to facilitate redevelopment of the site. The dewatering procedures outlined within this CSWMP/DMP relate only to sediment and erosion controls, as well as dewatering and associated testing of stormwater accumulated in excavations and general management of stormwater at the site during the construction phase.

1.2 Objectives

The purpose of this CSWMP/DMP is to provide a description of the measures to be implemented to mitigate potential soil erosion and resulting water quality impacts on land and water resources within and beyond the site during demolition and site redevelopment works.

¹ JBS&G (2020) Remedial Action Plan – Fort Street Public School, Upper Fort Street, Millers Point, New South Wales. JBS&G Australia Pty Ltd

² DPIE (2020) SSD-10340 Development Consent. Issued under Section 4.38 of the Environmental Planning and Assessment Act 1979. Department of Planning, Industry and Environment dated 7 October 2020.

This CSWMP/DMP has been designed to ensure, via the implementation of a number of monitoring and management measures pertaining to sediment and erosion controls on site, that the risks to the surrounding environment are negligible.

1.3 Overarching Approach Considered in the CSWMP

The overarching approach outlined within this CSWMP for the management of sediment, erosion and stormwater is as follows:

1. Stormwater that falls and is captured on 'clean areas' of the site (i.e. building rooves, sealed and/or stabilised areas) can be directed directly to stormwater infrastructure on the site.
2. Stormwater runoff from disturbed areas (i.e. areas of exposed soil) will be managed through regularly monitored/updated erosion and sediment controls and will be permitted to run off the site without being captured and retained within onsite stormwater infrastructure.
 - a. Should the Principal Contractor and/or site team determine that in a particular rainfall event that pollution prevention is best achieved through additional stormwater management controls including the excavation of a temporary sediment basin or provision of a temporary storage tank, the plan outlined herein permits this approach.
3. Stormwater that is captured onsite within excavations and/or temporary stormwater structures will be subject to testing prior to discharge.

The procedures applicable to achieving the above approaches are outlined in **Appendix A**.

1.4 Requirements for Soil and Water Management Plan

This CSWMP/DMP has been developed in accordance with the following documents:

- *SSD-10340 Development Consent* (DPIE 2020);
- City of Sydney Development Control Plan (DCP) 2012 Section 3 – General Provisions³; and
- *Managing Urban Stormwater – Soils and Construction* (Landcom 2004⁴).

The CSWMP/DMP has been prepared to address the specific requirements of condition B21 (DPIE 2020), as well as C24 and C26 of SSDA-10340.

DPIE (2020) separately identifies the requirement for the applicant to prepare a CEMP, unexpected finds protocol for contamination, unexpected finds protocol for heritage, waste classification and validation for contaminated site media, construction traffic and pedestrian management sub-plan, construction noise and vibration management sub-plan, and a construction waste management sub-plan. Where these sub-plans may intersect with works managed under this CSWMP/DMP, they will be identified and referenced herein.

1.5 Relevant Activities

Development plans for the site are provided in **Appendix B**. Activities which have the potential to generate soil, sediment, erosion and/or water during development are summarised following:

- Demolition of site structures and hardstand pavements;
- Installation of an onsite stormwater detention (OSD) drain, stormwater chamber and rainwater tank in the eastern portion of the site (**Appendix B**);

³ No general or specific provisions for the management of soil and water management during construction are described in this DCP.

⁴ *Managing Urban Stormwater – Soils and Construction Volume 1, 4th Edition*, Landcom, March 2004.

- Excavation and installation of a lower ground level basement in the southeast site portion (**Appendix B**);
- Excavation of lift wells underlying the proposed northern building and library (**Appendix B**); and
- Advancement of piles, foundations and/or other *in-situ* support structures (**Appendix B**);
- Installation of new *in-situ* services;
- Installation of soil and/or hardstand capping as required by the RAP (JBS&G 2020);
- Landscaping activities, including any removal of existing flora, preparation of surfaces, importation and placement of soils; and
- General site activities (dust control, vehicle washout, use and maintenance of internal roads and site access/egress).

1.6 Application and Responsibilities

The period of application of this CSWMP is from the commencement of construction works (including early works, site preparation, remediation activities, construction of permanent (underground) stormwater structure, etc) until the cessation of works that have the potential to significantly disturb the site surface or site structures.

Construction works at the site will be undertaken under the guidance of the Principal Contactor (Lendlease). The Principal Contactor will be responsible for the implementation of the majority of procedures provided in the CSWMP/DMP. It is noted that where the specific procedures are technical or complex in nature then the Principal Contactor may appoint appropriately qualified agents (i.e. competent person⁵/environmental consultants) to fulfil the requirements of the procedure or advise the appropriate implementation of the procedure.

A formal list of procedures to the CSWMP/DMP based on an assessment of potential environmental emissions from anticipated site works required for the project is provided in **Appendix A**. Specific responsibilities are nominated for the implementation of these procedures.

Prior to commencement of any activities listed in **Section 1.5**, the Principal Contractor, and relevant contractors and consultants, should refer to the Environmental Management Procedures presented in this plan. The list of activities outlined in **Section 1.5** is not intended to be exhaustive and an assessment should be made prior to the commencement of works by the Principal Contractor regarding whether those works are likely to involve the handling of soils (either site based or imported), amendment to hydrological site condition (e.g. hardstand removal), or introduction of construction related waters to the site.

1.7 Environmental Procedures

A number of environmental procedures have been provided in **Appendix A**. These procedures cover general site activities, as well as specific site activities, including controls require to be implemented to mitigate sediment/erosion and stormwater runoff during rainfall events, and specific requirements for water quality testing to enable active stormwater discharge from accumulated stormwater (e.g. excavation pump-out).

The procedures in **Appendix A** have been separated into two broad categories to enable implementation of this plan on site, they are:

1. General Sediment and Erosional Control Measures; and

⁵ Competent Person means a person who has acquired through training, qualification or experience the knowledge and skills to carry out the task.

2. Active Stormwater Discharge Requirements.

These procedures must be followed to ensure the objectives of the CSWMP (**Section 1.2**) are achieved during the project.

The Principal Contractor should review the environmental procedures prior to the commencement of works on site and consider these procedures in the development of safe work practices.

1.7.1 Environmental Procedures for Wet Weather

The procedures outlined in **Appendix A** document the control measures for managing stormwater/sediment during construction and rainfall events that are required to be implemented at the site during the construction phase.

During rainfall periods, the control measures/procedures outlined in **Appendix A** are required to be audited by the Principal Contractor to assess whether the stated objectives of each control measure/procedure are being achieved. Where this is not the case, the controls outlined in **Appendix A** are required to be reassessed and appropriate mitigation measures are to be applied (e.g., additional sediment bunding, covering of stockpiles and/or equipment).

A construction phase stormwater plan outlining minimum storage requirements for the construction phase (temporary) OSD structures on site (cumulative total) has been developed for the site by SEEC based on stormwater modelling of the 5-year average recurrence interval (ARI), as required by Condition B21 (e). The plan is provided in **Appendix C**. A statement of proficiency from SEEC has also been provided in **Appendix C**. The storage capacity can be achieved by utilising one, or multiple, of the following:

1. Permanent OSD structure (to be constructed as part of site works);
2. Temporary sediment/stormwater tanks; and
3. Temporary excavations/berm areas.

1.8 Consultation with City of Sydney Council

The CSWMP/DMP documented herein was submitted to the City of Sydney (CoS) as part of the consultation/review process. CoS have indicated that there are no comments which require to be addressed. Correspondence to this effect from CoS has been provided as **Appendix D**.

2. Summary of Site Condition

2.1 Site Location and Description

The site details are summarised in **Table 2.1**. A plan showing the location of the site is provided as **Figure 1**, and a plan showing the boundaries of the site is provided as **Figure 2**.

Table 2.1: Site Identification

Lots / DPs	Lot 2 of DP 244444 Lot 2, 3, 4 and 9 of DP 732592 Lot 106 of DP 748340 Lot 107 of DP 748340 Lot 108 of DP 748340 Lot 5 of DP 258013
Site Address	Upper Fort Street, Observatory Hill, Miller Point, NSW, 2000
Local Government Authority	City of Sydney
Site Area	Approximately 6,200 m ²
Approximate MGA Coordinates (MGA 56)	As shown on Figure 2
Site Zoning	Metropolitan Centre (B8)
Current Use	Education
Previous Use	Education
Proposed Use	Education

2.2 Site Condition

The following site inspection is abstracted from documentation recently prepared as JBS&G (2020). A detailed site inspection was undertaken on 4 June 2019, by one of JBS&G's trained and experienced field scientists.

The site was observed as a flat, circular shaped parcel of land located approximately 800 m southwest of the Sydney Harbour Bridge. The site is situated at the top of Observatory Hill and is bound by a portion of the Cahill Expressway which is cut into the underlying sandstone, such that the site forms an 'island', as seen in **Figure 2**.

At the time of writing this plan, the site is accessed via a gated accessway from Upper Fort Street. Several structures exist at the site, including Building A and associated toilet block, a style cottage building, garage (materials storage), Building B (EEC Building) and the MET Building. A large portion of the site is covered by hardstand including asphalt, concrete and astro-turf areas such that access to underlying soils is limited. Grasses cover a lesser extent of the site, largely in the southern portion of the site and surrounding the MET Building and Cottage. Several trees and small shrubs are present within the southern portion of the site, and a large, old-growth tree is located immediately to the east of Building A. Playground areas including an astro-turf area, mini sports field (astro-turf) and a newly constructed raised timber decking are present within the northern portion of the site.

2.3 Surrounding Land-Use

The current land uses of adjacent properties or properties across adjacent roads are summarised below.

- North – Cahill Expressway, beyond which lies Sydney Observatory;
- East – Major road infrastructure including the Western Distributor and Cahill Expressway;
- South – Cahill Expressway, beyond which lies infrastructure including a fire station, National Trust, cafes and art gallery; and
- West – Cahill Expressway, beyond which lies residential housing and the Barangaroo Redevelopment Precinct.

2.4 Site Natural Setting

The environmental setting is detailed in JBS&G (2019) and summarised below.

Table 2.2: Summary of Environmental Characteristics

Environmental Aspect	Characteristics
Topography	Review of published regional topographic information obtained from the Photomaps tool hosted by Nearmap (2019 ⁶) indicates the site is generally flat, with the approximate elevation of 40 m Australian Height Datum (AHD). The site is situated atop Observatory Hill and as such, the surrounding land generally dips to the north, east and south, beyond the Cahill Expressway.
Meteorology	A review of average climatic data for the nearest Bureau of Meteorology monitoring location (Observatory Hill⁷) indicates the site is located within the following meteorological setting: • Average minimum temperatures vary from 8.1 °C in July to 18.9 °C in February; • Average maximum temperatures vary from 16.4 °C in July to 26.0 °C in January; • The average annual rainfall is approximately 1215.7 mm with rainfall greater than 1 mm occurring on an average of 100.0 days per year; and • Monthly rainfall varies from 67.8 mm in September to 133.2 mm in June.
Hydrology	The following provide a summary of the sites hydrological condition as of the drafting of this plan. Works to be completed in preparation for the development will change the hydrological condition of the site. Due to the site's topography and geographic isolation, precipitation falling in areas surrounding the site are not likely to influence the hydraulic condition of the site. At the site, precipitation is anticipated to fall onto buildings and precipitation falling on asphalted/paved areas will flow into engineered drainage lines and the local stormwater system. In areas unconfined by hardstand (e.g. garden beds, unpaved areas across the school grounds), rainfall is likely to penetrate soils and migrate to the water table where it may be released as seepage water on the Cahill Expressway, and/or flow into stormwater infrastructure in heavy rain events. Sydney Harbour (marine water environment) is the closest receiving water body to the site, located 250m west of the site (at its closest). Review of existing stormwater plans (provided by CoS via DBYD enquiries) and review of topographical maps for the site and surrounds indicate that stormwater is likely to discharge to Sydney Harbour (marine water environment) via Circular Quay.
Geology and Soils	Based on the Sydney Geological Map⁸, the site is located in the vicinity of the Triassic aged Hawkesbury Sandstone, typically comprising medium to coarse-grained quartz sandstone with minor shale and laminate lenses. Observations of the exposed geology of the Cahill Expressway cutting made during the site inspection indicate that sandstone is present at relatively shallow depths beneath the site surface (i.e. within 2m below ground surface (m bgs), consistent with Curio (2019). During the site investigation, 18 boreholes were advanced across the site, in which fill overlying natural materials was encountered from beneath hardstand (0.15 m bgs) to 2.7 m bgs. Natural materials encountered were observed to comprise sandstone. A summary of soil contamination is provided in Section 2.5. Based on information provided on the NSW Environment and Heritage Soil and Land Information web application⁹, the site is situated in the Gympie Erosional environment – characterised by shallow to moderately deep (30-100 cm) yellow earths and earthy sands, on crests and inside of benches; shallow (<20 cm) siliceous sands on leading edges of benches; localised Gleyed Podzolic Soils and Yellow Podzolic Soils on shale lenses; shallow to moderately deep (<100 cm) siliceous sands and leached sands along drainage lines. Based on a review of the Salinity Potential Map of Sydney (DIPNR 2003), soils at the site are not considered to be saline.

⁶ 'Photomaps', Nearmap, Accessed 22 July 2019, Nearmap (2019) <https://www.nearmap.com.au/>

⁷ http://www.bom.gov.au/climate/averages/tables/cw_066062.shtml, Commonwealth of Australia, 2013 Bureau of Meteorology, Product IDCJCM0028 prepared on 22 July 2019 and accessed by JBS&G on 22 July 2019.

⁸ Sydney, 1:250,000 Geological Series Sheets S156-5, 3rd Edition, 1965

⁹ www.environment.nsw.gov.au/eSpadeWebApp (viewed 23 August 2016)

Environmental Aspect	Characteristics
Acid Sulfate Soils (ASS)	Review of the 1:25 000 scale <i>Prospect Paramatta Acid Sulfate Soil (ASS) Risk Map</i> (DLWC 1997 ¹⁰) indicates that the site is located within an area of 'no known or expected occurrences of acid sulfate soils (ASS) materials'. Based on review of geology maps, soil maps, site topography and site observations, it is unlikely that actual and/or potential acid sulfate soils would be present on-site. Based on the site's elevation, the reported geology, the ASS Risk Map classification and observations made during the intrusive investigations, as documented herein and in JK (2017), no further consideration for the assessment/management of acid sulfate soil is required.
Hydrogeology	A total of thirty-eight registered groundwater wells fall within a 1.0 kilometre radius of site, and are located largely toward the northwest, west and southwest of the site. These wells were installed within the years 2008 – 2011 for water monitoring purposes and have reported drill depths between 3 and 17 metres below ground surface (m bgs). No data regarding standing surface water levels were reported within any of the wells.

2.5 Site Contamination Status

The RAP (JBS&G 2020) presents the contamination condition at the site. The contamination condition, as relevant to the controls required to be implemented to achieve the objectives of this plan, are summarised following:

- Soil at the site are generally impacted by the presence of heavy metals (principally lead, nickel and zinc), total recoverable hydrocarbons (TRHs), polycyclic aromatic hydrocarbons (PAHs) including benzo(a)pyrene and naphthalene. An isolated instance of chlordane in soil was identified at a single location at the site; and
- Groundwater was not encountered to depths of greater than 5 m below the current ground level. Given the preclusion of water infiltration over the majority of the site, depth to groundwater and absence of substantial soluble impacts to site soils, potential groundwater impacts were considered unlikely.

During site redevelopment it is anticipated that hardstand removal, bulk and detailed excavation works will intersect and/or uncover contaminated soils. Interaction with contaminated soils presents the potential for the generation of sediment, soil erosion and impacted construction waters. The requisite controls are presented as procedures to be adopted during the site works as summarised in environmental management procedures provided as **Appendix A**.

The health and safety controls associated with interaction between site personnel and these soils will require to be documented in a separate plan.

¹⁰ *Prospect Paramatta Acid Sulfate Soil Risk Map* (Edition 2), NSW Department of Land and Water Conservation (DLWC 1997)

3. Environmental Criteria

3.1 Soil and Sediment Disposal

The RAP (JBS&G 2020) stipulates the requirements for the assessment and lawful disposal of soil and sediment from the site. These requirements shall be followed in any instance of site works which require disposal from the site of excess soil or sediment build up.

3.2 Excavation Pump-out and Accumulated Stormwater Disposal

3.2.1 Regulator Considerations

Prior to disposal of accumulated stormwater from excavation pump-out and/or significant over-land flows to Council infrastructure (stormwater), or other stakeholder (e.g. Sydney Water) owned assets, appropriate permissions and approvals are required to be obtained by the Principal Contractor.

Prior to the discharge of accumulated stormwater on the site, analytical data must be obtained and compared to the water quality targets outlined in **Section 3.2.2**. Where analytical data is below the adopted water quality targets, the accumulated water may be discharged from the site with appropriate records maintained and in accordance with the procedures outlined in **Appendix A**.

3.2.2 Water Quality Targets

Stormwater collected within the site (including excavation pump-out) requires to be tested prior to any discharge off-site.

Review of the site's location indicates that Sydney Harbour (a marine water environment) is the closest receiving water body to the site, located 250m west of the site (at its closest). Review of existing stormwater plans (provided by CoS via DBYD enquiries) and review of topographical maps for the site and surrounds indicate that stormwater is likely to discharge to Sydney Harbour (marine water environment) via Circular Quay. As such, the *Australian and New Zealand Water Quality Guidelines for Fresh and Marine Waters* (ANZGC, 2018) guidelines have been utilised to establish a set of accumulated stormwater disposal criteria for the site, which have been outlined in **Table 3.1**.

The ANZGC (2018) default guideline values (DGVs) for protection of marine water ecosystems have been adopted as a basis for the assessment of the environmental suitability of water for discharge to stormwater and are summarised in **Table 3.1**. The DGVs presented in **Table 3.1** are based on the known soil contaminants (see **Section 2.5**) and conditions which may impact stormwater collected on the site.

Table 3.1: Stormwater Disposal Criteria (Marine Water, 95% Species Protection DGVs (ANZGC 2018))

Parameter Type	Analyte	Discharge Criteria
Physical Parameters	pH Turbidity/Suspended Particulate Matter (SPM) Oils and Grease Litter	6.5-8.5 (pH units) ¹ 10 NTUs ² No visible No visible
Metals and Metalloids	Arsenic (Total) (Filtered) Cadmium (Filtered) Chromium (Total or VI) (Filtered) Chromium (III) (Filtered) Copper (Filtered) Lead (Filtered) Mercury (Inorganic) (Filtered) Nickel (Filtered) Zinc (Filtered)	13 µg/L ³ 5.5 µg/L 4.4 µg/L ⁴ 27 µg/L 1.3 µg/L 4.4 µg/L 0.4 µg/L 70 µg/L 15 µg/L
Polycyclic Aromatic Hydrocarbons	Anthracene Benzo(a)pyrene Fluoranthene Naphthalene Phenanthrene	0.4 µg/L ³ 0.2 µg/L ³ 1.4 µg/L ³ 70 µg/L 2 µg/L ³
Aromatic Hydrocarbons	Benzene Ethylbenzene m-xylene o-xylene Toluene	700 µg/L ³ 80 µg/L ³ 75 µg/L ³ 350 µg/L ³ 180 µg/L ³

Footnotes

1: pH range was adopted from Table 3.3.2 of ANZECC/ARMCANZ 'default trigger values for physical and chemical stressors for south-east Australia for slightly disturbed ecosystems' estuary waterbodies. The closest receiving water body is Sydney Harbour (Circular Quay), a marine water environment.

2: Criterion for turbidity has been adopted with reference to the turbidity criterion of 10 NTUs, as outlined in Table 3.3.3 of ANZECC/ARMCANZ 'default trigger values for physical and chemical stressors for south-east Australia for slightly disturbed ecosystems' for estuarine and marine waterbodies on the basis that the closest receiving water body is Sydney Harbour (Circular Quay), a marine water environment, located in south-east Australia.

3: This is a low reliability trigger level (ANZGC 2018).

4: Trigger level applies to valence state (Cr VI). If exceeded, speciation of the subject sample may permit assessment against Cr III and Cr VI for direct comparison;

Prior to any off-site release of accumulated/captured stormwater, a suitably trained and experienced environmental consultant shall be engaged to confirm suitability of the site's water for off-site disposal in accordance with **CSWMP03 (Appendix A)**.

4. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquires.

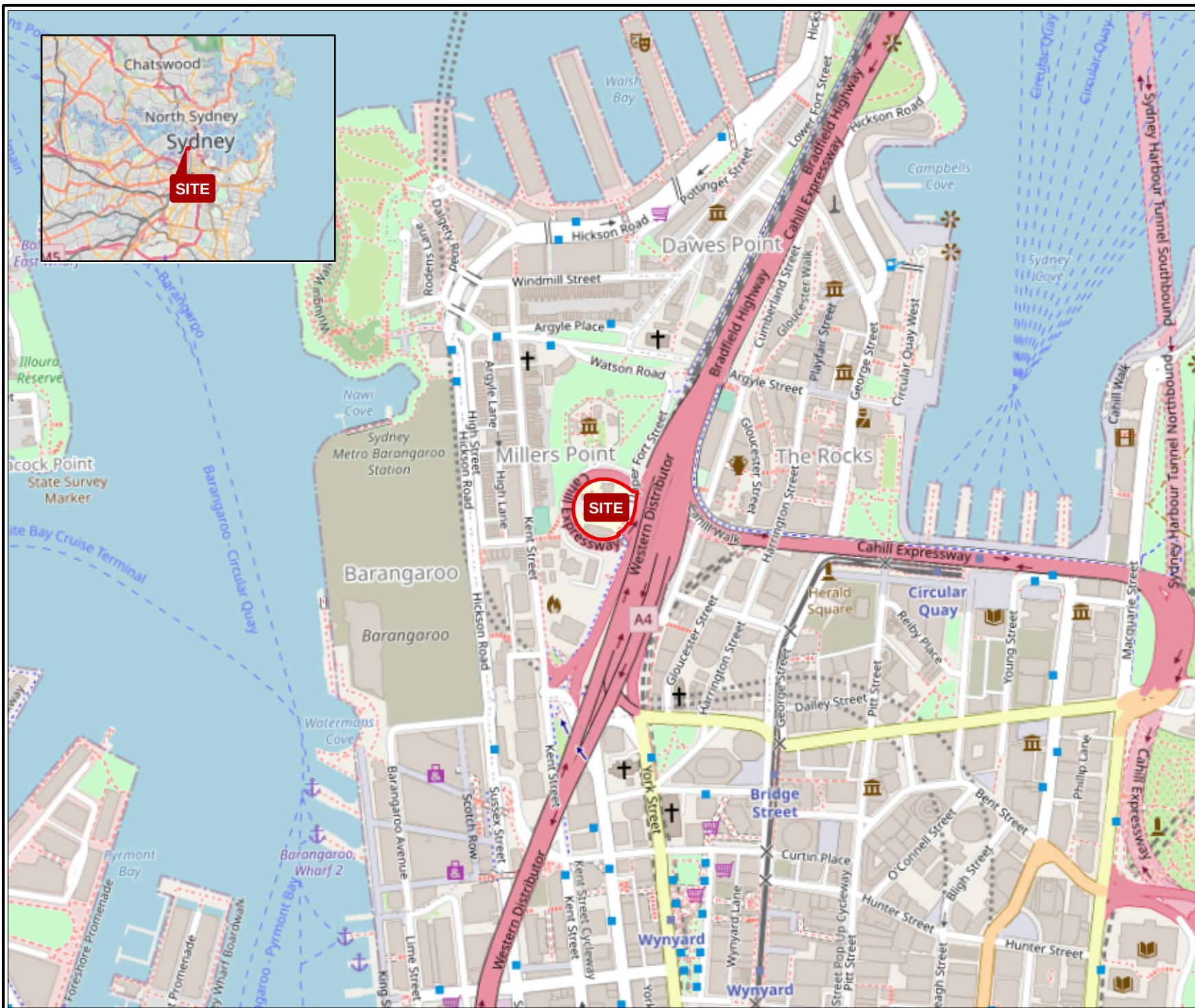
Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

Figures



Legend:
 Approximate Site Boundary



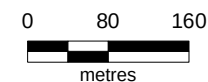
Job No: 59861

Client: Lend Lease

Version: R01 Rev 0 Date 3/12/2020

Drawn By: RF Checked By: RH

Scale 1:7,500 



Coord. Sys. GDA 1994 MGA Zone 56

**Upper Fort Street, Observatory Hill
 Millers Point, NSW**

SITE LOCATION

FIGURE 1



Legend:

Approximate Site Boundary



Job No: 59861

Client: Lend Lease

Version: R01 Rev 0

Date 3/12/2020

Drawn By: RF

Checked By: RH

Scale 1:750



0 10 20
metres

Coord. Sys. GDA 1994 MGA Zone 56

**Upper Fort Street, Observatory Hill
Millers Point, NSW**

SITE LAYOUT

FIGURE 2

Appendix A Environmental Procedures

CSWMP Control Implementation - Weekly Sediment Control Plan		CSWMP01
Responsibility:	Principal Contractor (Lendlease) (See Section 1.5)	
Duration:	Entire project.	
Frequency:	Weekly.	
Objective:	Sediment and erosion controls to be reviewed weekly in conjunction with planned works to minimise the volume of accumulated stormwater requiring active discharge, and, to manage stormwater on site such that potential for sediment laden stormwater discharged from the site is minimised .	
Procedure		
A review of erosion and sedimentation controls applied on site (e.g. sediment bunds surrounding stormwater inlets and/or sediment/erosional controls) shall by undertaken weekly by the Principal Contractor and responsible person. The Principal Contractor will be required to prepare a weekly plan of the site (topographic map, or similar) which considers the works planned for the upcoming week (e.g. cut and fill plans) and the various sediment and erosional controls to identify where controls are required to be placed in order to: • Isolate any excavations as far as is reasonably practical to reduce the volume of stormwater that may accumulate within excavations and be subsequently require to be assessed and actively discharged from the site; • To reduce the rate of stormwater flow across disturbed areas (exposed soils) to minimise the amount of sediment that may be displaced by fast flowing overland stormwater flows; • To identify specific sediment controls to delineate/isolate specific works areas across the site to enable management of ‘sub-catchments’ within the site. As part of this weekly plan, the Principal Contractor will be required to look-up the weather forecast for the upcoming week to assist in determining the required sediment/erosional controls for the upcoming week. Sediment/erosional controls must be consistent with the Landcom ‘blue book’ and include, but are not limited to the following: 1. Sediment socks; 2. Sandbags; 3. Sediment fencing; and 4. Bunding/berms (soil or other materials). The following sediment/erosional controls are required that are to be considered and implemented (if required) in the weekly plan: • Partitioning of the site’s works areas based on on-site topological crests utilising temporary sediment/erosional controls to partition the site into smaller and more easily manageable areas (referred henceforth as a ‘sub-site management area’); • Erection of temporary sediment/erosional controls to delineate areas of hardstand vs disturbed areas (exposed soils) to minimise stormwater cross-flows between the hardstand/disturbed areas of the site; • Erection of temporary sediment/erosional controls to divert stormwater away from open excavations and redirect water across exposed soils of the site in disturbed areas, or, to stormwater infrastructure in non-disturbed/hardstand areas of the site; • In weeks where heavy rainfall is forecast and works are unlikely to progress, erection of sediment/erosional controls perpendicular to the slope of the site (within a sub-site management area) to slow the speed of over-land stormwater flows; • In periods of heavy rainfall, placement of geofabric across exposed soils to minimise interaction of rainfall and exposed soils; • In periods of heavy rainfall and where the abovementioned sediment/erosional controls do not appear to be stopping sediment laden stormwater run-off from leaving the site, potential excavation of soils in a down-gradient area (within the sub-site management area) to form a temporary depression/excavation where water can accumulate for future discharge. The weekly plan is a ‘working document’ and can be updated as required to show where controls are implemented on site. The weekly plan shall form part of the ‘record keeping’ requirements, as outlined in CSWMP09.		

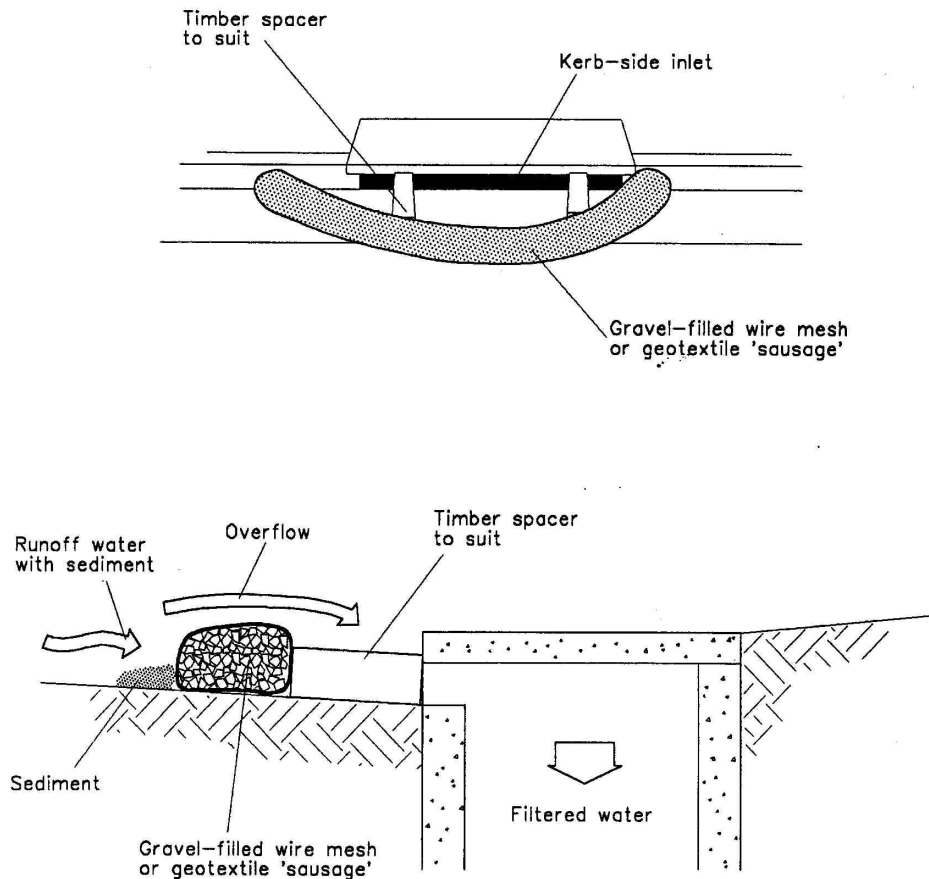
Excavation Dewatering		CSWMP02
Responsibility:	The Principal Contractor (refer to Section 1.5)	
Duration:	Main Works Phase, until receipt of Occupation Certificate.	
Frequency:	As required.	
Objective:	To ensure that all stormwater captured within excavations and within temporary stormwater detention areas is appropriately managed to mitigate the risk of uncontrolled overland flows to offsite areas.	
Requirement During bulk earthworks, it is not anticipated to encounter groundwater. However, there remains the potential to encounter perched water lenses (overlying relatively impermeable soil lenses) and for rainwater to accumulate in excavations following periods of heavy rainfall. This CSWMP will be applied during the ‘Early Works’ and ‘Main Works Phase’.		
Procedure Where excavations are required to be dewatered to facilitate site works, an assessment of the water quality shall be undertaken on the basis of visual and olfactory observations by the Principal Contractor/competent person. Where accumulated stormwater is required to be contained and discharged from the site, it shall be subject to assessment, treatment and disposal in accordance with CSWMP03 . Where excavation dewater is identified to exhibit indicators of gross contamination, it shall be managed under the UFP presented in the RAP (JBS&G 2020), which is provided as CSWMP06 .		

Accumulated Stormwater Assessment and Disposal		CSWMP03
Responsibility:	The Principal Contractor (refer to Section 1.5)	
Duration:	Main Works Phase, until receipt of Occupation Certificate.	
Frequency:	Detailed below.	
Objective:	To ensure that accumulated stormwater disposed from the site during construction works is appropriately assessed prior to treatment and/or disposal.	
Requirement		
Accumulated stormwater may be impacted by conditions and/or contaminants which make it unsuitable for disposal to stormwater.		
Where accumulated stormwater is required to be discharged from the site (i.e. cannot be utilised for dust suppression or dispersed across the site) it is required to be assessed and, where water is found to be impacted, remediate captured water prior to its disposal to stormwater assets. The water is required to be demonstrated as environmentally suitable (see Table 3.1) for disposal from the site.		
Procedure		
<u>Frequency</u>		
Where discharge of accumulated stormwater is required at inconsistent intervals (i.e. following rainfall events), the Principal Contractor shall arrange for testing of the accumulated water as required to facilitate disposal of the accumulated water.		
Where discharge of stormwater is required over a long period (i.e. during periods of extended heavy rainfall), the Principal Contractor shall arrange for the testing of the accumulated water prior to discharge, and then up to a maximum of twice per week for the period of discharge.		
<u>Preliminary Assessment</u>		
The primary condition which would preclude the accumulated stormwater from being considered suitable for disposal to the offsite stormwater system is anticipated to be the presence of elevated suspended sediments affecting turbidity and/or pH outside of the allowable ranges. Preliminary assessment of accumulated stormwater can be undertaken using field screening methods, in accordance with the procedure presented following:		
1) A representative 500 mL sample of accumulated stormwater is to be collected from each excavation/stormwater detention area in a clean glass or unpreserved plastic container; 2) To assess the turbidity of the collected stormwater sample: a. The sample of water shall be poured into a vertical transparency tube; b. The depth of water column required to obscure the indicator at the bottom of the transparency tube should be recorded; OR c. The turbidity of the water to be assessed utilising a digital meter; 3) The pH of the water shall be measured using a calibrated field pH probe; 4) Assessment of any visual and/or olfactory indicators of contamination; and 5) The results are to be recorded by the Principal Contractor/competent person and kept for the duration of works.		
Where the turbidity and pH water quality criteria are satisfied (see Table 3.1), the Principal Contractor/competent person shall proceed to sampling and laboratory analysis.		
Where exceedances of the criteria are identified, advice will be provided by the Environmental Consultant to the Principal Contractor regarding the most prudent course of action. This may be to proceed with sampling and laboratory analysis, or to treat the accumulated stormwater and subsequently reassess the water quality following treatment.		
<u>Laboratory Analysis and Formal Assessment of OSD Water</u>		
Following preliminary assessment, the Principal Contractor/competent person will undertake sampling of the accumulated stormwater for laboratory assessment. The sampling procedure shall be as follows:		
The Principal Contractor/competent person shall collect representative water samples of the accumulated stormwater (from each excavation or onsite stormwater detention areas); Samples shall be immediately filtered as necessary and transferred to laboratory prepared sample containers. The samples shall be preserved as required by the laboratory analytical methods, and transported to a laboratory under chain of custody conditions; The samples shall be analysed at a laboratory which is National Associate of Testing Authorities (NATA) accredited for the analyses to be undertaken;		

Accumulated Stormwater Assessment and Disposal		CSWMP03
Responsibility:	The Principal Contractor (refer to Section 1.5)	
Duration:	Main Works Phase, until receipt of Occupation Certificate.	
Frequency:	Detailed below.	
Objective:	To ensure that accumulated stormwater disposed from the site during construction works is appropriately assessed prior to treatment and/or disposal.	
○ The samples shall be analysed for the following relevant contaminants and conditions: turbidity, pH; Heavy metals (filtered .45 µm); TRH/BTEXN; and PAH (low levels). The Principal Contractor/competent person shall arrange for laboratory analysis of water samples on 'same day' analyses, with written correspondence to be provided to the Principal Contractor within 24 hours of the sampling event. Formal assessment letter is to be provided within one week of the sampling event. Where the Principal Contractor/competent person confirms that the accumulated stormwater is suitable for discharge to stormwater infrastructure, the Principal Contractor is permitted to undertake disposal. Where the Principal Contractor/competent person confirms that the accumulated stormwater is unsuitable for discharge to stormwater infrastructure, the Principal Contractor/competent person shall provide recommended actions to remediate the water to a quality which permits discharge to stormwater or recommend alternative disposal options. Indicative treatment options are presented in CSWMP04. Following assessment by the Principal Contractor/competent person, all efforts should be made to ensure that the quality of the accumulated stormwater does not materially change prior to its disposal. The Principal Contractor shall ensure as far as is reasonably practical, that additional erosion and sediment controls are erected in proximity to the accumulated stormwater following sampling and prior to discharge from the site.		

Accumulated Stormwater Treatment		CSWMP04
Responsibility:	The Principal Contractor (refer to Section 1.5)	
Duration:	Main Works Phase, until receipt of Occupation Certificate.	
Frequency:	Upon identification of accumulated stormwater being unsuitable for direct disposal to stormwater infrastructure.	
Objective:	To ensure that all stormwater identified as potentially unsuitable for discharge from the site is appropriately treated prior to disposal.	
Requirement		
It is requirement of this CSWMP/DMP to assess and, where water is found to be impacted, remediate captured water prior to its disposal to stormwater assets. The water is required to be demonstrated as environmentally suitable for disposal from the site.		
Procedure		
Following implementation of CSWMP03 , treatment may be required to make the accumulated stormwater suitable for discharge to stormwater infrastructure. Anticipated treatment procedures to resolve water quality issues may include:		
• pH adjustment via the addition of lime to raise the pH, or hydrogen chloride to reduce pH as appropriate; • Turbidity: the use of granular activated carbon (GAC) filtration and/or application of gypsum based flocculants and/or settlement of sediment via the use of a settlement waffle tank; and • Heavy metals: combination of pH adjustment and commercially available flocculant to reduce individual heavy metal concentrations slightly above acceptance standards.		
In the event that elevated levels of organic compounds are identified, consideration to alternative discharge strategies including potential application of collected stormwater across the site for dust suppression, offsite disposal via tanker truck, and/or use of an on-site treatment plant to reduce contaminant concentrations to appropriate levels prior to analytical analysis and subsequent assessment for discharge.		

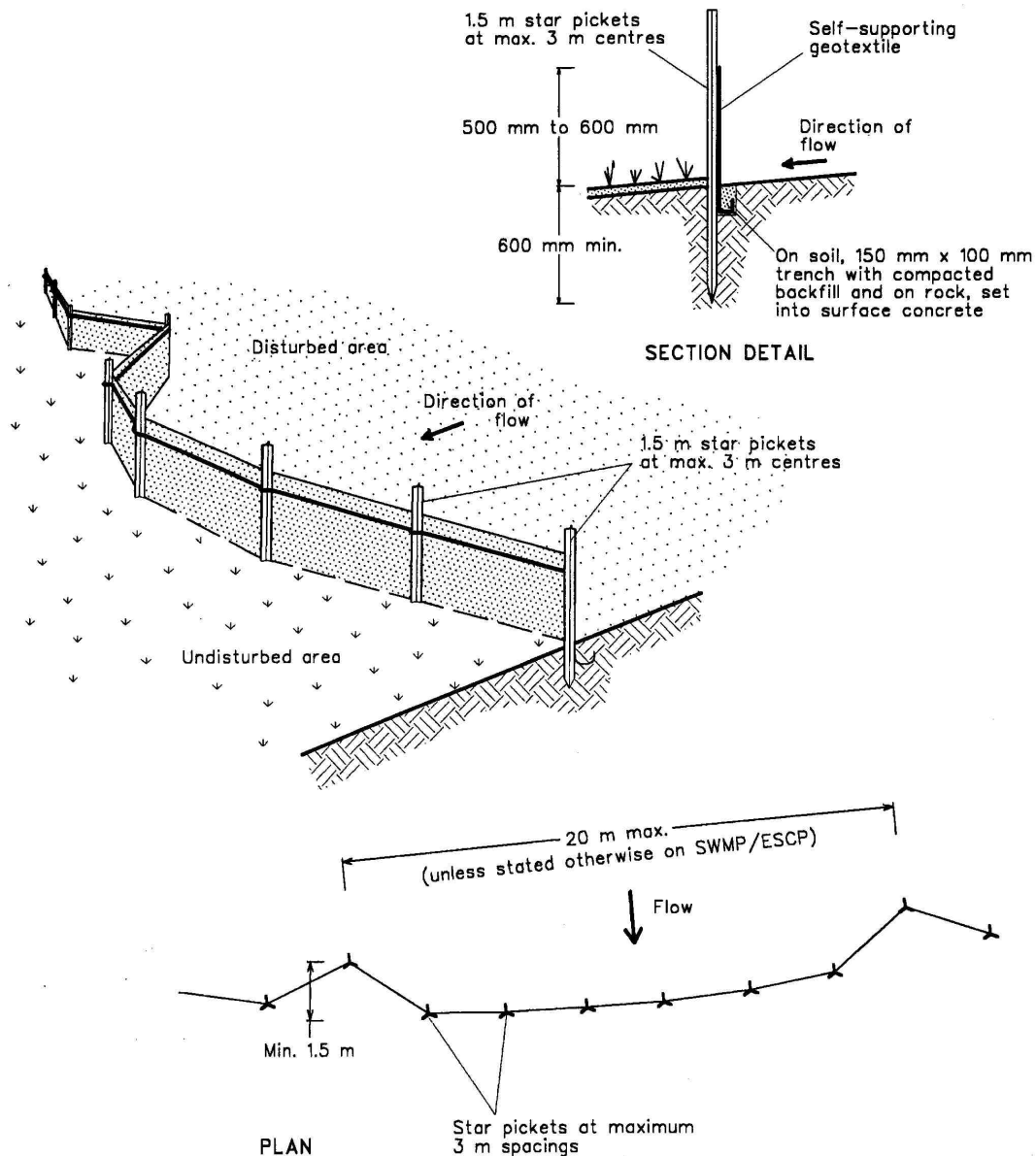
Sediment and Erosion Controls		CSWMP05
Responsibility:	The Principal Contractor (refer to Section 1.5)	
Duration:	Entire Project	
Frequency:	As required.	
Objective:	To ensure the minimisation of the uncontrolled discharge of sediment laden stormwater from the site, and to minimise the quantum of stormwater flowing to site excavations and temporary stormwater infrastructure.	
Procedure		
<u>Equipment</u>		
The following general equipment will be required to allow construction of sediment and erosion control devices:		
• gravel filter sock(s); • stakes/star pickets and sediment fencing (geofabric liner); • temporary impermeable bunds; • soil berms/bunds; • builder’s plastic/geofabric or other material to cover soil stockpiles.		
<u>Sediment Control Devices – Stormwater Drains</u>		
During site demolition works, current stormwater drains located through the site are to be surrounded by gravel filter socks to preclude intrusion of substantial quantities of sediment during works. Reference CSWMP05-1 for a diagrammatic representation of stormwater drain gravel filter socks to be applied to all onsite stormwater inlets.		
<u>Stockpiles - Sediment Control Devices</u>		
Stockpiles may be generated from bulk earthworks associated with the development. Where stockpiles are required to be stored for more than 24 hours, these shall be located away from stormwater inlets as far as is reasonably practical.		
Where possible, stockpiles will be placed upslope of open excavations, so all sediment from stockpiles is able to enter the open excavations. Reference CSWMP05-2 for a diagrammatic representation of sediment control devices to be established around soil stockpiles.		
<u>Stockpiles - Covering</u>		
Stockpiles that are to be left in place for a substantial period (>48 hours) shall be covered utilising geofabric and/or builder’s plastic to reduce the erosional and sedimentation potential during periods of rainfall.		
<u>Stormwater Diversion</u>		
Where stockpiles are required to remain in place for a substantial period (>48 hours), controls shall be put in place to minimise the contact of stormwater flows with stockpiled materials. This shall include the use of stormwater diversion devices, including bunding, sediment socks, or similar. Reference CSWMP05-3 for a diagrammatic representation of stormwater diversion devices to be established around soil stockpiles.		
Precipitation collected on undisturbed areas of the site should be directed away from disturbed areas of the site utilising stormwater diversion devices to minimise erosion of soils in disturbed areas.		



NOTE: This practice only to be used where specified in an approved SWMP/ESCP.

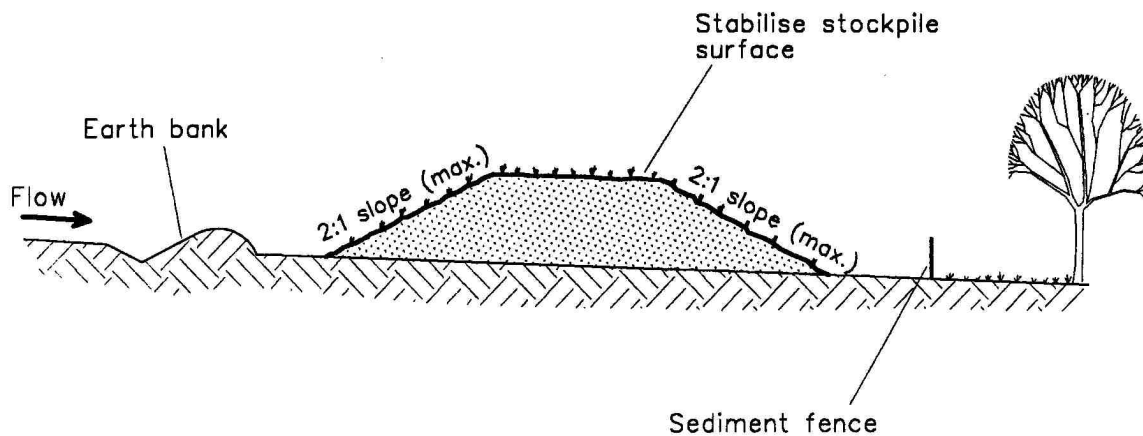
Construction Notes

1. Fabricate a sleeve made from geotextile or wire mesh longer than the length of the inlet pit.
2. Fill the sleeve with 25 mm to 50 mm gravel.
3. Form an elliptical cross-section about 150 mm high x 400 mm wide.
4. Place the filter at the opening of the kerb inlet leaving a 100 mm gap at the top to act as an emergency spillway.
5. Maintain the opening with spacer blocks.
6. Form a seal with the kerbing and prevent sediment bypassing the filter.
7. Fit to all kerb inlets at sag points.



Construction Notes

1. Construct sediment fence as close as possible to parallel to the contours of the site.
2. Drive 1.5 metre long star pickets into ground, 3 metres apart.
3. Dig a 150 mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
4. Backfill trench over base of fabric.
5. Fix self-supporting geotextile to upslope side of posts with wire ties or as recommended by geotextile manufacturer.
6. Join sections of fabric at a support post with a 150 mm overlap.

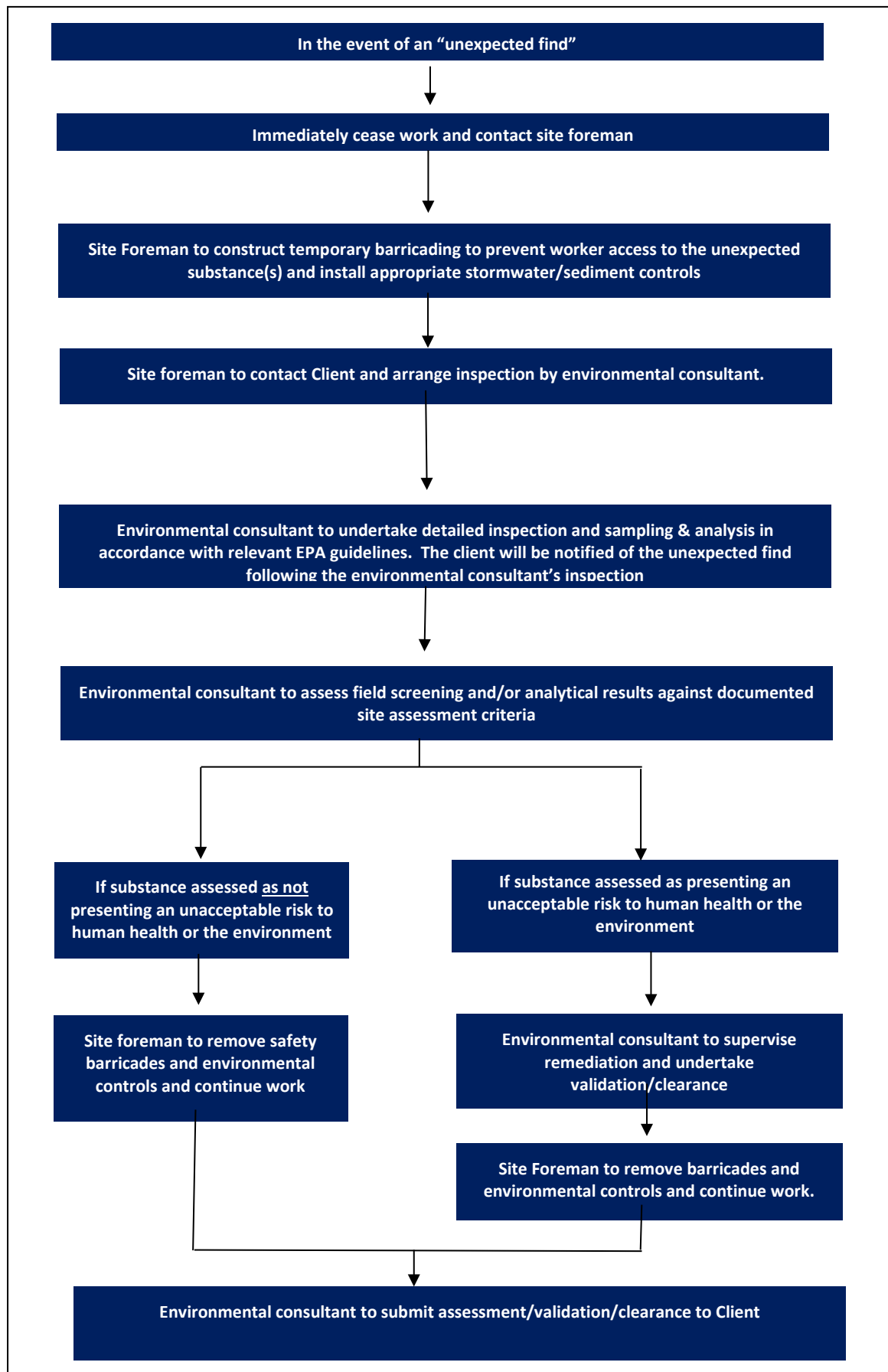


Construction Notes

1. Locate stockpile at least 5 metres from existing vegetation, concentrated water flows, roads and hazard areas.
2. Construct on the contour as a low, flat, elongated mound.
3. Where there is sufficient area topsoil stockpiles shall be less than 2 metres in height.
4. Rehabilitate in accordance with the SWMP/ESCP.
5. Construct earth bank (Standard Drawing 5-2) on the upslope side to divert run off around the stockpile and a sediment fence (Standard Drawing 6-7) 1 to 2 metres downslope of stockpile.

Unexpected Finds		CSWMP06
Responsibility:	The Principal Contractor (refer to Section 1.5)	
Duration:	Entire Project	
Frequency:	As required.	
Objective:	To ensure the ongoing achievement of the objectives stated in Section 1.2 , where latent conditions are encountered which may require specific controls not otherwise captured by this CSWMP.	
Requirement		
The possibility exists for in-ground hazards that have not been identified to date to be present within fill materials or underlying existing pavements/building on the site. These hazards may present novel conditions which require to be addressed to ensure that the continuation of site works is completed in a manner which achieves the objectives stated in Section 1.2. An example of such a condition would be the identification of previously unknown contaminants within site soils and/or excavation dewater.		
Procedure		
The procedure has been abstracted for the RAP, as relevant to potential soil and water management at the site. The nature of hazards which may be present and which may be discovered at the site are generally detectable through visual or olfactory means, for example: • Hydrocarbon impacted materials (visible/odorous); and/or • Drums, waste pits, former pipework or USTs (visible); and/or • Oily Ash and/or oily slag contaminated soils/fill materials (visible/odorous); and/or • Tarry like impacted soil/fill material (visible/odorous); and/or • Potential chlorinated hydrocarbon impact (sweet odour soils). As a precautionary measure to ensure the protection of the workforce and surrounding community, should any of the abovementioned substances (or any other unexpected potentially hazardous substance) be identified, the procedure summarised in Figure CSWMP06-1 is to be followed, as shown on the following page.		

Figure CSWMP06-1 - Unexpected Finds Protocol



Non-Compliances with CSWMP		CSWMP07
Responsibility:	The Principal Contractor (refer to Section 1.5)	
Duration:	Entire Project	
Frequency:	Upon identification of non-compliance with the CSWMP	
Objective:	To identify the cause of the non-compliance is identified and to review procedures, controls and responsibilities to ensure that the potential for further non-compliances is minimised.	
Procedure		
Non-compliances with the intent and procedures of this plan may occur during the implementation of the CSWMP. Such non-compliances may include events such as failure to assess stormwater prior to discharge from the site, discharge of environmentally unsuitable stormwater, failure to appropriately contain stockpiled soils, etc. Where a non-compliance is identified by a responsible organisation, they shall inform the affected organisations of the non-compliance in writing. Where a non-compliance with the CSWMP is identified by another organisation (in the activities of an alternate organisation), then they shall have the responsibility of informing the non-complying party in writing of the non-compliance. The non-complying party will be required to rectify the non-conformity as soon as possible, as per the requirements of the relevant procedure(s) where non-compliance has occurred. The non-compliance shall be detailed as per the requirements of CSWMP08 Incident Reporting to record the incident and to inform relevant follow up / review actions. Detail of the action taken to rectify the non-compliance shall be provided to each of the affected organisations in writing. Where a non-compliance cannot be rectified, then the CSWMP will require to be reviewed as per the requirements of CSWMP10 CSWMP Review.		

Incident Reporting		CSWMP08
Responsibility:	The Responsible Person (refer to Section 1.5)	
Duration:	Entire Project	
Frequency:	Upon identification of non-compliance with the CSWMP	
Objective:	To ensure the CSWMP is implemented as intended.	
Procedure		
The Principal Contractor shall facilitate the completion of environmental incident forms in accordance with LLB’s incident management process for any environmental incident that occurs on the site.		
The environmental incident form is provided as Form 8-1 .		

INCIDENT INVESTIGATION SUMMARY

The summary below provides the details of the incident and the corrective and preventative actions implemented following the investigation of the incident.

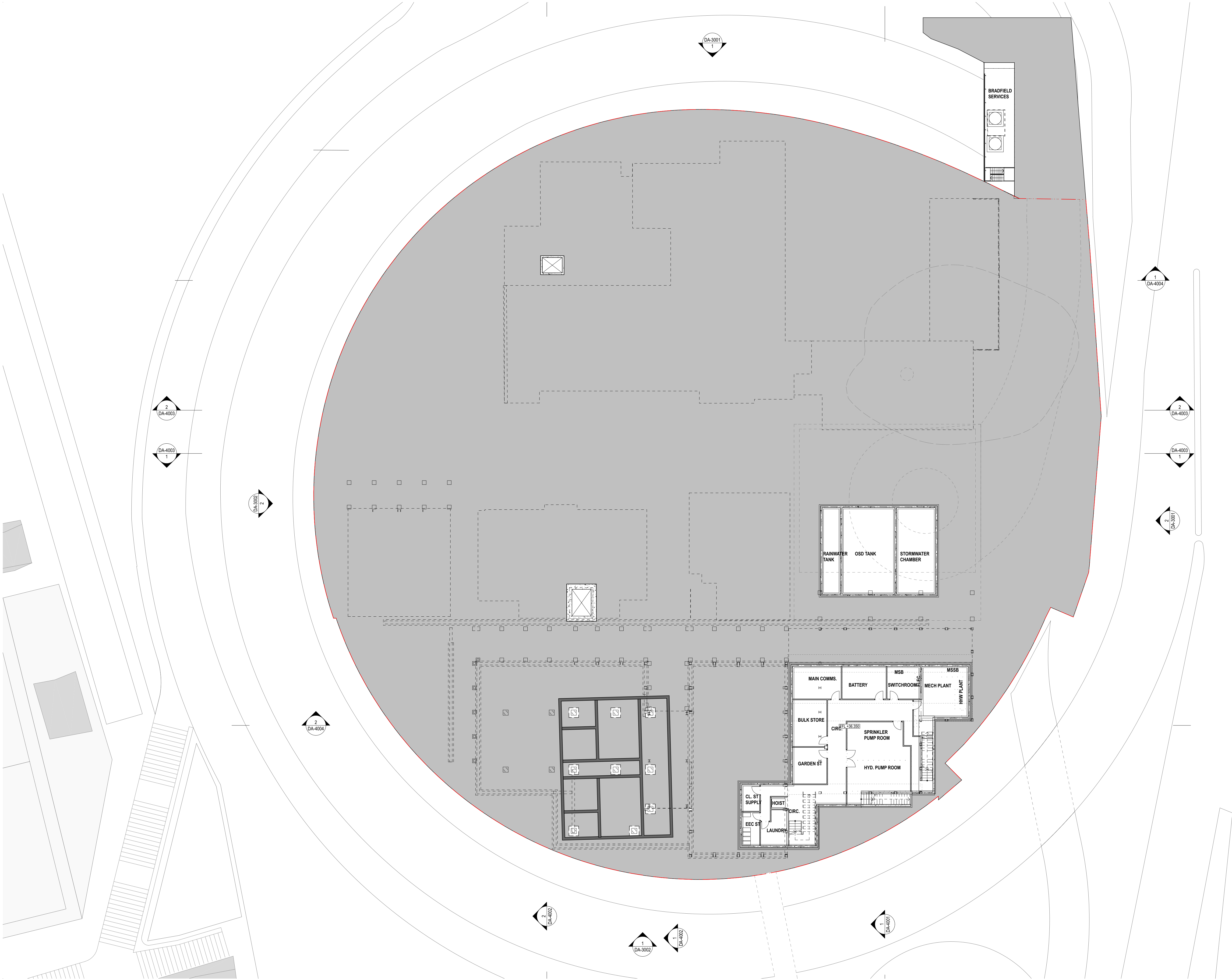
Project No.		Project Name		WorkSafe Notification No.		
Brief description of what happened						
First Aid Injury/illness: ☐	MTI: ☐	LTI: ☐	Near miss: ☐	Environment: ☐	Community: ☐	Property Damage: ☐
Date of the incident		Time of Incident				
Exact location of incident						
What corrective actions were implemented immediately following the incident?						
What preventative actions have been or are going to be implemented to minimise this type of incident?						

Report	Name	Position	Signature	Date
Completion				
Review				
Approval	Ross Trethewy	Head of Environment, Health & Safety		

Record Keeping		CSWM09
Responsibility:	The Responsible Person (refer to Section 1.5)	
Duration:	Entire Project	
Frequency:	As required	
Objective:	Records of the implementation of the CSWMP require to be retained.	
Procedure		
The Responsible Person shall be responsible for the maintenance of all documents relating to the implementation of the CSWMP. This shall include:		
• Weekly photographic log of sediment and erosional controls established on site; • Analytical data to support the characterisation and discharge of accumulated stormwater on site; • Registers for the maintenance of the CSWMP (site inspection forms, revised plans, <i>etc.</i>); and • Relevant correspondence between the Responsible Person, Contractors, environmental consultant and/or any other party.		
All records shall be retained by the Responsible Person throughout the time of implementation of the CSWMP. In the event that the role of Responsible Person is transferred from one organisation to another, control of all relevant (historical and current) documents will be transferred for safe keeping to the current Responsible Person.		

CSWMP Review		CSWMP10
Responsibility:	Responsible Person (See Section 1.5)	
Duration:	Entire Project	
Frequency:	As required in response to revisions to supporting documents or in response to non-compliances with CSWMP	
Objective:	The CSWMP requires review to ensure its continued appropriateness to be used on the site	
Procedure		
A review of erosion and sedimentation controls shall by undertaken weekly by the Principal Contractor and responsible person (per CSWMP01). Review of the CSWMP shall be undertaken quarterly by an appropriately qualified contractor/consultant in conjunction with the Responsible Person in response to a non-compliance with the CSWMP. This review shall consider: • Any non-compliances with the CSWMP that have been unable to be resolved; • Where an incident is reported as occurring under the control of CSWMP as per CSWMP08 Incident Reporting; • Practicalities and efficiencies of management measures and whether there are more effective ways to improve environmental compliance; • Any changes in state or national environmental protection legislation or guidelines that impact any part of the CSWMP; or • Any proposed changes in land-use of the site or adjoining sites which may impact upon exposure pathways. In the event that Principal Contractor (Section 1.5) cease to be recognised as the Responsible Person, a complete review of the CSWMP document and compliance measures will be necessary to identify suitable replacement CSWMP compliance mechanisms. In addition, where a review identifies items which are required to be modified, or added to the CSWMP, then a revision of the CSWMP shall be prepared by a suitably qualified person.		

Appendix B Proposed Site Development Plans



GENERAL NOTES

- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK.
- ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'.
- DO NOT SCALE DRAWINGS.
- USE FIGURED DIMENSIONS ONLY.

legend

— · — · — SITE BOUNDARY

NOTE:
FURNITURE SHOWN INDICATIVELY. SUBJECT TO FURTHER CONSULTATION AND COORDINATION

— · — FUTURE SCOPE

— · — COLD SHELL

COLD SHELL Inclusions:

- Envelope and superstructure including structural floors and walls, facades, roofs, etc.
- Essential circulation elements including required stairs, lifts, fire isolated passages, etc.
- Irreversible fire isolation measures to services and detection, sprinklering, to facilitate minimum egress requirements, etc.
- Essential services infrastructure including in- ground and/or encased trunking pathways and risers to facilitate future briefed functions.
- Section J NCC requirements where not subject to future alteration due to fitout requirements.

COLD SHELL Exclusions:

- All internal non-essential walls, suspended ceilings, linings and finishes.
- All Fitout, Furnishings and Equipment (FFE), lights, hydraulic fixtures, ICT, etc.
- Services from trunk reticulation paths to FFE installations
- Essential life safety measures to satisfy fitout requirements.

SSDA	01	6/12/19	State Significance Development Application	DB	DB
rev	date	name		by	chk

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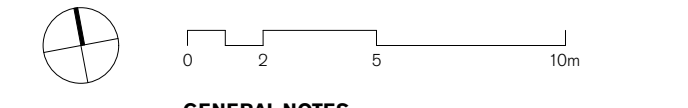
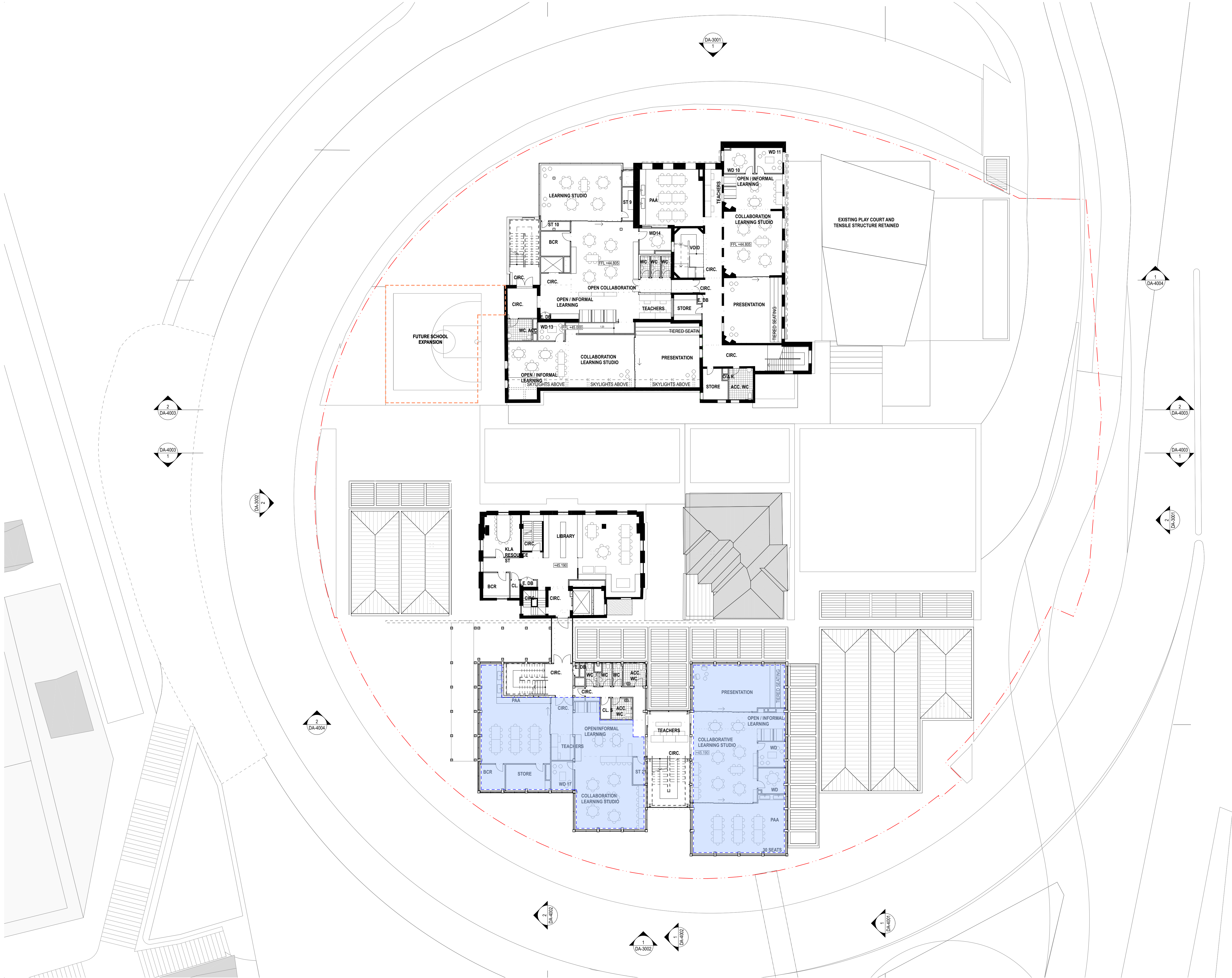
project
Fort Street Public School
Observatory Hill
Sydney NSW 2000

title
General Arrangement Plans
Proposed Plan - Lower Ground 1

scale	1:200 @ A1	first issued	23/9/19
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project code	sheet no.	revision
FSS	DA-2001	SSDA.01

State Significance Development Application



GENERAL NOTES

- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK.
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- DO NOT SCALE DRAWINGS.
- USE FIGURED DIMENSIONS ONLY.

legend

— SITE BOUNDARY

NOTE:

- FURNITURE SHOWN INDICATIVELY. SUBJECT TO FURTHER CONSULTATION AND COORDINATION.

— FUTURE SCOPE

— COLD SHELL

COLD SHELL Inclusions:

- Envelope and superstructure including structural floors and walls, facades, roofs, etc.
- Essential circulation elements including required stairs, lifts, fire isolated passages, etc.
- Irreversible fire isolation measures to services and detection, sprinklering, to facilitate minimum egress requirements, etc.
- Essential services infrastructure including in-ground and/or encased trunking pathways and risers to facilitate future briefed functions.
- Section J NCC requirements where not subject to future alteration due to fitout requirements.

COLD SHELL Exclusions:

- All internal non-essential walls, suspended ceilings, linings and finishes.
- All Fitout, Furnishings and Equipment (FFE), lights, hydraulic fixtures, ICT, etc.
- Services from trunk reticulation paths to FFE installations
- Essential life safety measures to satisfy fitout requirements.

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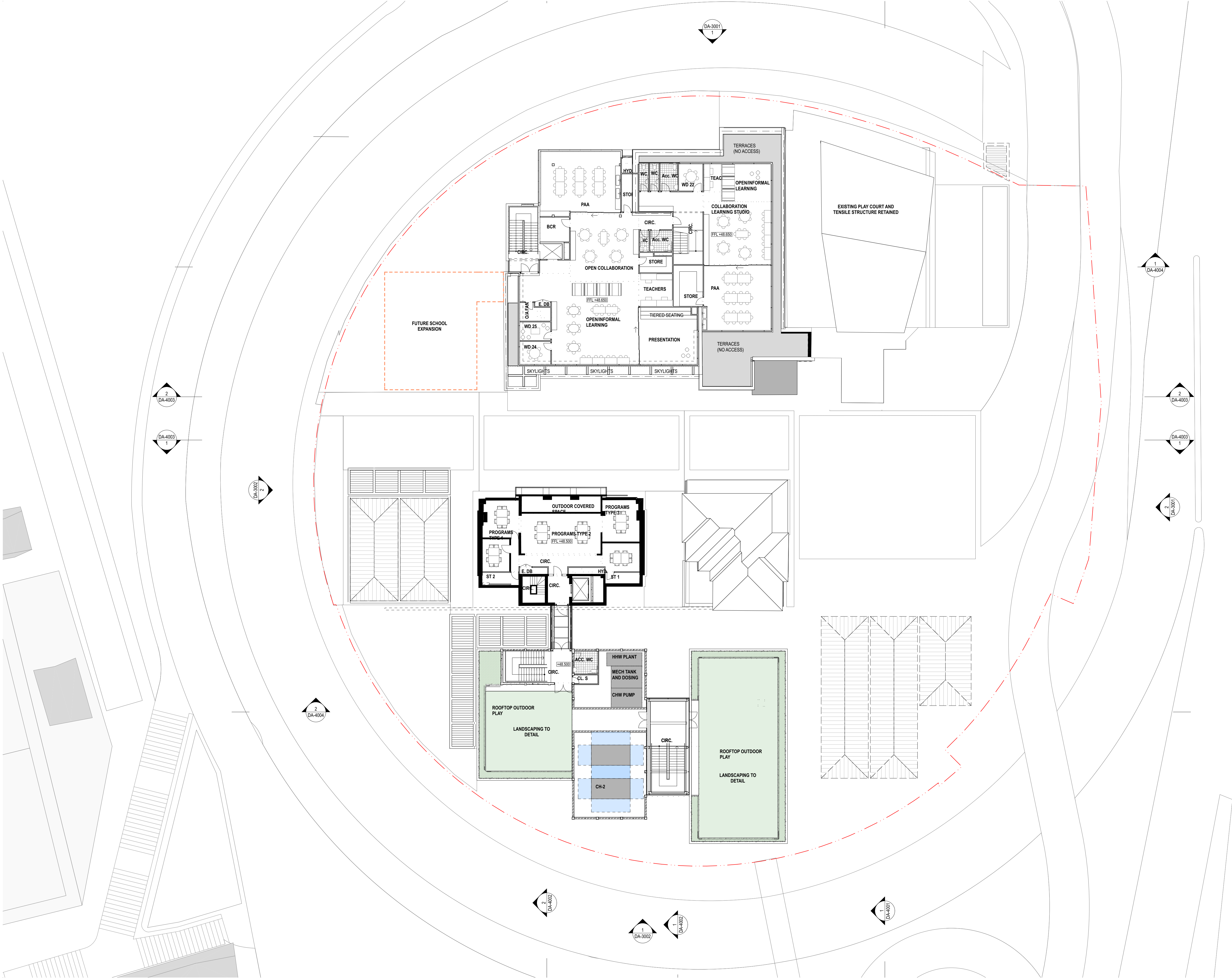


Fort Street Public School
Observatory Hill
Sydney NSW 2000

General Arrangement Plans
Proposed Plan - Level 1

scale	1:200 @ A1	first issued	23/9/19
project code	FSS	sheet no.	DA-2003
		revision	SSDA.01

State Significance Development Application



GENERAL NOTES

- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK.
- ALL LEVELS RELATIVE TO AUSTRALIAN HEIGHT DATUM.
- DO NOT SCALE DRAWINGS.
- USE FIGURED DIMENSIONS ONLY.

legend

- SITE BOUNDARY

NOTE:

- FURNITURE SHOWN INDICATIVELY. SUBJECT TO FURTHER CONSULTATION AND COORDINATION

FUTURE SCOPE

COLD SHELL

COLD SHELL Inclusions:

- Envelope and superstructure including structural floors and walls, facades, roofs, etc.
- Essential circulation elements including required stairs, lifts, fire isolated passages, etc.
- Irreversible fire isolation measures to services and detection, sprinklering, to facilitate minimum egress requirements, etc.
- Essential services infrastructure including in-ground and/or encased trunking pathways and risers to facilitate future briefed functions.
- Section J NCC requirements where not subject to future alteration due to fitout requirements.

COLD SHELL Exclusions:

- All internal non-essential walls, suspended ceilings, linings and finishes.
- All Fitout, Furnishings and Equipment (FFE), lights, hydraulic fixtures, ICT, etc.
- Services from trunk reticulation paths to FFE installations
- Essential life safety measures to satisfy fitout requirements.

SSDA	01	6/12/19	State Significance Development Application	DB	DB
rev	date	name		by	chk

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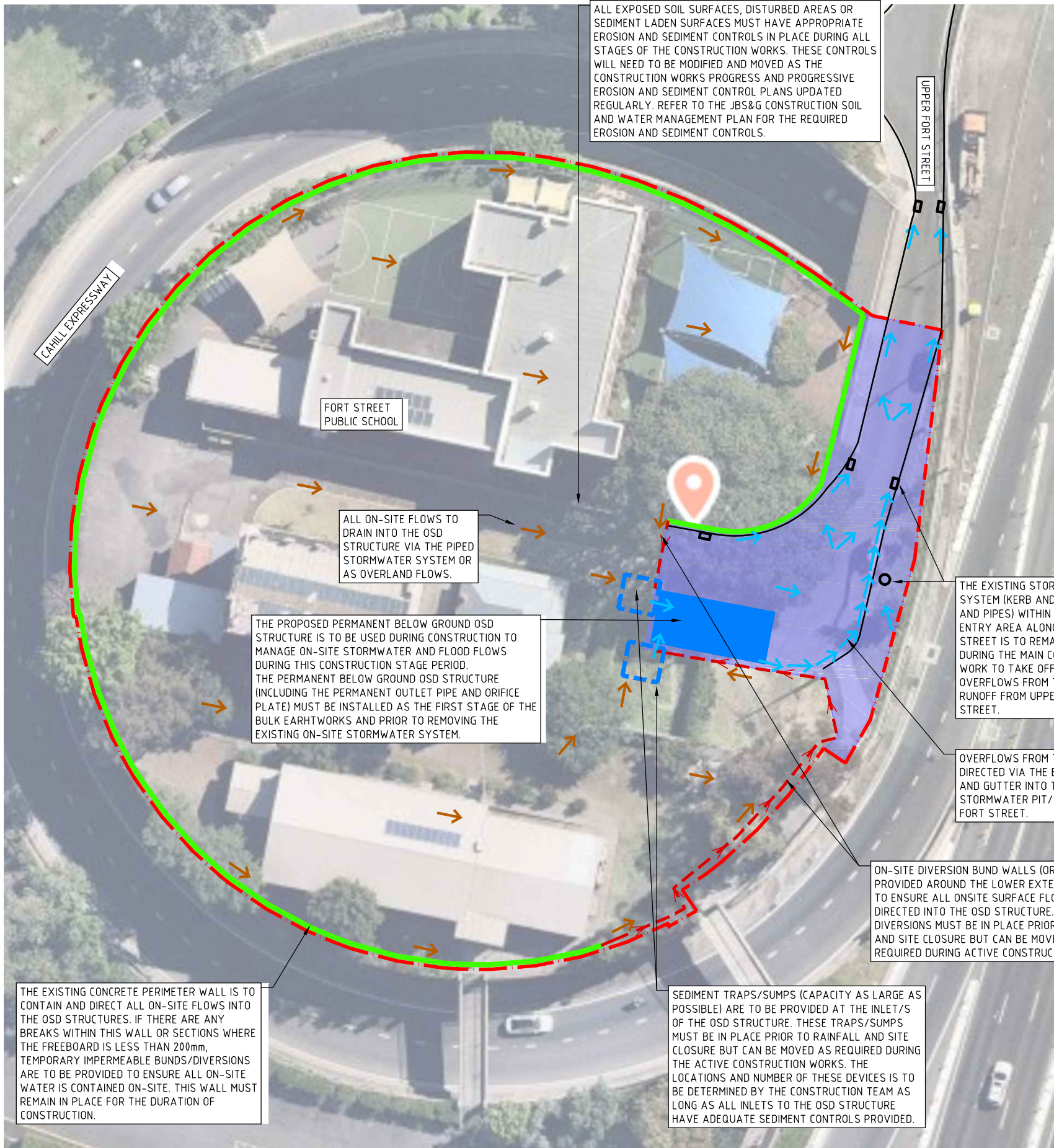
project
Fort Street Public School
Observatory Hill
Sydney NSW 2000

title
General Arrangement Plans
Proposed Plan - Level 2

scale	1:200 @ A1	first issued	23/9/19
project code	sheet no.	revision	
FSS	DA-2004	SSDA.01	

Appendix C Construction Stage Stormwater Layout Plan

NOT FOR CONSTRUCTION



LEGEND

- SITE BOUNDARY
- EXISTING CONCRETE PERIMETER WALL
- ○ EXISTING STORMWATER PITS (NOT ALL PITS ARE SHOWN - ONLY THOSE RELEVANT TO OFF-SITE FLOWS)
- - - ON-SITE DIVERSION [1]
- OFF-SITE WATER FLOW
- ON-SITE WATER FLOW
- ON-SITE DETENTION (OSD) BASIN [1]
- SEDIMENT TRAP/SUMP (E.G. COIR LOG OR SANDBAG BUND WITH EXCAVATED SUMP)
- EXISTING GROUND SURFACES (ROAD PAVEMENT, FOOTPATH AND GRASS VERGE) TO REMAIN STABLE AND CLEAN

[1] - DETAILED DESIGN NOT INCLUDED WITHIN THIS PLAN. THIS IS TO BE COMPLETED PRIOR TO CONSTRUCTION WORKS COMMENCING BY THE CONSTRUCTION CONTRACTOR TO ENSURE ALL SURFACE FLOWS ARE ADEQUATELY CONVEYED AS REQUIRED.

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0 5 10 15 20 25m
Scale: 1:500 (A3 SHEET)

NOTE

THIS REPORT HAS BEEN DEVELOPED BASED ON AGREED REQUIREMENTS AS UNDERSTOOD BY SEEC AT THE TIME OF INVESTIGATION. IT APPLIES ONLY TO A SPECIFIC TASK ON THE NOMINATED LANDS. OTHER INTERPRETATIONS SHOULD NOT BE MADE, INCLUDING CHANGES IN SCALE OR APPLICATION TO OTHER PROJECTS. ANY RECOMMENDATIONS CONTAINED IN THIS ASSESSMENT ARE BASED ON AN HONEST APPRAISAL OF THE OPPORTUNITIES AND CONSTRAINTS THAT EXISTED AT THE SITE AT THE TIME OF INVESTIGATION, SUBJECT TO THE LIMITED SCOPE AND RESOURCES AVAILABLE. WITHIN THE CONFINES OF THE ABOVE STATEMENTS AND TO THE BEST OF OUR KNOWLEDGE, THIS ASSESSMENT DOES NOT CONTAIN ANY INCOMPLETE OR MISLEADING INFORMATION.

CONSTRUCTION STAGE STORMWATER SUMMARY:

- DURING THE INITIAL DEMOLITION WORKS, ALL EXISTING STORMWATER IS TO REMAIN IN PLACE AND FUNCTIONING TO TAKE OFF-SITE FLOWS.
- THE PROPOSED PERMANENT BELOW GROUND OSD STRUCTURE IS TO BE USED DURING CONSTRUCTION TO MANAGE ON-SITE STORMWATER AND FLOOD FLOWS.
- DURING THE MAIN CONSTRUCTION STAGE WORKS (I.E. BULK EARTHWORKS) ALL ON-SITE FLOWS ARE TO BE DIRECTED INTO THE PROPOSED PERMANENT BELOW GROUND OSD STRUCTURE. THE OSD STRUCTURE (INCLUDING THE PERMANENT OUTLET PIPE AND ORIFICE PLATE) IS TO BE INSTALLED AS THE FIRST STAGE OF THE BULK EARTHWORKS AND PRIOR TO REMOVING THE EXISTING ON-SITE STORMWATER SYSTEM. OFF-SITE OVERFLOWS WILL BE DIRECTED INTO THE EXISTING STORMWATER DRAINAGE (KERB AND GUTTER, PITS AND PIPES) ALONG UPPER FORT STREET.
- REFER TO THE 'OSD TANK STRUCTURAL DETAILS SHEET 1' PLAN BY COSTIN ROE CONSULTING FOR DETAILS OF THE OSD STRUCTURE.
- WATER ACCUMULATING WITHIN ANY OTHER PART OF THE SITE (E.G. EXCAVATIONS OR LOW POINTS) MUST BE TREATED AND TESTED TO COMPLY WITH THE GOVERNING WATER QUALITY REQUIREMENTS. TREATED ON-SITE WATER IS TO BE PUMPED (AS OFF-SITE WATER) INTO THE EXISTING STORMWATER SYSTEM ONCE THE REQUIRED WATER QUALITY IS ACHIEVED (REFER TO THE CSWMSP BY JBS&G).
- APPROPRIATE EROSION AND SEDIMENT CONTROL IS TO BE PROVIDED DURING ALL STAGES AS NOMINATED WITHIN THE JBS&G CONSTRUCTION SOIL AND WATER MANAGEMENT PLAN (CSWMSP). THIS INCLUDES (BUT IS NOT LIMITED TO) COVERING UN-ACTIVE STOCKPILES AND EXPOSED SOIL SURFACES AS MUCH AS POSSIBLE, INSTALLING SEDIMENT CONTROL DEVICES DOWNSLOPE OF ALL EXPOSED SOIL SURFACES (E.G. SEDIMENT FENCE, COIR LOGS, SANDBAG BUNDS ETC.), PROVIDING SEDIMENT TRAP/S OR SUMP/S AT THE SURFACE INLET/S OF THE PERMANENT OSD STRUCTURE, KEEPING IMPERVIOUS SURFACES AS CLEAN AS POSSIBLE VIA SWEEPING (OR SIMILAR), PROVIDING PIT PROTECTIONS AROUND ALL ACTIVE STORMWATER PITS, AND WHERE FEASIBLE COMPLETING FINAL LANDSCAPING/SEALING WORKS PROGRESSIVELY AS EACH AREA OF WORKS ARE COMPLETE. THESE CONTROLS WILL NEED TO BE MODIFIED AND MOVED AS THE CONSTRUCTION WORKS PROGRESS AND PROGRESSIVE EROSION AND SEDIMENT CONTROL PLANS UPDATED REGULARLY.

SITE DETAILS

TOTAL SITE AREA = 6,183 m²
MAIN CONSTRUCTION AREA = 5,725 m²
AREA DRAINING TO OSD = 5,725 m² (I.E. 100% OF MAIN CONSTRUCTION AREA)
AREA NOT DRAINING TO OSD = 458 m² (THIS AREA IS THE SITE ENTRY AREA (ALONG UPPER FORT STREET) CONSISTING OF PAVED DRIVEWAY, FOOTPATH AND GRASS VERGE SURFACES. DRAINAGE IN THIS AREA WILL REMAIN UNCHANGED FROM THE CURRENT SITE CONDITIONS WITH RUNOFF DIRECTED INTO THE EXISTING STORMWATER SYSTEM. ALL SURFACES HERE ARE TO REMAIN STABLE AND UNDISTURBED).

OSD DETAILS/CALCULATIONS

ALL STORMWATER ON SITE DETENTION (OSD) CALCULATIONS HAVE BEEN UNDERTAKEN USING THE URBAN DRAINAGE DESIGN SOFTWARE 'DRAINS'.

ON-SITE DETENTION CALCULATIONS ARE FOR THE MAIN CONSTRUCTION STAGE WORKS ONLY (SPECIFICALLY BULK EARTHWORKS). DURING OTHER CONSTRUCTION STAGES OF WORKS ALL STORMWATER FLOWS WILL DRAIN OFF-SITE VIA THE EXISTING/FUTURE STORMWATER SYSTEM.

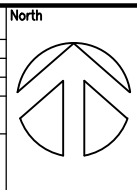
% IMPERVIOUS AREA PRE-DEVELOPMENT = 74.2%
% IMPERVIOUS AREA DURING CONSTRUCTION = 95%

OFFSITE FLOW PRE-DEVELOPMENT = 0.181 m³/s (5 YR ARI)
OFFSITE FLOW POST-DEVELOPMENT = 0.132 m³/s (5 YR ARI)
OFFSITE FLOW PRE-DEVELOPMENT = 0.338 m³/s (100 YR ARI)
OFFSITE FLOW POST-DEVELOPMENT = 0.200 m³/s (100 YR ARI)

REQUIRED OSD STORAGE = 93.1 m³
OSD VOLUME PROVIDED = 96m³

(THE OSD STORAGE VOLUME IS TO BE PROVIDED WITHIN THE PROPOSED PERMANENT BELOW GROUND OSD STRUCTURE. THE PERMANENT OSD STRUCTURE MUST BE INSTALLED AS THE FIRST STAGE OF THE EARTHWORKS SO THAT IT IS IN PLACE FOR THE ENTIRE DURATION OF CONSTRUCTION).

REV	DATE	DES.	DRN.	APP.	REVISION DETAILS	DRAWING STATUS
						DESIGN BY A.T.
						DRAWN BY A.T.
						FINAL APPROVAL J.M.A. / B.J.
						SCALE: 1:500
						(on A3 Original)
01	20/09/21	A.T.	A.T.	J.M.A.	REVISIONS TO REFLECT CONSTRUCTION CONDITIONS	FINAL
00	15/12/20	A.T.	A.T.	J.M.A.	FINAL	
A	27/11/20	A.T.	A.T.	J.M.A.	DRAFT ISSUE	



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C/O
JBS&G AUSTRALIA PTY LTD



PROJECT TITLE
CONSTRUCTION STAGE STORMWATER FORT STREET PUBLIC SCHOOL OBSERVATORY HILL

DRAWING TITLE CONSTRUCTION STAGE STORMWATER LAYOUT PLAN			
PROJECT NO.	SUB-PR NO.	DRAWING NO.	REV
20000364	P01	STW01	01

Appendix D Consultation with CoS

29 January 2021

SCHOOL INFRASTRUCTURE NSW
Level 4 35 Bridge St
SYDNEY NSW 2000

By email: jon.davis@lendlease.com

Attn: Jon Davis, Lendlease

STATE SIGNIFICANT DEVELOPMENT APPLICATION (SSD 10340)
1005 UPPER FORT STREET , MILLERS POINT NSW 2000 - R/2019/6/B

Dear Jon

I refer to the above mentioned consent granted subject to conditions by the Deputy Secretary, Assessment and System Performance as delegate of the Minister for Planning and Public Spaces on 7 October 2020.

Please be advised that the City of Sydney has no comments in relation to the 'Construction Soil and Water Management Plan' dated 21 December 2020 prepared by JBS and G Australia (reference 59861/134281 Rev 0) which was submitted by the applicant in relation to Condition B21(a) of SSD 10340 as below.

- B21. The Applicant must prepare a Construction Soil and Water Management 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, including as a minimum, measures in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book';
 - (c) 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);
 - (d) detail all off-Site flows from the Site; and
 - (e) 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.

If you require any further information please contact **Amy Douglas on 9265 9333 or**
adouglas@cityofsydney.nsw.gov.au

Yours faithfully



Andrew Rees
Area Planning Manager

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Document Status

Rev No.	Author	Reviewer	Approved for Issue		
		Name	Name	Signature	Date
A	Rohan Hammond	Matthew Parkinson	Matthew Parkinson	Draft for client review	7 December 2020
0	Daniel Denaro	Matthew Parkinson	Matthew Parkinson	Draft for client review	21 December 2020
1	Daniel Denaro	Matthew Parkinson	Matthew Parkinson	Draft for client review	8 January 2021
2	Daniel Denaro	Matthew Parkinson	Matthew Parkinson	Draft for client review	7 April 2021
3	Daniel Denaro	Matthew Parkinson	Matthew Parkinson	Draft for client review	17 May 2021
4	Daniel Denaro	Matthew Parkinson	Matthew Parkinson	Draft for client review	2 July 2021
5	Daniel Denaro	Matthew Bennett	Matthew Bennett	Draft for client review	18 August 2021
6	Daniel Denaro	Matthew Bennett	Matthew Bennett	Draft for client review	30 September 2021

