



22nd September-January 2024

CIVIL ENGINEERING SERVICES

Wee Waa High School

Construction Soil & Water Management Plan





DOCUMENT CONTROL

01	21 st October 2022	Issue for Review	Superseded
02	28 th October 2022	Revised	Superseded
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04	16 th November 2022	Updated to suit SINSW comments	Superseded
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08	17 th August 2023	Incorporate External Audit items, updated entrance off Charles street	Superseded
09	27 th September	Incorporate External Audit Items	Superseded Final
10	22 nd January 2024	Review of Document with Built	FINAL
Rev #	Date	Description of Change	Status

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APPROVALS

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CIVIL ENGINEERING SERVICES

1. INTRODUCTION

Warren Smith Consulting Engineers (WSCE) has been engaged by Built to prepare the SSDA Compliance Letter in support of the SSDA submission for the proposed development at 105-107 Mitchell Street, Wee Waa NSW 2388.

WSCE has undertaken design and documentation including the following civil engineering services:

- Construction Soil and Water Management Sub-Plan (CSWMSP)

2. DESIGN DOCUMENTATION

The following WSCE civil design documentation (Job No: 7490000, Title: Wee Waa High School Main Works) form part of the SSDA submission:

Drawing No.	Title	Rev. #
C2.01	Construction Soil & Water Management Plan - Stage 1	B
C2.02	Construction Soil & Water Management Plan - Stage 2	B
C2.03	Construction Soil & Water Management Plan - Stage 3	B
C2.04	Construction Soil & Water Management Plan Details Sheet 1	A
C2.05	Construction Soil & Water Management Plan Details Sheet 2	A

3. SSD CONDITIONS MATRIX – SSD 21854025 – Wee Waa High School

Condition No.	Description	Reference
B24 (a)	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;	CV included in Schedule 2 Consultation Evidence included in Schedule 3
B24 (b)	B. Measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;	Section 4.2 & Drawing C2.01,C2.02, C2.03
B24 (c)	C. 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'	Section 4.1 & 4.2 & Drawings C2.01, C2.02 & C2.03
B24 (d)	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);	Section 4.3
B24 (e)	E. Detail all off-site flows from the site;	Drawing C2.01
B24 (f)	F. Provide a construction methodology to address management of flood related impacts, supported by a Flood Impact Assessment prepared by a suitably qualified practising Engineer, addressing the following (but not limited to):	Note only
B24(f)(ii)	(i) 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	Section 4.2 & drawing C2.01 & C2.03 & Schedule 3
B24(f)(iii)	(ii) detailed construction staging plans and additional flood modelling to confirm that the construction would not result in unacceptable flooding conditions on adjoining properties and infrastructure, as certified by a suitably qualified practising Engineer; and	Schedule 3
B24(f)(iii)	(iii) compliance with the recommendations of the 'Remedial Action Plan Version V2 Final' prepared by EMM and dated 8 November 2021 relating to stockpiling of excavated material.	Section 4.2.1

4. Erosion and Sediment Control

The Objectives of the erosion and sediment control for the development site are to ensure

- Adequate erosion and sediment control measures are applied prior to the commencement of construction and are maintained throughout the construction.
- Construction site runoff is appropriately treated in accordance with Narrabri Shire Council requirements and
- Mitigate dust or polluted water entering the local waterways.

As part of the works, the erosion and sedimentation control will be constructed in accordance with Council requirements and the NSW Department of Housing manual, "Managing Urban Stormwater Soil & Construction" 2004 (Blue Book) prior to any earthworks commencing on site. The concept sediment and erosion control measures are documented in Warren Smith's design drawings C2.01, C2.02 & C2.03 incorporating the various construction methodology staging in order to complete the approved works.

4.1. Sediment Basin

one temporary sediment basin has been designed to capture site runoff during construction and have been located at logical points in relation to the existing terrain of the site. Construction of the basins will allow for maximum runoff capture assisted by diversion swales and direct run off to the basin.

Calculations to determine the concept design basin sizes have been based on available geotechnical information regarding soil types and through the use of Soils and Construction Volume 1 Manual.

To ensure the sediment basin is working effectively it will be maintained throughout the construction works. Maintenance includes ensuring adequate settlement times or flocculation and pumping of clean water to reach the minimum storage volume at the lower level of the settling zone. The settling zone will be identified by pegs to clearly show the level at which design storage capacity is available.

The pumped water from the sediment basin can be reused for dust control during construction.

Overflow weirs are to be provided to control overflows for rainfall events in excess of the design criteria which caters for a storm event up to and including the 1% AEP storm event.

The concept sediment basin sizing is noted on drawing C2.01 with reference to the overflow pumps approved under a separate s138 application with Narrabri Shire Council.

4.2. Sediment and Erosion Control Measures

Prior to any earthworks commencing on site, sediment and erosion control measures shall be implemented generally in accordance with the Construction Certificate drawings and the "Blue Book" to manage flows from the 1 in 5 year to 1 in 100 year storm event where appropriate. The measures shown on the drawings are intended to be a minimum treatment only as the contractor will be required to modify and stage the erosion and sedimentation control measures to suit the construction program, sequencing and techniques. These measures include:

- A Temporary site security/safety fence is to be constructed around the site and 1m high fencing to proposed sediment basins when a depth of sitting water is expected to exceed 300mm.
- Sediment fencing provided downstream of the disturbed areas, including any topsoil stockpiles.
- Dust control measures including covering stockpiles, installing fence hessian and watering exposed areas.
- Placement of hay bales or mesh and gravel inlet filters around and along proposed catch drains and around existing stormwater inlet pits or equivalent silt fences. Inspections of silt fences is to occur weekly and cleaned if deemed via visual monitoring to need corrective action;
- The construction of a temporary sediment basin as noted above in section 2.2
- Stabilised site access at the construction vehicle entry / exits

All stockpiles and embankment formations shall be stabilised by hydroseeding or hydro mulching on formation utilising such products as aqua tarp.

These measures will be incorporated to also mitigate dust or polluted waters entering the overland flow channels surrounding the site.

4.2.1. Stockpiling of material from unexpected find's protocol.

Upon commencing works related to removal of unexpected finds protocols, the following advise has been received within the Remediation action plan for stockpiling of material associated with these isolated works.

Given the proximity of the site to stormwater drainage systems which discharge to the Namoi River, and to minimise contaminated soil loss in the event of heavy rainfall or flooding, the use of stockpiles should be minimised and where possible should be temporary in nature. Soils that are contaminated or not suitable for reuse at the site should be classified in-situ, then excavated and loaded directly onto trucks for disposal. Soils that are contaminated but can reused at the site (based on the results of additional investigations and validation sampling) should be classified/validated in-situ, then excavated and placed in the final location. Material movements will be tracked via the Materials Tracking System

For non-contaminated ('clean') material, stockpiling will be minimised to the extent practical with material temporarily stockpiled in designated stockpile areas located on elevated ground and not flood prone areas (unless approved otherwise by the projects flood consultant).

Any temporary stockpiles are to be appropriately located and tracked to avoid mixing of difference classes of material (eg soil types, evidence of contamination). Bunding and sediment controls, including geofabric and/or wetting agents will be installed as appropriate to minimise runoff from stockpiles to surrounding areas. All stockpiles should be formed in a manner that reduces the potential for erosion.

4.3. Air Quality

The project will implement air quality measures to mitigate airborne dust particles.

The following measures will be implemented by the project team for the duration of the construction works:

- Shade cloths are to be implemented to all site fences.
- A maximum speed-limit of 20km/h is to be enforced for all internal roads and work areas during construction.
- Weather events are to be monitored in order to limit activities during adverse weather (Hot, dry, and windy conditions. Visual monitoring of conditions to also occurring through the day when activities are occurring.
- Dust suppression via water cart will be used during civil activities at regular intervals.

- For long term stockpile management, Aqua tarp or similar stockpile treatments will be used to bind the surface material to both mitigate wind and water erosion but also preventing dust particulars from emitting into the surrounding atmosphere.
- Any works on road surfaces are to be cleaned regularly to remove any sitting debris on the surface. Avoid dry sweeping of large areas. Vehicles to be inspected prior to leaving site in order to manage “track-out” of materials when leaving site.

4.4. Wet-Weather Management

In circumstances of heavy rain sufficient to affect site access and ground conditions the Site Manager and Site Safety Committee representatives should complete a site inspection before work re-commences. The inspection needs to focus on;

- The suitability of pedestrian access to the amenities and into the construction work areas
- The Suitability of access for plant and equipment
- The suitability of ground conditions for plant and equipment to operate
- Nominate the construction zones suitable for work to commence

Actions to remediate those areas deemed not suitable for work to commence (de-water; prepare ground conditions and access ways etc.)_SCHEDULE 1 – WSCE CIVIL DRAWINGS



SCHEDULE 1 – WSCE Civil Drawings

SCHEDULE 2 – CVs

■ Hydraulic Services ■ Fire Protection ■ Civil Engineering ■ Sydney Water Accredited Water Servicing Co-ordinator - Design Project Management - Building Plan Approvals







SCHEDULE 3 – Flood Impact Assessment







SCHEDULE 4 – Evidence of Consultation