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CONSTRUCTION SOIL AND WATER MANAGEMENT REPORT

SAMUEL GILBERT PRIMARY SCHOOL CASTLE HILL NSW

Prepared For:

**Hutchinson Builders
23 Dunning Avenue,
ROSEBERRY NSW 2018**

Prepared by:

**Birzulis Associates Pty Ltd
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Rev: E

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	Name	Signature
Amended by	Cameron Amri	
Checked by	Michael Grogan	
Issued by	Michael Grogan	

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1 INTRODUCTION

Birzulis Associates Pty Ltd has been commissioned by Hutchinson Builders Pty Ltd on behalf of NSW Department of Education to prepare this Construction Soil and Water Management Report in support of a proposed development for the site.

The site is located on the northern intersection of Ridgecrop Drive and Gilbert Road, Castle Hill NSW. The proposed additions are for an existing co-educational public primary school consisting of numerous multi storey classroom buildings, office facilities and a multipurpose hall.

This report also provides a summary of the stormwater management design principles and planning objectives for the management of stormwater quality and quantity. The objectives for the development are to provide an appropriate and economical stormwater management system which incorporates best practice in water sensitive urban design consistent with the requirements of The Hills Shire Council's water quality objectives.

A set of drawings have been prepared to show that the proposed stormwater quantity and quality requirements for the development can be met. These drawings cover stormwater management elements which cover surface levels and drainage layouts.

At this stage, the engineering and stormwater management policy requirements of The Hills Shire Council has been considered in the concept design. The stormwater management design will incorporate the use of rainwater tanks for water re-use and in conjunction with the use of an on-site detention tank to maintain the permissible site stormwater discharge in accordance with The Hills Shire Council's stormwater management policy.

This report will also provide a plan of how all construction works will be managed in wet-weather events and details of all off-site flows from the site. The measures that are to be implemented to manage stormwater and flood flows for small and large sized events will be discussed.

2 SITE CHARACTERISTICS

2.1 Site Description

The proposed development is located in the suburb of Castle Hill on Ridgescrop Drive as shown in **Figure 1**.

The site is bounded by Ridgescrop Drive on the south-western boundary, Gilbert Road on the south-eastern boundary and high-density vegetation land on the northern boundary.

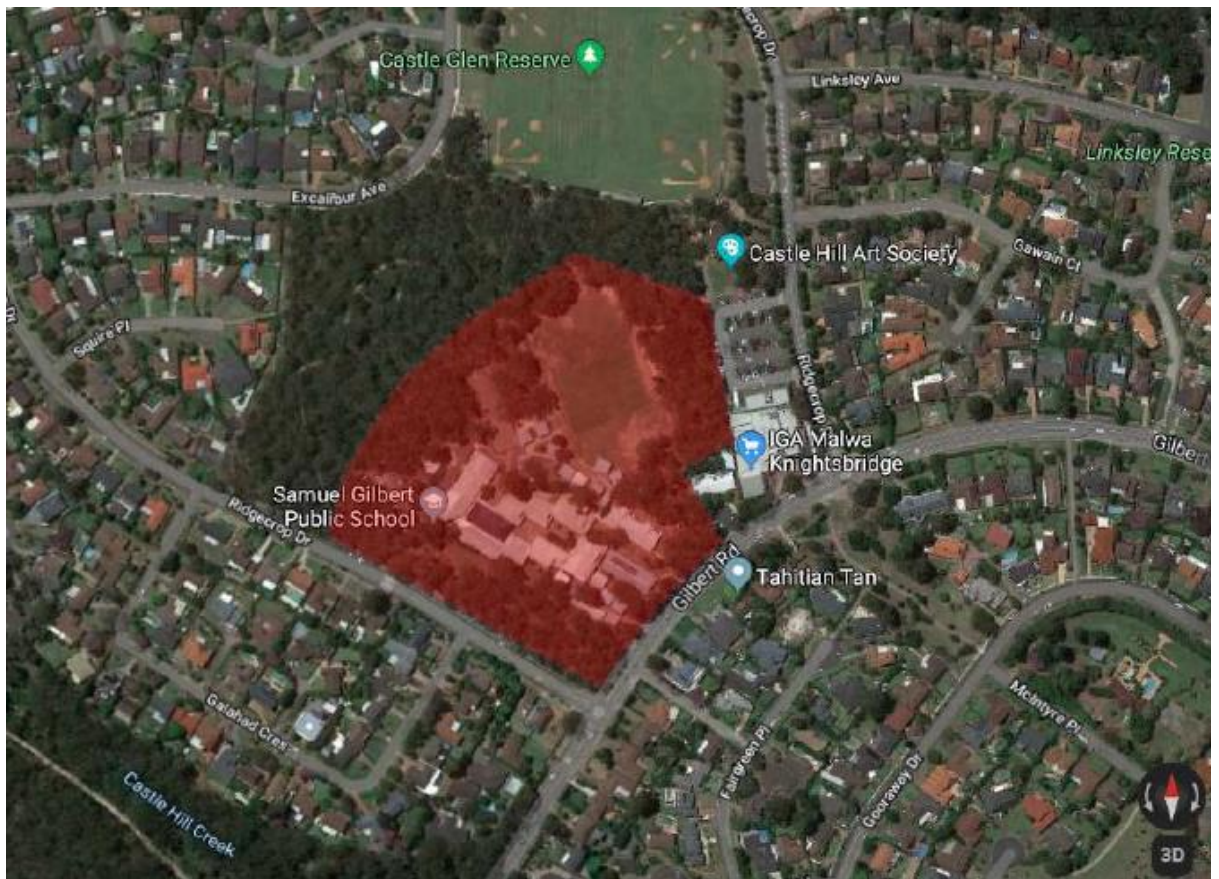


Figure 1. Locality Plan

2.2 Proposed Development

The proposed development is for a co-educational public primary school consisting of numerous multi storey classroom buildings, office facilities and a multipurpose hall.

An indicative layout of the development has been produced by Fulton Trotter Architects and can be seen in **Figure 2**.

The proposed development will include the following engineering components:

- Earthworks to provide foundation support for the classroom buildings including the excavation for an underground on-site detention tank;
- Maintaining the natural gradient of the site and overland flow path through the development site;
- Stormwater drainage system based on a major/ minor design philosophy;
- Management of stormwater quality using a treatment train approach to pollutant loads on a developed catchment in accordance with The Hills Shire Council's recommendations;
- Management of stormwater quantity by reducing post developed flow to pre-developed over the range of storms between the 1 in 5 year Average Recurrence Interval (ARI) to the 1 in 100 year ARI as per council policy and recommendations; and
- Further measures to manage stormwater and flood flows for 1 in 5 year ARI and 1 in 100 year ARI during construction.

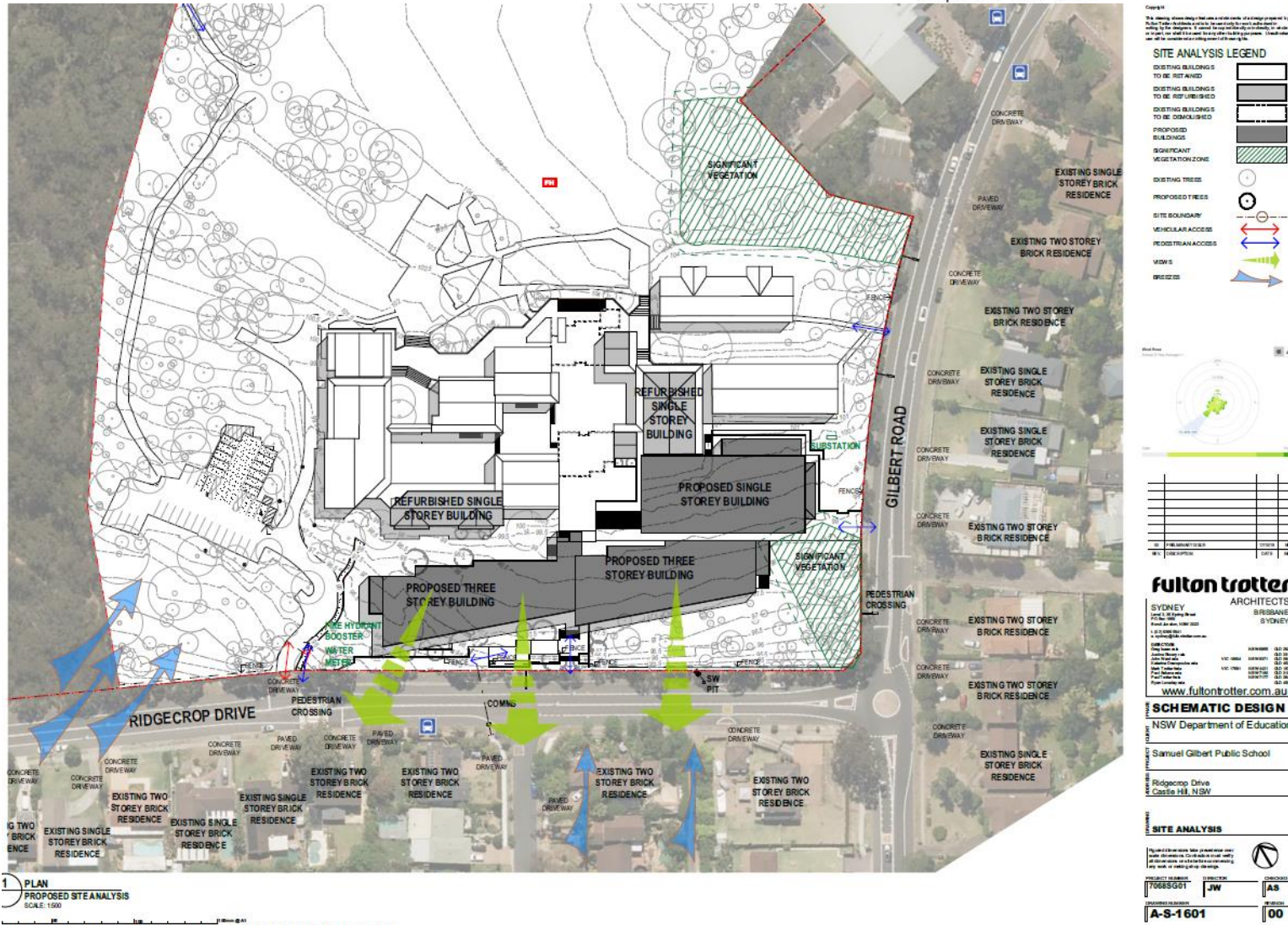


Figure 2. Architectural Plan

3 STORMWATER DRAINAGE

3.1 Site Drainage

3.1.1 Existing Site Drainage

The property is currently developed as public primary school with numerous stormwater pits located around the school site. All current overland flows travel towards the south-eastern part of the site via an overland flow route. There are numerous stormwater discharge locations to the kerb and gutter on Ridgescrop Drive and a kerb inlet pit connection on Gilbert Road.

3.1.2 Proposed Site Drainage

The proposed system to be completed generally in accordance with the following general engineering practice, the guidelines of The Hills Shire Council and the following regime:

- The proposed stormwater drainage system for the development will comprise a minor and major system to safely and efficiently convey collected stormwater run-off from the development to the legal point of discharge
- The minor system is to consist of a piped drainage system which has been designed to accommodate the 1 in 5-year ARI to 1-in-20 year ARI storm event. This results in the piped system being able to convey all stormwater runoff up to and including the Q20 event. This meets the requirements of The Hills Shire Council's stormwater criteria.
- The major system will be designed to cater for storms up to and including the 1 in 100-year ARI storm event. The major system will employ the use of defined overland flow paths, such as roads and open channels, to safely convey excess run-off from the site.
- The design of the stormwater system for this site will be based on relevant national design guidelines, Australian Standard Codes of Practice, the standards of The Hills Shire Council and accepted engineering practice. Runoff from buildings will generally be designed in accordance with AS 3500.3 National Plumbing and Drainage Code Part 3 – Stormwater Drainage. Overall site runoff and stormwater management will generally be designed in accordance with the Institution of Engineers, Australia publication "Australian Rainfall and Runoff" (2019 Edition), Volumes 1 and 2 (AR&R).

4 IMPACT ASSESSMENT

4.1 Construction

Construction activities such as excavation, other earthworks and the use of water for construction activities may cause runoff, sedimentation and erosion impacts to the local waterways if not appropriately managed.

Potential adverse impacts would include:

- Inadequate containment of spills or leaks of fuels and/or oils from construction plant and equipment and/or from vehicle/trucks that may result in pollutants entering the local waterway;
- Excavation, vegetation clearing and grading that may cause increased sediment and pollutant load in runoff;
- Stockpiling of spoil and construction materials may lead to polluted water runoff and sedimentation of waterways;
- Uncontrolled water use for construction activities resulting in pollutants entering the receiving waterway and potential increased scour and erosion effects;
- Litter from construction activities entering waterways; and
- Exposure of soils containing acid sulphides to oxygen resulting in the production of sulfuric acid, which may negatively affect the environment and waterways.

4.2 Mitigation

Erosion and sediment control measures will be provided in accordance with the “Blue Book” – Managing Urban Stormwater – Soils and Construction (Landcom, 2004) and the The Hills Shire Council’s Engineering Guide to mitigate potential impacts to the downstream water quality from construction activities.

Controls would include:

- Sediment management devices, such as fencing, hay bales and sandbags;
- Measures to divert or capture and filter water prior to discharge, such as drainage channels and first flush and sediment basins;
- Installation of measures at work entry and exit points to minimise movement of material onto adjoining roads, such as rumble grids or wheel wash bays;
- Appropriate location and storage of construction materials, fuels and chemicals, including bunding where appropriate;
- All refuelling of vehicles and equipment on site would be undertaken a minimum of 50 metres away from water bodies and surface drains, where possible and;
- Any fuel, oil or other liquids stored onsite would be stored in an appropriately sized impervious bunded area.
- Measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site.

An erosion and sediment control plan has been prepared as part of the Construction Environmental Management Plan – refer to Appendix 'A'. Implementation of these measures would mitigate off-site impacts to the downstream water quality of the site during construction of the school.

4.3 Wet Weather Management

Prior to a wet weather event and in conjunction with the '*Site Shut Down and Storm Preparation Checklist*', refer to Appendix 'D', all tools and materials will be stored in designated worker areas such as designated containers, sheds etc. During the groundworks stage a Geotechnical Engineer will be on-site regularly and will review all batters and ground conditions to confirm stability.

After periods of wet weather, authorised representatives of the project leadership team and the relevant subcontractors shall inspect all workplaces to determine what, if any, actions are required to declare the site open for regular activity. Situations can present whereby parts of the site remain closed pending further action (dewatering, clean-up etc.) with the rest of the project returning to normal activities. The status of work areas shall be clearly communicated to all project workers at site meeting/s.

In-house and subcontract workers may be required to undertake dewatering and clean-up activities in order that the site be reopened. In these situations appropriate risk assessments shall be undertaken prior to the commencement of clean-up works and appropriate PPE and other equipment shall be issued by the Site Manager.

In the event of inclement weather sites are to refer to the Bureau of Meteorology and/or relevant government website in conjunction with the '*Site Shut Down and Storm Preparation Checklist*'.

During construction, wet weather events will be managed via the use of silt sediment fences, mesh and gravel filters, haybale filters and a sediment basin. The proposed soil and erosion control plan indicate that a sediment control fence is to be installed around the lower side boundary of the site to minimize off-site stormwater runoff from the construction site. A catchment diversion drain will be constructed to divert site runoff towards the proposed sediment basin. Refer to the sediment and erosion control plan for further information. Refer to figure Appendix 'E' for a site plan of the construction site. Appendix 'E' shows the arrangement of the sediment control fences with additional information on how the site will be managed during a storm event.

4.3.1 Pre Wet-Weather

The site manager is to carry out a thorough walkthrough of the site to ensure the following control measures are set in place;

- All sediment and erosion controls have been correctly installed and do not need any maintenance works;
- All loose materials/items to be tied down including signage; and
- Where possible machinery and equipment to be placed under cover.

4.3.2 Post Wet-Weather

The site manager is to carry out a thorough walkthrough of the site to ensure the following;

- The sediment and erosion controls have not been damaged. If so, damage is to be rectified immediately;
- Excavated areas to be inspected by authorised person for destabilization;
- Access roads and paths to be cleaned and made good;
- Inspect sediment basin and clean/pump out if required; and
- Inspect all areas to ensure there has been no damage/hazards created by the weather.

5 STATE SIGNIFICANT DEVELOPMENT APPLICATION - CONSENT CONDITIONS

B12.

(b)(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;

(d) a program to monitor and report on the:

(i) impacts and environmental performance of the development;

(ii) effectiveness of the management measures set out pursuant to paragraph (c) above (a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria)

(f) a program to investigate and implement ways to improve the environmental performance of the development over time;

(g) a protocol for managing and reporting any:

(i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria);

(ii) complaint;

(iii) failure to comply with statutory requirements.

Birzulis Associates offer the following comments in regard to the above conditions:

(b)(iii) Performance indicators will be carried out in accordance with Hutchinson Builder's CEMP report, Section 9.1 'Monitoring and Reviewing of Environmental Performances' and the requirements within the SSD 9274. The construction soil and water management control shall be carried out in accordance with the 'Blue Book – Landcom, Section 8.2 'Maintenance Program'.

(d)(i) & (ii) A program to monitor and report on the environmental impacts and performance of the development, effectiveness of the management measures will be carried out in accordance with Hutchinson Builder's CEMP report, Section 9.1 'Monitoring and Reviewing of Environmental Performances' and the requirements within the SSD 9274. The construction soil and water management control shall be carried out in accordance with the 'Blue Book – Landcom, Section 8.2 'Maintenance Program'.

(f) A program to investigate and implement methods to improve environmental impact for the development over time will be carried out in accordance with Hutchinson Builder's CEMP report, Section 9.1 'Monitoring and Reviewing of Environmental Performances' and the requirements within the SSD 9274.

(g)(i), (ii) & (iii) Protocols for managing incidence, non-compliance, complaints and failure to comply with statutory requirements will be carried out in accordance with Hutchinson Builder's CEMP report, Section 7 'Communication & Reporting' and the requirements within the SSD 9274.

B17. *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;*
- (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 1-year ARI, 1 in 5-year ARI and 1 in 100-year ARI.*

Birzulis Associates offer the following comments in regard to the above conditions:

- a) This Construction Soil and Water Management Plan has been prepared by Steven Luu, a civil engineer for Birzulis Associates with over 7 years of experience in the industry. The plan has been reviewed and approved by Michael Grogan, Director of Structural and Civil department with Birzulis Associates (refer to CV included in Appendix 'B'. The sediment and erosion control plan and strategy has been prepared in accordance with Council's recommendations and requirements.
- b) All sediment and erosion controls have been described within this report and additional within the sediment and erosion control plans included within Appendix 'A'.
- c) The NSW Planning Industry and Environment 'Acid Sulphate Soils Risk Map' indicates that the proposed development site is not affected by acid sulphate soils – refer to Appendix 'F'.
- d) Refer to the section 4.3, Wet Weather Management, for details summarizing the action required to be taken immediately before, during and after wet weather events.
- e) Refer to the sediment and erosion control drawings included within Appendix 'A' of this report for flow path and discharge point details.
- f) During storms up to the 1 in 10yr ARI event (which includes the 1 in 1yr ARI and 1 in 5yr ARI event), flows will be directed to the sediment basins via catch drains or through stormwater pits and pipes that have been constructed. Stormwater that is to be discharged from the basin is to be re-flocculated prior to discharge into Council's stormwater system.

In storms greater than the 1 in 10yr ARI event, flows will similarly discharge to the sediment basin via catch drains and stormwater pits and pipes that have been constructed. Due to natural and unexpected blockages in the stormwater system,

it is expected that, in a 1 in 100yr event, the stormwater flows will overtop pits and be conveyed through site overland flows. The sediment basins have not been designed to cater for the 1 in 100yr flows, thus it is likely that flows will discharge overland to Council's stormwater system on Ridgescrop Drive and Gilbert Road. Sediment fences and haybale filters are still expected to perform adequately in larger storm events and contain sediments within the site.

6 CONCLUSION

This construction soil and water management report has been prepared to support the application for a proposed development at Samuel Gilbert Primary School, Castle Hill NSW.

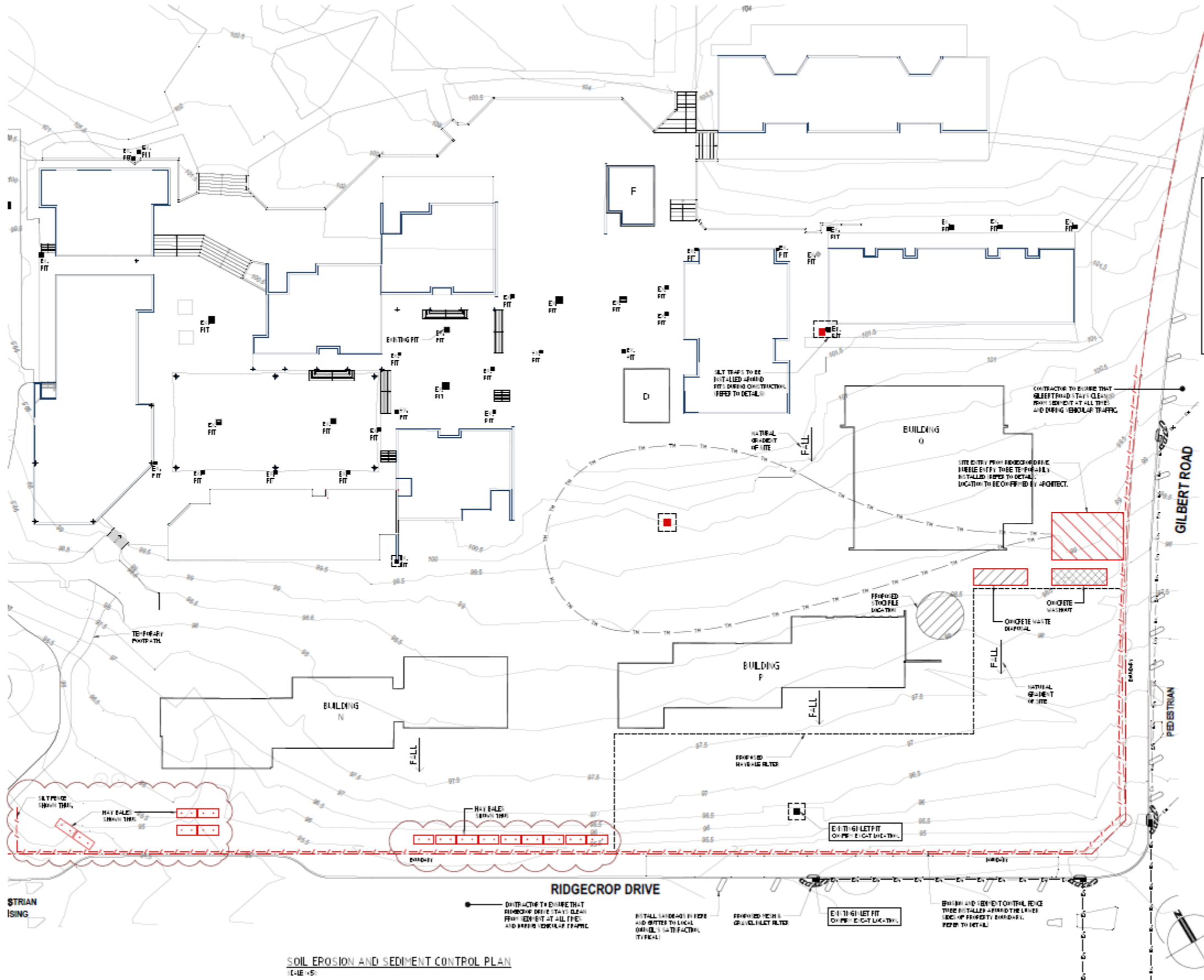
A stormwater management strategy for the site has been developed which provides a best practice solution within the constraints of the existing landform and proposed development layout. The strategy for stormwater quantity and quality management has been developed to reduce both peak flows and pollutant loads in stormwater leaving this site. The stormwater management for the development has been designed in accordance with the development consent.

The stormwater layout for the development maintains the existing catchment breakdown and proposed stormwater connection to the existing kerb inlet pit on Ridgecrop Drive. A hydrological assessment has been undertaken which confirms local post development flows from the site will be less than pre-development flows and demonstrates that the site discharge would not adversely affect any land, drainage system or watercourse as a result of the development. A stormwater detention system comprising an active storage of 245m³ is proposed to attenuate developed stormwater flows to pre-developed flows. This will be provided by an underground detention tank.

During the construction phase, an erosion and sediment control plan will be in place to ensure the downstream drainage system and receiving waters are protected from sediment laden runoff. Best management practices have been applied to the development to ensure that the quality of stormwater runoff is not detrimental to the receiving environment.

It is recommended the management strategies in this report be approved and incorporated into the construction phase.

APPENDIX A
**EROSION & SEDIMENT CONTROL PLAN &
DETAILS**

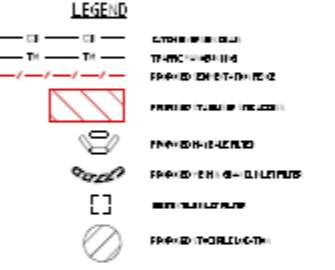


REFER TO THE DRAWING SHEET FOR THE LOCATION OF THE SLEEFTHROU THAT CLEAN FROM SEDIMENT AT ALL TIMES AND DURING VEHICULAR TRAFFIC.

GENERAL NOTES:
 ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
 DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED.
 THE LATEST REVISIONS SHALL PREVAIL.

EROSION & SEDIMENTATION CONTROL NOTES:

- CONTRACTOR SHALL PROVIDE EROSION & SEDIMENTATION CONTROL MEASURES TO PREVENT SOIL EROSION & SEDIMENTATION FROM THE CONSTRUCTION SITE.
- CONTRACTOR SHALL PROVIDE EROSION & SEDIMENTATION CONTROL MEASURES TO PREVENT SOIL EROSION & SEDIMENTATION FROM THE CONSTRUCTION SITE.
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- CONTRACTOR SHALL PROVIDE EROSION & SEDIMENTATION CONTROL MEASURES TO PREVENT SOIL EROSION & SEDIMENTATION FROM THE CONSTRUCTION SITE.



NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR TENDERS	14/12/2019	CA
2	FOR CONSTRUCTION	14/12/2019	CA
3	FOR CONSTRUCTION	14/12/2019	CA
4	FOR CONSTRUCTION	14/12/2019	CA
5	FOR CONSTRUCTION	14/12/2019	CA
6	FOR CONSTRUCTION	14/12/2019	CA
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9	FOR CONSTRUCTION	14/12/2019	CA
10	FOR CONSTRUCTION	14/12/2019	CA

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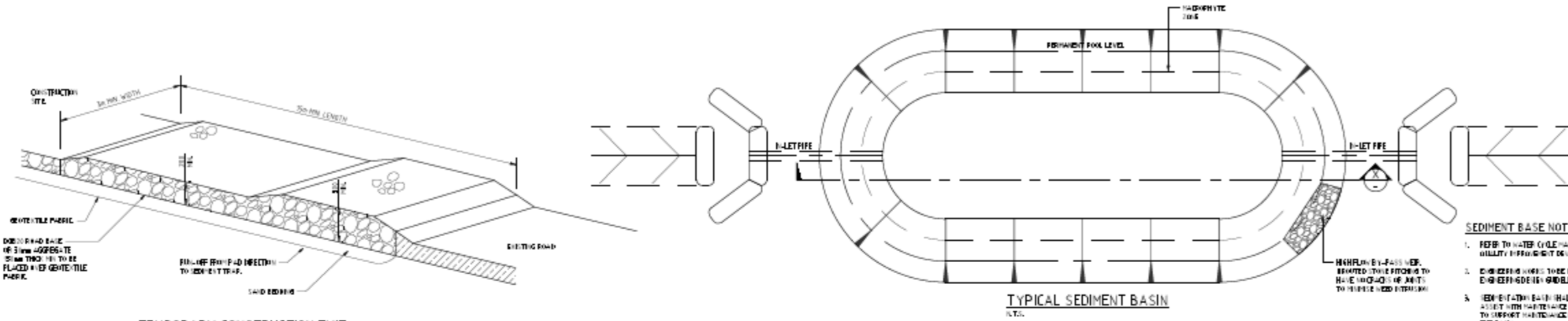
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SAMUEL GILBERT PUBLIC SCHOOL
 RIDGECROP DRIVE, CASTLE HILL, NSW

SOIL EROSION AND SEDIMENT CONTROL PLAN
 STAGE 1 SET UP 1

DATE: 14/12/2019	BY: CA	DATE: DEC 2019
DATE: 14/12/2019	BY: CA	DATE: DEC 2019
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DATE: 14/12/2019	BY: CA	DATE: DEC 2019

SOIL EROSION AND SEDIMENT CONTROL PLAN
 SCALE: AS SHOWN

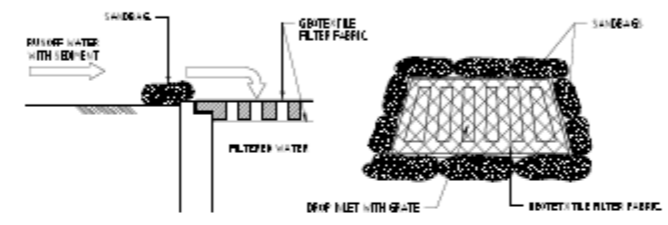


TEMPORARY CONSTRUCTION EXIT
NOT TO SCALE

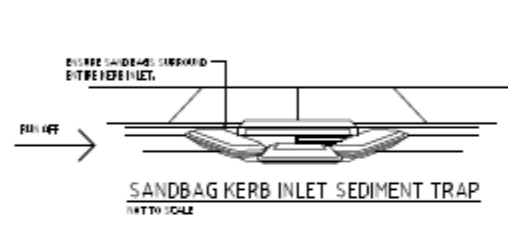
TYPICAL SEDIMENT BASIN
N.T.S.

SEDIMENT BASE NOTES:

1. REFER TO WATER CYCLE MANAGEMENT GUIDELINES AND STORMWATER QUALITY IMPROVEMENT DESIGN GUIDELINES FOR DESIGN DETAILS.
2. DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN ACCORDANCE WITH AUSTRALIAN STANDARDS AS/NZS 1546:2012.
3. SEDIMENTATION BASIN SHALL BE CONSTRUCTED WITH A HARD BASE TO SUPPORT THE WEIGHT OF THE BASIN AND TO SUPPORT THE WEIGHT OF THE WATER.
4. REFER TO DRAINAGE DESIGN GUIDELINES FOR THE FINAL HIGH AND FINISHING SPECIFICATIONS.
5. LANDSCAPE (VEGETATION) REFERRED BY THE ARCHITECTURE SHALL BE PLANTED AND MAINTAINED AS SPECIFIED.



GEOTEXTILE FILTER FABRIC
DROP INLET SEDIMENT TRAP
NOT TO SCALE



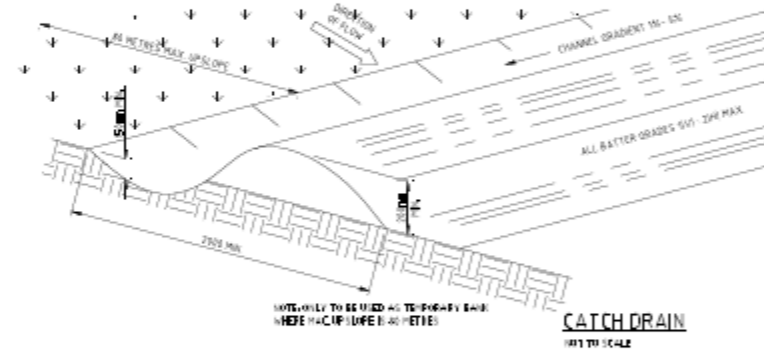
SANDBAG KERB INLET SEDIMENT TRAP
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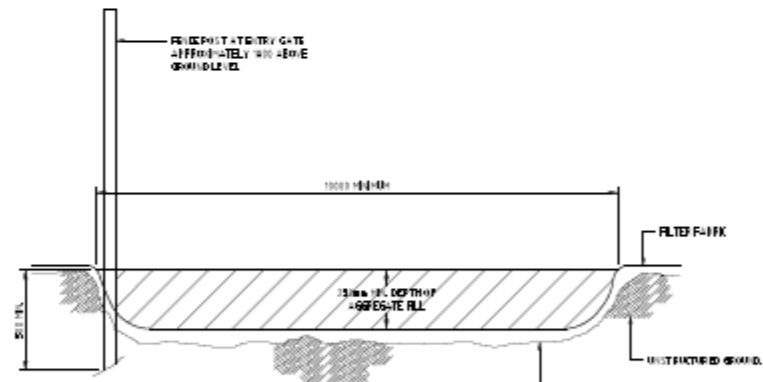
SECTION X
SCALE 1:10

CATCH DRAIN CONSTRUCTION NOTES:

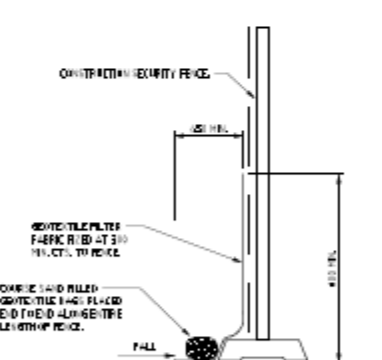
1. CONSTRUCTION SHALL BE AS SPECIFIED.
2. MAXIMUM SPACING BETWEEN DRAINS SHALL BE 10 METRES.
3. DRAINS TO BE OF PARALLEL OR TRAPEZOIDAL CROSS SECTION NOT MORE THAN 100mm DEEP.
4. DRAIN BASINS TO BE APPROPRIATELY CONSTRUCTED TO PREVENT FAILURE.
5. CONSTRUCTION OF A TEMPORARY NATURE AND SHALL BE COMPLETED AT THE END OF EACH DAY OF CONSTRUCTION.
6. ALL DRAINAGE DRAINAGE LINES ARE TO BE INSTALLED TO THE END OF THE LINE.
7. DEBRIS SHALL BE COLLECTED FROM THE DRAINAGE LINES INTO EITHER A TRAP OR A COLLECTION POINT AT THE END OF THE LINE.
8. CONSTRUCTION SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME.
9. CONSTRUCTION SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME.
10. CONSTRUCTION SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME.



CATCH DRAIN
NOT TO SCALE



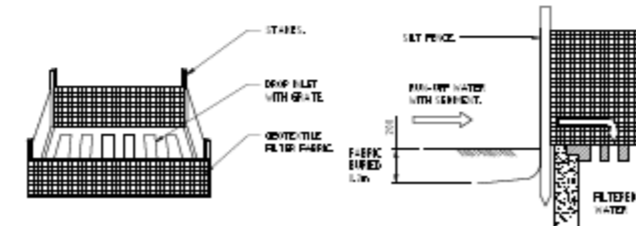
CROSS-SECTION OF CONSTRUCTION ENTRY/EXIT DETAIL
NOT TO SCALE



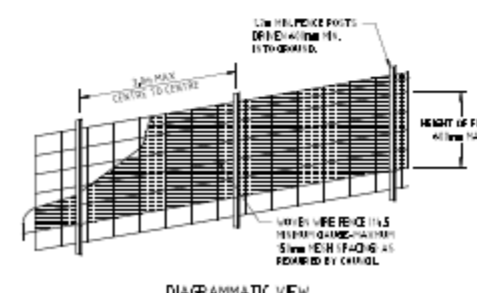
SEDIMENT FENCE ON PAVED SURFACE
NOT TO SCALE



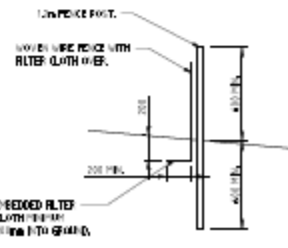
STOCKPILES DETAIL
NOT TO SCALE



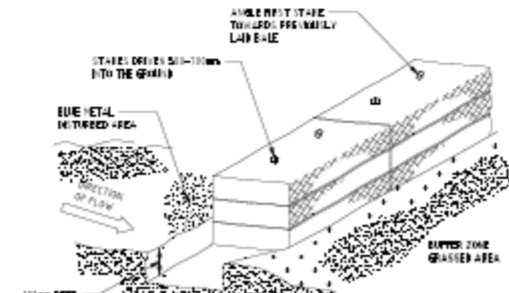
SUMP SEDIMENT TRAP DETAIL
NOT TO SCALE



DIAGRAMMATIC VIEW



TYPICAL SECTION



HAY BALE BARRIER DETAIL
NOT TO SCALE

NO.	REVISION	DATE
1	ISSUED FOR CONSTRUCTION	15/11/2019
2	ISSUED FOR CL	15/11/2019
3	ISSUED FOR CL	15/11/2019

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Project
SAMUEL GILBERT PUBLIC SCHOOL
RIDGECROP DRIVE, CASTLE HILL, NSW

SOIL EROSION AND SEDIMENT DETAILS

SCALE: (AS NOTED AT 4:1)	DATE: DEC 2019
DRAWN: C.K.E.	CHECKED: S.L.
DATE: 15/11/2019	APPROVED: M.G.
IF MODIFICATION OF THIS DRAWING IS PROPOSED, PLEASE CONTACT THE CONSULTING ENGINEER (BIRZULIS ASSOCIATES) PTY. LTD.	
PROJECT No. 7738	DRAWING No. C-S-0003

APPENDIX B - CURRICULUM VITAE

MICHAEL GROGAN Born 2.2.1978

Bachelor of Engineering in Civil Engineering
University of Newcastle

Masters of Engineering (Structural)
University of Technology, Sydney

Member of the Institution of Engineers, Australia
Chartered Professional Engineer
Registered with National Professional Engineers Register
Registered Professional Engineer of Queensland
Registered Building Practitioner with Building Commission Victoria

Since completing his degree in 1999, Michael has worked as a structural engineer for Birzulis Associates Pty Ltd and in 2004 Michael was appointed as an Associate Director of Birzulis Associates Pty Ltd. In 2012 Michael was appointed a Director of Birzulis Associates Pty Ltd.

Michael has had exposure to the design of reinforced and post-tensioned concrete, structural steelwork, glass, brickwork, timber and foundation design along with site supervision through involvement with numerous projects including the following projects:-

- National Gallery of Australia, Canberra
- Ian Thorpe Aquatic Centre, Ultimo
- Hillsong Christian Church with 3500 seat auditorium and chapel
- Presbyterian Ladies College – performing arts centre and indoor swimming complex
- Ocean Breeze Apartments
- Energy Australia Substation, Campbell Street
- Nareen Gardens Retirement Village
- Millers Self Storage, Thornleigh, Rozelle and Auburn Storage Warehouses
- Delany College, Granville
- Penrith Anglican College
- Hamilton Island Apartments
- Kia Ora Stud luxury residence, Scone
- Tara Anglican College – numerous buildings
- Hoxton Park Anglican College – numerous buildings
- Griffith TAFE – nursing and children’s services
- Numerous luxury domestic buildings

APPENDIX C
COUNCIL CONSULTATION

Post Approval – Consultation

Consultation needs to be meaningful, done with courtesy and respect and be well documented. These are people/ organisations that we need to be building meaningful relationships with.

Conditions of all consent can require consultation with a range of stakeholders.

Consultation in the post approval world needs to be well documented to satisfy the condition requirements.

Examples include Council, service providers (eg. Electricity gas etc.), consult with local bus provider and TfNSW.

Read each condition carefully, any reference to consult triggers consultation.

Typically on State Significant Development, there will be a specific consultation condition as to how this piece can be appropriately addressed.

Consultation is not:

- A token gesture
- Done at the end of the piece of work,
- An email to the relevant stakeholder with no response;
- A meeting with the stakeholder with no meeting minutes.

Consultation is:

- Meaningful
- Done prior to the requirement,
- Captures an outcome,
- Identifies matters resolved,
- Identifies matters unresolved,
- Any disagreements are disclosed; and
- How we are going to address unresolved matters?

How to capture all the relevant details on consultation requirements? Any consultation requirement in a condition is required to be accompanied with the following table:

Post Approval Consultation Record

Identified Party to Consult:	The Hills Shire Council
Consultation type:	Teleconference
When is consultation required?	Prior to commencement of construction
Why	To meet condition B17
When was consultation scheduled/held	Consultation scheduled for the 24/02/2020
When was consultation held	Consultation undertaken on the 24/02/2020
Identify persons and positions who were involved	Craig – Subdivision Department The Hills Shire Council Steven Luu – Civil Engineer Birzulis Associates
Provide the details of the consultation	<ul style="list-style-type: none"> • Consultation undertake via teleconference; • Introductions made; • Description of the site/development ; • Review of relevant SSDA conditions of consent; and • Outline of council policies and councils requests were made.
What specific matters were discussed?	<ul style="list-style-type: none"> • Discussion regarding location of the site within Council LGA; • Council advise to refer to Landcom (blue book) for specific sediment and erosion control requirements – silt fences, basin design etc; and • Sediment and erosion control measures clarified.
What matters were resolved?	All matters resolved
What matters are unresolved?	None
Any remaining points of disagreement?	No
How will SINSW address matters not resolved?	None

APPENDIX D
SITE SHUTDOWN AND
STORM PREPARATION CHECKLIST



Site Shut Down & Storm Preparation Checklist

HB-HSEQ-F-084

Project Name: _____ Job Number: _____ Date: _____

Inspected by: _____

SITE SHUT DOWN OR BUREAU OF METEOROLOGY(BOM) / OFFICIAL GOVERNMENT WARNING RECEIVED

ITEM	YES	NO	N/A
HOUSEKEEPING			
Ensure loose materials and objects including signage are secured and cannot blow away (check all levels, including formwork deck and roof). This is particularly important where the structure is not enclosed.			
All stored materials (e.g. ply, roofing) have been tied down/strapped.			
For holiday shutdown period – ensure excess waste has been removed from site.			
SECURITY			
Ensure boundary fencing, hoarding and barricading is secured with adequate bracing / counterweights and cannot be blown over.			
Ensure site office is locked and laptops, cameras etc. are taken home to prevent unauthorised access and theft.			
Securely lock all site containers, site sheds and buildings.			
For holiday shutdown period – Site contacts sign is secured and legible, with contact phone numbers displayed.			
For holiday shutdown period - routine security patrols arranged where appropriate.			
For holiday shutdown period - arm security system, as appropriate. Advise monitoring company of any changes to contact phone numbers during shutdown period.			
For holiday shutdown period – advise Client regarding shutdown period and emergency contact phone numbers.			
PUBLIC SAFETY			
For holiday shutdown period - pedestrians have safe passage around/adjacent to project.			
For holiday shutdown period – gantry lighting operational and sharp edges protected (e.g. pvc pipe).			
For holiday shutdown period – traffic control measures would either be removed or covered where not required to be displayed over shutdown (e.g. 'worker ahead' signage).			
EXCAVATION & CONFINED SPACES			
For holiday shutdown period – ensure excavations have been filled, barricaded or covered (load bearing) to prevent persons falling into them.			
For holiday shutdown period – confined spaces signed and locked if possible.			



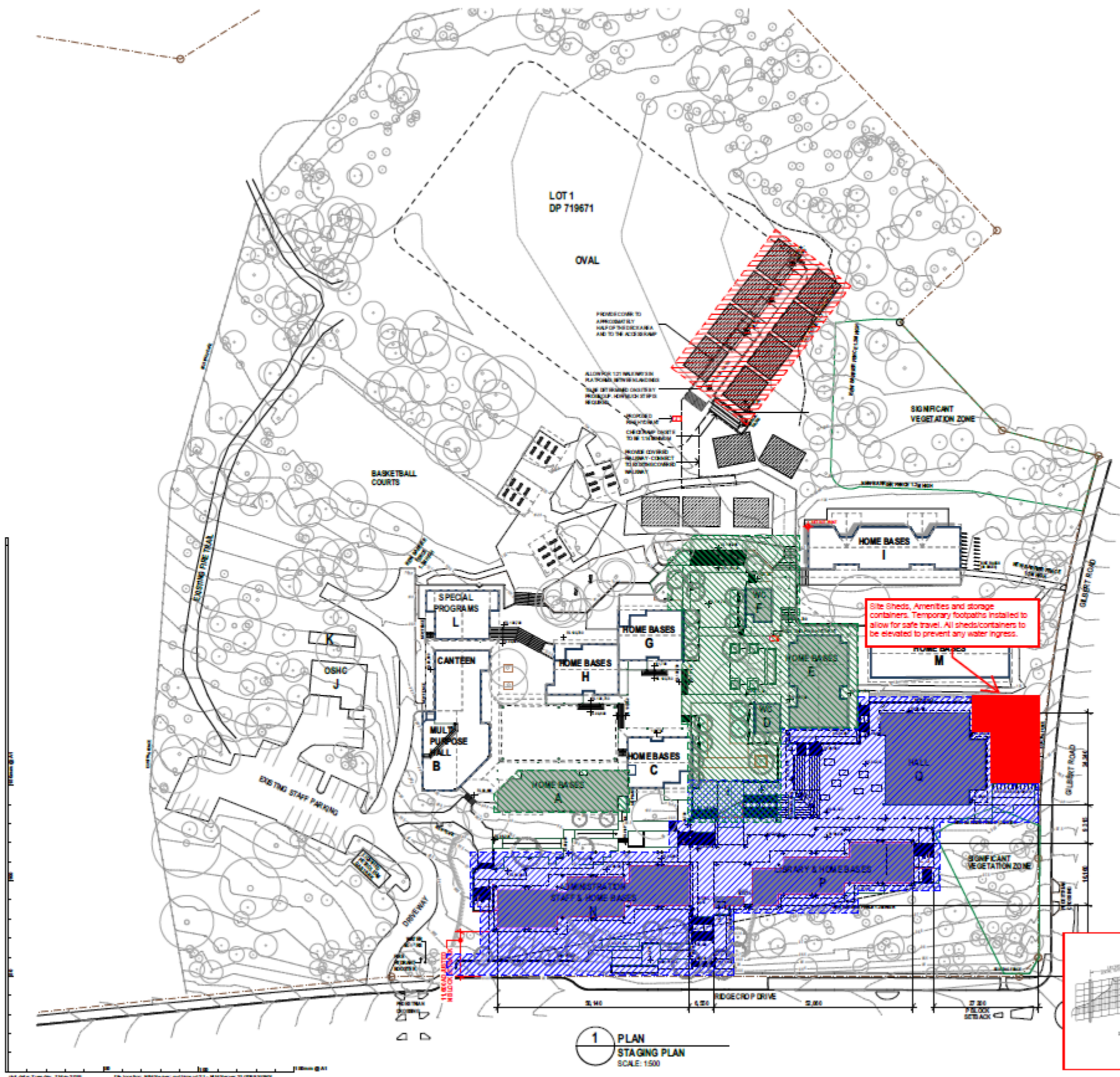
SCAFFOLD			
Ensure scaffold ties are in place and check scaffold couplers that link scaffold components together.			
Check shade cloth / mesh and planks are securely fixed.			
Check scaffold baseplates and ensure potential water runoff is diverted (so they cannot be undermined).			
If scaffold is incomplete, ensure access is restricted (e.g. minimum prominent incomplete scaffold signs and hazard tape).			
Ensure scaffold is free from excess materials and no loose materials.			
STRUCTURE			
Where required incomplete structures are braced to prevent collapse.			
Review all pre-cast panel braces and ensure they are secured and locked.			
Ensure all block & brick walls are supported / braced and/or core filled.			
Finished/sensitive work protected from weather ingress.			
For holiday shutdown period – ensure penetrations in concrete slabs have penetration covers affixed.			
PLANT			
Ensure tower crane warning lights operational.			
Ensure tower crane barricading secured/ lifting hooks and chains removed/ crane in slew mode and crane cabin locked.			
All plant parked in designated area with attachments lowered.			
All plant locked, with keys removed and isolated if possible.			
HAZARDOUS CHEMICALS/MATERIALS			
Dangerous goods and hazardous substances should be correctly disposed of or secured in a location that is unlikely to flood.			
Bunds empty and clean.			
Asbestos removal enclosures sealed and secured, following advice from licenced removalist.			
SERVICES & AMENITIES			
For holiday shutdown period – where required gas, electrical and water supplies / mains have been isolated. This includes isolating temporary boards at the main switchboard, isolating water to site sheds and turning off all lighting and air conditioners inside sheds.			
For holiday shutdown period - all extension leads and power tools removed from site and secured.			
For holiday shutdown period – fridges emptied and cleaned.			
For holiday shutdown period – chemical toilets emptied and cleaned.			
ENVIRONMENTAL			
Erosion and sediment controls in place (and in a clean condition).			



Stockpiles covered if required by site plan; covers sufficiently weighed down.			
For holiday shutdown period – road leaving site is clean.			
For holiday shutdown period – dust control arranged if required.			
IF SITE BEING SHUT DUE TO WEATHER EVENT			
Evacuate the site where it is identified that serious and damaging weather is coming and it is safe for workers to travel from site to home			

POST SITE SHUT DOWN OR WEATHER EVENT			
ITEM	YES	NO	N/A
POST SITE SHUTDOWN			
Restore services to site.			
Complete BIG10 inspection, including:			
No evidence of intruders.			
Scaffold inspection, including footings not undermined.			
Condition of erosion and sediment controls.			
Plant operators to conduct a thorough prestart check prior to equipment use.			
POST STORM EVENT			
Electricity – Prior to use ensure there has been a clearance to use live electrical sources by an electrician			
Identify any materials likely to contain asbestos containing material and isolate.			
Check drinking water and hand wash facilities are available			
Check that workers have access to working amenities			
Assess what clean-up work needs to be done			
Plan the clean-up to ensure additional risks / hazards are not introduced			
Determine which tools & equipment will be needed to safely do the work			
Check that the people required to operate the machinery have the right skill and competencies and ensure less skilled workers are supervised			
Be aware of worker fatigue and toolbox all workers on the signs and symptoms of fatigue			
Ensure all correct PPE for the task is being correctly used by all workers			
Ensure all first aid stock and rooms are suitable for treating any injuries			
Complete a monthly scaffold inspection checking: <ul style="list-style-type: none"> - there has not been soil erosion occur from underneath the sole boards - that the scaffold base jacks are centred on the sole boards 			

APPENDIX E
**CONSTRUCTION SOIL AND WATER
MANAGEMENT
SITE ARRANGEMENT**



1 PLAN STAGING PLAN SCALE: 1:500

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- STAGE 1** TEMPORARY SCHOOL ESTABLISHMENT WORKS
- STAGE 2** CONSTRUCT NEW MAIN HOMEBASES, LIBRARY, ADMINISTRATION, HALL AND COLA
- STAGE 3** DEMOLISH/REFURBISH EXISTING BUILDINGS, UPGRADE MAIN CONCOURSE

NO	DESCRIPTION	DATE	BY
01	ISSUE FOR TENDER	01/11/18	AW
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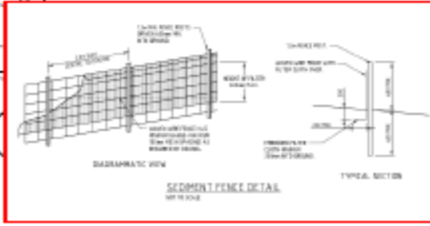
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SCHEMATIC DESIGN
NSW Department of Education
Samuel Gilbert Public School
Ridgecrop Drive
Castle Hill, NSW

STAGING SITE PLAN

PROJECT NUMBER: 7068SG01
DESIGNER: JW
DRAWING: AS
DATE: SD1401 P11



APPENDIX F
NSW PLANNING INDUSTRY & ENVIRONMENT
-
ACID SULPHATE SOILS RISK MAP

