

27th March 2019

TO: Park Genie
ATTENTION: Mike Davis
C/- RPS Group
Michael Anderson



BG Group
ENGINEERS

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Dear Sir,

Re: Site Based Stormwater Management Plan (SBSMP) for Proposed Temporary Car Parking Facility at 39 Abbotsford Road, Bowen Hills.

As requested, an investigation has been undertaken on the stormwater quantity and Quality issues for the above-mentioned project. The constraints as identified are as follows: -

- The Proposed car parking facility is intended to be operational for a maximum of two (2) years at which time, the current Development Approval (DA) lapses and construction is set for commencement
- The Temporary Car parking facility is intended for short term (day) parking servicing commuters travelling via train to and from Bowen Hills
- Surface improvement works (i.e. asphalt or concrete wearing surface) is not considered feasible given the noted operational timeframe.

Based on the above information, it is considered that this proposed use be assessed as **"Temporary Works"** similar to the assessments made for sites under construction. Two areas of stormwater management will be considered; Stormwater Quality and Stormwater Quantity. Each area will be discussed separately below.

Stormwater Quality.

Potential pollutants of concern are summarised below. These pollutants can have adverse environmental impacts within the downstream catchment.

TYPICAL POLLUTANTS

POLLUTANT	SOURCE
Litter	Paper, Construction Packaging, Food Waste, Cement, Off - Cuts
Sediment	Unprotected Exposed Soils, Stockpiles, Erosion
Hydrocarbons	Fuel and Oil Spills, Leaks from Machinery
Toxic Materials	Cement Slurry, Asphalt Primer, Solvents, Cleaning Agents
Ph Altering Substances	Acid Sulphate Soils, Cement Slurry, Wash Water
Thermal Pollution	Vehicles and Machinery, Increased Impervious Areas

Given the temporary nature of the proposed use and the minimal upgrade works intended, no **toxic materials** are expected to be used hence no consideration need be given to addressing the containment and treatment of these materials. Similarly, **Thermal Pollution** is considered negligible given the recent removal of a number of houses and ancillary facilities from the subject site.

It is proposed to address the transportation of **Sediment** from the site in a similar manner to that of any temporary-use site such as during the (Construction Phase of a development). An "Erosion Hazard Assessment" has been undertaken for this site. The resulting classification for the site under the proposed use it that of a **"Medium"** Risk Site. The Erosion Hazard Assessment is appended to this letter as Attachment 1. Based on the identified Medium risk classification, a proposed **"Erosion and Sediment Control Plan"** has been prepared for this site and is appended to this letter as attachment 2. This plan proposes methods for controlling the conveyance of suspended solids from the site and into the council stormwater system.



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Measures have also been incorporated to restrict the transportation of any oil-based products (i.e. **Hydrocarbons**) emanating from parked vehicles from entering the waterway system. It is noted here that the proposed user of this facility is most likely a user who currently parks his/her vehicle in side streets near to the Bowen Hill strain station hence currently, no restrictions to any oil-based products emanating from his/her vehicle entering the waterway system exists. The overall stormwater quality for the general precinct will therefore be improved.

The proposed site ranges in elevation typically from RL 19 m (AHD) to RL 22 m (AHD). These levels are above the general trigger level (RL 5.0m AHD) for the possible occurrence of Acid Sulfate soil contamination hence acid sulfate is not considered to be an issue with this site. Similarly, with minimal improvements intended for the site, no incidence of Cement slurry or any other **PH altering substances** is considered likely to be generated from the temporary use for this site.

Litter is considered to be a potential threat to the stormwater quality emanating from this site. The use of a sediment control barrier along the Abbotsford road frontage to the site will assist in “trapping” any litter generated from the intended use. A maintenance program is recommended to be set up such that regular maintenance and cleaning of the site is undertaken.

In summary, given the intended use for the site, the maximum expected duration and the minimal upgrades proposed, it is recommended that the temporary measures as outlined in the Erosion and Sediment Control plan attached be implemented and maintained during the use. A maintenance program is also recommended to be set up such that regular maintenance and cleaning of the site is undertaken.

Stormwater Quantity.

In 2015, the subject site had six (6) houses and ancillary structures constructed on it. Currently all structures except for one house remains. This house is in a state of refurbishment and is sitting on temporary supports. The ground below this house is not sealed. As no surface improvements are intended for this site, the fraction of impervious area on the subject site has decreased. This decrease will result in a nett reduction in the expected stormwater run-off from the site. As such, no stormwater detention is considered necessary for this temporary use.

Furthermore, Chapter 7 of the Brisbane City Council “**City Plan 2014**” states that “**As a general rule, stormwater detention is less likely to be required at the bottom one-third of the catchment.**”. The subject site is in the Breakfast Creek catchment area and within 1.5 km from the mouth of the creek (i.e. the entrance of Breakfast Creek into the Brisbane River). As the subject site is within the lower third of the Breakfast Creek catchment, detention is not considered to be required.

Please feel free to contact the undersigned should you have any questions or require further information.



Giorgio Giaroli
Managing Director
B Eng. M.Sc. DIC MIE Aust.
R.P.E.Q 2331 N.P.E.R.-3



Erosion Hazard Assessment - June 2014

Brisbane City Council (BCC), *Erosion Hazard Assessment* form must be read in conjunction with the *Erosion Hazard Assessment- Supporting Technical Notes* (June 2014 or later version) for explanatory terms and Certification information.

What is an Erosion Hazard Assessment?

Soil erosion and sediment from urban development, particularly during construction activities, is a significant source of sediment pollution in Brisbane's waterways. The Erosion Hazard Assessment determines whether the risk of soil erosion and sediment pollution to the environment is 'low', 'medium' or 'high'.

When is the EHA required?

An *Erosion Hazard Assessment* form must be completed and lodged with BCC for any Development Application (ie MCU or ROL) that will result in soil disturbance OR Operational Works or Compliance Assessment Application for 'Filling' or Excavation.

Failure to submit this form during lodgement of an application may result in assessment delays or refusal of the application.

Privacy Statement

The personal information collected on this form will be used by Brisbane City Council for the purposes of fulfilling your request and undertaking associated Council functions and services. Your personal information will not be disclosed to any third party without your consent, unless this is required or permitted by law.

Assessment Details

1 Please turn over and complete the erosion hazard assessment.

2 Based on the erosion hazard assessment overleaf, is the site:

☐ A 'low' risk site

Best practice erosion and sediment control (ESC) must be implemented but no erosion and sediment control plans need to be submitted with the development application. Factsheets outlining best practice ESC can be found at <http://www.waterbydesign.com.au/factsheets>

☒ A 'medium' risk site

If the development is approved, the applicant will need to engage a Registered Professional Engineer (RPEQ) or Certified Professional in Erosion and Sediment Control (CPESC) to prepare an ESC Program and Plan and supporting documentation — in accordance with the requirements of the Infrastructure Design Planning Scheme Policy.

☐ A 'high' risk site

If the development is approved, the applicant will need to engage a RPEQ and CPESC to prepare an ESC Program and Plan and supporting documentation — in accordance with the requirements of the Infrastructure Design Planning Scheme Policy. The plans and program will need to be certified by a CPESC.

3 Site Information and Certification

Application number (if known)

Site address

39 Abbotsford Road

Bowen Hills

Postcode 4006

I certify that:

- ☒ I have made all relevant enquiries and am satisfied no matters of significance have been withheld from the assessment manager.
- ☒ I am a person with suitable qualifications and/or experience in erosion and sediment control.
- ☒ The Erosion Hazard Assessment was completed in accordance with the Erosion Hazard Assessment Supporting Technical Notes and the BCC Infrastructure Design Planning Scheme Policy.
- ☒ The Erosion Hazard Assessment accurately reflects the site's overall risk of soil erosion and sediment pollution to the environment.
- ☒ I acknowledge and accept that the BCC, as assessment manager, relies, in good faith, on this certification as part of its development assessment process and the provision of false or misleading information to the BCC constitutes an offence for which BCC may take punitive steps/ action against me/ enforcement action against me.

Certified by *Print name*

Giorgio Giaroli

Certifier's signature

Date

27 / 03 / 19

Table 1: Low Risk Test

		Yes	No
1.1	is the area of land disturbance > 1000 m ²	☒	☐
1.2	does any land disturbance occur in a BCC mapped waterway corridor	☐	☒
1.3	is there any slope on site (longer than three metres in length) before, during or after construction that is steeper than 5%	☐	☒
1.4	does any land disturbance occur below 5 m AHD	☐	☒
1.5	does development involve endorsement of a staging plan	☐	☒
1.6	is there an upstream catchment passing through the site > 1 hectare	☐	☒

Have you answered 'yes' to any of the questions in Table 1?

Yes	No
☒	☐

If 'No' then site is low risk with respect to erosion and sediment control

If 'Yes' then proceed to Table 2

Table 2: Medium Risk Test

		Yes	No
2.1	is the area of land disturbance > 1 hectare	☐	☒

If 'No' then site is medium risk with respect to erosion and sediment control

If 'Yes' then proceed to Table 3

Table 3: High Risk Test

3.1	is there an upstream catchment passing through the site > 1 hectare	☐	☐
3.2	does any land disturbance occurs in a BCC mapped waterway corridor	☐	☐
3.3	is there any slope on site (longer than three metres in length) before, during or after construction that is steeper than 15%	☐	☐

Have you answered 'yes' to any of the questions in Table 3?

Yes	No
☐	☐

If 'No' then site is medium risk with respect to erosion and sediment control

If 'Yes' then site is high risk with respect to erosion and sediment control

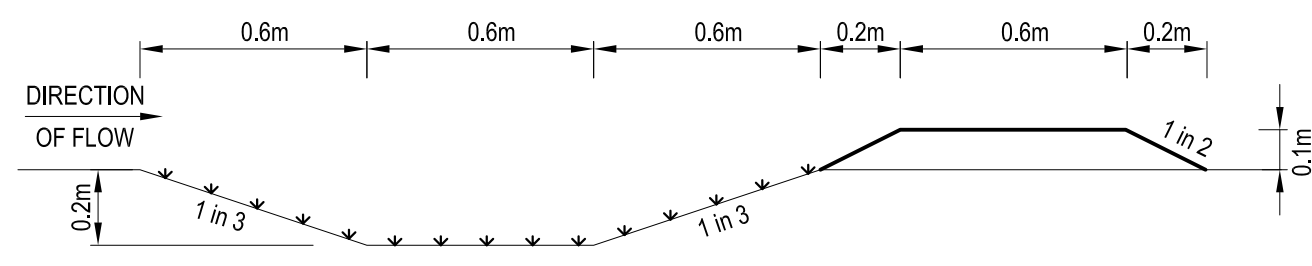
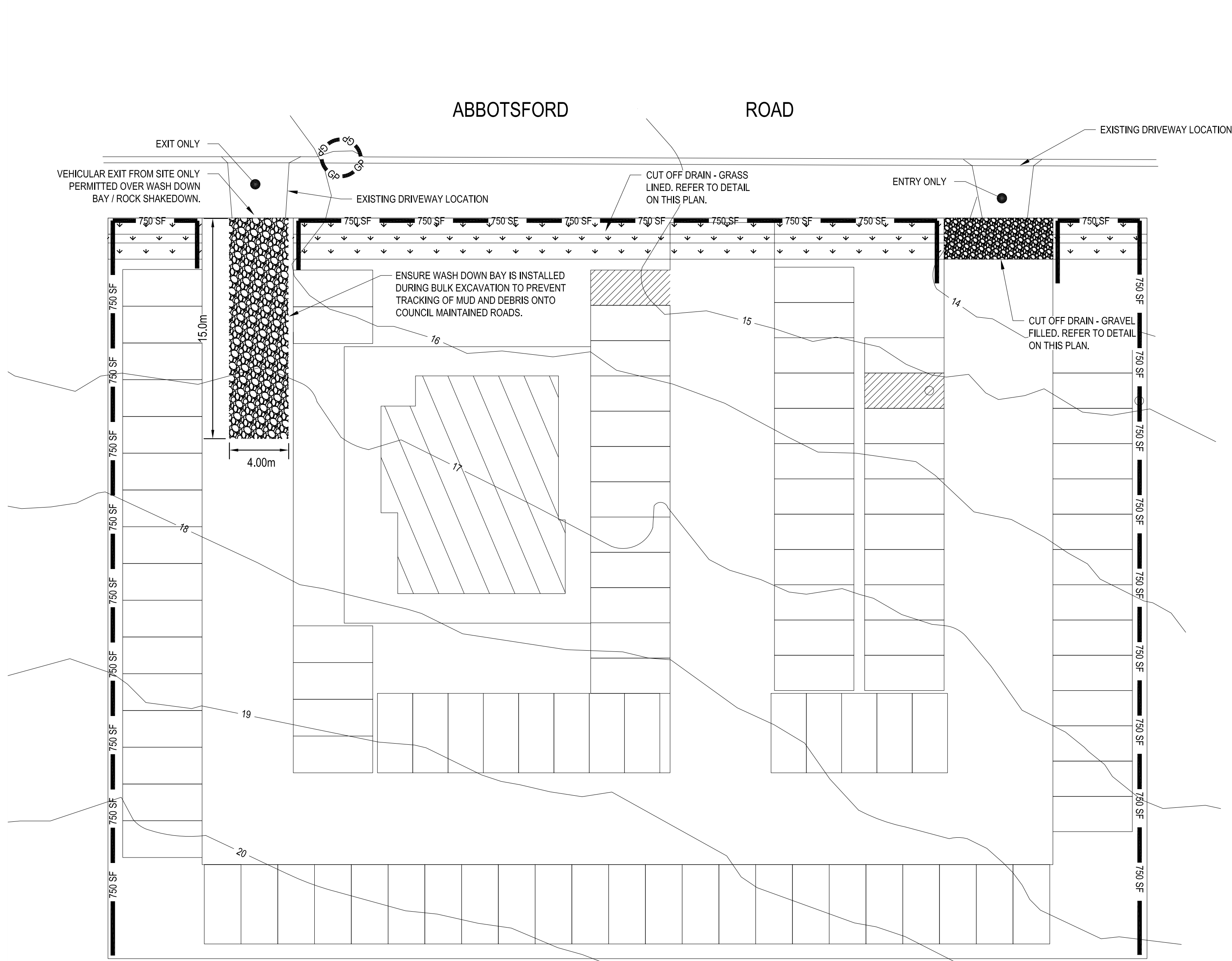
VEGETATION TO BE MAINTAINED WHERE POSSIBLE.

POSTS @ 3m CENTRES MAX (WIRE MESH PRESENT)
POSTS @ 2m CENTRES MAX (NO WIRE MESH)

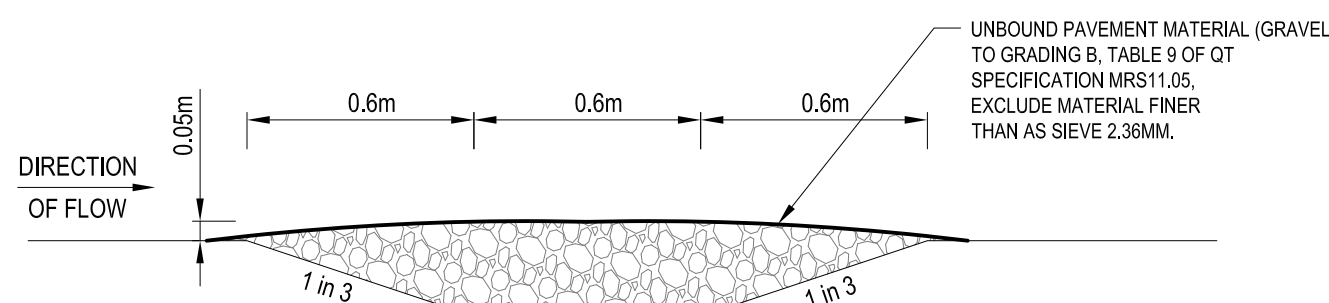
LEGEND

750 SF

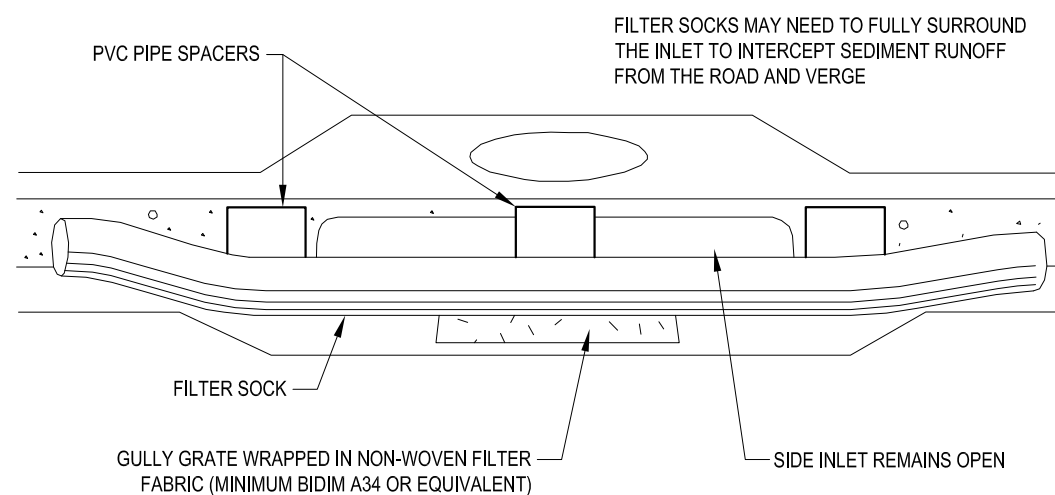
750 HIGH BOUNDARY SEDIMENT FENCE



CUT OFF DRAIN - TURF LINED



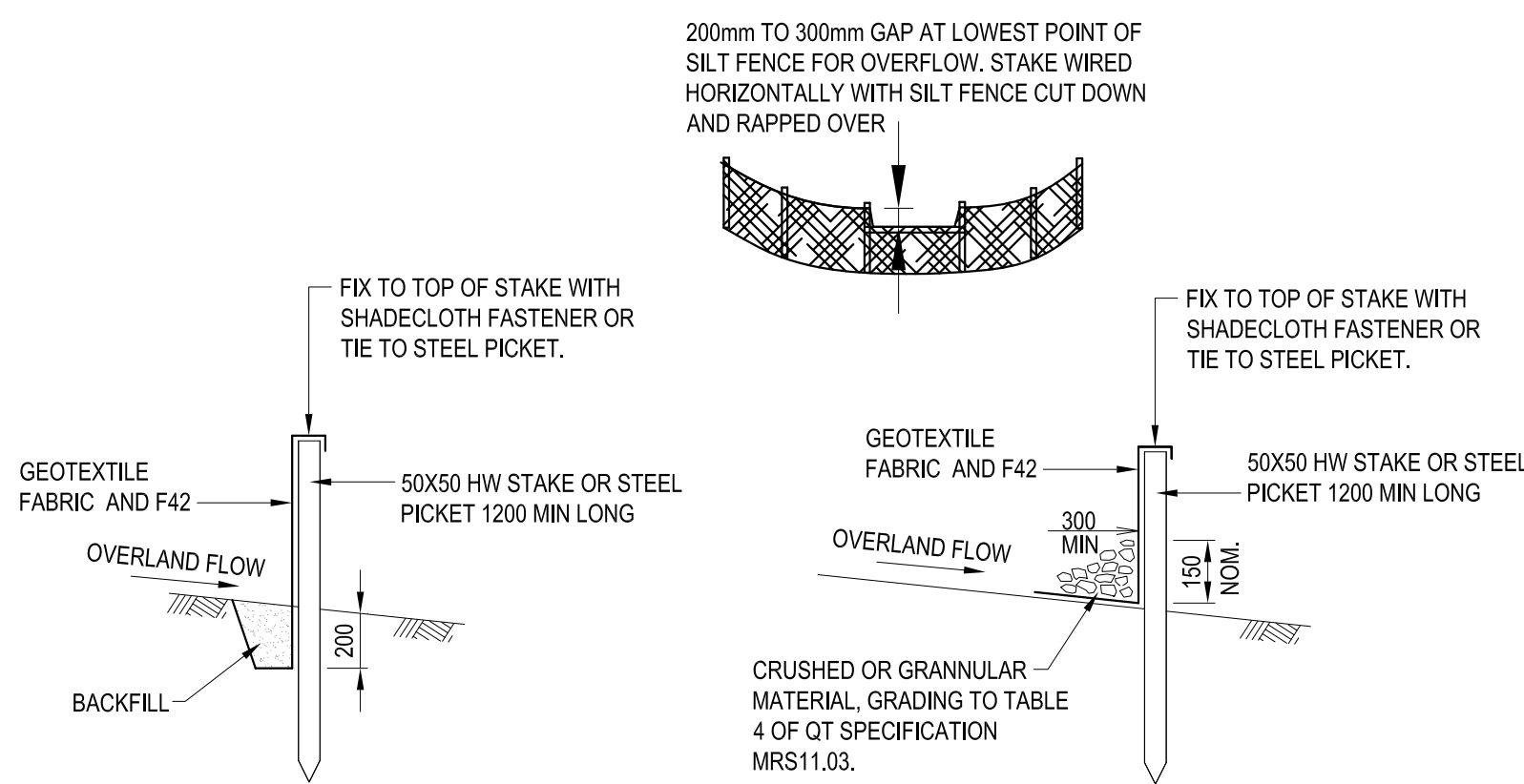
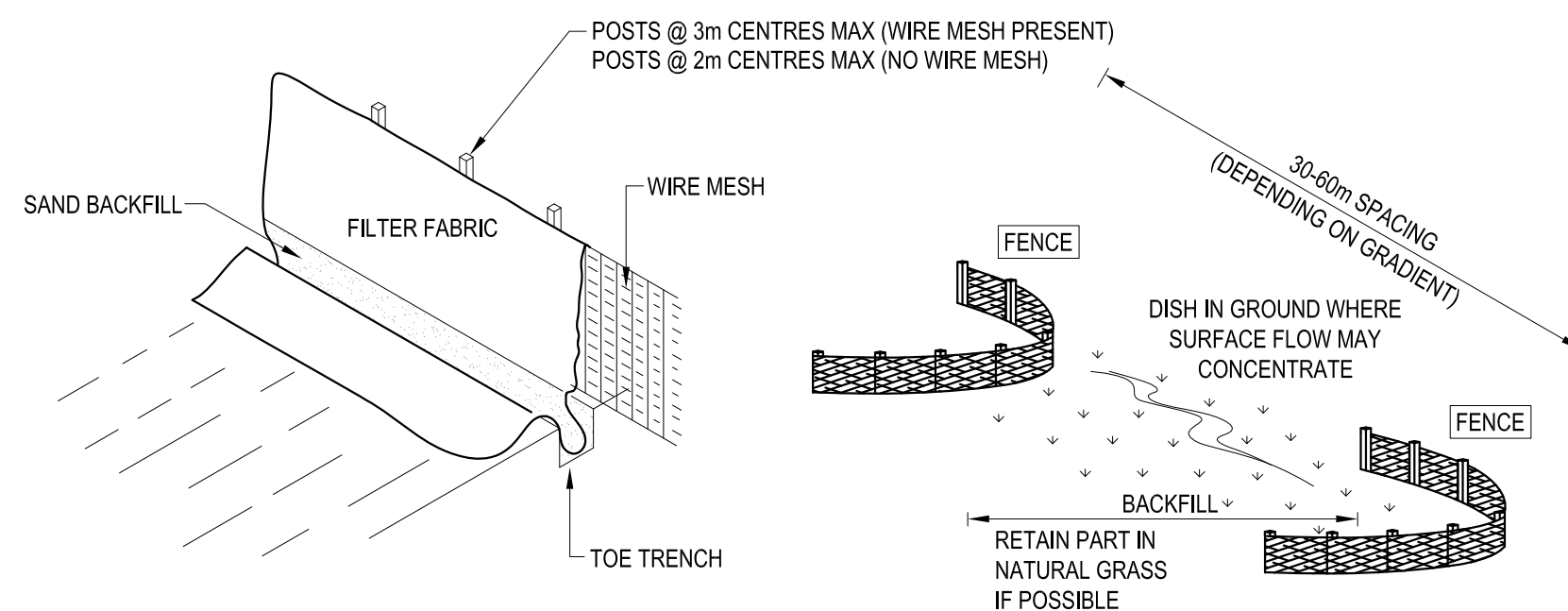
CUT OFF DRAIN - GRAVEL FILLED



NOTE:

1. SAG GULLIES SHALL HAVE EQUAL PORTIONS OF AGGREGATE FILLED SUBSOIL DRAIN TO BOTH SIDES OF GRATE
2. TRAP SHALL BE MANUALLY CLEANED AFTER EACH RAINFALL EVENT OR AS INSTRUCTED BY SUPERINTENDENT
3. IF SUBSOIL DRAIN MOVEMENT IS EVIDENT WEIGH DOWN WITH INTERMITTENT SAND BAGS

SAG INLET SEDIMENT TRAP



ALTERNATIVE 1

ALTERNATIVE 2

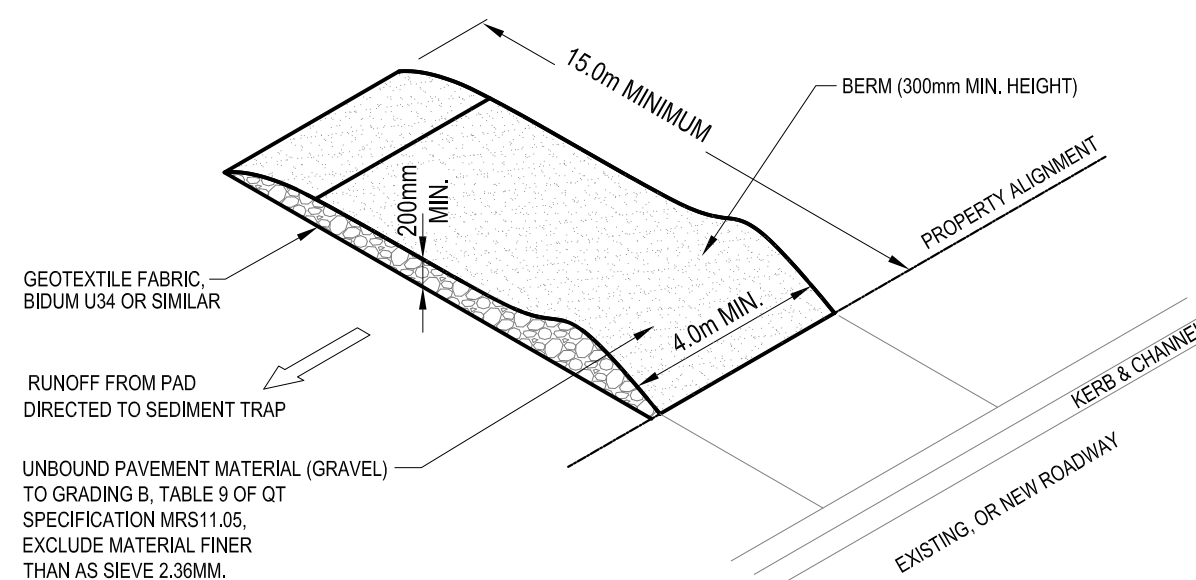
SILT FENCE

NOTES

- A. NOT TO BE LOCATED IN AREAS OF CONCENTRATED FLOW.
- B. NORMALLY LOCATED ALONG THE CONTOUR WITH A MAXIMUM CATCHMENT AREA 0.6 HA PER 100M LENGTH OF FENCE.
- C. WOVEN FABRICS ARE PREFERRED, NON-WOVEN FABRICS MAY BE USED ON SMALL WORK SITES, I.E. OPERATIONAL PERIOD LESS THAN 6 MONTHS OR ON SITES WHERE SIGNIFICANT SEDIMENT RUNOFF IS NOT EXPECTED.
- D. WHERE FENCES NEED TO BE LOCATED ACROSS THE CONTOUR THE LAYOUT SHALL CONFORM TO TYPICAL LAYOUT ACROSS GRADE.
- E. FENCES ARE REQUIRED 2M MIN FROM TOE OF CUT OR FILL BATTERS, WHERE NOT PRACTICAL ONE FENCE CAN BE AT THE TOE WITH A SECOND FENCE 1M MIN AWAY. FENCE SHOULD NOT BE LOCATED PARALLEL WITH TOE IF CONCENTRATION OF FLOW WILL OCCUR BEHIND THE FENCE.

ENTRY / EXIT NOTES

1. TEMP CONSTRUCTION ENTRY/EXIT SEDIMENT TRAP:
 - 1.a. ADJACENT STORMWATER RUNOFF TO BE DIVERTED AWAY FROM ENTRY/EXIT.
 - 1.b. WHEEL - WASH OR SPRAY UNIT MAY BE REQUIRED DURING WET WEATHER.
2. SAFETY ISSUES MUST BE CONSIDERED AT ALL TIMES, INCORPORATE TRAFFIC CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT.
3. ALL DIMENSIONS IN MILLIMETRES UNLESS INDICATED OTHERWISE.



TEMPORARY CONSTRUCTION ENTRY / EXIT SEDIMENT TRAP

No.				Description				Date				By				No.				Description				Date				By				Imagery, Cadastral and Survey Data Disclaimer				CIVIL ENGINEERING				North:				Client:				Approval																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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