Soil and Water Management Notes

General Instructions

SWM01 These plans present a conceptual soil and water management plan (SWMP) only and shows a possible way of managing soil and erosion. The contractor shall be responsible for the establishment and management of the site and preparing a detailed plan and obtaining approval from the relevant authority prior to the commencement of any works.

SWM02 This plan is to be read in conjunction with the engineering plans and any other plans, written instructions, specification or documentation that may be issued and relating to development of the subject site.

SWM03 The contractor will ensure that all soil and water management works are consistent with 'Managing Urban Stormwater - Soils and Construction' - also known as 'The Blue Book'.

SWM04 All builders and sub-contractors shall be informed of their responsibilities in minimising the potential for soil erosion and pollution to downslope lands and waterways.

Erosion Control

SWM05 Water shall be prevented from entering the permanent drainage system until sediment concentration is less then or equal to 50mg/L, ie the catchment area has been permanently landscaped and / or any likely sediment has been filtered through an approved structure.

SWM06 Any sand used in the concrete curing process (spread over the surface) will be removed as soon as possible and within 10 working days from placement.

SWM07 Acceptable receptors will be constructed for concrete and mortar slurries, paints, acid washings, light-weight waste materials and litter.

SWM08 'Sediment' fencing will be installed as indicated on the plans and at the direction of site superintendent to ensure containment of sediment. The sediment fencing will outlet or overflow under stabilised conditions into the sediment basin, to safely convey water into a suitable filtering system should the pores in the fabric block.

SWM09 The sediment basins will be constructed with the minimum wet sediment capacity of CUM cubic metres and designed to remain stable in at least the 1 inCDSE year critical duration storm event. Artificial flocculation of the finer particles may not be necessary in this instance.

SWM10 Stockpiles should not be located within 5m of trees and hazard areas, including likely areas of concentrated or high velocity flows such as waterways, drainage lines, paved areas and driveways. Where they are within 5m from such areas, special sediment control measures should be taken to minimise possible pollution to downstream waters. Measures should also be applied to prevent the erosion of the stockpile.

SWM11 All cut and fill batters are to be seeded and mulched within 14 days of completion of formation.

SWM12 Any existing trees which form part of the final landscaping plan will be protected from construction activities by-

a. Protecting them with barrier fencing or similar materials installed outside the drip line,
b. Ensuring that nothing is nailed to them,
c. Prohibiting paving, grading, sediment wash or placing of stockpiles within the drip line except under the following conditions,

(i) Encroachment only occurs on one side and no closer to the trunk than either 1.5 metres or half the distance between the outer edge of the drip line and the trunk, which ever is the greater,

(ii) A drainage system that allows air and water to circulate through the root zone (e.g. a gravel bed) is placed under all fill layers of more than 300 millimetres depth

(iii) Care is taken.

SWM13 During windy weather, large disturbed unprotected areas should be kept moist (not wet) by sprinkling with water to keep dust under control.

SWM14 Temporary protection from erosive forces will be undertaken on lands where final shaping has not been completed but works are unlikely to proceed for periods of two months or more (eg. on topsoil stockpiles). This may be achieved with a vegetative cover. A recommended listing of plant species for temporary cover is -

i) autumn/winter sowing	- oats/ryecorn at 20 kg/ha - japanese millet at 10 kg/ha
ii) spring/summer sowing	- japanese millet at 20 kg/ha - oats/ryecorn at 10 kg/ha

SWM15 Diversion banks / channels will be rehabilitated as soon as possible and within 5 working days from their final shaping. Other than in the winter months, suitable materials include turf grasses such as Couch or Kikuyu. During winter, or at other times when temporary rehabilitation (more than 3 months) is required, it is suggested that hessian cloth is used but only if tacked with appropriate pegs and an anionic bitumen emulsion. Foot and vehicular traffic should be kept away from these areas.

SWM16 Undertake site development works in accordance with the engineering plans. Where possible, phase development so that land disturbance is confined to areas of workable size.

Construction Sequence

SWM17 Where practical, the soil erosion hazard on the site should be kept as low as possible. To this end, works should be undertaken in the FOLLOWING SEQUENCE -

(i) Install inlet sediment traps to all gully pits fronting the site,

(ii) Install a 1.8m chain wire fence around the boundaries and attach hessian cloth or similar to it on the windward side (ties at the top, centre and bottom and at 1m intervals or as instructed by the superintendent),

(iii) Install geofabric sediment fence and sediment traps around all permanent stormwater reticulation structures as shown on the plan,

(iv) Construct stabilised construction entrance as shown on the plan or to location as determined by superintendent,

(v) Install diversion banks along the boundary where required, rehabilitate disturbed lands downslope from the basins within 20 working days,

(vi) Ensure that the sediment basin is directed onto a turfed area and drains to a suitable location. A temporary stormwater line may be necessary to convey the flows to this location. Construct diversion channels at the boundary to drain into the sediment basin as shown on plans,

(vii) At completion stabilise site and decommission sediment basin and all erosion control devices.

SWM18 Temporary soil and water management structures will be removed only after the lands they are protecting are rehabilitated.

SWM19 Final site landscaping will be undertaken as soon as possible and within 20 working days from completion of construction activities.

Site Inspection and Maintenance

SWM20 At least weekly and after every rain fall event, the contractor will inspect the site and ensure that -

(i) Drains and all sediment control devices operate effectively and initiate repair or maintenance as required,

(ii) Receptors for concrete and mortar slurries, paints, acid washings, light-weight waste materials and litter are to be emptied as necessary. Disposal of waste shall be in a manor approved by the superintendent,

(iii) Spilled sand (or other materials) is removed from hazard areas, including likely areas of concentrated or high velocity flows such as waterways, gutters, paved areas and driveways,

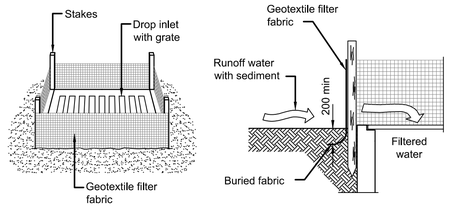
(iv) Sediment is removed from basins and / or traps when less than 20m³ of trapping capacity remain per 1000m² of disturbed lands, and / or less than 500mm depth remains in the settling zone. Any collected sediment will be disposed in areas where further pollution to down slope lands and waterways is unlikely,

(v) Rehabilitated lands have effectively reduced the erosion hazard and initiate upgrading or repair as appropriate.

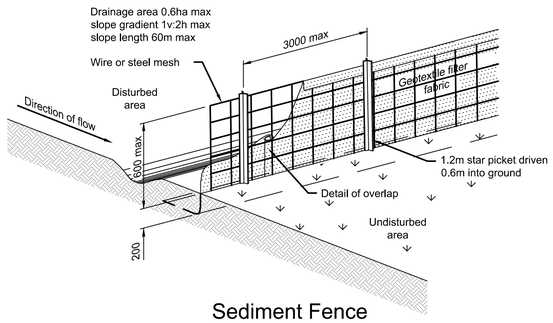
SWM21 The contractor shall provide all monitoring control and testing.

Erosion and Sediment Control Legend

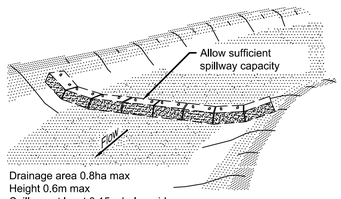
- Construct temporary sediment fence
- Construct temporary sandbag sediment trap for kerb inlet at low point (refer detail)
- Install haybale sediment traps
- Construct temporary geotextile filter fabric drop inlet sediment trap (refer detail)
- Install temporary shaker grid
- Overland flow path



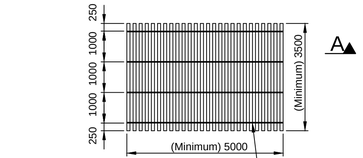
Sediment Trap for Drop Inlet
(Geotextile Filter Fabric)
NTS



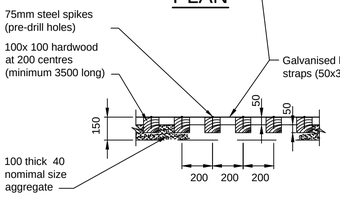
Sediment Fence
(Geotextile Filter Fabric)
NTS



Check Dam - Straw Bale
NTS



PLAN

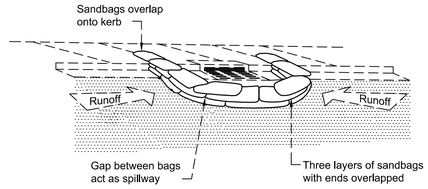


section A-A

Shaker grid notes

1. This device is to be located at all exits from the construction site.
2. The device is to be regularly cleaned of deposited material so as to maintain a 50 mm deep space between planks.
3. Any unsealed road between this device and councils nearest roadway to be topped with 100mm thick 40mm nominal size aggregate.
4. Alternatively, three (3) precast concrete cattle grids (as manufactured by 'humes concrete') may be used. Notes 1, 2, 3, above also apply.

Shaker grid
not to scale



Sediment Trap for Kerb Inlet
(at Low Point - Sandbag)
NTS

Preliminary - Not for Construction

Notes

Key to symbols

Reference drawings

Rev	Date	Drawn	Description	Ch'k'd	App'd
P3	22.07.14	DRC	Re-Issued for DA	SR	JT
P2	21.03.14	DW	Issued for DA	SR	CJA
P1	20.03.13	ADS	Issued for DA	AH	CJA

Mott MacDonald

Level 3, 90 Phillip Street
Parramatta, NSW 2150
Australia
PO Box 163, Parramatta
NSW 2124, Australia
T +61 (0)2 9891 5044
F +61 (0)2 9891 5386
W www.mottmac.com.au

Client
BUPA Care Facilities

Title
BUPA St Ives
Sediment and Erosion
Notes and Details Sheet

Designed	AH	.	Eng check	CJA	.
Drawn	DW	.	Coordination	AH	.
Dwg check	AH	.	Approved	CJA	.
Scale at A1		Status PRE		Rev P3	

Drawing Number
MMD-315284-C-DR-00-XX-0011