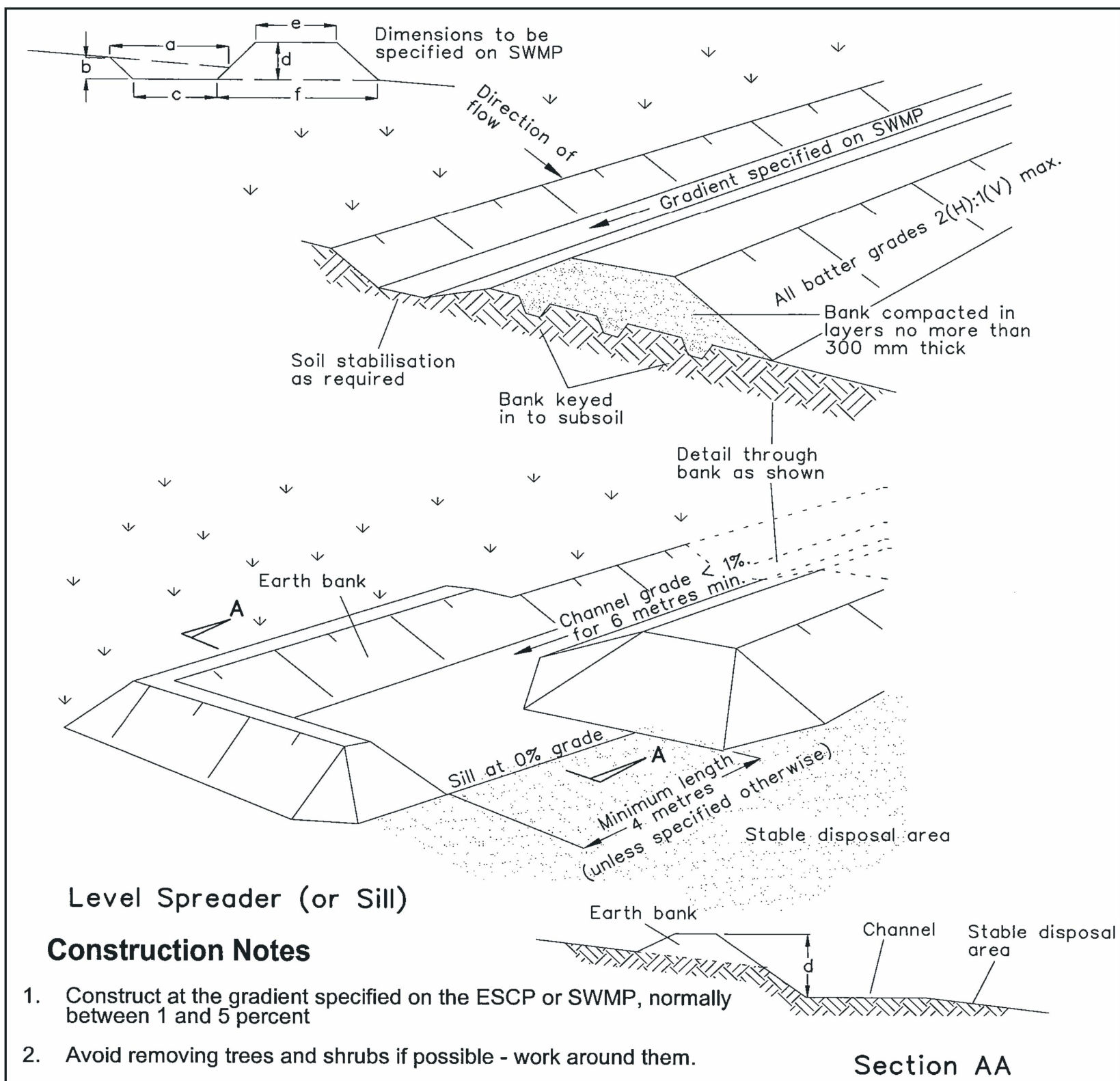




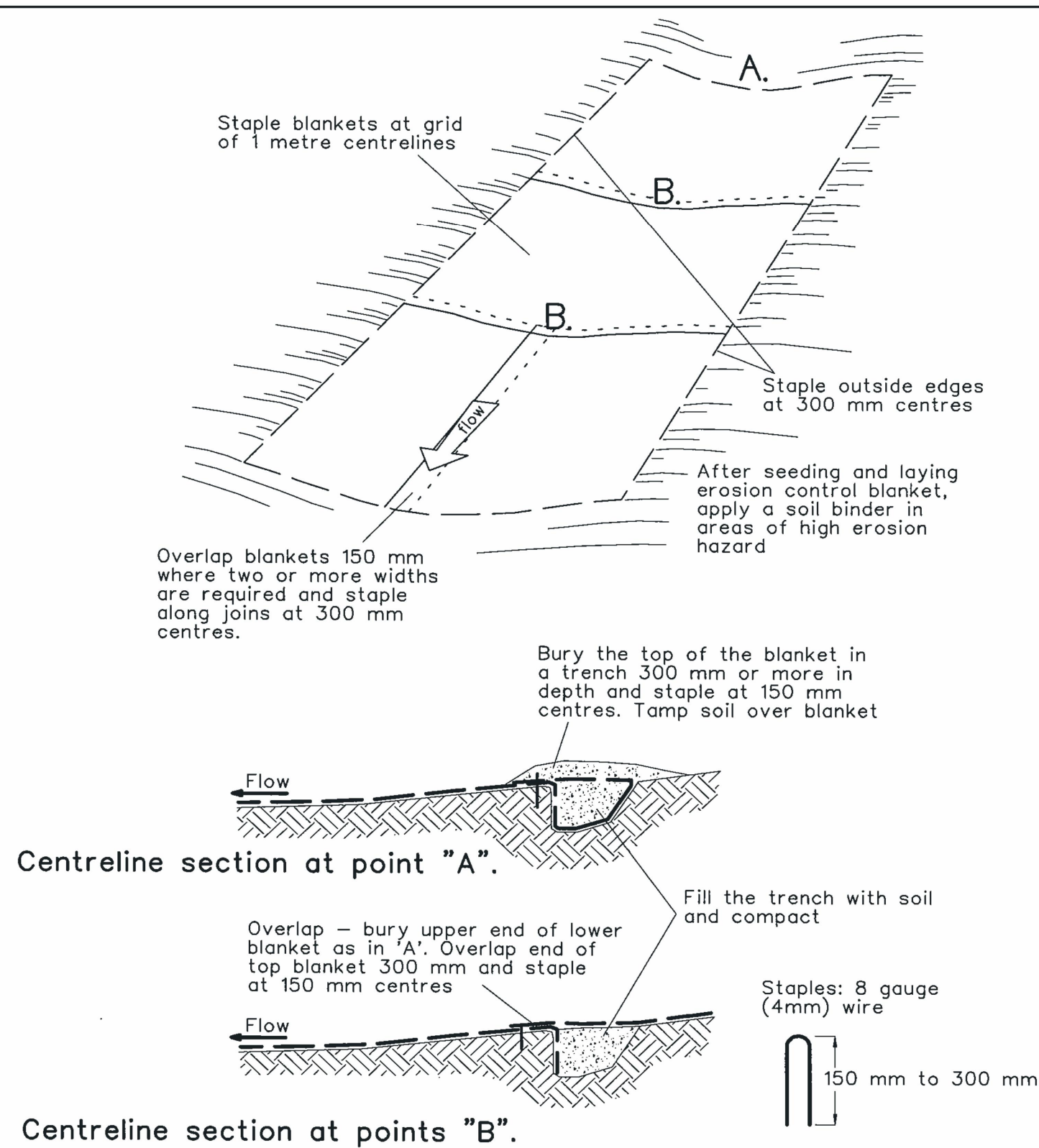
Construction Notes

1. Construct at the gradient specified on the ESCP or SWMP, normally between 1 and 5 percent
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V-shaped, at the dimensions shown on the SWMP.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction following Table 5.2 in Landcom (2004).
7. Where discharging to erodible lands, ensure they outlet through a properly constructed level spreader.
8. Construct the level spreader at the gradient specified on the ESCP or SWMP, normally less than 1 percent or level.
9. Where possible, ensure they discharge waters onto either stabilised or undisturbed disposal sites within the same subcatchment area from which the water originated. Approval might be required to discharge into other subcatchments.

Section AA

EARTH BANK (HIGH FLOWS) SD 5-6

5-26

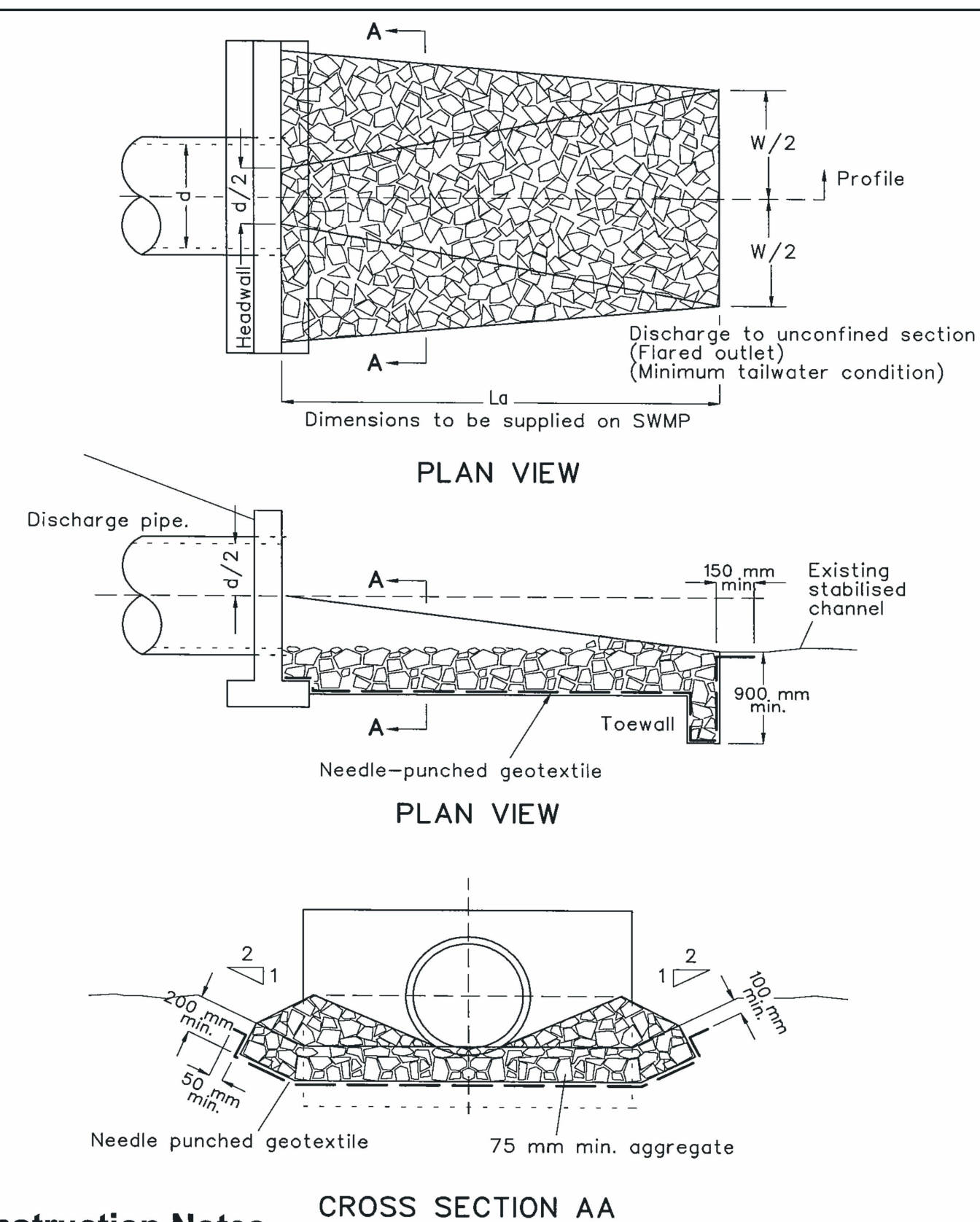


Construction Notes

1. Remove any rocks, clods, sticks or grass from the surface before laying matting
2. Ensure that topsoil is at least 75 mm deep.
3. Complete fertilising and seeding before laying the matting.
4. Ensure fabric will be continuously in contact with the soil by grading the surface carefully first.
5. Lay the fabric in "shingle-fashion", with the end of each upstream roll overlapping those downstream. Ensure each roll is anchored properly at its upslope end (Standard Drawing 5-7b).
6. Ensure that the full width of flow in the channel is covered by the matting up to the design storm event, usually in the 10-year ARI time of concentration storm event.
7. Divert water from the structure until vegetation is stabilised properly.

RECP : CONCENTRATED FLOW SD 5-7

5-28

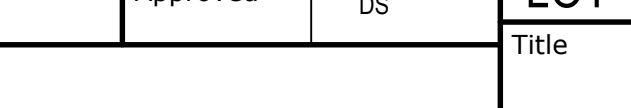


Construction Notes

1. Compact the subgrade fill to the density of the surrounding undisturbed material.
2. Prepare a smooth, even foundation for the structure that will ensure that the needle-punched geotextile does not sustain serious damage when covered with rock.
3. Should any minor damage to the geotextile occur, repair it before spreading any aggregate. For repairs, patch one piece of fabric over the damage, making sure that all joints and patches overlap more than 300 mm.
4. Lay rock following the drawing, according to Table 5.2 of Landcom (2004) and with a minimum diameter of 75 mm.
5. Ensure that any concrete or riprap used for the energy dissipater or the outlet protection conforms to the grading limits specified on the SWMP.

ENERGY DISSIPATER SD 5-8

5-34

		Bar Scales	THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client 	Scales N.T.S.	Drawn SC	Project SEED STAGE 1B SSD 8550 SERIES LOT 4 AND LOT 5 ESCP PACKAGE	Civil Engineers and Project Managers  Level 10, 124 Walker Street North Sydney NSW 2060 P 02 9439 1777 E info@atl.net.au www.atl.net.au ABN 96 130 882 405		
					Designed SC	Checked GB				
					Grid MGA2020	Approved DS				
					Height Datum AHD					
							Title DETAILS SHEET 2	Status FOR APPROVAL NOT FOR CONSTRUCTION	A1	
A	ISSUED FOR SSDA				19-01-2026					
Issue	Description				Date					

SEED

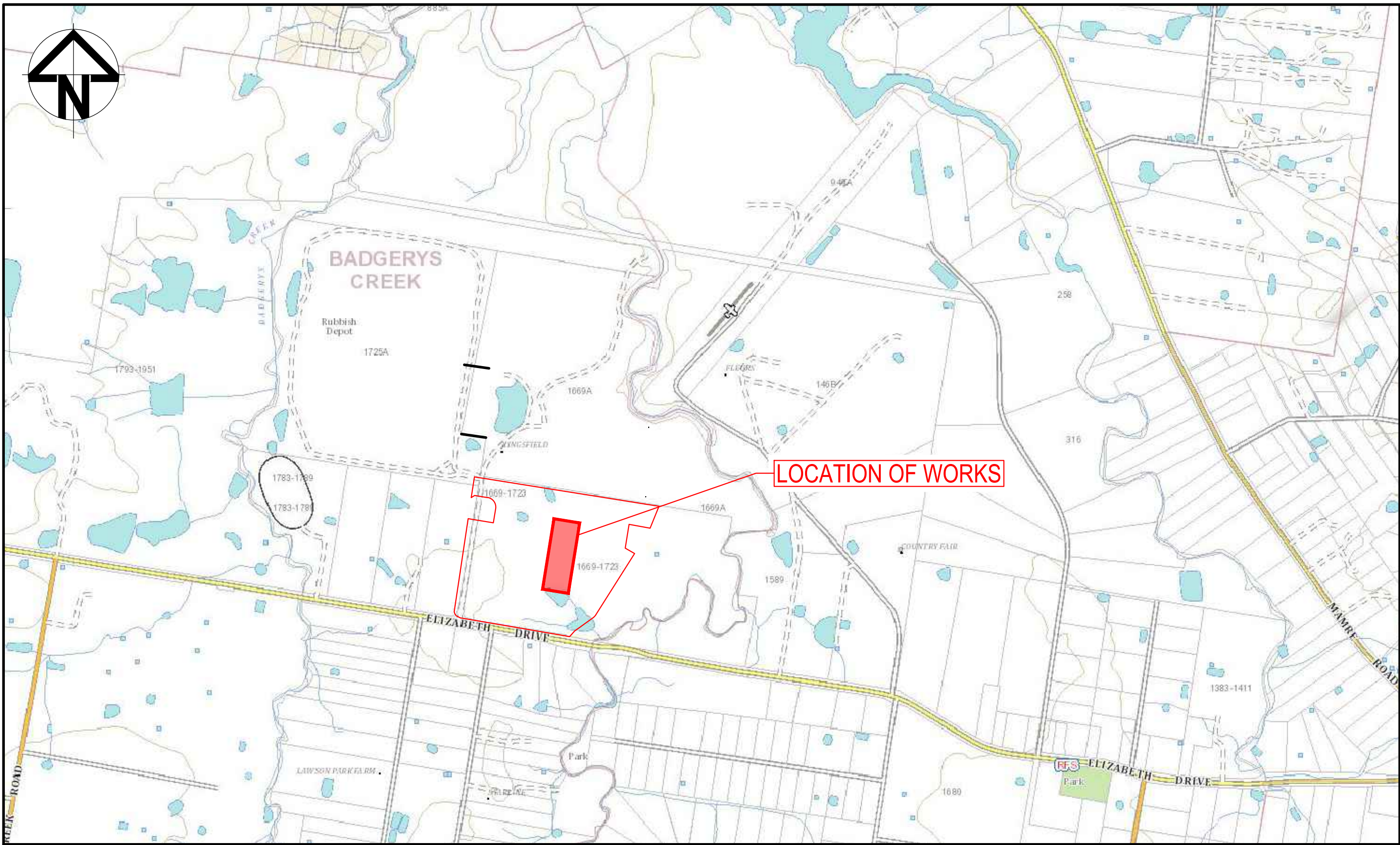
8150 SERIES - LOT 7

ONLOT CIVIL WORKS PACKAGE

STAGE 1B STATE SIGNIFICANT DEVELOPMENT

CONCEPT EROSION & SEDIMENT CONTROL PLAN

DRAWING LIST	
16-369-C8150	COVER SHEET & DRAWING LIST
16-369-C8151	NOTES AND SPECIFICATIONS SHEET 1
16-369-C8152	NOTES AND SPECIFICATIONS SHEET 2
16-369-C8153	NOTES AND SPECIFICATIONS SHEET 3
16-369-C8154	CONCEPT ESCP BULK EARTHWORKS SHEET 1
16-369-C8155	CONCEPT ESCP BULK EARTHWORKS SHEET 2
16-369-C8156	EROSION AND SEDIMENT BASIN SPECIFICATIONS
16-369-C8157	DETAILS SHEET 1
16-369-C8158	DETAILS SHEET 2
16-369-C8159	DETAILS SHEET 3



LOCALITY PLAN
NOT TO SCALE

		Bar Scales	THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client 	Scales N.T.S. Grid MGA2020 Height Datum AHD 	Drawn JC Designed JC Checked DS Approved	Project SEED STAGE 1B SSD 8150 SERIES LOT 7 ESCP PACKAGE COVER SHEET & DRAWING LIST	Civil Engineers and Project Managers  Level 10, 124 Walker Street North Sydney NSW 2060 P 02 9439 1777 E info@atl.net.au www.atl.net.au ABN 96 130 882 405						
Status FOR APPROVAL NOT FOR CONSTRUCTION														
Project - Drawing No. 16-369-C8150														
Issue A														

EROSION AND SEDIMENT CONTROL DESIGN

EROSION AND SEDIMENT CONTROL DESIGN

1. THE DETAILS SHOWN WITHIN THIS PLAN ARE OVER-ARCHING EROSION AND SEDIMENT CONTROL REQUIREMENTS ONLY FOR THE INITIAL STAGE OF THE BULK EARTHWORKS. AS THE WORKS PROGRESS AND SITE CONDITIONS CHANGE, THIS PLAN IS TO BE UPDATED ACCORDINGLY. SITE SPECIFIC PROGRESSIVE EROSION AND SEDIMENT CONTROL PLANS (PESCPs) WILL ALSO BE REQUIRED TO DETAIL SPECIFIC WORKS. THIS ESCP HAS BEEN PREPARED TO ACCOMPANY THE PROJECT'S CEMP.
2. THIS EROSION AND SEDIMENT CONTROL PLAN (ESCP) HAS BEEN PREPARED BY A CPESC (AS CERTIFIED) IN ACCORDANCE WITH BLUE BOOK VOLUME 1 (LANDCOM, 2004) AND TO MEET THE REQUIREMENTS OF THE CONSTRUCTION WSUD PRINCIPALS SET OUT IN THE DRAFT TECHNICAL GUIDANCE FOR ACHIEVING WIANAMATTA SOUTH CREEK STORMWATER MANAGEMENT TARGETS (NSW GOVERNMENT, 2022). IT DEMONSTRATES THE CONSTRUCTION APPROACH AND TIMING REQUIREMENTS FOR ACHIEVING THE CONSTRUCTION PHASE STORMWATER QUALITY TARGETS.
3. THE NSW GOVERNMENT (2022) TECHNICAL GUIDELINE (AS NOTED ABOVE) REQUIRES 80% OF THE AVERAGE ANNUAL RUNOFF VOLUME ACHIEVES 50mg/L TOTAL SUSPENDED SOLIDS (TSS) OR LESS AND PH IN THE RANGE (6.5-8.5). THE STANDARD BLUE BOOK SEDIMENT BASIN DESIGN AND OTHER STANDARD EROSION AND SEDIMENT CONTROL MEASURES ARE ESTIMATED TO ACHIEVE APPROXIMATELY 60% HYDROLOGICAL EFFECTIVENESS. THEREFORE, IN ORDER TO ACHIEVE 80% HYDROLOGICAL EFFECTIVENESS, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES ABOVE THE STANDARD BLUE BOOK DESIGN HAVE BEEN RECOMMENDED WITHIN THIS PLAN - REFER TO THE FOLLOWING INSTRUCTIONS AND NOTES AND THE PLANS ON ESCP3&4. THESE ADDITIONAL MEASURES INCLUDE:
4. SEDIMENT BASIN DESIGN TO THE 85TH PERCENTILE RAINFALL DEPTH RATHER THAN THE STANDARD 80TH PERCENTILE BLUE BOOK REQUIREMENT PROVIDING ADDITIONAL WATER STORAGE VOLUME;
5. UTILISING EXISTING DAMS AND/OR FUTURE WATER RETENTION DEVICES WHERE PRACTICABLE TO PROVIDE ADDITIONAL WATER STORAGE VOLUME AND BREAK UP CATCHMENTS;
6. ENHANCED EROSION CONTROLS (E.G. REDUCED SLOPE LENGTHS, INCREASED FOCUS ON TEMPORARY AND PROGRESSIVE STABILISATION, ADDITIONAL CHECK DAMS AND A FOCUS ON TEMPORARY DRAINAGE CONTROL);
6. PASSIVE BROADCAST GYPSUM SPREADING OVER THE ENTIRE DISTURBED CATCHMENT PRIOR TO LARGER RAINFALL EVENTS BEYOND THE SEDIMENT BASIN DESIGN TO ASSIST WITH WATER TREATMENT AND TO MINIMISE SOIL LOSS;
7. PRE-LOADING SEDIMENT BASIN, SEDIMENT TRAP AND THEIR INLET DRAINAGE DEVICES WITH GYPSUM OR BIOPOLYMER SOCKS TO SPEED UP SETTLEMENT RATES; AND
8. REGULAR (MONTHLY) INSPECTIONS BY A CPESC TO MONITOR THE SITE CONDITIONS AND WATER QUALITY AND PROVIDE ADVICE IF CHANGES TO THE EROSION AND SEDIMENT CONTROLS ARE NECESSARY.

IF ALL OF THE PROPOSED MEASURES WITHIN THIS PLAN ARE IMPLEMENTED SUCCESSFULLY, THE TARGET WATER QUALITY OUTCOMES CAN BE ACHIEVED FOR AT LEAST 80% OF THE AVERAGE ANNUAL RUNOFF AS REQUIRED BY THE NSW GOVERNMENT (2022) TECHNICAL GUIDELINE.

DESIGN ASSUMPTIONS

1. THE IFD: 2YEAR, 6HOUR STORM INTENSITY = 9.13MM/HR (BOM).
2. THE SITE IS LOCATED ON THE BLACKTOWN SOIL LANDSCAPE (ACROSS THE MAJORITY OF THE SITE).
3. POTENTIAL LIMITATIONS TO THE SOILS/LANDSCAPES INCLUDE LOCALISED SEASONAL WATERLOGGING, LOCALISED WATER EROSION HAZARD, MODERATELY REACTIVE HIGHLY PLASTIC SUBSOILS, MODERATE SALINITY POTENTIAL, POTENTIALLY SODIC AND HIGHLY DISPERSIVE SUBSOILS, LOCALISED SURFACE MOVEMENT POTENTIAL, LOCALISED IMPERMEABLE AND LOCALISED HIGH WATER TABLES.
4. THE K-FACTOR IS BLACKTOWN SOIL LANDSCAPES OF 0.038. THIS IS THEN INCREASED BY 20% TO ACCOUNT FOR POTENTIAL DISPERSIBLE SOILS. THIS GIVES AN K-FACTOR OF 0.0456.
5. 5-DAY, 85TH %ILE RAINFALL DEPTH = 34MM - BASED ON AN AVERAGE OF THE RAINFALL DEPTHS FOR BLACKTOWN, LIVERPOOL, PENRITH AND WALLACIA PROVIDED WITHIN THE BLUE BOOK (KEMPS CREEK IS APPROXIMATELY IN THE MIDDLE OF THESE LOCATIONS).
6. VOLUMETRIC RUNOFF COEFFICIENT (CV) = 0.64 (ASSUMING HYDROLOGIC GROUP D RUNOFF COEFFICIENT - LOW INFILTRATION, HIGH RUNOFF).
7. RUNOFF COEFFICIENT (C10) = 0.9.

GENERAL INSTRUCTIONS

1. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO CONTROL EROSION AND DOWNSTREAM SEDIMENTATION DURING ALL STAGES OF CONSTRUCTION INCLUDING THE MAINTENANCE PERIOD.
2. THE EXTENT AND POSITION OF THE EROSION AND SEDIMENT CONTROL MEASURES TO BE DETERMINED ON SITE BY THE CONTRACTOR TO SUIT THE CONSTRUCTION PROGRAM.
3. THESE PLANS PRESENT CONCEPTS ONLY AND THE MEASURES SHOWN ON THIS DRAWING(S) ARE MINIMUM REQUIREMENTS ONLY.
4. THE CONTRACTOR SHALL AT ALL TIMES BE RESPONSIBLE FOR THE ESTABLISHMENT, MANAGEMENT AND MAINTENANCE OF THE EROSION AND SEDIMENT CONTROL MEASURES TO MEET COUNCIL STANDARDS.
5. LARGE OPEN AREAS OR STEEP BATTERS SHOULD NOT BE LEFT EXPOSED/UNSTABILISED FOR MORE THAN 10 DAYS OR IF WET WEATHER IS FORECAST.
6. EXPOSED AREAS INCLUDING BATTERS WHICH REMAIN UN-WORKED FOR MORE THEN 10 DAYS SHOULD BE STABILISED USING TEMPORARY HYDROMULCHING, HYDROSEEDING OR MULCHING, EVEN IF AREAS WILL BE WORKED AT A LATER TIME.
7. ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE INSTITUTION OF ENGINEERS AUSTRALIA, 'SOIL EROSION AND SEDIMENT CONTROL - ENGINEERING GUIDELINES FOR QUEENSLAND CONSTRUCTION SITES'.
8. THE CONTRACTOR SHALL BE AWARE OF ITS RESPONSIBILITIES FOR PROTECTING THE DOWNSTREAM ENVIRONMENT AND RECEIVING WATER FROM POLLUTED AREAS OF ENVIRONMENTAL HARM, UNDER THE ENVIRONMENTAL PROTECTION ACT, 1994.
9. ADDITIONALLY THE CONTRACTOR SHALL BE AWARE OF ITS DUTY TO NOTIFY THE LOCAL AUTHORITY AND THE ENVIRONMENTAL PROTECTION AGENCY OF A POTENTIAL OR ACTUAL INCIDENT OF ENVIRONMENTAL HARM.

RECOMMENDED IMPLEMENTATION SEQUENCE:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO WORKS COMMENCING AND IN THE FOLLOWING SEQUENCE:
 - a. CONSTRUCT TEMPORARY STABILISED SITE ACCESS, ENSURING ADJACENT STORMWATER RUN OFF IS DIVERTED AWAY FROM ACCESS
 - b. INSTALL SEDIMENT FENCING AND/OR BARRIER FENCING TO CONFINING INGRESS TO ACCESS FROM THE SITE TO STABED ACCESS POINT(S) ONLY.
 - c. PROVIDE INLET PROTECTION TO STORMWATER INLETS AND GULLIES ON ALL ROADS ADJOINING THE SITE.
 - d. CONSTRUCT BARRIER FENCING AROUND RESTRICTED 'NO-GO' ZONES OF RETAINED VEGETATION, AREAS NOT TO BE DISTURBED AND AREAS WHICH WILL REMAIN UN-WORKED.
 - e. CONSTRUCT UPSTREAM DIVERSION CHANNELS TO DIVERT CLEAN WATER AROUND WORKSITE, AND INSTALL APPROPRIATE CHANNEL STABILISATION.
 - f. CONSTRUCT LOW FLOW EARTH BANKS AS CATCH DRAINS PARALLEL TO COUTOURS TO LIMIT LARGE SLOPE LENGTHS (SLOPES SHOULD BE LESS THEN 80M IN LENGTH).
 - g. INSTALL ALL TEMPORARY SEDIMENT FENCES.
 - h. CONSTRUCT ANY NOMINATED SEDIMENT BARRIS AND SEDIMENT TRAPS.
 - i. STABILISE ALL DISTURBED AREAS ASAP AND PROGRESSIVELY AS WORKS ARE COMPLETED. TEMPORARY STABILISATION TO BE DONE USING MULCHING, HYDROMULCHING, HYDROSEEDING OR DIRECT SEEDING TO GIVE A 70% COVERAGE OF GROUND SURFACE WITHIN 14 DAYS OF WORKS COMPLETING (EVEN IF WORKS MAY CONTINUE LATER).
2. UNDISTURBED AREAS OF DEVELOPMENT WORKS SO THAT LAND DISTURBANCE IS CONFINED TO MINIMUM WORKABLE AREAS.
3. DISTURBED AREAS TO EXTEND NO MORE THAN 5 METRES (PREFERABLY 2 METRES) FROM ESSENTIAL WORKS AREAS.
4. WORK AREAS TO BE DELINEATED BY BARRIER FENCING AND DIVERSION CHANNEL UPSLOPE AND SEDIMENT FENCING DOWNSLOPE.
5. THE CONTRACTOR SHALL ENSURE THAT THE EXISTING VEGETATION AND GROUND COVER IS RETAINED AS MUCH AS POSSIBLE.
6. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR LATER USE ONSITE.
7. SITE VEGETATION APPROVED FOR CLEARING SHOULD BE MULCHED AND STOCKPILED FOR LATER USE IN LANDSCAPING, STABILISATION AND SITE REHABILITATION WORKS.
8. AT ALL TIMES THE CONTRACTOR SHALL MONITOR THE PREVAILING WEATHER CONDITIONS AND PROTECT ANY DOWNSTREAM CONSTRUCTION AND RECEIVING ENVIRONMENTS.
9. EROSION AND SEDIMENT CONTROL PROTECTION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONTRACT.
10. PLANS AND CONTROL MEASURES FOR LARGE SITES WILL NEED TO BE REVISED AND UPDATED TO REFLECT THE SITE STAGES AND PROGRESSION OF WORKS.
11. MEASURES INCLUDING SEDIMENT FENCES SHOULD BE MOVED AND REINSTATED AS WORKS PROGRESS.
12. FOOT AND VEHICULAR TRAFFIC TO BE RESTRICTED IN RECENTLY STABILISED AREAS INCLUDING THOSE HYDROSEEDED, TURFED OR SEEDED.

DUST CONTROL

1. DURING WINDY AND DRY WEATHER ANY UNPROTECTED AREAS SHALL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL. WHERE WATER IS NOT AVAILABLE IN SUFFICIENT QUANTITIES, SOIL BINDERS OR DUST RETARDANTS TO BE USED FOR DUST SUPPRESSION.
2. EXPOSED SURFACES INCLUDING BATTERS SHOULD BE LEFT ROUGH TO REDUCE WIND SPEEDS AND POTENTIAL FOR WIND EROSION.
3. USE OPEN WEAVE BARRIER FENCING ON WINDWARD SIDE OF SITE IF REQUIRED. FENCING IS GENERALLY REQUIRED WHERE AREA OF DISTURBANCE IS >5000m².

CONTROL MEASURES

1. FINAL SITE LANDSCAPING SHALL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS OF CONSTRUCTION COMPLETION
2. SEDIMENT LADEN WATER SHALL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM BY USING INLET PROTECTION.
3. ALL PERIMETER BANKS AND CHANNEL DRAINS SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
4. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED ONCE SITE IS STABILISED AND UPSTREAM WORKS HAVE BEEN COMPLETED.
5. AT CONSTRUCTION COMPLETION ALL TEMPORARY EARTH STRUCTURES INCLUDING SOIL STOCKPILES ARE TO BE TRACK ROLLED AND SEEDED. THE CONTRACTOR IS TO ENSURE A 70% COVERAGE WITHIN 14 DAYS.

OTHER MATTERS

1. ACCEPTABLE RECEPTORS AND DISPOSAL PRACTICES WILL BE USED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHERS, LITTER AND GENERAL WASTE MATERIALS.
2. ANY EXISTING TREES WHICH ARE NOT REQUIRED OR APPROVED TO BE CLEARED FOR THE WORKS AND/OR FORM PART OF THE FINAL LANDSCAPING PLAN SHOULD BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
 - a. PROTECTING THEM WITH BARRIER FENCING OR MARKERS.
 - b. ENSURING NOTHING IS NAILED TO THEM
 - c. PROHIBITING PAVING, GRADING OR PLACING OF STOCKPILES WITHIN Drip LINE.
3. ALL VEHICLE AND EQUIPMENT WASHING SHOULD BE CONTAINED IN SPECIFIC BUNDED AREAS, DISCONNECTED FROM CONCENTRATED FLOW PATHS AND THE STORMWATER SYSTEM.
4. ANY NECESSARY VEHICLE OR EQUIPMENT REFUELLING SHOULD BE UNDERTAKEN AWAY FROM CONCENTRATED FLOW PATHS AND PREFERABLY WITHIN A BUNDED AREA.
5. ANY ONSITE FUEL STORAGE AREAS SHOULD BE COVERED AND BUNDED.

MAINTENANCE OF PUBLIC ROADS

1. ALL CONSTRUCTION VEHICLES DEPARTING FROM THE SITE SHALL HAVE THEIR TYRES WASHED DOWN OR SEDIMENT REMOVED BY A STABILISED SITE ACCESS DEVICE.
2. THE STABILISED SITE ACCESS AREAS SHALL BE LOCATED SUCH THAT SILTED WATER IS FILTERED THROUGH A SUITABLE SEDIMENT TRAP (SUCH AS A SEDIMENT FENCE) INSTALLED DOWNSTREAM OF ACCESS.
3. THE CONTRACTOR SHALL INSPECT THE PUBLIC ROADS ADJACENT TO THE SITE DAILY AND MANUALLY REMOVE ANY SEDIMENT DEPOSITS (BY SWEEPING NOT WASH DOWN).

SITE INSPECTION AND MAINTENANCE

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED REGULARLY, IMMEDIATELY BEFORE SITE CLOSURE, PRIOR TO PREDICTED LARGE STORM EVENTS AND AFTER EVERY SIGNIFICANT (>5MM) RAINFALL EVENT OR AT LEAST ON A WEEKLY BASIS.
2. THE CONTRACTOR WILL AS A MINIMUM CONDUCT EACH INSPECTION IN LINE WITH THE FOLLOWING
 - a. RECORD TYPE OF DEVICE/CONTROL MEASURE BEING INSPECTED AND ITS LOCATION;
 - b. RECORD THE CONDITION OF EVERY CONTROL MEASURE;
 - c. RECORD MAINTENANCE REQUIREMENTS FOR EVERY CONTROL DEVICE;
 - d. RECORD SEDIMENT VOLUMES REMOVED FROM SEDIMENT TRAPPING DEVICES;
 - e. RECORD DETAILS OF SEDIMENT BASIN TREATMENT, FLOCCULANT DOSAGE AND CLEANOUT;
 - f. RECORD SEDIMENT DISPOSAL PROCEDURES AND LOCATION.
3. REPAIRS AND MAINTENANCE OF ALL DEVICES AND MEASURES INCLUDING DIVERSION CHANNELS SHALL BE UNDERTAKEN AS REQUIRED, ENSURING ALL MEASURES ARE FULLY FUNCTIONAL AT ALL TIMES.
4. ENSURE SEDIMENT LADEN WATER HAS NOT BEEN DIVERTED AROUND DEVICES.
5. REPAIR SCOUR DAMAGE TO SEDIMENT CONTROL MEASURES AFTER RAINFALL EVENTS AND REINSTATE DEVICES AS NECESSARY.
6. SEDIMENT FENCES WILL REQUIRE CLEANING WHEN SEDIMENT REACHES 300MM DEPTH OR ONE-HALF THE HEIGHT OF THE FILTER FABRIC AND ALL OTHER SEDIMENT TRAPS WILL REQUIRE CLEANING OUT WHEN 30% OF DESIGN CAPACITY IS REACHED.
7. ALL INLET AND GULLY TRAPS TO BE CLEANED NOT HOSED AFTER EVERY RAINFALL EVENT, (15-mm) OR AT LEAST ON A WEEKLY BASIS.
8. SEDIMENT DEVICES AND GULLY TRAPPING DEVICES TO BE RELOCATED, ENSURING FURTHER POLLUTION TO DOWNSTREAM ENVIRONMENTS WILL NOT OCCUR.
9. ALL SEEDING, HYDROSEEDING AND TURFING REQUIRES REGULAR WATERING, UNTIL EFFECTIVE COVER ESTABLISHED AND PLANTS ARE GROWING VIGOROUSLY. WATERING SHOULD VARY DEPENDING ON WEATHER AND SOIL CONDITIONS.
10. WATERING SHOULD START IMMEDIATELY AFTER PLANTING AND SHOULD COMPLY WITH THE FOLLOWING AS A MINIMUM:

WEEK 1	3 WATERINGS/WEEK
WEEK 2-6	2 WATERINGS/WEEK
WEEK 7-12	1 WATERING/WEEK
11. EXCESSIVE VEGETATION GROWTH WILL BE CONTROLLED THROUGH MOWING OR SLASHING.
12. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE INSPECTION, MAINTENANCE AND TESTING OF DEVICES IS UNDERTAKEN ON SITE.
13. THE CONTRACTOR TO KEEP DETAILED AND LEGIBLE RECORDS OF ALL INSPECTION AND MAINTENANCE UNDERTAKEN ON THE EROSION AND SEDIMENT CONTROL DEVICES.
14. ALL SITE WASTE INCLUDING GENERAL RUBBISH IS TO BE DISPOSED OF IN AN ENVIRONMENTALLY RESPONSIBLE MANNER IN ACCORDANCE WITH THE ENVIRONMENTAL PROTECTION (WASTE MANAGEMENT) POLICY 2000 AND ENVIRONMENTAL PROTECTION (WASTE MANAGEMENT) REGULATION 2000.
15. THE CONTRACTOR SHALL CONSTRUCT AND IMPLEMENT ADDITIONAL MEASURES AS NECESSARY TO ENSURE PROTECTION OF DOWNSTREAM ENVIRONMENTS.

SOIL STRIPPING AND STOCKPILING

1. IDEALLY, STRIP TOPSOIL WHEN IT IS MOIST, NOT TOO WET OR TOO DRY.
2. TAKE CARE WHEN STRIPPING TOPSOIL NOT TO STRIP SUBSOIL WITH THE TOPSOIL PROFILE. TOPSOIL AND SUBSEILS SHOULD BE MANAGED SEPARATELY.
3. WHEREVER POSSIBLE, STOCKPILES ARE TO BE ESTABLISHED AND MAINTAINED IN ACCORDANCE WITH STANDARD DRAWING SD 4-1 (LANDCOM, 2004).
4. AS MUCH AS IS FEASIBLE, MULCHED VEGETATION, TOPSOIL AND SUBSOIL (IF APPLICABLE) ARE TO BE STOCKPILED SEPARATELY.
5. SEDIMENT FENCING IS TO BE INSTALLED AROUND THE LOWER EDGE OF STOCKPILES AS PER STANDARD DRAWING SD 4-1, UNLESS THE STOCKPILE IS IMMEDIATELY ADJACENT TO A SUITABLE ALTERNATIVE CONTROL SUCH AS A SEDIMENT BASIN. A DIVERSION DRAIN/BUND IS TO BE INSTALLED ON THE HIGH SIDE OF STOCKPILES IF RUN-ON FROM UPSLOPE LANDS COULD IMPACT ON THE STOCKPILE.
6. STOCKPILES ARE NOT TO BE POSITIONED WITHIN 5M OF POSSIBLE CONCENTRATED WATER FLOW (INCLUDES ROAD GUTTERS AND TABLE DRAINS).
7. STOCKPILES ARE TO BE SITED AT LEAST 50M FROM ANY WATERCOURSE, NATURAL DRAINAGE LINE OR CREEK AND AT LEAST 2M FROM ANY TREES TO BE RETAINED.
8. STOCKPILES WILL NOT BE LOCATED ON FLOOD PRONE LANDS BELOW THE 2 YEAR FLOOD LEVEL.
9. STOCKPILES WILL BE POSITIONED WITHIN THE APPROVED PROJECT CONSTRUCTION BOUNDARY AND AWAY FROM PROTECTED AREAS (E.G. NATIVE VEGETATION).
10. INACTIVE STOCKPILE FACES ARE TO BE PROVIDED WITH AT LEAST 60% COVER (I.E. RUSLE C-FACTOR OF 0.1) WITHIN 10 DAYS OF FORMATION. STABILISATION OF STOCKPILES CAN BE ACHIEVED BY SEEDING AND SPRAYING WITH A SOIL STABILISER (E.G. VITAL P47), COVERING WITH GEOTEXTILE OR MATTING OR EQUIVALENT (NOTE SEEDING IS NOT REQUIRED FOR STOCKPILES IF THEY WILL BE IN PLACE FOR LESS THAN 3 MONTHS OR IF THEY HAVE AN EXISTING SEEDBANK), STOCKPILES OF TOPSOIL OR MULCH SHOULD BE CONSTRUCTED TO NO MORE THAN 2 METERS IN HEIGHT WHEREVER POSSIBLE (NOTE THIS ONLY APPLIES TO TOPSOIL AND MULCH).
11. STOCKPILES SHOULD BE FORMED TO BE NO STEEPER THAN 2:1 (H:V) WHEREVER POSSIBLE.

DUST SUPPRESSION

1. DUST SUPPRESSION IS TO BE CARRIED OUT WHENEVER NECESSARY TO MINIMISE SEDIMENT BECOMING AIR BORNE DUE TO WIND EROSION.
2. AN APPROPRIATE WATER SOURCE FOR DUST SUPPRESSION AND/OR DUST SUPPRESSANT MANAGEMENT SYSTEM MUST BE IDENTIFIED PRIOR TO STARTING CONSTRUCTION WORKS.
3. ENSURE DUST SUPPRESSION IS CARRIED OUT IN A MANNER TO AVOID WATER RUNOFF, EROSION OR PONDING ON SURFACES (I.E. APPLY IN A GENTLE MANNER AT APPROPRIATE RATES AND MONITOR REGULARLY).
4. TEMPORARY STABILISERS (E.G. VITAL BON-MATT P47), GEOTEXTILE, JUTE MATTING OR EQUIVALENT CAN BE USED IN NON-TRAFFICKED AREAS TO ASSIST WITH DUST CONTROL.

STABILISATION

1. UNDERTAKE PROGRESSIVE STABILISATION OF DISTURBED GROUND SURFACES AS THEY ARE COMPLETED RATHER THAN AT THE END OF THE WORKS PROGRAM (REFER TO TABLES 1AND 2).
2. FINAL STABILISATION IS TO ACHIEVE THE C-FACTORS (GROUND COVER) DETAILED IN TABLES 1AND 2.
3. FINAL REHABILITATION IS TO BE IN ACCORDANCE WITH THE LANDSCAPING/REHABILITATION PLANS.
4. AREAS TO BE REVEGETATED ARE TO BE TOPSOILED FIRST. TOPSOIL IS TO BE SPREAD, EVENLY TO AT LEAST 75MM. REFER TO STANDARD DRAWING (SD 4-2) FOR INSTRUCTIONS REGARDING TOPSOIL REPLACEMENT.
5. TOPSOIL IS TO BE TESTED PRIOR TO REVEGETATION TO CONFIRM TREATMENT (ANALYSE/ION/ FERTILISATION) REQUIREMENTS INCLUDING TESTING FOR DISPERSION, PH, TRACE NUTRIENTS, EC AND CEC.
6. APPROPRIATE SEEDBED PREPARATION SHOULD BE CARRIED OUT WHEN REVEGETATING LANDS (SEE STANDARD DRAWING (SD 7-1).
7. AS MUCH AS POSSIBLE, AVOID HANDLING TOPSOILS WHEN THEY ARE TOO WET OR TOO DRY. THIS HELPS PRESERVE SOIL STRUCTURE.
8. AVOID BLENDING FRESH MULCH WITH TOPSOIL, AS THIS LEADS TO DE-NITRIFICATION.
9. TO HELP PRESERVE SOIL STRUCTURE, AVOID EXCESSIVE COMPACTION OF TOPSOILS.
10. GYPSUM SHOULD BE APPLIED TO SUBSOILS (AS CLAY BREAKER) AT AROUND 0.5kg/m² FOR GENERAL SURFACES AND BATTERS. RATES TO BE CONFIRMED PRIOR TO REVEGETATION WITH SOIL TESTING.
11. ALL FLOW AREA SUBSOILS (DRAINAGE LINES, WATERWAYS, DIVERSION DRAINS, CHANNELS, BASINS) SHOULD BE GYPSUM TREATED AT A RATE OF 1.5kg/m².
12. TOPSOILS SHOULD BE AMELIORATED WITH LIME TO ADJUST PH IF FIELD TESTING SHOWS pH IS BELOW 6.
13. TOPSOILS WOULD MOST LIKELY BENEFIT FROM AN APPLICATION OF NPK FERTILIZER PLUS TRACE ELEMENTS (S, CA AND MO). SOIL TESTING PRIOR TO RE-SPREADING CAN CONFIRM THE APPROPRIATE RATE.
14. PERMANENT DRAINS ARE TO BE STABILISED IN ACCORDANCE WITH ENGINEERING DESIGN BUT MUST ACHIEVE THE C-FACTORS (GROUND COVER) DETAILED IN TABLE 1. SOIL TESTING OF SUBSOILS AND TOPSOILS IS TO BE UNDERTAKING TO POTENTIAL. SOIL TREATMENT/STABILISATION REQUIREMENTS.
15. TEMPORARY DIVERSION DRAINS/BUNDS ARE TO BE STABILISED TO ACHIEVE THE C-FACTORS AS DETAILED IN TABLES 1 AND 2. USING SEEDING + VITAL RAY + JUTE MESH/MATTING OR ALTERNATIVELY GEOTEXTILE FABRIC, ROCK OR TRM. SUBSOILS ARE TO BE TREATED FIRST BY LIGHTLY RIPPING GYPSUM INTO THE SURFACE AT A RATE OF APPROX. 1.5kg/m². REFER TO THE PLANS FOR SPECIFIC DETAILS. ALSO REFER TO STANDARD DRAWINGS (SD 5-6 AND SD 5-7).
16. REFER TO THE 'SOIL STRIPPING AND STOCKPILING' NOTES FOR STABILISATION REQUIREMENTS ON STOCKPILES. ALSO REFER TO TABLES 1AND 2 AND STANDARD DRAWING (SD 4-1).
17. SEDIMENT BASIN INLETS/OUTLETS ARE TO BE STABILISED IN ACCORDANCE WITH PERMANENT ENGINEERING DESIGN (WHERE APPLICABLE) OR WITH GEOTEXTILE UNDERLAY AND ROCK IN ACCORDANCE WITH RECOMMENDATIONS FOR "HIGH FLOW AREAS ON TABLE 1 AND AS DETAILED ON THE PLAN.
18. HIGHLY TRAFFICKED AREAS SUCH AS LAYDOWN/STORAGE AREAS, HAUL ROADS/ACCESS TRACKS AND SITE COMPOUNDS WILL BE FORMED IN ACCORDANCE WITH ENGINEERING SPECIFICATIONS AND STABILISED WHERE NECESSARY AND AS MUCH AS PRACTICABLE TO MINIMISE EROSION AND PROVIDE A TRAFFICABLE SURFACE. STABILISATION OF THESE AREAS WILL BE ACHIEVED WITH SUITABLE TRAFFICABLE MATERIALS (E.G. WITH HEAVY BOUND DOB (CEMENT STABILISED), AGGREGATE, CRUSHED ROCK, ROAD BASE OR A HEAVY DUTY TRAFFICABLE SOIL. STABILISER) AND RE-GRADING/RE-SURFACING AS NECESSARY.
19. AS SURFACES ARE STABILISED (AT LEAST 90% OF ANY FINISHED AREA HAS AT LEAST 70% GROUND COVER) AND PERMANENT DRAINAGE MEASURES ARE INSTALLED, TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AND WATER MANAGEMENT STRUCTURES CAN BE REMOVED (E.G. DIVERSION DRAINS).
20. TEMPORARY STABILISATION OF EXPOSED SURFACES ON HIGH RISK AREAS (I.E. STEEP SLOPES >5%), BATTERS, SURFACES NOT DRAINING TO SEDIMENT
21. SURFACES NOT DRAINING TO SEDIMENT BASINS AND WORKS (INNER WATERWAYS) WILL BE UNDERTAKEN PRIOR TO RAINFALL IN ACCORDANCE WITH THE RAINFALL PREPARATION PROCEDURE' NOTES AND THE INSTRUCTIONS ON THE PLAN.
22. ALL EXPOSED LANDS WHERE WORKS ARE NOT ACTIVELY OCCURRING (FOR 20 DAYS OR MORE) ARE TO BE TEMPORARILY STABILISED WITH A TEMPORARY GROUND COVER (I.E. A SOIL BINDER (E.G. VITAL, STONEWALL), MATTING, GEOBARRIER OR EQUIVALENT).
23. WHEREVER POSSIBLE, RE-USE CLEARMULCHED VEGETATION FOR EITHER TEMPORARY OR PERMANENT STABILISATION OF DISTURBED AREAS.

[illegible]

SEDIMENT BASINS

1. IN ACCORDANCE WITH PLANNING POLICY APPLICABLE AT THE SITE, ALL SEDIMENT BASINS ARE TO BE DESIGNED, CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH IECA "BEST PRACTICE EROSION AND SEDIMENT CONTROL- APPENDIX B- SEDIMENT BASIN DESIGN AND OPERATION" (JUNE 2018) WHICH REQUIRES ALL BASINS TO BE CONTINUOUS FLOW TYPE A OR B BASINS WITH AUTOMATED CHEMICAL DOSING, NOT TRADITIONAL TYPE D/F UNLESS SITE CONSTRAINTS DICTATE.
2. THE CONTRACTOR SHALL KEEP DETAILED AND ACCURATE RECORDS OF THE MONITORING, TREATMENT, TESTING AND MAINTENANCE OF THE SEDIMENT BASIN INCLUDING RECORDED RAINFALL VOLUME, FLOCCULATING AGENTS USED
3. ALL CHEMICAL DOSING AND WATER TESTING TO BE UNDERTAKEN BY A SUITABLY QUALIFIED PERSON.
4. ALL LABORATORY TESTING TO BE UNDERTAKEN BY A NATA ACCREDITED LABORATORY.
5. ALL WATER PUMPED FROM THE SEDIMENT BASIN SHALL BE TESTED FOR ENVIRONMENTAL COMPLIANCE AGAINST THE RELEASE CRITERIA IN THE TABLE BELOW (AS A MINIMUM), UNLESS ALTERNATIVE (MORE STRINGENT) STANDARDS ARE SPECIFIED BY THE LOCAL AUTHORITY **PRIOR TO RELEASE.**

PARAMETER	RELEASE CRITERIA
SUSPENDED SOLIDS	50mg/l MAX
pH	WITHIN RANGE 6.5-8.5
VISUAL AMENITY	NO VISUAL PLUME

6. WATER TESTING TO BE UNDERTAKEN USING EITHER A HANDHELD PH/TURBIDITY METER OR SAMPLES COLLECTED FOR LABORATORY TESTING PRIOR TO ANY MANUAL BASIN DEWATERING.
7. THE TREATED BASIN SHALL BE DEWATERED WITH A PUMP SYSTEM WITH A FLOATING INLET TO ENSURE SETTLED SEDIMENT IS NOT ENTRAINED AND DISCHARGED.
8. COMPLETE BASIN DEWATERING SHALL OCCUR WITHIN 5 DAYS FROM CONCLUSION OF RAINFALL EVENT.
9. SEDIMENT BASINS WILL REQUIRE DEWATERING AND SEDIMENT CLEANOUT ONCE STORAGE CAPACITY REACHES 70%.
10. CAPTURED SEDIMENT WILL BE DISPOSED OF IN AN ENVIRONMENTALLY RESPONSIBLE MANNER AS TO NOT CAUSE FURTHER CONTAMINATION OR DOWNSTREAM POLLUTION. SEDIMENT SHOULD NOT BE DISPOSED OF IN CONCENTRATED FLOWS, WHERE IT CAN BE RE-ENTRAINED OR RE-RELEASED TO RECEIVING WATERS WITH A PH OF < 5.5.
11. THE BASIN AND ALL OTHER CONTROL DEVICES WILL BE MAINTAINED IN AN OPERATIONAL STATE UNTIL SITE STABILIZED.
12. REPAIR ANY SCOUR DAMAGE TO THE SEDIMENT BASIN BATTERS AND EMERGENCY SPILLWAY FOLLOWING RAINFALL EVENTS.
13. SEDIMENT BASIN SHOULD NOT BE CONSTRUCTED WITH SMOOTH INTERNAL SLOPES AND BASIN BATTERS SHOULD NOT BE STEEPER THAN 3(H):1(V).
14. BASINS SHOULD BE APPROPRIATELY FENCED AND MARKED BY WARNING SIGNS IF UNSUPERVISED PUBLIC ACCESS IS LIKELY AND PUBLIC SAFETY IS AT RISK.
15. ALL INLET CHUTES TO BE FORMED FROM DUMPED ROCK PLACED OVER GEOTEXTILE LINER (BIDM #34 OR EQUIVALENT). ROCK USED TO BE CRUSHED, CLEAN, HARD DURABLE AND MINIMUM AVERAGE SIZE (d_{50})=150mm

GENERAL REQUIREMENTS

DIRTY WATER TREATMENT AND DISCHARGE REQUIREMENTS

THE DEVELOPMENT MUST COMPLY WITH SECTION 120 OF THE POEQ ACT WHICH PROHIBITS THE POLLUTION OF WATERS, EXCEPT AS EXPRESSLY PROVIDED FOR IN AN EPL. THE FOLLOWING REQUIREMENTS ARE TO BE ADHERED TO TO ENSURE THIS:

WATER ACCUMULATING IN SEDIMENT BASINS, TRAPS, EXCAVATIONS OR IN ANY OTHER LOW POINTS ONSITE CAN EITHER BE:

1. RE-USED FOR DUST SUPPRESSION OR CONSTRUCTION PURPOSES; OR
2. TREATED (IF REQUIRED) AND TESTED IN SITU, THEN RELEASED OFF SITE ONCE IT MEETS THE REQUIRED WATER QUALITY DISCHARGE CRITERIA [SEE BELOW]; OR
3. PUMPED INTO A TANK, TRUCK OR OTHER HOLDING AREA FOR LATER TREATMENT; OR
4. SPREAD OUT AND INFILTRATED ONTO WELL VEGETATED LANDS WITHIN THE SITE BOUNDARY AT LEAST 50m AWAY FROM ANY WATERWAY, SWALE, OR DRAINAGE LINE. ENSURE WATER IS APPLIED SLOWLY AND IN A MANNER TO AVOID CONCENTRATED SURFACE RUNOFF AND/OR EROSION
5. ANY ACTIVE DISCHARGE OF WATER FROM THE PROJECT (I.E. WHERE WATER IS MOVED OFFSITE VIA DIRECT ACTION SUCH AS PUMPING RATHER THAN FLOWING OFF THE PROJECT AS A RESULT OF HEAVY RAINFALL) IS TO ACHIEVE:
 6. 1) 50mg/L OR LESS TSS (TOTAL SUSPENDED SEDIMENT); AND
 7. PH 6.5 TO 8.5, AND
 8. <10MG/L OIL AND GREASE AND NO VISIBLE TRACE.
9. ADEQUATE WATER QUALITY CAN BE ACHIEVED BY USING GYPSUM AT A RATE OF APPROXIMATELY 30 KG/1000 M3 OF STORMWATER. ALTERNATIVE FLOCULATING AGENTS CAN ONLY BE USED IF THEY DO NOT CAUSE ENVIRONMENTAL HARM WHEN DISCHARGED. REFER TO MANUFACTURERS GUIDELINES FOR DOSAGE DETAILS.
10. SPREAD THE TREATMENT AGENT EVENLY OVER THE ENTIRE POND SURFACE FOR PROPER TREATMENT OF WATER.
11. THESE DE-WATERING REQUIREMENTS APPLY TO DIRTY WATER ACCUMULATING IN ANY SORT OF EXCAVATION, SUMP, OR OTHER PONDED WATER BODY ON THE PROJECT.
12. IF THE WATER IS GOING TO BE USED WITHIN THE CONSTRUCTION SITE FOR DUST-SUPPRESSION OR CONSTRUCTION
13. PURPOSES AND WILL DRAIN BACK INTO THE SEDIMENT CAPTURE SYSTEM IT DOES NOT REQUIRE TREATMENT.

RAINFALL PREPARATION PROCEDURE

1. THE WEATHER FORECAST IS TO BE MONITORED REGULARLY (AT LEAST DAILY AND HOURLY WHEN RAINFALL IS IMMINENT) BY THE SITE ENVIRONMENTAL MANAGER (OR THEIR REPRESENTATIVE).
2. PRIOR TO FORECAST RAINFALL (> 70% CHANCE OF 5MM OR MORE OVER 24 HOURS) AND SITE CLOSURE OF MORE THAN 2 DAYS, THE FOLLOWING WILL OCCUR:
3. THE SITE ENVIRONMENT MANAGER (OR THEIR REPRESENTATIVE) IS TO INSPECT THE CONDITION OF ALL EROSION AND SEDIMENT CONTROLS AND ACTION ANY URGENT REPAIR, MAINTENANCE OR IMPROVEMENT. THEY ARE TO KEEP A RECORD ALL FINDINGS (INCLUDING DETAILS OF ACTIONS AND THEIR CLOSE OUTS).
4. SLOPE BREAKS/CONTOUR BERMS WILL BE PUSHED UP OR CUT IN ACROSS LARGE, EXPOSED AREAS FO SLOW DOWN FLOWS AND MINIMISE EROSION. SLOPE LENGTHS ARE TO BE RESTRICTED TO 40m INTERVALS ACROSS ALL EXPOSED SURFACES PRIOR TO AND DURING RAINFALL. DIVERSION BUNDSDRAINS, LOW FLOW EARTH BANKS (STANDARD DRAWING SD 5-1) OR SANDBAGS/EQUIVALENT SHOULD BE INSTALLED PRIOR TO RAINFALL EVENT TO ACHIEVE THIS WHERE REQUIRED. NOTE THAT SLOPE B BREAKS/CONTOUR BERMS ARE NOT REQUIRED TO BE IN PLACE DURING ACTIVE CONSTRUCTION WORKS WHEN RAINFALL IS NOT FORECAST/OCCURRING. LOCATIONS OF SLOPE BREAKS FOR THE INITIAL EARTHWORKS ARE SHOWN, HOWEVER, AS WORKS PROGRESS LOCATIONS FOR SLOPE BREAKS WILL CHANGE AND THESE ARE TO BE UPDATED ON PROGRESSIVE ESCPS.
5. TEMPORARY DIVERSIONS AROUND CULVERT WORKS ARE TO BE INSTALLED TO TAKE UPSLOPE CLEAN WATER FLOWS AROUND/THROUGH THE WORKS - REFER TO THE PLANS AND TO FOR SPECIFIC INSTRUCTIONS.
6. ALL EXPOSED SURFACES OF HIGH RISK AREAS (I.E. STEEP SLOPES (5%), BATTERS, SURFACES NOT DRAINING TO SEDIMENT BASINS AND WORKS IN/NEAR WATERWAYS AND FLOW AREAS) ARE TO BE STABILISED WITH TEMPORARY GROUND COVERS I.E. VITAL P47/STONEWALL, GEOTEXTILE OR BLACK PLASTIC (SECURELY PINNED OR EQUIVALENT).
7. CHECK DAMS ARE TO BE PROVIDED WITHIN ALL DRAINAGE DEVICES INCLUDING ROADSIDE TABLE DRAINS AT 40m INTERVALS.
8. PRIOR TO FORECAST HIGH RAINFALL (> 70% CHANCE OF 10mm OR MORE OVER 24 HOURS) AND SITE CLOSURE OF MORE THAN 2 DAYS, THE FOLLOWING WILL OCCUR IN ADDITION TO THE BELOW:
9. WINDROWS/BUNDS ARE TO BE PROVIDED ALONG THE TOP EDGE OF FILL BATTERS TO PROTECT FILL BATTERS. LOCATIONS AND DETAILS ARE TO BE CONFIRMED ON SITE AS WORKS PROGRESS AND DOCUMENTED ON SITE SPECIFIC PROGRESSIVE ESCPS. THEY ARE NOT REQUIRED FOR INITIAL STRIPPING WORKS. THEY ARE TO BE FORMED AS COMPACTED EARTH BERMS MIN. 600MM HIGH ALONG THE TOP EDGE OF FILL PLATFORMS PRIOR TO RAINFALL AND SITE CLOSURE (2 DAYS). THEY ARE NOT REQUIRED DURING DRY WEATHER. ADDITIONAL WINDROWS AND GEOFABRIC LINED BATTER CHUTES AT REGULAR INTERVALS MAY NEED TO BE PROVIDED AS THE WORKS PROGRESS - LOCATIONS AND DETAILS ARE TO BE PROVIDED ON SITE SPECIFIC PROGRESSIVE ESCPS.
10. PRIOR TO FORECAST RAINFALL (> 70% CHANCE OF 34MM OR MORE OVER A 5 DAY PERIOD) AND SITE CLOSURE OF MORE THAN 2 DAYS, THE FOLLOWING WILL OCCUR IN ADDITION TO THE ABOVE:
11. GYPSUM WILL BE SPREAD/DUSTED EVENLY OVER ALL EXPOSED SOIL SURFACES.
12. SEDIMENT BASIN AND SEDIMENT TRAP INLET POINTS WILL BE PRELOADED WITH GYPSUM.
13. MAJOR DIRTY WATER DIVERSION DRAINS WILL HAVE GYPSUM, BIOPOLYMER GEL SOCKS (OR EQUIVALENT) PLACED WITHIN THEM OR REPLENISHED AT 80m INTERVALS (IF NOT ALREADY IN PLACE).

GENERAL REQUIREMENTS

SALINITY CONSIDERATIONS

TO MINIMISE THE RISK OF SALINITY OCCURRING DURING THE CONSTRUCTION PHASE OF WORKS THE FOLLOWING MEASURES ARE TO BE IMPLEMENTED:

1. TOPSOIL IS TO BE TESTED PRIOR TO REVEGETATION TO CONFIRM TREATMENT REQUIREMENTS.
2. ENSURE TOPSOIL IS SPREAD OVER AREAS TO BE REVEGETATED TO AT LEAST 75MM.
3. WATERING OF NEWLY REVEGETATED AREAS IS TO BE MINIMISED FOR ONLY WHAT IS NECESSARY FOR PLANTS TO THRIVE.
AVOID OVER-WATERING WHICH COULD EXACERBATE CATCHMENT SALINITY.
4. THE FLOOR AND WALLS OF EACH SEDIMENT BASIN IS TO BE WELL COMPACTED TO MINIMISE INFILTRATION.
5. SWALE/DIVERSION DRAINS ARE TO BE GYPSUM-DUSTED AND LINED WITH MATTING AS NOTED TO PROMOTE FLOW AND REDUCE PONDING AND EROSION.
6. AVOID PONDING WATER ACROSS THE SITE IN AREAS WHERE SHALE OR CLAY LIFT MATERIALS HAVE BEEN PLACED.
7. REHABILITATION AND REVEGETATION OF COMPLETED EARTHWORKS IS TO BE UNDERTAKEN PROGRESSIVELY AS EACH AREA IS FINISHED.

THE ABOVE LIST OUTLINES GENERAL STRATEGIES FOR MINIMISING THE POTENTIAL SALINITY RISK DURING CONSTRUCTION. REFER TO THE PROJECT'S SALINITY MANAGEMENT PLAN FOR DETAILED RECOMMENDATIONS.

SITE INSPECTION, MONITORING AND MAINTENANCE

1. REGULAR SITE INSPECTIONS ARE TO BE CONDUCTED BY THE SITE ENVIRONMENT MANAGER (OR THEIR REPRESENTATIVE);
2. AT LEAST WEEKLY DURING NORMAL CONSTRUCTION HOURS; AND
3. PRIOR TO FORECAST RAINFALL (SEE ABOVE); AND
4. DAILY DURING RAIN EVENTS (IF SAFE TO DO SO); AND
5. WITHIN 24 HOURS OF THE CESSATION OF A RAIN EVENT THAT CAUSES RUNOFF.
6. MINIMUM MONTHLY AUDITS/SITE INSPECTIONS ARE ALSO TO BE CONDUCTED BY A CPESC TO ENSURE ALL OF THE REQUIRED OUTCOMES AND WATER QUALITY TARGETS ARE BEING MET AND WHERE NECESSARY PROVIDE ADVICE AND MODIFICATIONS TO THIS PLAN TO ENSURE ONGOING COMPLIANCE.
7. RECORDS OF THE SITE INSPECTIONS/AUDITS ARE TO BE KEPT FOR THE DURATION OF CONSTRUCTION AND FOR A MINIMUM OF 12 MONTHS FOLLOWING THE COMPLETION OF CONSTRUCTION WORKS.
8. PRIOR TO FORECAST RAINFALL OF 5MM OR MORE OVER 24 HOURS, THE SITE ENVIRONMENT MANAGER (OR THEIR REPRESENTATIVE) IS TO INSPECT THE CONDITION OF ALL EROSION AND SEDIMENT CONTROLS AND ACTION ANY URGENT REPAIR, MAINTENANCE OR IMPROVEMENT WORKS. THEY ARE TO KEEP A RECORD ALL FINDINGS (INCLUDING DETAILS OF ACTIONS AND THEIR CLOSE OUTS).
9. PRIOR TO SITE SHUTDOWN OF MORE THAN 2 DAYS, SLOPE BREAKS/CONTOUR BERMS WILL BE PUSHED UP OR CUT IN ACROSS LARGE, EXPOSED AREAS TO SLOW DOWN FLOWS AND MINIMISE EROSION. DIVERSION DROPPINGS/DRAINS, LOW FLOW EARTH BANKS (STANDARD DRAWING SD 5-5) OR SANDBAGS/EQUIVALENT SHOULD BE INSTALLED TO ACHIEVE THIS WHERE REQUIRED.
10. ADDITIONAL EROSION AND SEDIMENT CONTROLS WILL BE INSTALLED AND EXISTING CONTROLS REPAIRED/UPGRADED/MAINTAINED AS NECESSARY TO ENSURE SATISFACTORY OUTCOMES IN KEEPING WITH THE PROJECT CONDITIONS AND BEST-PRACTICE BLUE BOOK GUIDELINES.
11. SITE SPECIFIC PROGRESSIVE ESCSPs WILL BE PREPARED AND/OR UPDATED AS REQUIRED.
12. SEDIMENT OR ROCKS TRACKED FROM THE SITE WILL BE REMOVED FROM PUBLIC ROADS AS SOON AS POSSIBLE (E.G. WITH STREET SWEEPERS).
13. AFTER RAINFALL, SEDIMENT ACCUMULATED IN TRAPPING DEVICES (E.G. BASIN, SEDIMENT FENCE) WILL BE REMOVED TO A SECURE LOCATION WHERE IT CAN'T WASH OR BLOW OFFSITE (PREFERABLY TO AN ACTIVE STOCKPILE).
14. WEATHER CONDITIONS WILL BE MONITORED ONSITE AND DAILY RAINFALL WILL BE RECORDED. A RAINFALL GAUGE WILL BE INSTALLED AT THE SITE COMPOUND.
15. SAFE STORAGE AREAS FOR WASTES, FUELS, EXCESS CONCRETE AND OTHER POTENTIAL CONTAMINANTS ARE TO BE DELINEATED BY THE SITE MANAGER.
16. ADEQUATE SUPPLIES OF EROSION CONTROL MEASURES (E.G. GEOTABRIC ROLLS, JUTE MATTING, HYDRAULIC SOIL BINDERS) ARE TO BE MAINTAINED IN THE SITE COMPOUND FOR RAPID DEPLOYMENT AS REQUIRED.
17. WATER TREATMENT CHEMICAL(S) AND EQUIPMENT ARE TO BE MAINTAINED ONSITE.

DRAIN/BUND STABILISATION AND LINING

SOIL PREPERATION PRIOR TO LINING DRAINS:

- GYPSUM SHALLOW/LIGHTLY RIPPED INTO SUBGRADE AT A RATE OF 500g/m² (e.g. RIP IN USING GRADER OR EXCAVATOR BUCKET TINES (TEETH)).
- PLACE TOPSOIL OVER ENTIRE DRAIN SURFACE TO A MINIMUM DEPTH OF 75mm. (SOIL PREPARATION ALSO APPLIES TO TEMPORARY DRAINS IN PLACE FOR <6 MONTHS)

DRAIN LINING:

- SEEDING + VITAL P47 (OR VITAL STONEWALL) + JUTE MATTING:
(VITAL P47/ STONEWALL TO BE APPLIED AT A MAXIMUM DILUTION OF 1:10)
(VITAL:WATER)
- SEEDING TO BE A COMBINATION OF A COVER CROP (eg: RYE GRASS FOR WINTER MONTHS / JAPANESE MILLET FOR SUMMER MONTHS) AND A SUITABLE PERENNIAL (LONG TERM) LOCAL NATIVE GRASS MIX.

WATERING:

- REGULAR WATERING REQUIRED WHERE RAINFALL IS INSUFFICIENT.
- ENSURE WATER IS APPLIED GENTLY (NOT WITH A PRESSURE SPRAY).
- ENSURE OVERWATERING DOES NOT OCCUR AND IS MINIMISED TO ONLY WHAT IS NECESSARY FOR PLANTS TO THRIVE.

LINING OF TEMPORARY DRAINS (IN PLACE FOR <6 MONTHS):

- LINE WITH GEOTEXTILE (BIDIM A24 MIN. EQUIVALENT).

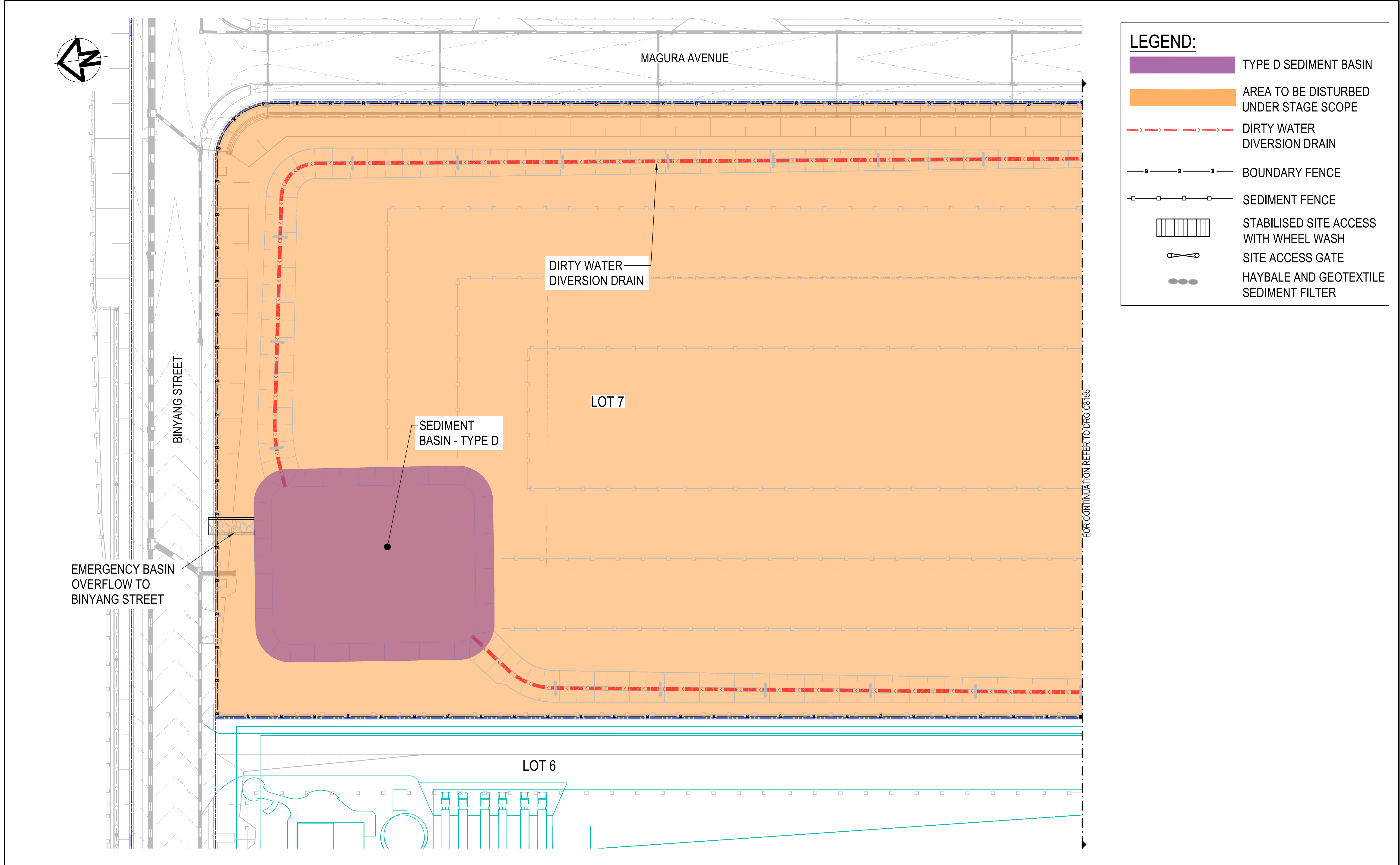
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TABLE 2 - STABILISATION REQUIREMENTS AND TREATMENT METHODS CONTINUED				
POST CONSTRUCTION				
LANDS	STABILISATION REQUIREMENT	TIMEFRAMES	TREATMENT METHODS PRODUCTS	REMARKS
WATERWAYS, DRAINAGE LINES AND CONCENTRATED FLOW AREAS	C-FACTOR = 0.05 (70% GRASS COVER OR EQUIVALENT GROUND COVER¹)	APPLIES AFTER 10 WORKING DAYS FROM COMPLETION OF FORMATION AND BEFORE THEY ARE ALLOWED TO CARRY CONCENTRATED FLOWS.	REFER TO THE DRAIN SPECIFICATIONS DETAILED ON THE PLAN FOR SPECIFIC LINING/STABILISATION REQUIREMENTS. EXAMPLE TREATMENT METHODS ARE SHOWN BELOW.	
			TEMPORARY LINING - GEOTEXTILE (ie BIDIM A24 OR EQUIVALENT¹)	- COMPLETE ANY SUBSOIL TREATMENT BEFORE LAYING THE MATTING. -INSTALL MATTING IN ACCORDANCE WITH SD 5-7 -RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PROVIDED.
			JUTE MESH, SEEDING AND SOIL BINDER (ie VITAL P47/STONEWALL OR EQUIVALENT¹) - LOW FLOWS	-COMPLETE SUBSOIL TREATMENT (E.G. GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING ". - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - WATERWAYS AND (50% GRASS COVER OR * OF INACTIVITY LEVEN THOUGH MONTHS- - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / 7m² OF DILUTED VITAL MIXTURE. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			JUTE MATTING (350gsm) AND SEEDING OR EQUIVALENT¹ - LOW TO MODERATE FLOWS	-COMPLETE SUBSOIL TREATMENT (E.G. GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING ". - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - WATERWAYS AND (50% GRASS COVER OR * OF INACTIVITY LEVEN THOUGH MONTHS- - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / 7m² OF DILUTED VITAL MIXTURE. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			- TURN REINFORCEMENT MATTING (TRM) (e.g TERRAMAT OR EQUIVALENT¹) (TRN) -MODERATE FLOWS	-COMPLETE SUBSOIL TREATMENT (E.G. GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
STOCKPILES	C-FACTOR = 0.10 / 0.05 (60% GRASS COVER OR EQUIVALENT GROUND COVER¹)	APPLIES AFTER 10 WORKING DAYS FROM COMPLETION OF FORMATION	ROCK LINING - HIGH FLOWS	-COMPLETE SUBSOIL TREATMENT (E.G. GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			SEEDING AND SOIL BINDER (ie VITAL P47/ STONEWALL OR EQUIVALENT¹)	- APPLY SEED TO ALL STOCKPILE SURFACES (NOTE: SEEDING MAY NOT BE REQUIRED IF EXISTING SEEDBED IS PRESENT). - SPRAY ALL STOCKPILE SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - VITAL DILUTION RATE = 1L / m² OF DILUTED VITAL MIXTURE. - RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
GENERAL SURFACES	C-FACTOR = 0.10 / 0.05 (60% / 70% GRASS COVER OR EQUIVALENT GROUND COVER¹)	C-FACTOR = 0.1 APPLIES AFTER 10 WORKING DAYS FROM COMPLETION OF FORMATION AND C-FACTOR= 0.05 APPLIES WITHIN A FURTHER 60 DAYS	GEOTEXTILE, JUTE MATTING, BLACK PLASTIC (SECURELY PINNED) OR EQUIVALENT¹	- COVER ALL EXPOSED SOILS. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PROVIDED.
			TOPSOIL, SEEDING AND SOIL BINDER (ie VITAL P47/STONEWALL OR EQUIVALENT¹)	-REFER TO SD 7-1 -COMPLETE SUBSOIL TREATMENT (ie GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - APPLY ANY FERTILISERS REQUIRED. - APPLY SEED TO ALL SURFACES (Note: SEEDING MAY NOT BE REQUIRED IF EXISTING SEEDBED IS PRESENT. - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / 7m² OF DILUTED VITAL MIXTURE. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			HYDROMLUCH OR EQUIVALENT¹	-REFER TO SD 7-1 -COMPLETE SUBSOIL TREATMENT (ie GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - APPLY ANY FERTILISERS REQUIRED. - APPLY SEED TO ALL SURFACES (Note: SEEDING MAY NOT BE REQUIRED IF EXISTING SEEDBED IS PRESENT. - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / 7m² OF DILUTED VITAL MIXTURE. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.

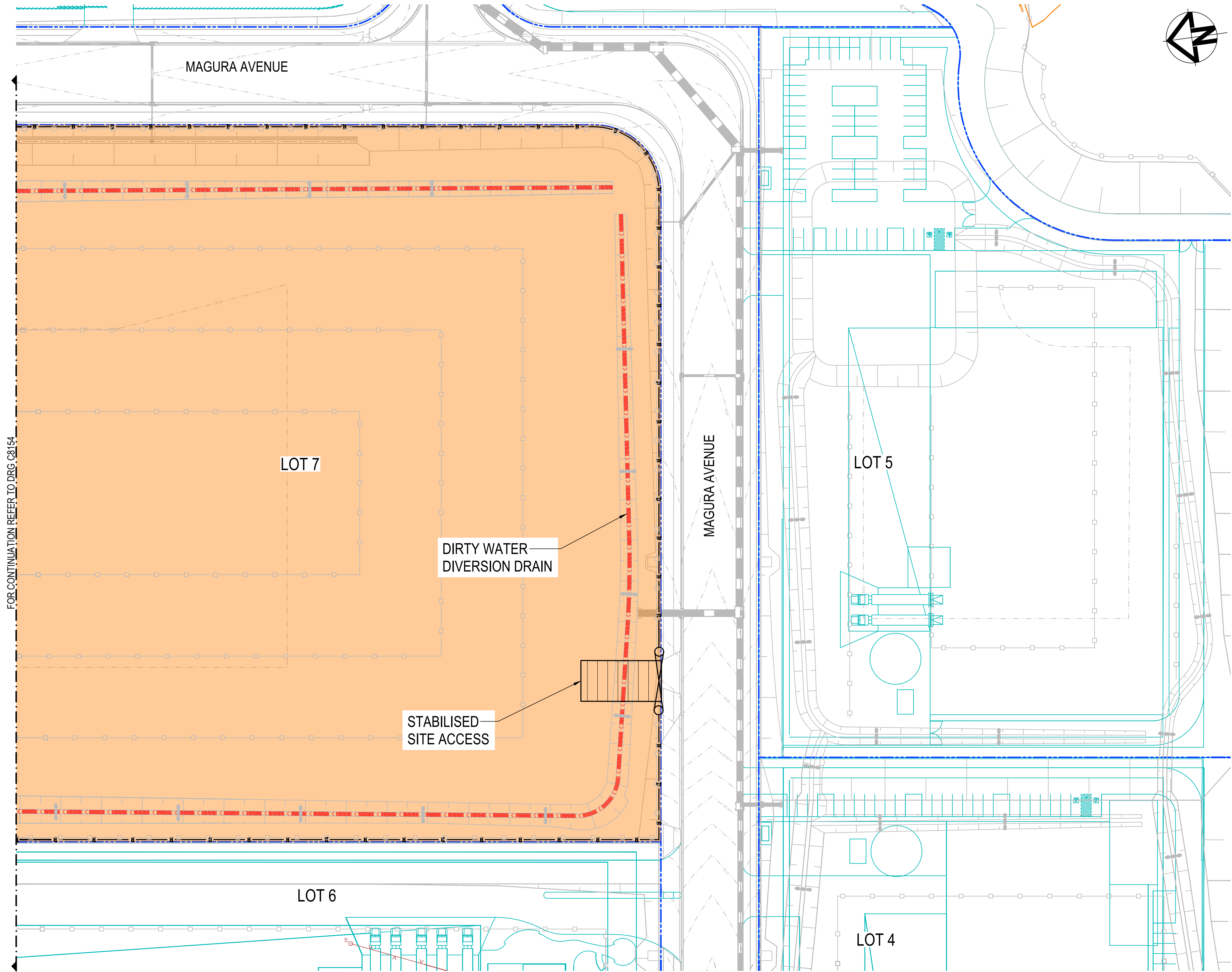
TABLE 3 - LIMITATIONS TO ACCESS DURING CONSTRUCTION		
LAND USE	LIMITATION	REMARKS
CONSTRUCTION AREAS	LIMITED TO 5 (PREFERABLE 2) METRES FROM THE EDGE OF ANY ESSENTIAL CONSTRUCTION ACTIVITY AS SHOWN ON THE ENGINEERING PLANS.	ALL SITE WORKERS SHOULD CLEARLY RECOGNISE THESE AREAS THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS.
ACCESS AREAS	LIMITED TO A MAXIMUM WIDTH OF METRES	THE SITE MANAGER WILL DETERMINE AND MARK THE LOCATION OF THESE ZONES ON SITE. THEY CAN VARY IN POSITION SO AS TO BE BEST CONSERVE EXISTING VEGETATION AND PROTECT DOWNSTREAM AREAS WHILE BEING CONSIDERATE OF THE NEEDS OF EFFICIENT WORKS ACTIVITIES. ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE BOUNDARIES.
ALL LANDS (INCLUDING WATERWAYS AND STOCKPILES)	APPLIES AFTER 20 WORKING DAYS OF INACTIVITY (EVEN THOUGH WORKS MIGHT CONTINUE LATER)	APPLIES AFTER 20 WORKING DAYS OF INACTIVITY (EVEN THOUGH WORKS MIGHT CONTINUE LATER)

			Bar Scales	THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L		Client	Scales N.T.S.	Drawn JC	Project	SEED STAGE 1B SSD 8150 SERIES LOT 7 ESCP PACKAGE	Civil Engineers and Project Managers  Level 10, 124 Walker Street North Sydney NSW 2060 P 02 9439 1777 E info@atl.net.au www.atl.net.au ABN 96 130 882 405	
								Designed JC				
								Grid MGA2020				Checked DS
								Height Datum AHD				Approved
										Title NOTES AND SPECIFICATIONS SHEET 3		
A	ISSUED FOR SSDA	11-11-25						Status FOR APPROVAL NOT FOR CONSTRUCTION	A1			
Issue	Description	Date		Project - Drawing No. 16-369-C8153	Issue A							

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LEGEND:

- TYPE D SEDIMENT BASIN
- AREA TO BE DISTURBED UNDER STAGE SCOPE
- DIRTY WATER DIVERSION DRAIN
- BOUNDARY FENCE
- SEDIMENT FENCE
- STABILISED SITE ACCESS WITH WHEEL WASH
- SITE ACCESS GATE
- HAYBALE AND GEOTEXTILE SEDIMENT FILTER

FOR CONTINUATION REFER TO DRG C8154

DIRTY WATER
DIVERSION DRAIN

STABILISED
SITE ACCESS

A	ISSUED FOR SSDA	11-11-25
Issue	Description	Date

Bar Scales

0 10 20 30 40 50m

1 : 500 @ A1 1 : 1000 @ A3

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Client

Scales 1:500

Grid MGA2020

Height Datum AHD

Drawn JC

Designed JC

Checked DS

Approved

Project

SEED
STAGE 1B SSD
8150 SERIES
LOT 7 ESCP PACKAGE

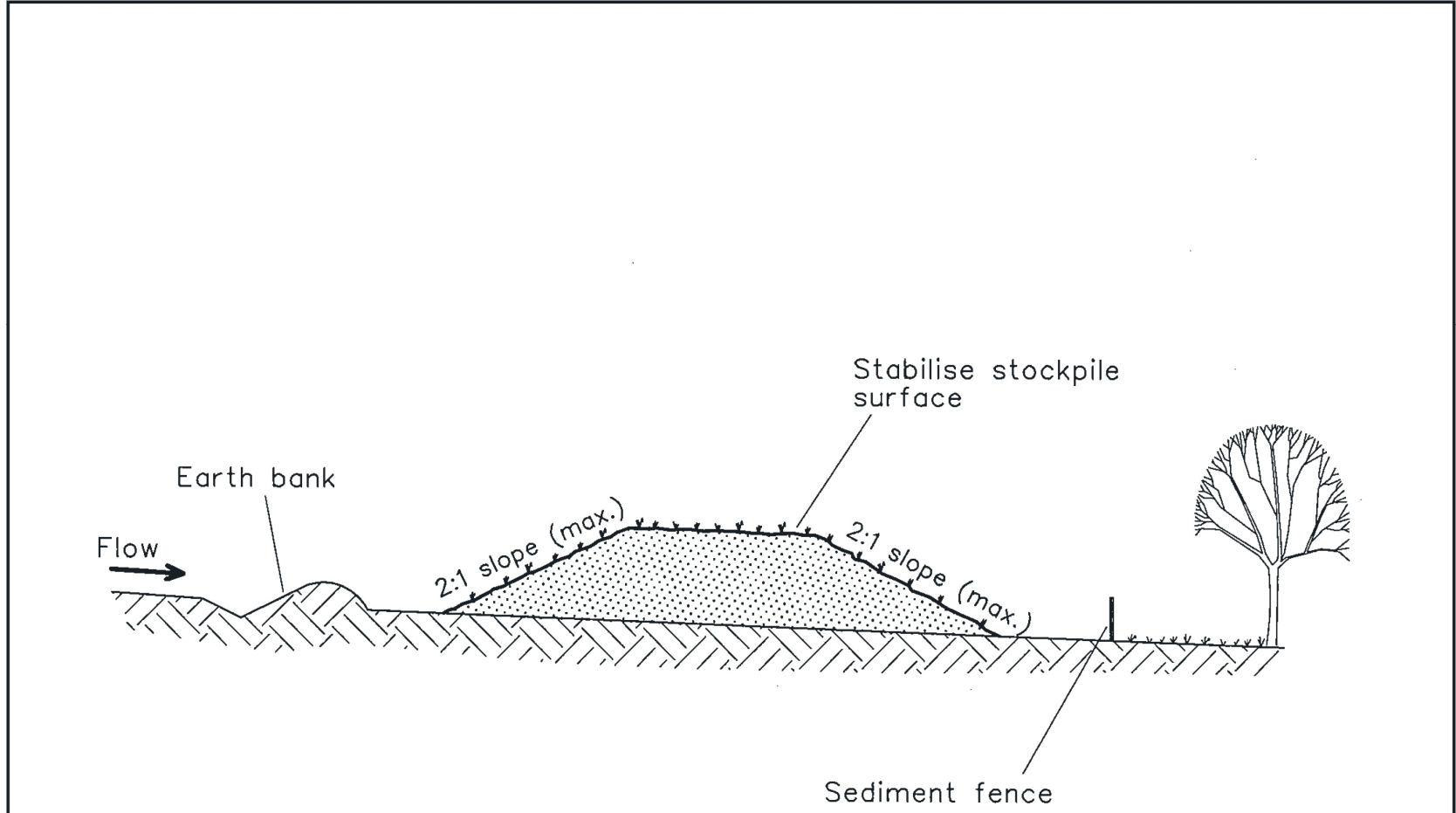
Title

CONCEPT ESCP
BULK EARTHWORKS
SHEET 2

Civil Engineers and Project Managers

Level 10, 124 Walker Street
North Sydney
NSW 2060
P 02 9439 1777
E info@atl.net.au
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ABN 96 130 882 405

Status	FOR APPROVAL NOT FOR CONSTRUCTION	A1
Project - Drawing No.	16-369-C8155	Issue A

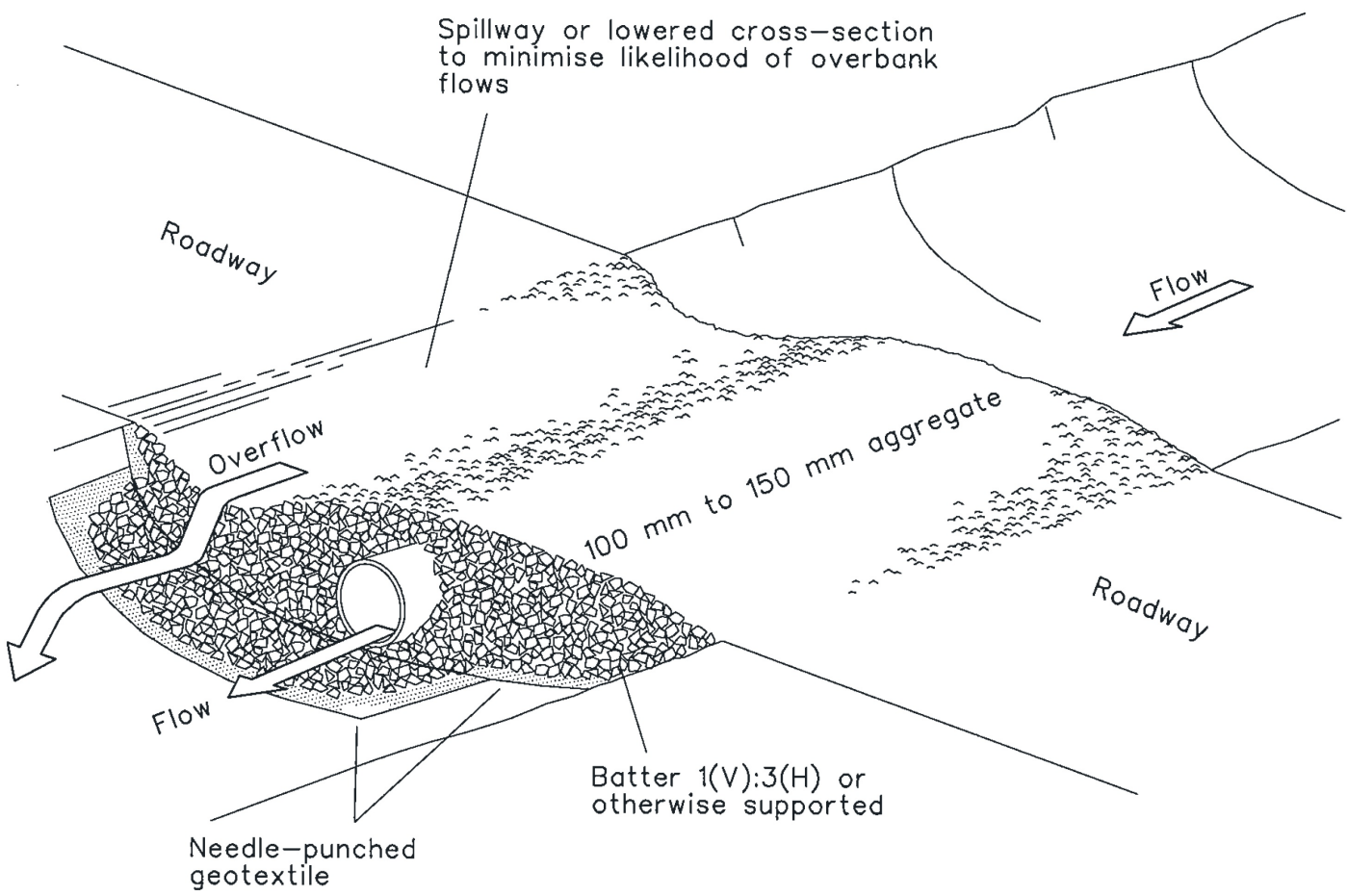


Construction Notes

- 1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
- 2. Construct on the contour as low, flat, elongated mounds.
- 3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
- 4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
- 5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

STOCKPILES SD 4-1

4-5

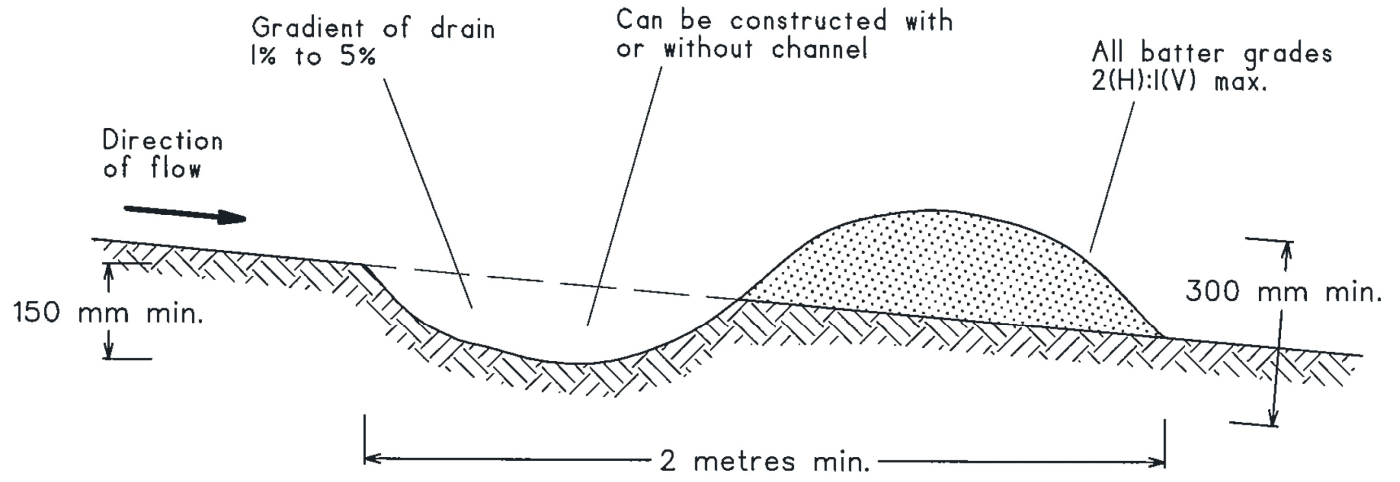


Construction Notes

- 1. Prohibit all traffic until the access way is constructed.
- 2. Strip any topsoil and place a needle-punched textile over the base of the crossing.
- 3. Place clean, rigid, non polluting aggregate or gravel in the 100 mm to 150 mm size class over the fabric to a minimum depth of 200 mm.
- 4. Provide a 3-metre wide carriageway with sufficient length of culvert pipe to allow less than a 3(H): 1 (V) slope on side batters.
- 5. Install a lower section to act as an emergency spillway in greater than design storm events.
- 6. Ensure that culvert outlets extend beyond the toe of fill embankments.

TEMPORARY WATERWAY CROSSING SD 5-1

5-14



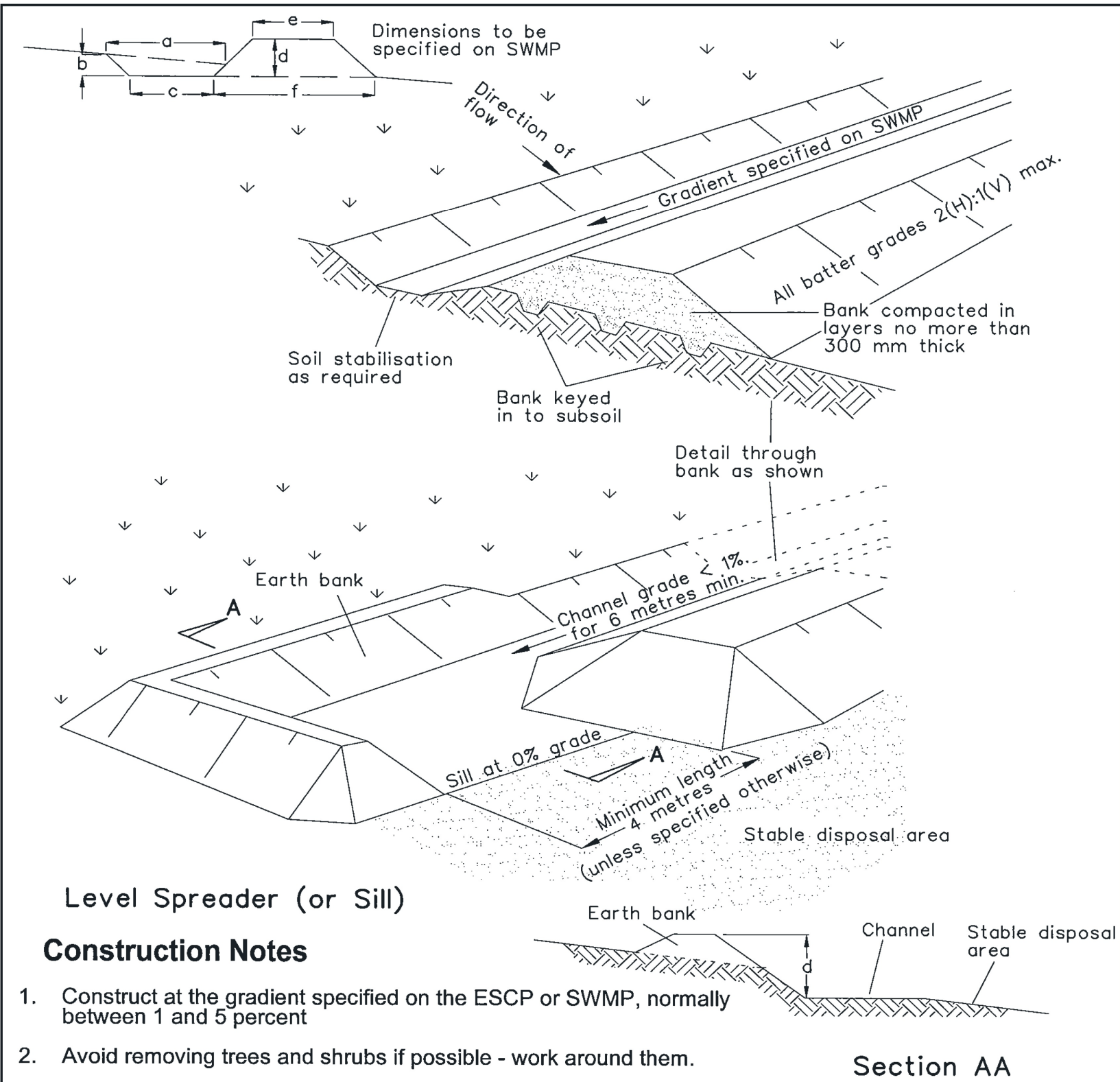
NOTE: Only to be used as temporary bank where maximum upslope length is 80 metres.

Construction Notes

- 1. Build with gradients between 1 percent and 5 percent.
- 2. Avoid removing trees and shrubs if possible - work around them.
- 3. Ensure the structures are free of projections or other irregularities that could impede water flow.
- 4. Build the drains with circular, parabolic or trapezoidal cross sections, not V shaped.
- 5. Ensure the banks are properly compacted to prevent failure.
- 6. Complete permanent or temporary stabilisation within 10 days of construction.

EARTH BANK (LOW FLOW) SD 5-5

5-25



Level Spreader (or Sill)

Construction Notes

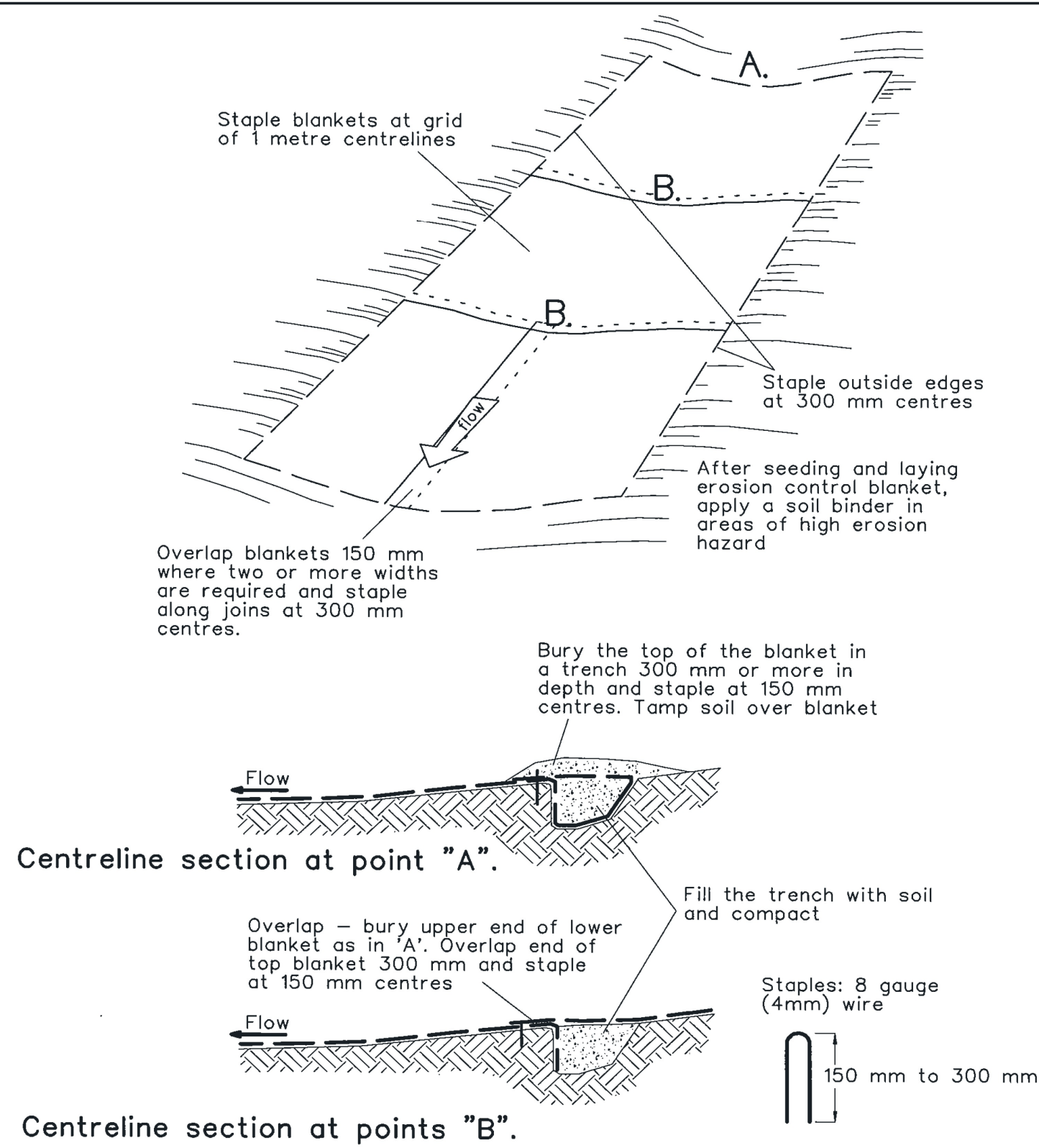
1. Construct at the gradient specified on the ESCP or SWMP, normally between 1 and 5 percent
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V-shaped, at the dimensions shown on the SWMP.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction following Table 5.2 in Landcom (2004).
7. Where discharging to erodible lands, ensure they outlet through a properly constructed level spreader.
8. Construct the level spreader at the gradient specified on the ESCP or SWMP, normally less than 1 percent or level.
9. Where possible, ensure they discharge waters onto either stabilised or undisturbed disposal sites within the same subcatchment area from which the water originated. Approval might be required to discharge into other subcatchments.

Section AA

EARTH BANK (HIGH FLOWS)

SD 5-6

5-26



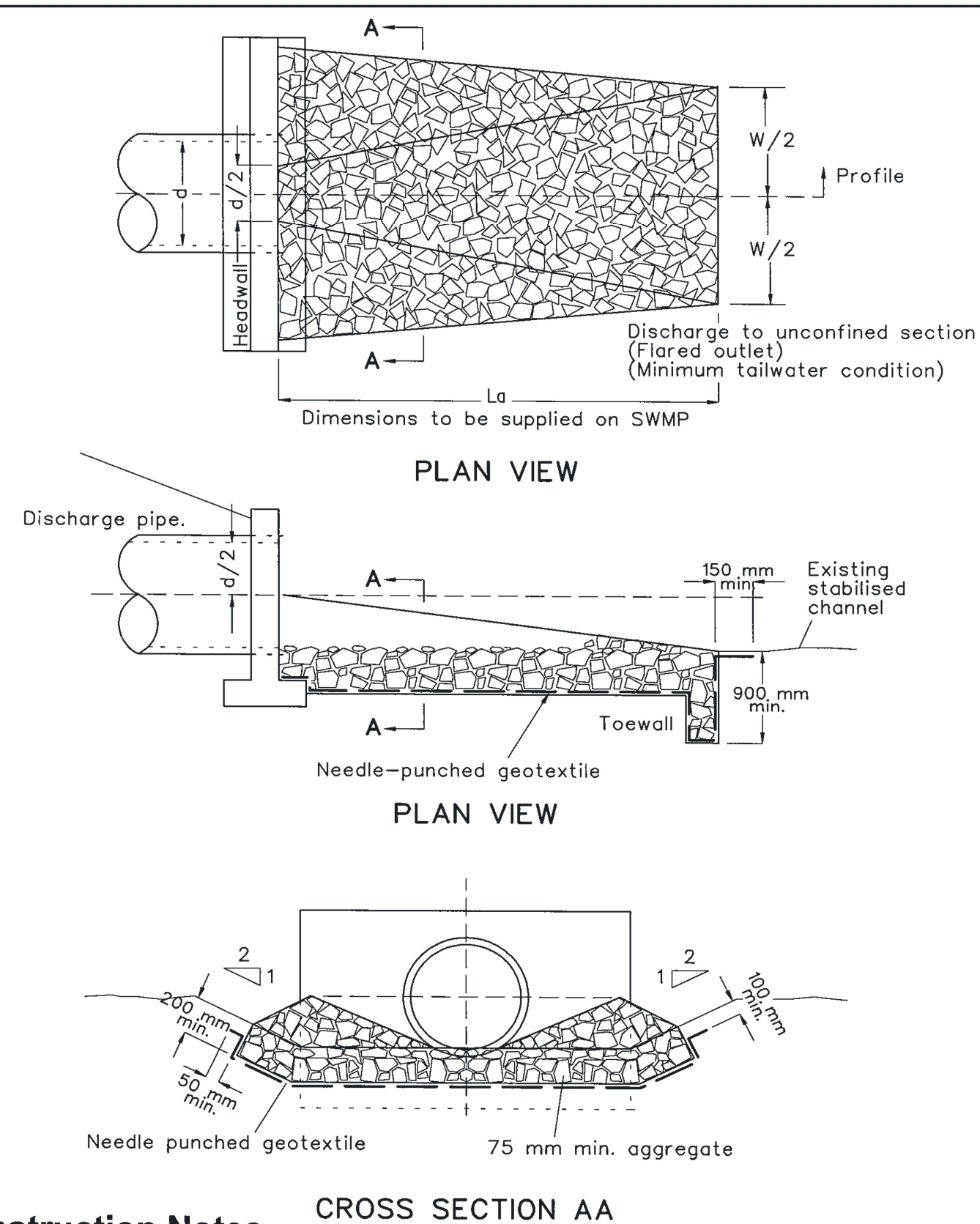
Construction Notes

1. Remove any rocks, clods, sticks or grass from the surface before laying matting
2. Ensure that topsoil is at least 75 mm deep.
3. Complete fertilising and seeding before laying the matting.
4. Ensure fabric will be continuously in contact with the soil by grading the surface carefully first.
5. Lay the fabric in "shingle-fashion", with the end of each upstream roll overlapping those downstream. Ensure each roll is anchored properly at its upslope end (Standard Drawing 5-7b).
6. Ensure that the full width of flow in the channel is covered by the matting up to the design storm event, usually in the 10-year ARI time of concentration storm event.
7. Divert water from the structure until vegetation is stabilised properly.

RECP : CONCENTRATED FLOW

SD 5-7

5-28



Construction Notes

1. Compact the subgrade fill to the density of the surrounding undisturbed material.
2. Prepare a smooth, even foundation for the structure that will ensure that the needle-punched geotextile does not sustain serious damage when covered with rock.
3. Should any minor damage to the geotextile occur, repair it before spreading any aggregate. For repairs, patch one piece of fabric over the damage, making sure that all joints and patches overlap more than 300 mm.
4. Lay rock following the drawing, according to Table 5.2 of Landcom (2004) and with a minimum diameter of 75 mm.
5. Ensure that any concrete or riprap used for the energy dissipater or the outlet protection conforms to the grading limits specified on the SWMP.

ENERGY DISSIPATER

SD 5-8

5-34

			Bar Scales	THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client 	Scales N.T.S.	Drawn JC	Project SEED STAGE 1B SSD 8150 SERIES LOT 7 ESCP PACKAGE	Civil Engineers and Project Managers  Level 10, 124 Walker Street North Sydney NSW 2060 P 02 9439 1777 E info@atl.net.au www.atl.net.au ABN 96 130 882 405			
						Grid MGA2020	Designed JC			Title DETAILS SHEET 2		
						Height Datum AHD	Checked DS				Approved	
												
A ISSUED FOR SSDA						11-11-25				Status FOR APPROVAL NOT FOR CONSTRUCTION		A1
Issue Description						Date				Project - Drawing No. 16-369-C8158		Issue A

SEED

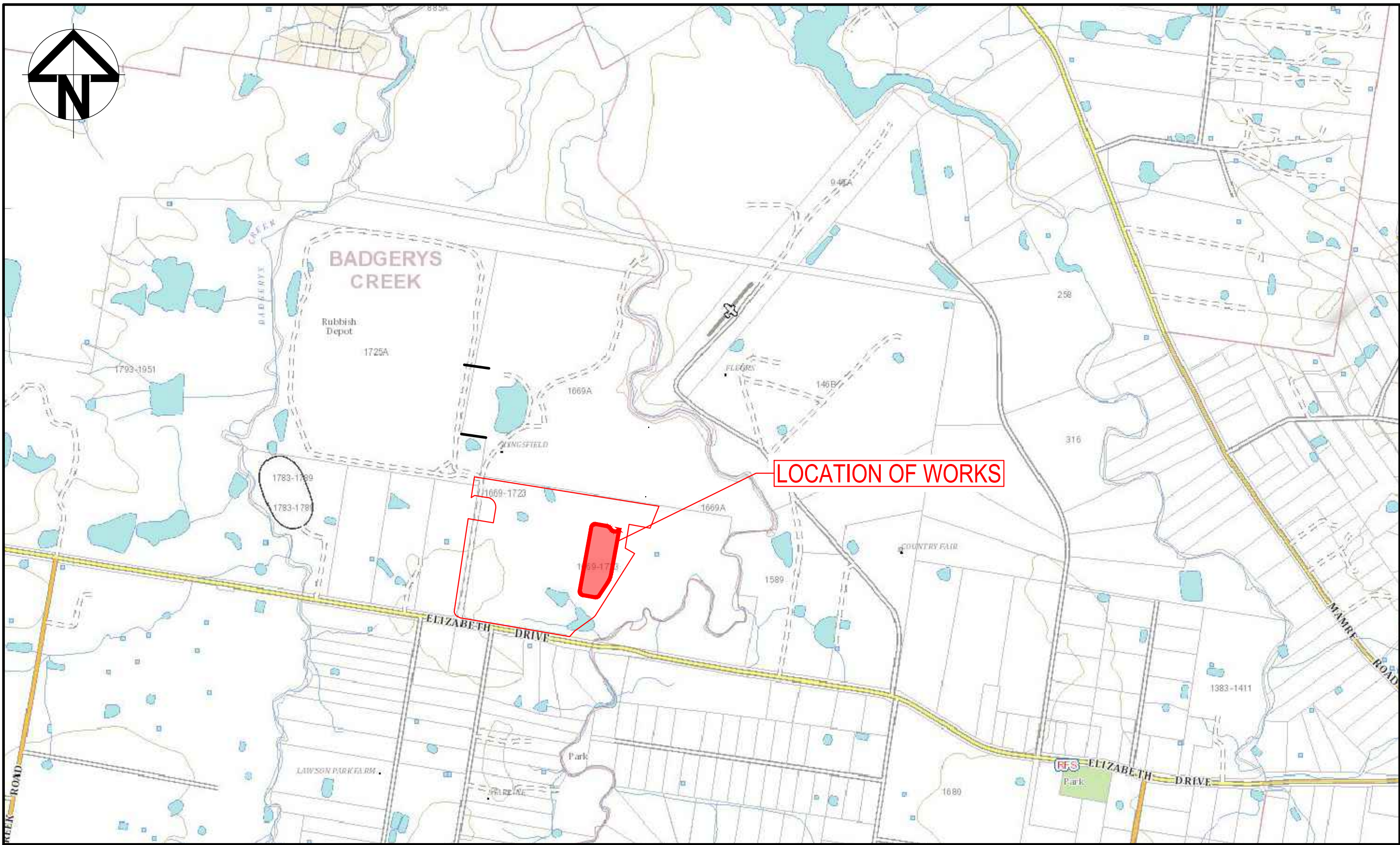
8250 SERIES - LOT 8

ONLOT CIVIL WORKS PACKAGE

STAGE 1B STATE SIGNIFICANT DEVELOPMENT

CONCEPT EROSION & SEDIMENT CONTROL PLAN

DRAWING LIST	
16-369-C8250	COVER SHEET & DRAWING LIST
16-369-C8251	NOTES AND SPECIFICATIONS SHEET 1
16-369-C8252	NOTES AND SPECIFICATIONS SHEET 2
16-369-C8253	NOTES AND SPECIFICATIONS SHEET 3
16-369-C8254	CONCEPT ESCP BULK EARTHWORKS SHEET 1
16-369-C8255	CONCEPT ESCP BULK EARTHWORKS SHEET 2
16-369-C8256	EROSION AND SEDIMENT BASIN SPECIFICATIONS
16-369-C8257	DETAILS SHEET 1
16-369-C8258	DETAILS SHEET 2
16-369-C8259	DETAILS SHEET 3



LOCALITY PLAN
NOT TO SCALE

		Bar Scales	THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client 	Scales N.T.S.	Drawn JC	Project SEED STAGE 1B SSD 8250 SERIES LOT 8 ESCP PACKAGE	Civil Engineers and Project Managers			
					Designed JC	 Level 10, 124 Walker Street North Sydney NSW 2060 P 02 9439 1777 E info@atl.net.au www.atl.net.au ABN 96 130 882 405					
					Grid MGA2020			Checked DS	Title COVER SHEET & DRAWING LIST	Status FOR APPROVAL NOT FOR CONSTRUCTION	A1
					Height Datum AHD			Approved		Project - Drawing No. 16-369-C8250	Issue A
											
A	ISSUED FOR SSDA	11-11-25									
Issue	Description	Date									

EROSION AND SEDIMENT CONTROL DESIGN

EROSION AND SEDIMENT CONTROL DESIGN

1. THE DETAILS SHOWN WITHIN THIS PLAN ARE OVER-ARCHING EROSION AND SEDIMENT CONTROL REQUIREMENTS ONLY FOR THE INITIAL STAGE OF THE BULK EARTHWORKS. AS THE WORKS PROGRESS AND SITE CONDITIONS CHANGE, THIS PLAN IS TO BE UPDATED ACCORDINGLY. SITE SPECIFIC PROGRESSIVE EROSION AND SEDIMENT CONTROL PLANS (PESCPs) WILL ALSO BE REQUIRED TO DETAIL SPECIFIC WORKS. THIS ESCP HAS BEEN PREPARED TO ACCOMPANY THE PROJECTS CEMP.
2. THIS EROSION AND SEDIMENT CONTROL PLAN (ESCP) HAS BEEN PREPARED BY A CPESC (AS CERTIFIED) IN ACCORDANCE WITH BLUE BOOK VOLUME 1(LANDCOM, 2004) AND TO MEET THE REQUIREMENTS OF THE CONSTRUCTION WSUD PRINCIPALS SET OUT IN THE DRAFT TECHNICAL GUIDANCE FOR ACHIEVING WIANAMATTA SOUTH CREEK STORMWATER MANAGEMENT TARGETS (NSW GOVERNMENT, 2022). IT DEMONSTRATES THE CONSTRUCTION APPROACH AND TIMING REQUIREMENTS FOR ACHIEVING THE CONSTRUCTION PHASE STORMWATER QUALITY TARGETS.
3. THE NSW GOVERNMENT (2022) TECHNICAL GUIDELINE (AS NOTED ABOVE) REQUIRES 80% OF THE AVERAGE ANNUAL RUNOFF VOLUME ACHIEVES 50mg/L TOTAL SUSPENDED SOLIDS (TSS) OR LESS AND PH IN THE RANGE (6.5-8.5). THE STANDARD BLUE BOOK SEDIMENT BASIN DESIGN AND OTHER STANDARD EROSION AND SEDIMENT CONTROL MEASURES ARE ESTIMATED TO ACHIEVE APPROXIMATELY 60% HYDROLOGICAL EFFECTIVENESS.THEREFORE, IN ORDER TO ACHIEVE 80% HYDROLOGICAL EFFECTIVENESS, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES ABOVE THE STANDARD BLUE BOOK DESIGN HAVE BEEN RECOMMENDED WITHIN THIS PLAN - REFER TO THE FOLLOWING INSTRUCTIONS AND NOTES AND THE PLANS ON ESCP03&04. THESE ADDITIONAL MEASURES INCLUDE:
4. SEDIMENT BASIN DESIGN TO THE 85TH PERCENTILE RAINFALL DEPTH RATHER THAN THE STANDARD 80TH PERCENTILE BLUE BOOK REQUIREMENT PROVIDING ADDITIONAL WATER STORAGE VOLUME;
5. UTILISING EXISTING DAMS AND/OR FUTURE WATER RETENTION DEVICES WHERE PRACTICABLE TO PROVIDE ADDITIONAL WATER STORAGE VOLUME AND BREAK UP CATCHMENTS;
6. ENHANCED EROSION CONTROLS (E.G. REDUCED SLOPE LENGTHS, INCREASED FOCUS ON TEMPORARY AND PROGRESSIVE STABILISATION, ADDITIONAL CHECK DAMS AND A FOCUS ON TEMPORARY DRAINAGE CONTROL);
6. PASSIVE BROADCAST GYPSUM SPREADING OVER THE ENTIRE DISTURBED CATCHMENT PRIOR TO LARGER RAINFALL EVENTS BEYOND THE SEDIMENT BASIN DESIGN TO ASSIST WITH WATER TREATMENT AND TO MINIMISE SOIL LOSS;
7. PRE-LOADING SEDIMENT BASIN, SEDIMENT TRAPS AND THEIR INLET DRAINAGE DEVICES WITH GYPSUM OR BIOPOLYMER SOCKS TO SPEED UP SETTLEMENT RATES; AND
8. REGULAR (MONTHLY) INSPECTIONS BY A CPESC TO MONITOR THE SITE CONDITIONS AND WATER QUALITY AND PROVIDE ADVICE IF CHANGES TO THE EROSION AND SEDIMENT CONTROLS ARE NECESSARY.

IF ALL OF THE PROPOSED MEASURES WITHIN THIS PLAN ARE IMPLEMENTED SUCCESSFULLY, THE TARGET WATER QUALITY OUTCOMES CAN BE ACHIEVED FOR AT LEAST 80% OF THE AVERAGE ANNUAL RUNOFF AS REQUIRED BY THE NSW GOVERNMENT (2022) TECHNICAL GUIDELINE.

DESIGN ASSUMPTIONS

1. THE IFD: 2YEAR, 6HOUR STORM INTENSITY = 9.13MM/HR (BOM).
2. THE SITE IS LOCATED ON THE BLACKTOWN SOIL LANDSCAPE (ACROSS THE MAJORITY OF THE SITE).
3. POTENTIAL LIMITATIONS TO THE SOILS/LANDSCAPES INCLUDE LOCALISED SEASONAL WATERLOGGING, LOCALISED WATER EROSION HAZARD, MODERATELY REACTIVE HIGHLY PLASTIC SUBSOILS, MODERATE SALINITY POTENTIAL, POTENTIALLY SODIC AND HIGHLY DISPERSIVE SUBSOILS, LOCALISED SURFACE MOVEMENT POTENTIAL, LOCALISED IMPERMEABLE AND LOCALISED HIGH WATER TABLES.
4. THE K-FACTOR IS BLACKTOWN SOIL LANDSCAPES OF 0.038. THIS IS THEN INCREASED BY 20% TO ACCOUNT FOR POTENTIAL DISPERSIBLE SOILS. THIS GIVES AN K-FACTOR OF 0.0456.
5. 5-DAY, 85TH %ILE RAINFALL DEPTH = 34MM - BASED ON AN AVERAGE OF THE RAINFALL DEPTHS FOR BLACKTOWN, LIVERPOOL, PENRITH AND WALLACIA PROVIDED WITHIN THE BLUE BOOK (KEMPS CREEK IS APPROXIMATELY IN THE MIDDLE OF THESE LOCATIONS).
6. VOLUMETRIC RUNOFF COEFFICIENT (C_V) = 0.64 (ASSUMING HYDROLOGIC GROUP D RUNOFF COEFFICIENT - LOW INFILTRATION, HIGH RUNOFF).
7. RUNOFF COEFFICIENT (C₁₀) = 0.9.

GENERAL INSTRUCTIONS

1. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO CONTROL EROSION AND DOWNSTREAM SEDIMENTATION DURING ALL STAGES OF CONSTRUCTION INCLUDING THE MAINTENANCE PERIOD.
2. THE EXTENT AND POSITION OF THE EROSION AND SEDIMENT CONTROL MEASURES TO BE DETERMINED ON SITE BY THE CONTRACTOR TO SUIT THE CONSTRUCTION PROGRAM.
3. THESE PLANS PRESENT CONCEPTS ONLY AND THE MEASURES SHOWN ON THIS DRAWING(S) ARE MINIMUM REQUIREMENTS ONLY.
4. THE CONTRACTOR SHALL AT ALL TIMES BE RESPONSIBLE FOR THE ESTABLISHMENT, MANAGEMENT AND MAINTENANCE OF THE EROSION AND SEDIMENT CONTROL MEASURES TO MEET COUNCIL STANDARDS.
5. LARGE OPEN AREAS OR STEEP BATTERS SHOULD NOT BE LEFT EXPOSED/UNSTABILISED FOR MORE THAN 10 DAYS OR IF WET WEATHER IS FORECAST.
6. EXPOSED AREAS INCLUDING BATTERS WHICH REMAIN UN-WORKED FOR MORE THEN 10 DAYS SHOULD BE STABILISED USING TEMPORARY HYDROMULCHING, HYDROSEEDING OR MULCHING, EVEN IF AREAS WILL BE WORKED AT A LATER TIME.
7. ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE INSTITUTION OF ENGINEERS AUSTRALIA, 'SOIL EROSION AND SEDIMENT CONTROL - ENGINEERING GUIDELINES FOR QUEENSLAND CONSTRUCTION SITES'.
8. THE CONTRACTOR SHALL BE AWARE OF ITS RESPONSIBILITIES FOR PROTECTING THE DOWNSTREAM ENVIRONMENT AND RECEIVING WATER FROM POLLUTED AREAS OF ENVIRONMENTAL HARM, UNDER THE ENVIRONMENTAL PROTECTION ACT, 1994.
9. ADDITIONALLY THE CONTRACTOR SHALL BE AWARE OF ITS DUTY TO NOTIFY THE LOCAL AUTHORITY AND THE ENVIRONMENTAL PROTECTION AGENCY OF A POTENTIAL OR ACTUAL INCIDENT OF ENVIRONMENTAL HARM.

RECOMMENDED IMPLEMENTATION SEQUENCE

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO WORKS COMMENCING AND IN THE FOLLOWING SEQUENCE:
 - a. CONSTRUCT TEMPORARY STABILISED SITE ACCESS, ENSURING ADJACENT STORMWATER RUN OFF IS DIVERTED AWAY FROM ACCESS
 - b. INSTALL SEDIMENT FENCING AND/OR BARRIER FENCING TO CONFIN EGRESS TO ACCESS FROM THE SITE TO STABED ACCESS POINT(S) ONLY.
 - c. PROVIDE INLET PROTECTION TO STORMWATER INLETS AND GULLIES ON ALL ROADS ADJOINING THE SITE.
 - d. CONSTRUCT BARRIER FENCING AROUND RESTRICTED 'NO-GO' ZONES OF RETAINED VEGETATION, AREAS NOT TO BE DISTURBED AND AREAS WHICH WILL REMAIN UN-WORKED.
 - e. CONSTRUCT UPSTREAM DIVERSION CHANNELS TO DIVERT CLEAN WATER AROUND WORKSITE, AND INSTALL APPROPRIATE CHANNEL STABILISATION.
 - f. CONSTRUCT LOW FLOW EARTH BANKS AS CATCH DRAINS PARALLEL TO COUTOURS TO LIMIT LARGE SLOPE LENGTHS (SLOPES SHOULD BE LESS THEN 80M IN LENGTH).
 - g. INSTALL ALL TEMPORARY SEDIMENT FENCES.
 - h. CONSTRUCT ANY NOMINATED SEDIMENT BARRIS AND SEDIMENT TRAPS.
 - i. STABILISE ALL DISTURBED AREAS ASAP AND PROGRESSIVELY AS WORKS ARE COMPLETED. TEMPORARY STABILISATION TO BE DONE USING MULCHING, HYDROMULCHING, HYDROSEEDING OR DIRECT SEEDING TO GIVE A 70% COVERAGE OF GROUND SURFACE WITHIN 14 DAYS OF WORKS COMPLETING (EVEN IF WORKS MAY CONTINUE LATER).
2. UNDISTURBED AREAS OF DEVELOPMENT WORKS SO THAT LAND DISTURBANCE IS CONFINED TO MINIMUM WORKABLE AREAS.
3. DISTURBED AREAS TO EXTEND NO MORE THAN 5 METRES (PREFERABLY 2 METRES) FROM ESSENTIAL WORKS AREAS.
4. WORK AREAS TO BE DELINEATED BY BARRIER FENCING AND DIVERSION CHANNEL UPSLOPE AND SEDIMENT FENCING DOWNSLOPE.
5. THE CONTRACTOR SHALL ENSURE THAT THE EXISTING VEGETATION AND GROUND COVER IS RETAINED AS MUCH AS POSSIBLE.
6. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR LATER USE ONSITE.
7. SITE VEGETATION APPROVED FOR CLEARING SHOULD BE MULCHED AND STOCKPILED FOR LATER USE IN LANDSCAPING, STABILISATION AND SITE REHABILITATION WORKS.
8. AT ALL TIMES THE CONTRACTOR SHALL MONITOR THE PREVAILING WEATHER CONDITIONS AND PROTECT ANY DOWNSTREAM CONSTRUCTION AND RECEIVING ENVIRONMENTS.
9. EROSION AND SEDIMENT CONTROL PROTECTION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONTRACT.
10. PLANS AND CONTROL MEASURES FOR LARGE SITES WILL NEED TO BE REVISED AND UPDATED TO REFLECT THE SITE STAGES AND PROGRESSION OF WORKS.
11. MEASURES INCLUDING SEDIMENT FENCES SHOULD BE MOVED AND REINSTATED AS WORKS PROGRESS.
12. FOOT AND VEHICULAR TRAFFIC TO BE RESTRICTED IN RECENTLY STABILISED AREAS INCLUDING THOSE HYDROSEEDED, TURFED OR SEEDED.

DUST CONTROL

1. DURING WINDY AND DRY WEATHER ANY UNPROTECTED AREAS SHALL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL. WHERE WATER IS NOT AVAILABLE IN SUFFICIENT QUANTITIES, SOIL BINDERS OR DUST RETARDANTS TO BE USED FOR DUST SUPPRESSION.
2. EXPOSED SURFACES INCLUDING BATTERS SHOULD BE LEFT ROUGH TO REDUCE WIND SPEEDS AND POTENTIAL FOR WIND EROSION.
3. USE OPEN WEAVE BARRIER FENCING ON WINDWARD SIDE OF SITE IF REQUIRED. FENCING IS GENERALLY REQUIRED WHERE AREA OF DISTURBANCE IS >5000m².

CONTROL MEASURES

1. FINAL SITE LANDSCAPING SHALL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS OF CONSTRUCTION COMPLETION
2. SEDIMENT LADEN WATER SHALL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM BY USING INLET PROTECTION.
3. ALL PERIMETER BANKS AND CHANNEL DRAINS SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
4. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED ONCE SITE IS STABILISED AND UPSTREAM WORKS HAVE BEEN COMPLETED.
5. AT CONSTRUCTION COMPLETION ALL TEMPORARY EARTH STRUCTURES INCLUDING SOIL STOCKPILES ARE TO BE TRACK ROLLED AND SEEDED. THE CONTRACTOR IS TO ENSURE A 70% COVERAGE WITHIN 14 DAYS.

OTHER MATTERS

1. ACCEPTABLE RECEPTORS AND DISPOSAL PRACTICES WILL BE USED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHERS, LITTER AND GENERAL WASTE MATERIALS.
2. ANY EXISTING TREES WHICH ARE NOT REQUIRED OR APPROVED TO BE CLEARED FOR THE WORKS AND/OR FORM PART OF THE FINAL LANDSCAPING PLAN SHOULD BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
 - a. PROTECTING THEM WITH BARRIER FENCING OR MARKERS.
 - b. ENSURING NOTHING IS NAILED TO THEM
 - c. PROHIBITING PAVING, GRADING OR PLACING OF STOCKPILES WITHIN Drip LINE.
3. ALL VEHICLE AND EQUIPMENT WASHING SHOULD BE CONTAINED IN SPECIFIC BUNDED AREAS, DISCONNECTED FROM CONCENTRATED FLOW PATHS AND THE STORMWATER SYSTEM.
4. ANY NECESSARY VEHICLE OR EQUIPMENT REFUELLING SHOULD BE UNDERTAKEN AWAY FROM CONCENTRATED FLOW PATHS AND PREFERABLY WITHIN A BUNDED AREA.
5. ANY ONSITE FUEL STORAGE AREAS SHOULD BE COVERED AND BUNDED.

MAINTENANCE OF PUBLIC ROADS

1. ALL CONSTRUCTION VEHICLES DEPARTING FROM THE SITE SHALL HAVE THEIR TYRES WASHED DOWN OR SEDIMENT REMOVED BY A STABILISED SITE ACCESS DEVICE.
2. THE STABILISED SITE ACCESS AREAS SHALL BE LOCATED SUCH THAT SILTED WATER IS FILTERED THROUGH A SUITABLE SEDIMENT TRAP (SUCH AS A SEDIMENT FENCE) INSTALLED DOWNSTREAM OF ACCESS.
3. THE CONTRACTOR SHALL INSPECT THE PUBLIC ROADS ADJACENT TO THE SITE DAILY AND MANUALLY REMOVE ANY SEDIMENT DEPOSITS (BY SWEEPING NOT WASH DOWN).

SITE INSPECTION AND MAINTENANCE

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED REGULARLY, IMMEDIATELY BEFORE SITE CLOSURE, PRIOR TO PREDICTED LARGE STORM EVENTS AND AFTER EVERY SIGNIFICANT (>5MM) RAINFALL EVENT OR AT LEAST ON A WEEKLY BASIS.
2. THE CONTRACTOR WILL AS A MINIMUM CONDUCT EACH INSPECTION IN LINE WITH THE FOLLOWING
 - a. RECORD TYPE OF DEVICE/CONTROL MEASURE BEING INSPECTED AND ITS LOCATION;
 - b. RECORD THE CONDITION OF EVERY CONTROL MEASURE;
 - c. RECORD MAINTENANCE REQUIREMENTS FOR EVERY CONTROL DEVICE;
 - d. RECORD SEDIMENT VOLUMES REMOVED FROM SEDIMENT TRAPPING DEVICES;
 - e. RECORD DETAILS OF SEDIMENT BASIN TREATMENT, FLOCCULANT DOSAGE AND CLEANOUT;
 - f. RECORD SEDIMENT DISPOSAL PROCEDURES AND LOCATION.
3. REPAIRS AND MAINTENANCE OF ALL DEVICES AND MEASURES INCLUDING DIVERSION CHANNELS SHALL BE UNDERTAKEN AS REQUIRED, ENSURING ALL MEASURES ARE FULLY FUNCTIONAL AT ALL TIMES.
4. ENSURE SEDIMENT LADEN WATER HAS NOT BEEN DIVERTED AROUND DEVICES.
5. REPAIR SCOUR DAMAGE TO SEDIMENT CONTROL MEASURES AFTER RAINFALL EVENTS AND REINSTATE DEVICES AS NECESSARY.
6. SEDIMENT FENCES WILL REQUIRE CLEANING WHEN SEDIMENT REACHES 300MM DEPTH OR ONE-HALF THE HEIGHT OF THE FILTER FABRIC AND ALL OTHER SEDIMENT TRAPS WILL REQUIRE CLEANING OUT WHEN 30% OF DESIGN CAPACITY IS REACHED.
7. ALL INLET AND GULLY TRAPS TO BE CLEANED NOT HOSED AFTER EVERY RAINFALL EVENT, (15-mm) OR AT LEAST ON A WEEKLY BASIS.
8. SEDIMENT DEVICES AND GULLY TRAPPING DEVICES TO BE RELOCATED, ENSURING FURTHER POLLUTION TO DOWNSTREAM ENVIRONMENTS WILL NOT OCCUR.
9. ALL SEEDING, HYDROSEEDING AND TURFING REQUIRES REGULAR WATERING, UNTIL EFFECTIVE COVER ESTABLISHED AND PLANTS ARE GROWING VIGOROUSLY. WATERING SHOULD VARY DEPENDING ON WEATHER AND SOIL CONDITIONS.
10. WATERING SHOULD START IMMEDIATELY AFTER PLANTING AND SHOULD COMPLY WITH THE FOLLOWING AS A MINIMUM:

WEEK 1	3 WATERINGS/WEEK
WEEK 2-6	2 WATERINGS/WEEK
WEEK 7-12	1 WATERING/WEEK
11. EXCESSIVE VEGETATION GROWTH WILL BE CONTROLLED THROUGH MOWING OR SLASHING.
12. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE INSPECTION, MAINTENANCE AND TESTING OF DEVICES IS UNDERTAKEN ON SITE.
13. THE CONTRACTOR TO KEEP DETAILED AND LEGIBLE RECORDS OF ALL INSPECTION AND MAINTENANCE UNDERTAKEN ON THE EROSION AND SEDIMENT CONTROL DEVICES.
14. ALL SITE WASTE INCLUDING GENERAL RUBBISH IS TO BE DISPOSED OF IN AN ENVIRONMENTALLY RESPONSIBLE MANNER IN ACCORDANCE WITH THE ENVIRONMENTAL PROTECTION (WASTE MANAGEMENT) POLICY 2000 AND ENVIRONMENTAL PROTECTION (WASTE MANAGEMENT) REGULATION 2000.
15. THE CONTRACTOR SHALL CONSTRUCT AND IMPLEMENT ADDITIONAL MEASURES AS NECESSARY TO ENSURE PROTECTION OF DOWNSTREAM ENVIRONMENTS.

SOIL STRIPPING AND STOCKPILING

1. IDEALLY, STRIP TOPSOIL WHEN IT IS MOIST, NOT TOO WET OR TOO DRY.
2. TAKE CARE WHEN STRIPPING TOPSOIL NOT TO STRIP SUBSOIL WITH THE TOPSOIL PROFILE. TOPSOIL AND SUBSEILS SHOULD BE MANAGED SEPARATELY.
3. WHEREVER POSSIBLE, STOCKPILES ARE TO BE ESTABLISHED AND MAINTAINED IN ACCORDANCE WITH STANDARD DRAWING SD 4-1 (LANDCOM, 2004).
4. AS MUCH AS IS FEASIBLE, MULCHED VEGETATION, TOPSOIL AND SUBSOIL (IF APPLICABLE) ARE TO BE STOCKPILED SEPARATELY.
5. SEDIMENT FENCING IS TO BE INSTALLED AROUND THE LOWER EDGE OF STOCKPILES AS PER STANDARD DRAWING SD 4-1, UNLESS THE STOCKPILE IS IMMEDIATELY ADJACENT TO A SUITABLE ALTERNATIVE CONTROL SUCH AS A SEDIMENT BASIN. A DIVERSION DRAIN/BUND IS TO BE INSTALLED ON THE HIGH SIDE OF STOCKPILES IF RUN-ON FROM UPSLOPE LANDS COULD IMPACT ON THE STOCKPILE.
6. STOCKPILES ARE NOT TO BE POSITIONED WITHIN 5M OF POSSIBLE CONCENTRATED WATER FLOW (INCLUDES ROAD GUTTERS AND TABLE DRAINS).
7. STOCKPILES ARE TO BE SITED AT LEAST 50M FROM ANY WATERCOURSE, NATURAL DRAINAGE LINE OR CREEK AND AT LEAST 2M FROM ANY TREES TO BE RETAINED.
8. STOCKPILES WILL NOT BE LOCATED ON FLOOD PRONE LANDS BELOW THE 2 YEAR FLOOD LEVEL.
9. STOCKPILES WILL BE POSITIONED WITHIN THE APPROVED PROJECT CONSTRUCTION BOUNDARY AND AWAY FROM PROTECTED AREAS (E.G. NATIVE VEGETATION).
10. INACTIVE STOCKPILE FACES ARE TO BE PROVIDED WITH AT LEAST 60% COVER (I.E. RUSLE C-FACTOR OF 0.1) WITHIN 10 DAYS OF FORMATION. STABILISATION OF STOCKPILES CAN BE ACHIEVED BY SEEDING AND SPRAYING WITH A SOIL STABILISER (E.G. VITAL P47), COVERING WITH GEOTEXTILE OR MATTING OR EQUIVALENT (NOTE SEEDING IS NOT REQUIRED FOR STOCKPILES IF THEY WILL BE IN PLACE FOR LESS THAN 3 MONTHS OR IF THEY HAVE AN EXISTING SEEDBANK), STOCKPILES OF TOPSOIL OR MULCH SHOULD BE CONSTRUCTED TO NO MORE THAN 2 METERS IN HEIGHT WHEREVER POSSIBLE (NOTE THIS ONLY APPLIES TO TOPSOIL AND MULCH).
11. STOCKPILES SHOULD BE FORMED TO BE NO STEEPER THAN 2:1 (H:V) WHEREVER POSSIBLE.

DUST SUPPRESSION

1. DUST SUPPRESSION IS TO BE CARRIED OUT WHENEVER NECESSARY TO MINIMISE SEDIMENT BECOMING AIR BORNE DUE TO WIND EROSION.
2. AN APPROPRIATE WATER SOURCE FOR DUST SUPPRESSION AND/OR DUST SUPPRESSANT MANAGEMENT SYSTEM MUST BE IDENTIFIED PRIOR TO STARTING CONSTRUCTION WORKS.
3. ENSURE DUST SUPPRESSION IS CARRIED OUT IN A MANNER TO AVOID WATER RUNOFF, EROSION OR PONDING ON SURFACES (I.E. APPLY IN A GENTLE MANNER AT APPROPRIATE RATES AND MONITOR REGULARLY).
4. TEMPORARY STABILISERS (E.G. VITAL BON-MATT P47), GEOTEXTILE, JUTE MATTING OR EQUIVALENT CAN BE USED IN NON-TRAFFICKED AREAS TO ASSIST WITH DUST CONTROL.

STABILISATION

1. UNDERTAKE PROGRESSIVE STABILISATION OF DISTURBED GROUND SURFACES AS THEY ARE COMPLETED RATHER THAN AT THE END OF THE WORKS PROGRAM (REFER TO TABLES 1AND 2).
2. FINAL STABILISATION IS TO ACHIEVE THE C-FACTORS (GROUND COVER) DETAILED IN TABLES 1AND 2.
3. FINAL REHABILITATION IS TO BE IN ACCORDANCE WITH THE LANDSCAPING/REHABILITATION PLANS.
4. AREAS TO BE REVEGETATED ARE TO BE TOPSOILED FIRST. TOPSOIL IS TO BE SPREAD, EVENLY TO AT LEAST 75MM. REFER TO STANDARD DRAWING (SD 4-2) FOR INSTRUCTIONS REGARDING TOPSOIL REPLACEMENT.
5. TOPSOIL IS TO BE TESTED PRIOR TO REVEGETATION TO CONFIRM TREATMENT (ANALYSE/ION/ FERTILISATION REQUIREMENTS INCLUDING TESTING FOR DISPERSION, PH, TRACE NUTRIENTS, EC AND CEC).
6. APPROPRIATE SEEDBED PREPARATION SHOULD BE CARRIED OUT WHEN REVEGETATING LANDS (SEE STANDARD DRAWINGS (SD 7-1).
7. AS MUCH AS POSSIBLE, AVOID HANDLING TOPSOILS WHEN THEY ARE TOO WET OR TOO DRY. THIS HELPS PRESERVE SOIL STRUCTURE.
8. AVOID BLENDING FRESH MULCH WITH TOPSOIL, AS THIS LEADS TO DE-NITRIFICATION.
9. TO HELP PRESERVE SOIL STRUCTURE, AVOID EXCESSIVE COMPACTION OF TOPSOILS.
10. GYPSUM SHOULD BE APPLIED TO SUBSOILS (AS CLAY BREAKER) AT AROUND 0.5kg/m² FOR GENERAL SURFACES AND BATTERS. RATES TO BE CONFIRMED PRIOR TO REVEGETATION WITH SOIL TESTING.
11. ALL FLOW AREA SUBSOILS (DRAINAGE LINES, WATERWAYS, DIVERSION DRAINS, CHANNELS, BASINS) SHOULD BE GYPSUM TREATED AT A RATE OF 1.5kg/m².
12. TOPSOILS SHOULD BE AMELIORATED WITH LIME TO ADJUST PH IF FIELD TESTING SHOWS pH IS BELOW 6.
13. TOPSOILS WOULD MOST LIKELY BENEFIT FROM AN APPLICATION OF NPK FERTILIZER PLUS TRACE ELEMENTS (S, CA AND MO). SOIL TESTING PRIOR TO RE-SPREADING CAN CONFIRM THE APPROPRIATE RATE.
14. PERMANENT DRAINS ARE TO BE STABILISED IN ACCORDANCE WITH ENGINEERING DESIGN BUT MUST ACHIEVE THE C-FACTORS (GROUND COVER) DETAILED IN TABLE 1. SOIL TESTING OF SUBSOILS AND TOPSOILS IS TO BE UNDERTAKING TO POTENTIAL. SOIL TREATMENT/STABILISATION REQUIREMENTS.
15. TEMPORARY DIVERSION DRAINS/BUNDS ARE TO BE STABILISED TO ACHIEVE THE C-FACTORS AS DETAILED IN TABLES 1 AND 2. USING SEEDING + VITAL RAY + JUTE MESH/MATTING OR ALTERNATIVELY GEOTEXTILE FABRIC, ROCK OR TRM. SUBSOILS ARE TO BE TREATED FIRST BY LIGHTLY RIPPING GYPSUM INTO THE SURFACE AT A RATE OF APPROX. 1.5kg/m². REFER TO THE PLANS FOR SPECIFIC DETAILS. ALSO REFER TO STANDARD DRAWINGS (SD 5-6 AND SD 5-7).
16. REFER TO THE 'SOIL STRIPPING AND STOCKPILING' NOTES FOR STABILISATION REQUIREMENTS ON STOCKPILES. ALSO REFER TO TABLES 1AND 2 AND STANDARD DRAWING (SD 4-1).
17. SEDIMENT BASIN INLETS/OUTLETS ARE TO BE STABILISED IN ACCORDANCE WITH PERMANENT ENGINEERING DESIGN (WHERE APPLICABLE) OR WITH GEOTEXTILE UNDERLAY AND ROCK IN ACCORDANCE WITH RECOMMENDATIONS FOR "HIGH FLOW AREAS ON TABLE 1 AND AS DETAILED ON THE PLAN.
18. HIGHLY TRAFFICKED AREAS SUCH AS LAYDOWN/STORAGE AREAS, HAUL ROADS/ACCESS TRACKS AND SITE COMPOUNDS WILL BE FORMED IN ACCORDANCE WITH ENGINEERING SPECIFICATIONS AND STABILISED WHERE NECESSARY AND AS MUCH AS PRACTICABLE TO MINIMISE EROSION AND PROVIDE A TRAFFICABLE SURFACE. STABILISATION OF THESE AREAS WILL BE ACHIEVED WITH SUITABLE TRAFFICABLE MATERIALS (E.G. WITH HEAVY BOUND DGB (CEMENT STABILISED), AGGREGATE, CRUSHED ROCK, ROAD BASE OR A HEAVY DUTY TRAFFICABLE SOIL. STABILISER) AND RE-GRADING/RE-SURFACING AS NECESSARY.
19. AS SURFACES ARE STABILISED (AT LEAST 90% OF ANY FINISHED AREA HAS AT LEAST 70% GROUND COVER) AND PERMANENT DRAINAGE MEASURES ARE INSTALLED, TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AND WATER MANAGEMENT STRUCTURES CAN BE REMOVED (E.G. DIVERSION DRAINS).
20. TEMPORARY STABILISATION OF EXPOSED SURFACES ON HIGH RISK AREAS (I.E. STEEP SLOPES >5%), BATTERS, SURFACES NOT DRAINING TO SEDIMENT
21. SURFACES NOT DRAINING TO SEDIMENT BASINS AND WORKS (INNER WATERWAYS) WILL BE UNDERTAKEN PRIOR TO RAINFALL IN ACCORDANCE WITH THE RAINFALL PREPARATION PROCEDURE' NOTES AND THE INSTRUCTIONS ON THE PLAN.
22. ALL EXPOSED LANDS WHERE WORKS ARE NOT ACTIVELY OCCURRING (FOR 20 DAYS OR MORE) ARE TO BE TEMPORARILY STABILISED WITH A TEMPORARY GROUND COVER (I.E. A SOIL BINDER (E.G. VITAL, STONEWALL), MATTING, GEOBARRIER OR EQUIVALENT).
23. WHEREVER POSSIBLE, RE-USE CLEARMULCHED VEGETATION FOR EITHER TEMPORARY OR PERMANENT STABILISATION OF DISTURBED AREAS.

[illegible]

SEDIMENT BASINS

1. IN ACCORDANCE WITH PLANNING POLICY APPLICABLE AT THE SITE, ALL SEDIMENT BASINS ARE TO BE DESIGNED, CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH IECA "BEST PRACTICE EROSION AND SEDIMENT CONTROL- APPENDIX B - SEDIMENT BASIN DESIGN AND OPERATION" (JUNE 2018) WHICH REQUIRES ALL BASINS TO BE CONTINUOUS FLOW TYPE A OR B BASINS WITH AUTOMATED CHEMICAL DOSING, NOT TRADITIONAL TYPE D/F UNLESS SITE CONSTRAINTS DICTATE.
2. THE CONTRACTOR SHALL KEEP DETAILED AND ACCURATE RECORDS OF THE MONITORING, TREATMENT, TESTING AND MAINTENANCE OF THE SEDIMENT BASIN INCLUDING RECORDED RAINFALL VOLUME, FLOCCULATING AGENTS USED.
3. ALL CHEMICAL DOSING AND WATER TESTING TO BE UNDERTAKEN BY A SUITABLY QUALIFIED PERSON.
4. ALL LABORATORY TESTING TO BE UNDERTAKEN BY A NATA ACCREDITED LABORATORY.
5. ALL WATER PUMPED FROM THE SEDIMENT BASIN SHALL BE TESTED FOR ENVIRONMENTAL COMPLIANCE AGAINST THE RELEASE CRITERIA IN THE TABLE BELOW (AS A MINIMUM), UNLESS ALTERNATIVE (MORE STRINGENT) STANDARDS ARE SPECIFIED BY THE LOCAL AUTHORITY PRIOR TO RELEASE

PARAMETER	RELEASE CRITERIA
SUSPENDED SOLIDS	50mg/l MAX
pH	WITHIN RANGE 6.5-8.5
VISUAL AMENITY	NO VISUAL PLUME

6. WATER TESTING TO BE UNDERTAKEN USING EITHER A HANDHELD PH/TURBIDITY METER OR SAMPLES COLLECTED FOR LABORATORY TESTING PRIOR TO ANY MANUAL BASIN DEWATERING.
7. THE TREATED BASIN SHALL BE DEWATERED WITH A PUMP SYSTEM WITH A FLOATING INLET TO ENSURE SETTLED SEDIMENT IS NOT ENTRAINED AND DISCHARGED.
8. COMPLETE BASIN DEWATERING SHALL OCCUR WITHIN 5 DAYS FROM CONCLUSION OF RAINFALL EVENT.
9. SEDIMENT BASINS WILL REQUIRE DEWATERING AND SEDIMENT CLEANOUT ONCE STORAGE CAPACITY REACHES 70%.
10. CAPTURED SEDIMENT WILL BE DISPOSED OF IN AN ENVIRONMENTALLY RESPONSIBLE MANNER AS TO NOT CAUSE FURTHER CONTAMINATION OR DOWNSTREAM POLLUTION. SEDIMENT SHOULD NOT BE DISPOSED OF IN CONCENTRATED FLOWS, WHERE IT CAN BE RE-ENTRAINED OR WHERE THE RECEIVING WATER HAS A PH OF < 5.5.
11. THE BASIN AND ALL OTHER CONTROL DEVICES WILL BE MAINTAINED IN AN OPERATIONAL STATE UNTIL SITE STABILISED.
12. REPAIR ANY SCOUR DAMAGE TO THE SEDIMENT BASIN BATTERS AND EMERGENCY SPILLWAY FOLLOWING RAINFALL EVENTS.
13. SEDIMENT BASIN SHOULD NOT BE CONSTRUCTED WITH SMOOTH INTERNAL SLOPES AND BASIN BATTERS SHOULD NOT BE STEEPER THAN 3(H):1(V).
14. BASINS SHOULD BE APPROPRIATELY FENCED AND MARKED BY WARNING SIGNS IF UNSUPERVISED PUBLIC ACCESS IS LIKELY AND PUBLIC SAFETY IS AT RISK.
15. ALL INLET CHUTES TO BE FORMED FROM DUMPED ROCK PLACED OVER GEOTEXTILE LINER (BIDIM A34 OR EQUIVALENT). ROCK USED TO BE CRUSHED, CLEAN, HARD DURABLE AND MINIMUM AVERAGE SIZE (d₅₀)=150mm

DRAIN/BUND STABILISATION AND LINING

SOIL PREPERATION PRIOR TO LINING DRAINS:

- GYPSUM SHALLOW/LIGHTLY RIPPED INTO SUBGRADE AT A RATE OF 500g/m² (eg: RIP IN USING GRADER OR EXCAVATOR BUCKET TINES (TEETH).
- PLACE TOPSOIL OVER ENTIRE DRAIN SURFACE TO A MINIMUM DEPTH OF 75mm. (SOIL PREPARATION ALSO APPLIES TO TEMPORARY DRAINS IN PLACE FOR <6 MONTHS)

DRAIN LINING:

- SEEDING + VITAL P47 (OR VITAL STONEWALL) + JUTE MATTING.
- (VITAL P47/ STONEWALL TO BE APPLIED AT A MAXIMUM DILUTION OF 1:10 (VITAL WATER).
- SEEDING TO BE A COMBINATION OF A COVER CROP (eg: RYE GRASS FOR WINTER MONTHS / JAPANESE MILLET FOR SUMMER MONTHS) AND A SUITABLE PERRENNIAL (LONG TERM) LOCAL NATIVE GRASS MIX.

WATERING:

- REGULAR WATERING REQUIRED WHERE RAINFALL IS INSUFFICIENT.
- ENSURE WATER IS APPLIED GENTLY (NOT WITH A PRESSURE SPRAY).
- ENSURE OVERWATERING DOES NOT OCCUR AND IS MINIMISED TO ONLY WHAT IS NECESSARY FOR PLANTS TO THRIVE.

LINING OF TEMPORARY DRAINS (IN PLACE FOR <6 MONTHS:

- LINE WITH GEOTEXTILE (BIDIM A24 MIN. EQUIVALENT).

GENERAL REQUIREMENTS

DIRTY WATER TREATMENT AND DISCHARGE REQUIREMENTS

THE DEVELOPMENT MUST COMPLY WITH SECTION 120 OF THE POE/Q ACT WHICH PROHIBITS THE POLLUTION OF WATERS, EXCEPT AS EXPRESSLY PROVIDED FOR IN AN EPL. THE FOLLOWING REQUIREMENTS ARE TO BE ADHERED TO TO ENSURE THIS:

WATER ACCUMULATING IN SEDIMENT BASINS, TRAPS, EXCAVATIONS OR IN ANY OTHER LOW POINTS ONSITE CAN EITHER BE:

- RE-USED FOR DUST SUPPRESSION OR CONSTRUCTION PURPOSES; OR
- TREATED (IF REQUIRED) AND TESTED IN SITY, THEN RELEASED OFF SITE ONCE IT MEETS THE REQUIRED WATER QUALITY DISCHARGE CRITERIA (SEE BELOW); OR
- PUMPED INTO A TANK, TRUCK OR OTHER HOLDING AREA FOR LATER TREATMENT; OR
- SPREAD OUT AND INFILTRATED ONTO WELL VEGETATED LANDS WITHIN THE SITE BOUNDARY AT LEAST 50m AWAY FROM ANY WATERWAY, SWALE OR DRAINAGE LINE. ENSURE WATER IS APPLIED SLOWLY AND IN A MANNER TO AVOID CONCENTRATED SURFACE RUNOFF AND/OR EROSION.
- ANY ACTIVE DISCHARGE OF WATER FROM THE PROJECT (I.E. WHERE WATER IS MOVED OFFSITE VIA DIRECT ACTION SUCH AS PUMPING RATHER THAN FLOWING OFF THE PROJECT AS A RESULT OF HEAVY RAINFALL) IS TO ACHIEVE:
 - [I 50MG/L OR LESS TSS (TOTAL SUSPENDED SEDIMENT); AND
 - PH 6.5 TO 8.5; AND
 - <10MG/L OIL AND GREASE AND NO VISIBLE TRACE.
- ADEQUATE WATER QUALITY CAN BE ACHIEVED BY USING GYPSUM AT A RATE OF APPROXIMATELY 30 KG/100 M3 OF STORMWATER. ALTERNATIVE FLOCCULATING AGENTS CAN ONLY BE USED IF THEY DO NOT CAUSE ENVIRONMENTAL HARM WHEN DISCHARGED. REFER TO MANUFACTURERS GUIDELINES FOR DOSAGE DETAILS.
- SPREAD THE TREATMENT AGENT EVENLY OVER THE ENTIRE POND SURFACE FOR PROPER TREATMENT OF WATER.
- THESE DE-WATERING REQUIREMENTS APPLY TO DIRTY WATER ACCUMULATING IN ANY SORT OF EXCAVATION, SUMP, OR OTHER PONDED WATER BODY ON THE PROJECT.
- IF THE WATER IS GOING TO BE USED WITHIN THE CONSTRUCTION SITE FOR DUST-SUPPRESSION OR CONSTRUCTION
- PURPOSES AND WILL DRAIN BACK INTO THE SEDIMENT CAPTURE SYSTEM IT DOES NOT REQUIRE TREATMENT.

RAINFALL PREPARATION PROCEDURE

- THE WEATHER FORECAST IS TO BE MONITORED REGULARLY (AT LEAST DAILY AND HOURLY WHEN RAINFALL IS IMMINENT)BY THE SITE ENVIRONMENTAL MANAGER (OR THEIR REPRESENTATIVE).
- PRIOR TO FORECAST RAINFALL (> 70% CHANCE OF 5MM OR MORE OVER 24 HOURS) AND SITE CLOSURE OF MORE THAN 2 DAYS, THE FOLLOWING WILL OCCUR:
- THE SITE ENVIRONMENT MANAGER (OR THEIR REPRESENTATIVE) IS TO INSPECT THE CONDITION OF ALL EROSION AND SEDIMENT CONTROLS AND ACTION ANY URGENT REPAIR, MAINTENANCE OR IMPROVEMENT THEY ARE TO KEEP A RECORD ALL FINDINGS (INCLUDING DETAILS OF ACTIONS AND THEIR CLOSE OUTS).
- SLOPE BREAKS/CONTOUR BERMS WILL BE PUSHED UP OR CUT IN ACROSS LARGE, EXPOSED AREAS FO SLOW DOWN FLOWS AND MINIMISE EROSION. SLOPE LENGTHS ARE TO BE RESTRICTED TO 40M INTERVALS ACROSS ALL EXPOSED SURFACES PRIOR TO AND DURING RAINFALL. DIVERSION BUNDS/DRAINS, LOW FLOW EARTH BANKS (STANDARD DRAWING SD 5-5) OR SANDBAGS/EQUIVALENT SHOULD BE INSTALLED PRIOR TO RAINFALL EVENT TO ACHIEVE THIS WHERE REQUIRED. NOTE THAT SLOPE B BREAKS/CONTOUR BERMS ARE NOT REQUIRED TO BE IN PLACE DURING ACTIVE CONSTRUCTION WORKS WHEN RAINFALL IS NOT FORECAST/OCCURRING. LOCATIONS OF SLOPE BREAKS FOR THE INITIAL EARTHWORKS ARE SHOWN. HOWEVER, AS WORKS PROGRESS LOCATIONS FOR SLOPES BREAKS WILL CHANGE AND THESE ARE TO BE UPDATED ON PROGRESSIVE ESCPS.
- TEMPORARY DIVERSIONS AROUND CULVERT WORKS ARE TO BE INSTALLED TO TAKE UPSLOPE CLEAN WATER FLOWS AROUND/THROUGH THE WORKS - REFER TO THE PLANS AND TO FOR SPECIFIC INSTRUCTIONS.
- ALL EXPOSED SURFACES OF HIGH RISK AREAS (I.E. STEEP SLOPES (5%), BATTERS, SURFACES NOT DRAINING TO SEDIMENT BASINS AND WORKS IN/NEAR WATERWAYS AND FLOW AREAS) WILL BE STABILISED WITH TEMPORARY GROUND COVERS LIE. VITAL P47/STONEWALL, GEOTEXTILE OR BLACK PLASTIC (SECURELY PINNED OR EQUIVALENT).
- CHECK DAMS ARE TO BE PROVIDED WITHIN ALL DRAINAGE DEVICES INCLUDING ROADSIDE TABLE DRAINS AT 40m INTERVALS.
- PRIOR TO FORECAST HIGH RAINFALL (> 70% CHANCE OF 10mm OR MORE OVER 24 HOURS) AND SITE CLOSURE OF MORE THAN 2 DAYS, THE FOLLOWING WILL OCCUR IN ADDITION TO THE ABOVE:
- WINDROWS/BUNDS ARE TO BE PROVIDED ALONG THE TOP EDGE OF FILL BATTERS TO PROTECT FILL BATTERS. LOCATIONS AND DETAILS ARE TO BE CONFIRMED ONSITE AS WORKS PROGRESS AND DOCUMENTED ON SITE SPECIFIC PROGRESSIVE ESCPS. THEY ARE NOT REQUIRED FOR INITIAL STRIPPING WORKS. THEY ARE TO BE FORMED AS COMPACTED EARTH BERMS (MIN. 600MM HIGH) ALONG THE TOP EDGE OF FILL PLATFORMS PRIOR TO RAINFALL AND SITE CLOSURE (2 DAYS). THEY ARE NOT REQUIRED DURING DRY WEATHER. ADDITIONAL WINDROWS AND GEOFABRIC LINED BATTER CHUTES AT REGULAR INTERVALS MAY NEED TO BE PROVIDED AS THE WORKS PROGRESS - LOCATIONS AND DETAILS ARE TO BE PROVIDED ON SITE SPECIFIC PROGRESSIVE ESCPS.
- PRIOR TO FORECAST RAINFALL (~70% CHANCE OF 34MM OR MORE OVER A 5 DAY PERIOD) AND SITE CLOSURE OF MORE THAN 2 DAYS, THE FOLLOWING WILL OCCUR IN ADDITION TO THE ABOVE:
- GYPSUM WILL BE SPREAD/DUSTED EVENLY OVER ALL EXPOSED SOIL SURFACES.
- SEDIMENT BASIN AND SEDIMENT TRAP INLET POINTS WILL BE PRELOADED WITH GYPSUM.
- MAJOR DIRTY WATER DIVERSION DRAINS WILL HAVE GYPSUM, BIOPOLYMER GEL SOCKS (OR EQUIVALENT) PLACED WITHIN THEM OR REPLENISHED AT 80M INTERVALS (IF NOT ALREADY IN PLACE).

GENERAL REQUIREMENTS

SALINITY CONSIDERATIONS

TO MINIMISE THE RISK OF SALINITY OCCURRING DURING THE CONSTRUCTION PHASE OF WORKS THE FOLLOWING MEASURES ARE TO BE IMPLEMENTED:

- TOPSOIL IS TO BE TESTED PRIOR TO REVEGETATION TO CONFIRM TREATMENT REQUIREMENTS.
- ENSURE TOPSOIL IS SPREAD OVER AREAS TO BE REVEGETATED TO AT LEAST 75MM.
- WATERING OF NEWLY REVEGETATED AREAS IS FO BE MINIMISED FO ONLY WHAT IS NECESSARY FOR PLANTS TO THRIVE. AVOID OVER-WATERING WHICH COULD EXACERBATE CATCHMENT SALINITY.
- THE FLOOR AND WALLS OF EACH SEDIMENT BASIN IS TO BE WELL COMPACTED TO MINIMISE INFILTRATION.
- SWALE/DIVERSION DRAINS ARE TO BE GYPSUM-DUSTED AND LINED WITH MATTING AS NOTED TO PROMOTE FLOW AND REDUCE PONDING AND EROSION.
- AVOID PONDING WATER ACROSS THE SITE IN AREAS WHERE SHALE OR CLAY FILL MATERIALS HAVE BEEN PLACED.
- REHABILITATION AND REVEGETATION OF COMPLETED EARTHWORKS IS TO BE UNDERTAKEN PROGRESSIVELY AS EACH AREA IS FINISHED.

THE ABOVE LIST OUTLINES GENERAL STRATEGIES FOR MINIMISING THE POTENTIAL SALINITY RISK DURING CONSTRUCTION. REFER TO THE PROJECT'S SALINITY MANAGEMENT PLAN FOR DETAILED RECOMMENDATIONS.

SITE INSPECTION, MONITORING AND MAINTENANCE

- REGULAR SITE INSPECTIONS ARE TO BE CONDUCTED BY THE SITE ENVIRONMENT MANAGER (OR THEIR REPRESENTATIVE):
- AT LEAST WEEKLY DURING NORMAL CONSTRUCTION HOURS; AND
- PRIOR TO FORECAST RAINFALL (SEE ABOVE); AND
- DAILY DURING RAIN EVENTS (IF SAFE TO DO SO); AND
- WITHIN 24 HOURS OF THE CESSATION OF A RAIN EVENT THAT CAUSES RUNOFF.
- MINIMUM MONTHLY AUDITS/SITE INSPECTIONS ARE ALSO TO BE CONDUCTED BY A CPESC TO ENSURE ALL OF THE REQUIRED OUTCOMES AND WATER QUALITY TARGETS ARE BEING MET AND WHERE NECESSARY PROVIDE ADVICE AND MODIFICATIONS TO THIS PLAN TO ENSURE ONGOING COMPLIANCE.
- RECORDS OF THE SITE INSPECTIONS/AUDITS ARE TO BE KEPT FOR THE DURATION OF CONSTRUCTION AND FOR A MINIMUM OF 12 MONTHS FOLLOWING THE COMPLETION OF CONSTRUCTION WORKS.
- PRIOR TO FORECAST RAINFALL OF 5MM OR MORE OVER 24 HOURS, THE SITE ENVIRONMENT MANAGER (OR THEIR REPRESENTATIVE IS TO INSPECT THE CONDITION OF ALL EROSION AND SEDIMENT CONTROLS AND ACTION ANY URGENT REPAIR, MAINTENANCE OR IMPROVEMENT WORKS. THEY ARE TO KEEP A RECORD ALL FINDINGS (INCLUDING DETAILS OF ACTIONS AND THEIR CLOSE OUTS).
- PRIOR TO SITE SHUTDOWN OF MORE THAN 2 DAYS, SLOPE BREAKS/CONTOUR BERMS WILL BE PUSHED UP OR CUT IN ACROSS LARGE, EXPOSED AREAS TO SLOW DOWN FLOWS AND MINIMISE EROSION. DIVERSION BUNDS/DRAINS, LOW FLOW EARTH BANKS (STANDARD DRAWING SD 5-5) OR SANDBAGS/EQUIVALENT SHOULD BE INSTALLED TO ACHIEVE THIS WHERE REQUIRED.
- ADDITIONAL EROSION AND SEDIMENT CONTROLS WILL BE INSTALLED AND EXISTING CONTROLS REPAIRED/UPGRADED/MAINTAINED AS NECESSARY TO ENSURE SATISFACTORY OUTCOMES IN KEEPING WITH THE PROJECT CONDITIONS AND BEST-PRACTICE BLUE BOOK GUIDELINES.
- SITE SPECIFIC PROGRESSIVE ESCPS WILL BE PREPARED AND/OR UPDATED AS REQUIRED.
- SEDIMENT OR ROCKS TRACKED FROM THE SITE WILL BE REMOVED FROM PUBLIC ROADS AS SOON AS POSSIBLE (E.G. WITH STREET SWEEPERS).
- AFTER RAINFALL, SEDIMENT ACCUMULATED IN TRAPPING DEVICES (E.G. BASIN, SEDIMENT FENCE) WILL BE REMOVED TO A SECURE LOCATION WHERE IT CAN'T WASH OR BLOW OFFSITE (PREFERABLY TO AN ACTIVE STOCKPILE).
- WEATHER CONDITIONS WILL BE MONITORED ONSITE AND DAILY RAINFALL WILL BE RECORDED. A RAINFALL GAUGE WILL BE INSTALLED AT THE SITE COMPOUND.
- SAFE STORAGE AREAS FOR WASTES, FUELS, EXCESS CONCRETE AND OTHER POTENTIAL CONTAMINANTS ARE TO BE DELINEATED BY THE SITE MANAGER.
- ADEQUATE SUPPLIES OF EROSION CONTROL MEASURES (E.G. GEOFABRIC ROLLS, JUTE MATTING, HYDRAULIC SOIL BINDERS) ARE TO BE MAINTAINED IN THE SITE COMPOUND FOR RAPID DEPLOYMENT AS REQUIRED.
- WATER TREATMENT CHEMICAL(S) AND EQUIPMENT ARE TO BE MAINTAINED ONSITE.

TABLE 1 - STABILISATION AND TREATMENT METHODS

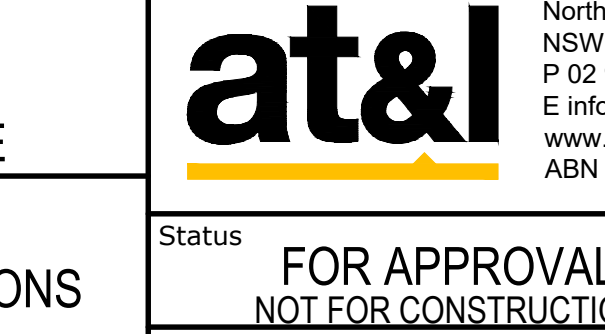
DURING CONSTRUCTION - TEMPORARY STABILISATION (DURING PERIODS OF INACTIVITY WHEN WORKS ARE ON HOLD)

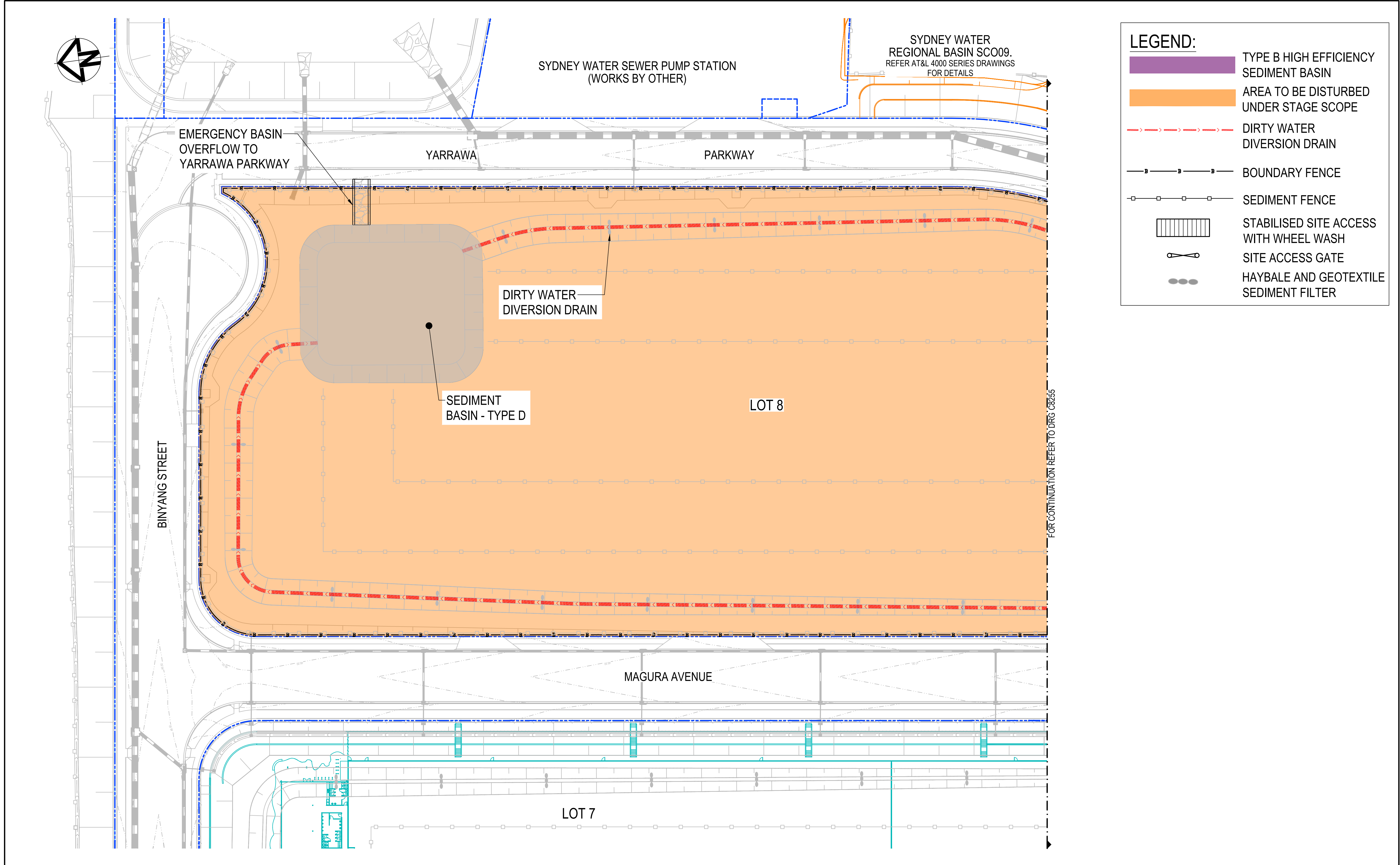
LANDS	STABILISATION REQUIREMENT	TIMEFRAME	TREATMENT METHODS - PRODUCTS	REMARKS
HIGH RISK AREAS SOIL LOSS CLASS 6 OR ABOVE LANDS (WHERE APPLICABLE)	C-FACTOR = 0.1 (60% GRASS COVER OR EQUIVALENT GROUND COVER)	APPLIES PRIOR TO RAINFALL AND AFTER 10 WORKING DAYS OF INACTIVITY (EVEN THOUGH WORKS MIGHT CONTINUE LATER)	SOIL BINDER (ie: VITAL P47/STONEWALL OR EQUIVALENT) GEOTEXTILE, JUTE MATTING, BLACK PLASTIC (SECURELY PINNED) OR EQUIVALENT*	-STABLISE ALL EXPOSED SOILS BY SPARYING SURFACES WITH VITAL P47/STORMWATER OR EQUIVALENT* - VITAL DILUTION RATE = 1 : 10 (VITAL MIXTURE. - RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PROVIDED. - COVER ALL EXPOSED SOILS. -RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PROVIDED.
ALL LANDS (INCLUDING WATERWAYS AND STOCKPILES)	APPLIES AFTER 20 WORKING DAYS OF INACTIVITY (EVEN THOUGH WORKS MIGHT CONTINUE LATER)	APPLIES AFTER 20 WORKING DAYS OF INACTIVITY (EVEN THOUGH WORKS MIGHT CONTINUE LATER)	SOIL BINDER (ie: VITAL P47/STONEWALL OR EQUIVALENT)* GEOTEXTILE, JUTE MATTING, BLACK PLASTIC (SECURELY PINNED)	-SPRAY ALL STOCKPILE SURFACES WITH VITALP47/STONEWALL OR EQUIVALENT* - VITAL DILUTION RATE = 1:10 (VITAL WATER). -APPLICATION RATE = 1L/m ² OF DILUTED VITAL MIXTURE - COVER ALL EXPOSED SOILS. - E-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PROVIDED

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										Designed			JC		
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										Approved					
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													Project - Drawing No. 16-369-C8252	Issue A	
A	ISSUED FOR SSDA	11-11-25													
Issue	Description	Date													
***** 100mm on Original															

TABLE 2 - STABILISATION REQUIREMENTS AND TREATMENT METHODS CONTINUED				
POST CONSTRUCTION				
LANDS	STABILISATION REQUIREMENT	TIMEFRAMES	TREATMENT METHODS PRODUCTS	REMARKS
WATERWAYS, DRAINAGE LINES AND CONCENTRATED FLOW AREAS	C-FACTOR = 0.05 (70% GRASS COVER OR EQUIVALENT GROUND COVER¹)	APPLIES AFTER 10 WORKING DAYS FROM COMPLETION OF FORMATION AND BEFORE THEY ARE ALLOWED TO CARRY CONCENTRATED FLOWS.	REFER TO THE DRAIN SPECIFICATIONS DETAILED ON THE PLAN FOR SPECIFIC LINING/STABILISATION REQUIREMENTS. EXAMPLE TREATMENT METHODS ARE SHOWN BELOW.	
			TEMPORARY LINING - GEOTEXTILE (i.e. BIDIM A24 OR EQUIVALENT¹)	- COMPLETE ANY SUBSOIL TREATMENT BEFORE LAYING THE MATTING. -INSTALL MATTING IN ACCORDANCE WITH SD 5-7 -RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PROVIDED.
			JUTE MESH, SEEDING AND SOIL BINDER (i.e VITAL P47/STONEWALL OR EQUIVALENT¹) - LOW FLOWS	-COMPLETE SUBSOIL TREATMENT (E.G. GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING ". - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - WATERWAYS AND (50% GRASS COVER OR * OF INACTIVITY LEVEN THOUGH MONTHS- - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / 7m² OF DILUTED VITAL MIXTURE. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			JUTE MATTING (350gsm) AND SEEDING OR EQUIVALENT¹ - LOW TO MODERATE FLOWS	-COMPLETE SUBSOIL TREATMENT (E.G. GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING ". - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - WATERWAYS AND (50% GRASS COVER OR * OF INACTIVITY LEVEN THOUGH MONTHS- - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / 7m² OF DILUTED VITAL MIXTURE. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			- TURN REINFORCEMENT MATTING (TRM) (e.g TERRAMAT OR EQUIVALENT¹) (TRN) -MODERATE FLOWS	-COMPLETE SUBSOIL TREATMENT (E.G. GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
STOCKPILES	C-FACTOR = 0.10 / 0.05 (60% GRASS COVER OR EQUIVALENT GROUND COVER¹)	APPLIES AFTER 10 WORKING DAYS FROM COMPLETION OF FORMATION	ROCK LINING - HIGH FLOWS	-COMPLETE SUBSOIL TREATMENT (E.G. GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			SEEDING AND SOIL BINDER (i.e VITAL P47/ STONEWALL OR EQUIVALENT¹)	- APPLY SEED TO ALL STOCKPILE SURFACES (NOTE: SEEDING MAY NOT BE REQUIRED IF EXISTING SEEDBED IS PRESENT). - SPRAY ALL STOCKPILE SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - VITAL DILUTION RATE = 1L / m² OF DILUTED VITAL MIXTURE. - RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
GENERAL SURFACES	C-FACTOR = 0.10 / 0.05 (60% / 70% GRASS COVER OR EQUIVALENT GROUND COVER¹)	C-FACTOR = 0.1 APPLIES AFTER 10 WORKING DAYS FROM COMPLETION OF FORMATION AND C-FACTOR= 0.05 APPLIES WITHIN A FURTHER 60 DAYS	GEOTEXTILE, JUTE MATTING, BLACK PLASTIC (SECURELY PINNED) OR EQUIVALENT¹	- COVER ALL EXPOSED SOILS. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PROVIDED.
			TOPSOIL, SEEDING AND SOIL BINDER (i.e VITAL P47/STONEWALL OR EQUIVALENT¹)	-REFER TO SD 7-1 -COMPLETE SUBSOIL TREATMENT (i.e GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - APPLY ANY FERTILISERS REQUIRED. - APPLY SEED TO ALL SURFACES (Note: SEEDING MAY NOT BE REQUIRED IF EXISTING SEEDBED IS PRESENT. - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / 7m² OF DILUTED VITAL MIXTURE. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			HYDROMLUCH OR EQUIVALENT¹	-REFER TO SD 7-1 -COMPLETE SUBSOIL TREATMENT (i.e GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - APPLY ANY FERTILISERS REQUIRED. - APPLY SEED TO ALL SURFACES (Note: SEEDING MAY NOT BE REQUIRED IF EXISTING SEEDBED IS PRESENT. - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / 7m² OF DILUTED VITAL MIXTURE. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.

TABLE 3 - LIMITATIONS TO ACCESS DURING CONSTRUCTION		
LAND USE	LIMITATION	REMARKS
CONSTRUCTION AREAS	LIMITED TO 5 (PREFERABLE 2) METRES FROM THE EDGE OF ANY ESSENTIAL CONSTRUCTION ACTIVITY AS SHOWN ON THE ENGINEERING PLANS.	ALL SITE WORKERS SHOULD CLEARLY RECOGNISE THESE AREAS THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS.
ACCESS AREAS	LIMITED TO A MAXIMUM WIDTH OF METRES	THE SITE MANAGER WILL DETERMINE AND MARK THE LOCATION OF THESE ZONES ON SITE. THEY CAN VARY IN POSITION SO AS TO BE BEST CONSERVE EXISTING VEGETATION AND PROTECT DOWNSTREAM AREAS WHILE BEING CONSIDERATE OF THE NEEDS OF EFFICIENT WORKS ACTIVITIES. ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE BOUNDARIES.
ALL LANDS (INCLUDING WATERWAYS AND STOCKPILES)	APPLIES AFTER 20 WORKING DAYS OF INACTIVITY (EVEN THOUGH WORKS MIGHT CONTINUE LATER)	APPLIES AFTER 20 WORKING DAYS OF INACTIVITY (EVEN THOUGH WORKS MIGHT CONTINUE LATER)

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A	ISSUED FOR SSDA	11-11-25							Title NOTES AND SPECIFICATIONS SHEET 3	Status FOR APPROVAL NOT FOR CONSTRUCTION	A1
Issue	Description	Date									
									Project - Drawing No. 16-369-C8253	Issue A	



LEGEND:

TYPE B HIGH EFFICIENCY SEDIMENT BASIN

AREA TO BE DISTURBED UNDER STAGE SCOPE

DIRTY WATER DIVERSION DRAIN

BOUNDARY FENCE

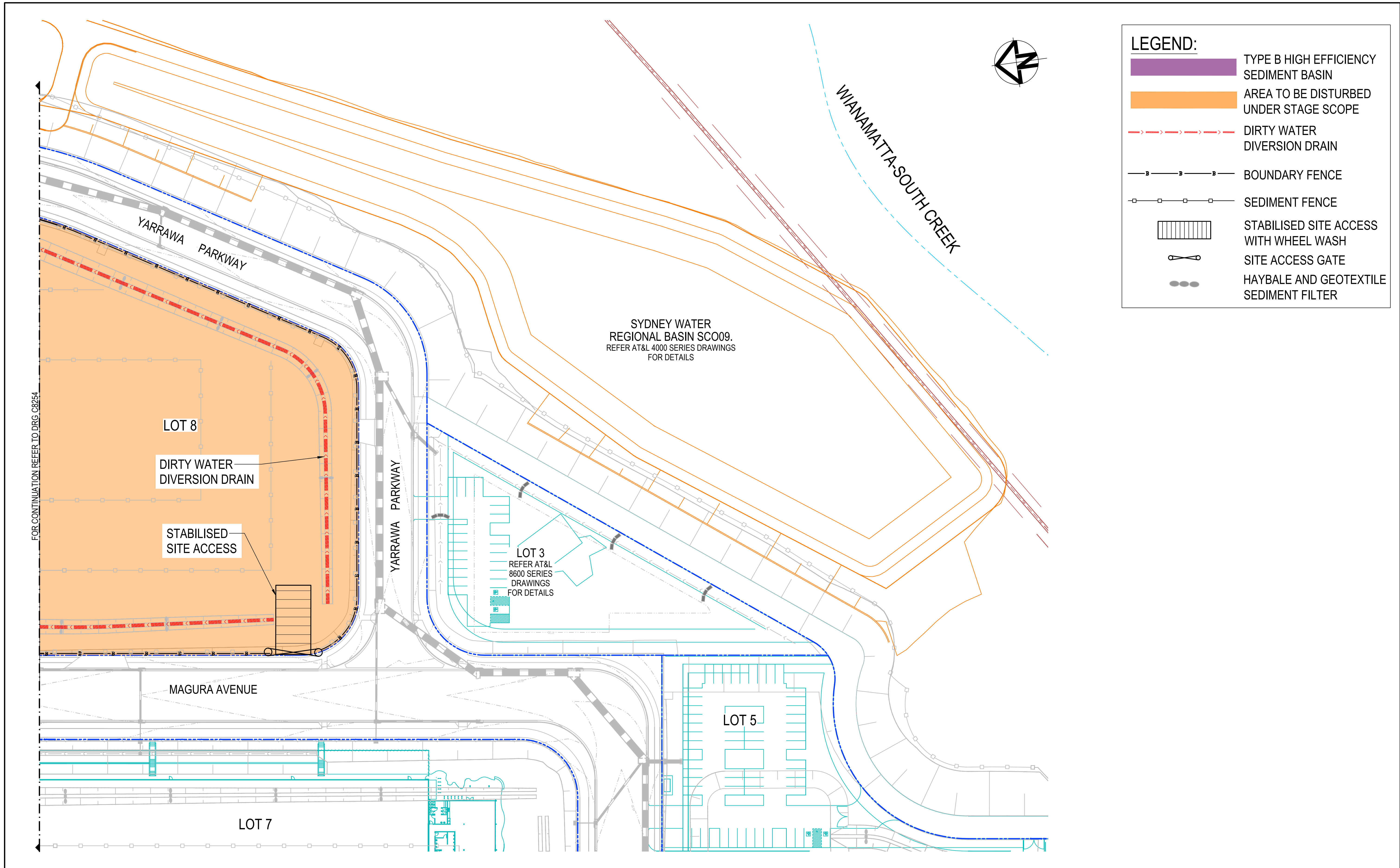
SEDIMENT FENCE

STABILISED SITE ACCESS WITH WHEEL WASH

SITE ACCESS GATE

HAYBALE AND GEOTEXTILE SEDIMENT FILTER

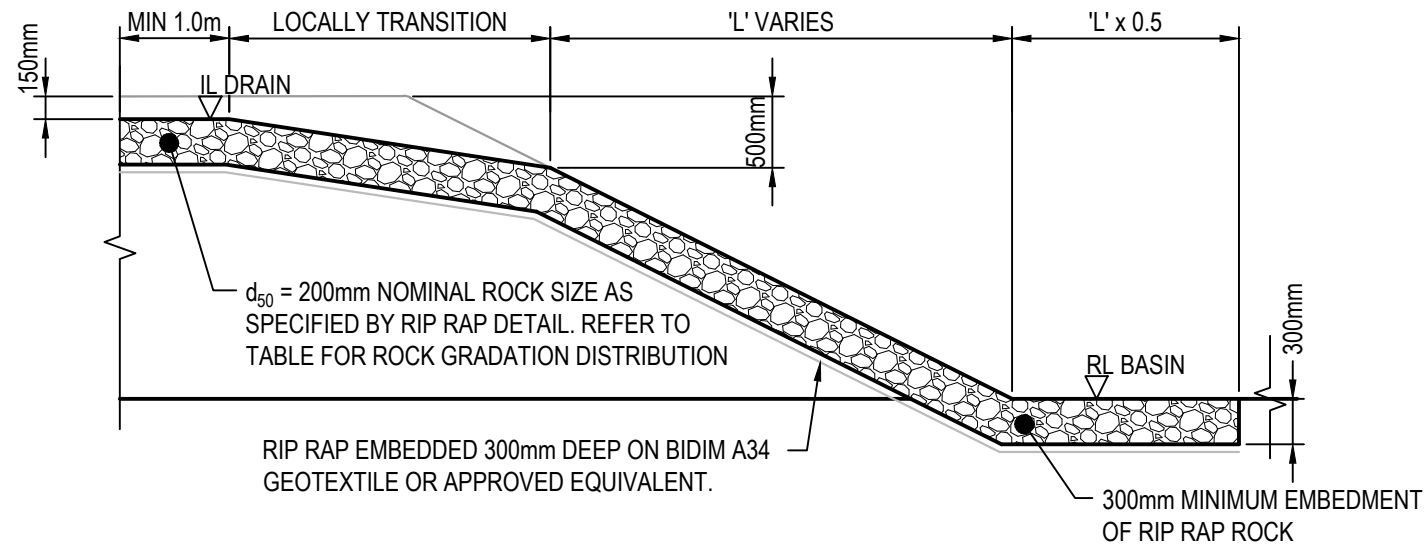
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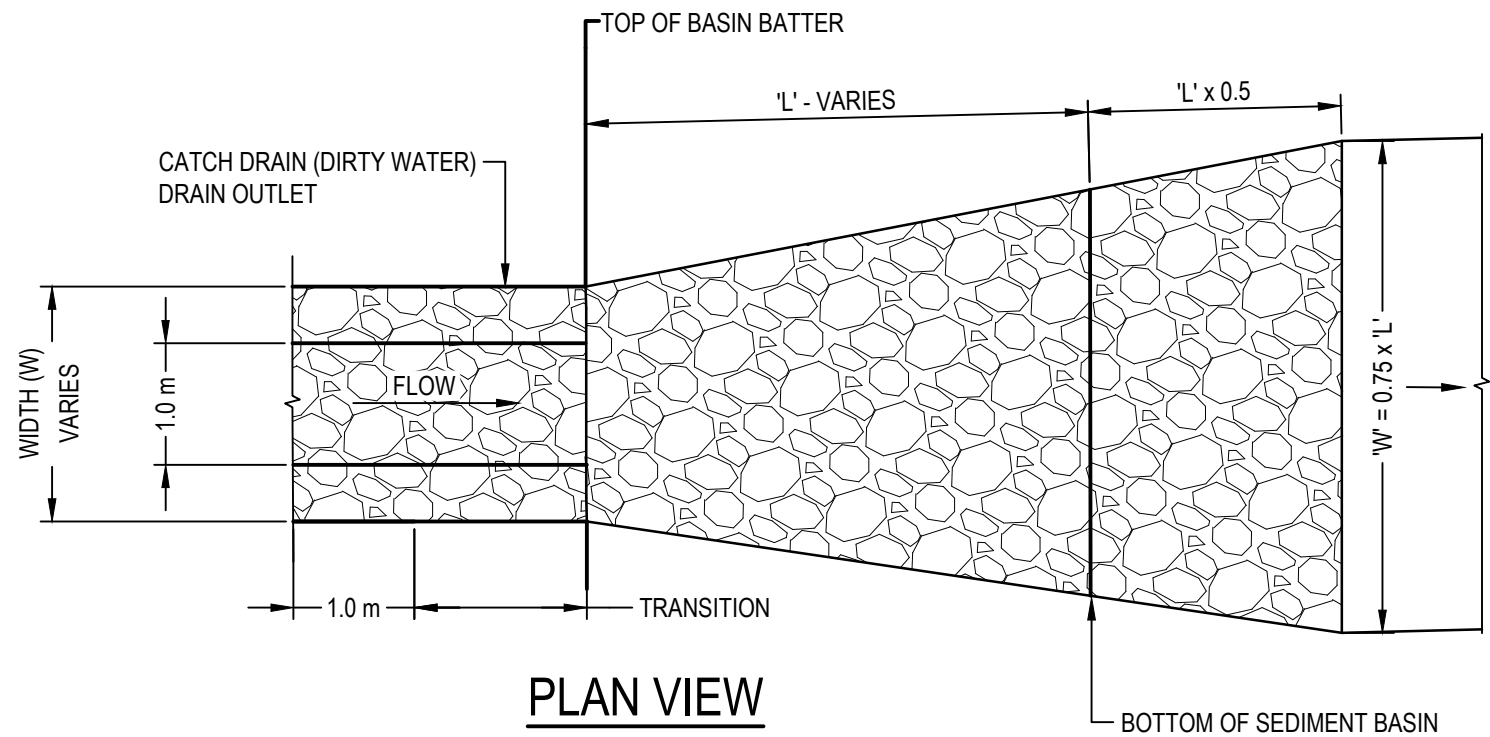
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ROCK GRADATION TABLE

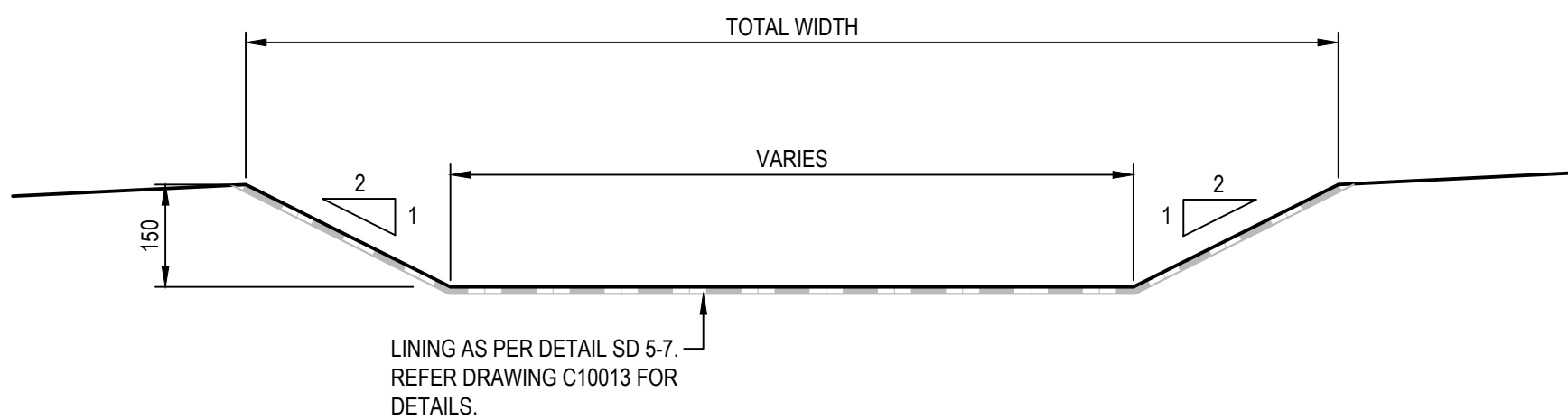
	d ₅₀					ROCK DISTRIBUTION BY %
	200mm	300mm	400mm	500mm	600mm	
ROCK SIZE (mm)	400	600	750	850	900	15-25%
	300	400	525	600	750	20%
	200	300	400	500	600	50%
	75	100	150	150	200	15-25%



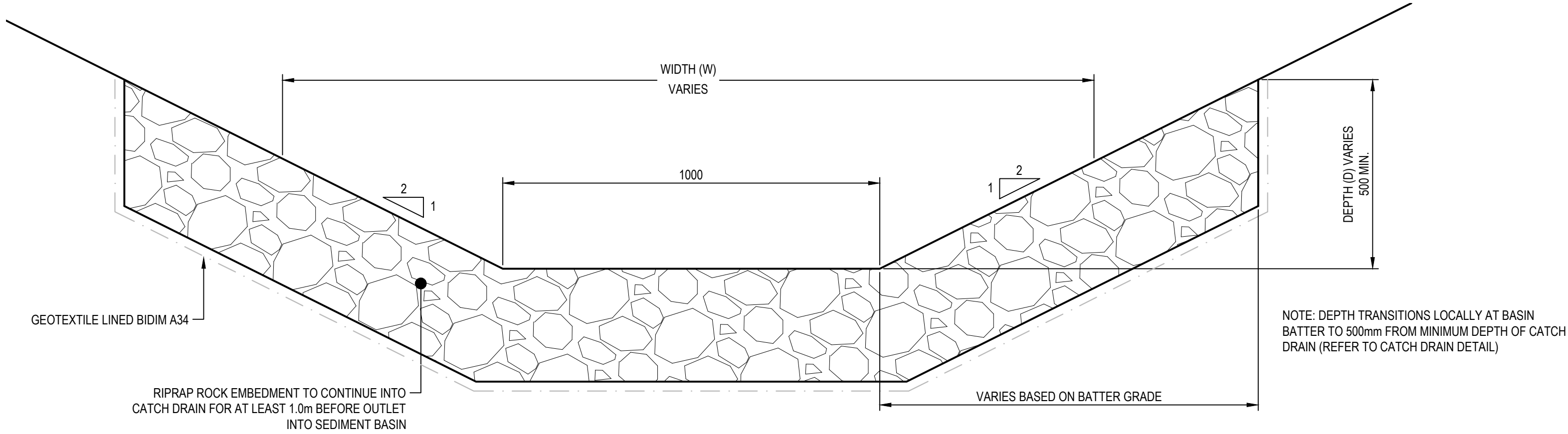
TYPICAL SECTION
CATCH DRAIN OUTLET
1 : 50



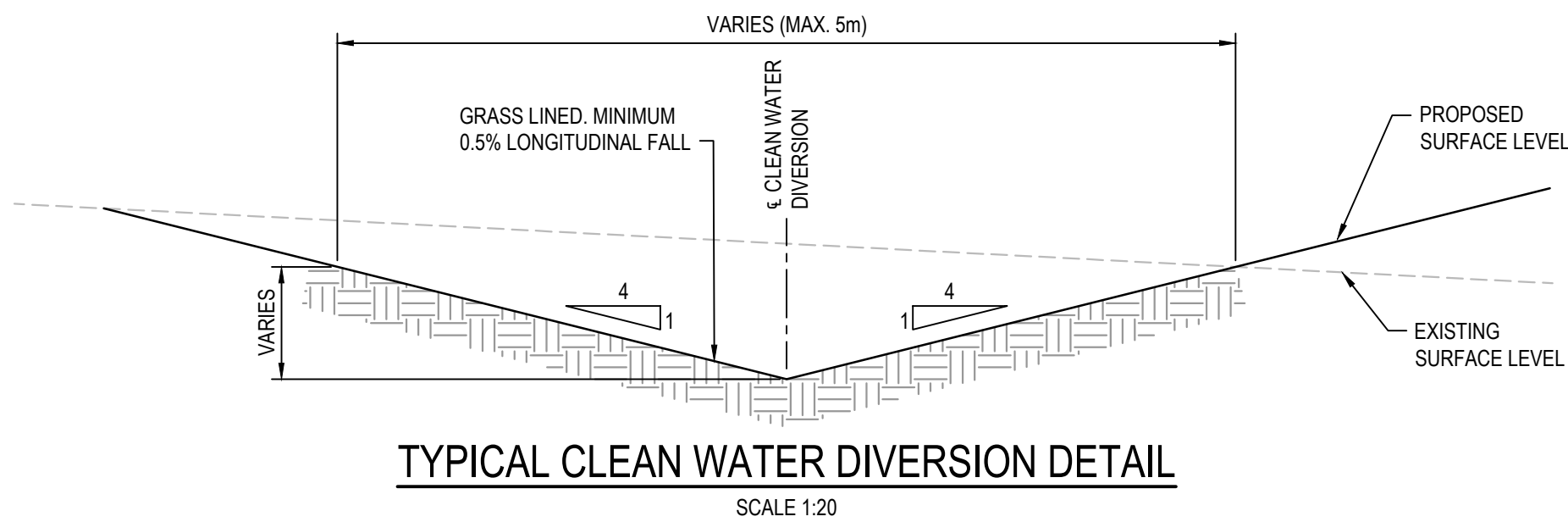
PLAN VIEW
CATCH DRAIN OUTLET
NTS



SEDIMENT BASIN SPILLWAY DETAIL
(DIRTY WATER)
SCALE 1:10



TYPICAL SECTION
CATCH DRAIN OUTLET
SCALE 1:10



TYPICAL CLEAN WATER DIVERSION DETAIL
SCALE 1:20

	CATCHMENT AREA (ha)	ADOPTED DEEMED TO COMPLY BASIN VOLUME (900m ³ /ha) (m ³)	MINIMUM BASIN DIMENSIONS AT BASE		
			LENGTH AT BASE (m)	WIDTH AT BASE (m)	SURFACE AREA AT BASE (m ²)
STAGE 1B					
LOT 8	3.99	3600	42.0	35.0	1470
NOTES:	HIGHLIGHTED CELLS DENOTE BASINS WITH NON-UNIFORM GEOMETRY, REFER TO PLANS FOR ARRANGEMENT AND DIMENSIONS				
	LENGTH TO WIDTH RATIO	3:1 (MEASURED AT BASE OF BASIN)			
	INTERNAL BATTER SLOPE	1V:2H			
	SEDIMENT STORAGE DEPTH	0.20m			
	SETTLING ZONE DEPTH	2.00m			
	SPILLWAY WIDTH	5m			
	SPILLWAY FREEBOARD	0.15m			
INTERNAL BAFFLES TO BE INSTALLED TO INCREASE THE EFFECTIVE LENGTH TO WIDTH RATIO, NOTING MULTIPLE INLETS WILL BE PRESENT IN MOST OF THE BASINS					

NOTE:
ENLARGED TYPE D SEDIMENT BASINS WITH A VOLUME OF 900m³ PER HECTARE OF CONTRIBUTING CATCHMENT HAVE BEEN ADOPTED IN LIEU OF HIGH EFFICIENCY SEDIMENT BASINS (TYPE A OR B).

A	ISSUED FOR SSDA	11-11-25
Issue	Description	Date

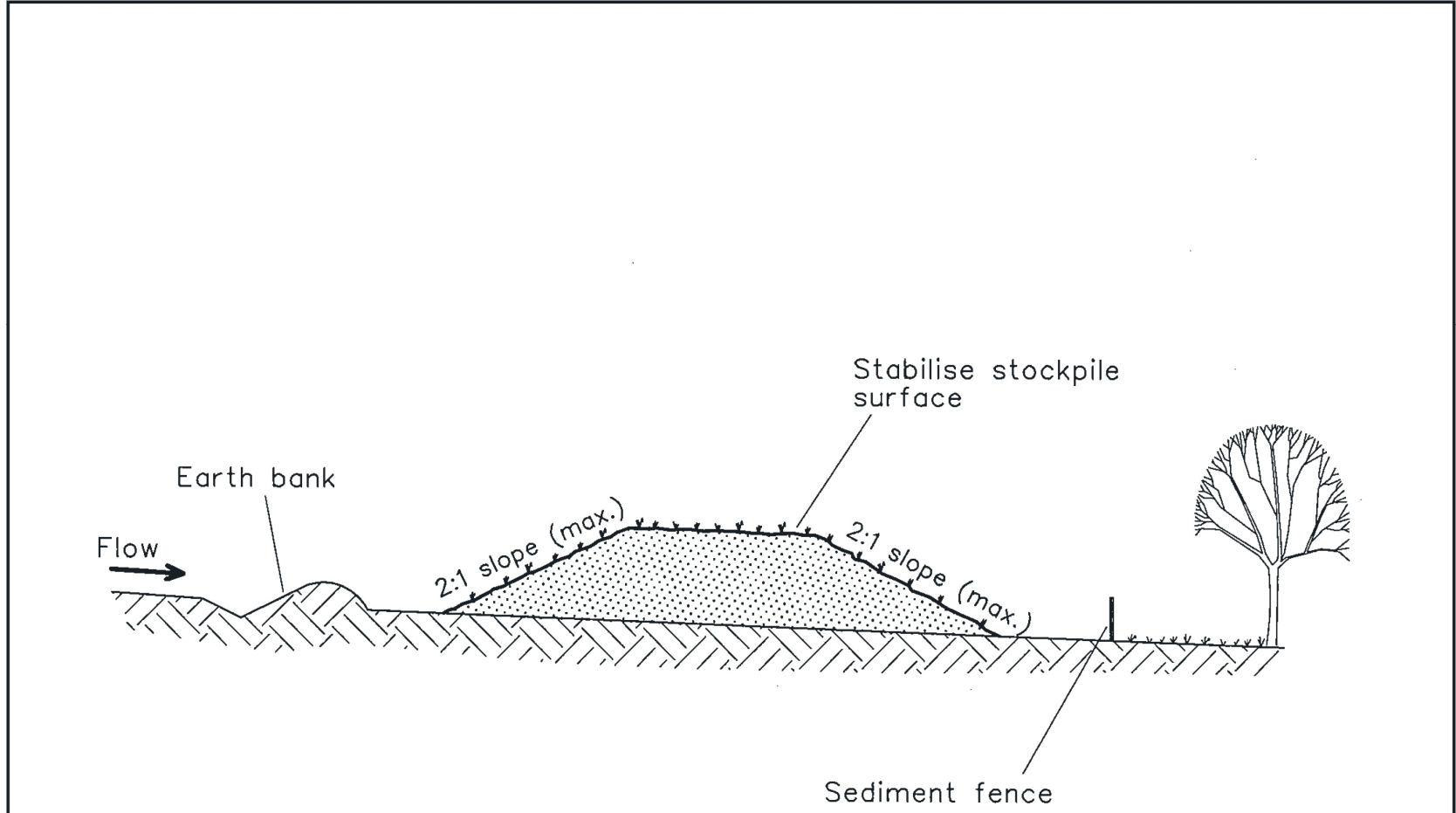
Bar Scales

THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L



Project	SEED STAGE 1B SSD 8250 SERIES LOT 8 ESCP PACKAGE
Title	EROSION AND SEDIMENT BASIN SPECIFICATIONS

Civil Engineers and Project Managers at&l Level 10, 124 Walker Street North Sydney NSW 2060 P 02 9439 1777 E info@atl.net.au www.atl.net.au ABN 96 130 882 405		
Status	FOR APPROVAL NOT FOR CONSTRUCTION	A1
Project - Drawing No.	16-369-C8256	Issue A

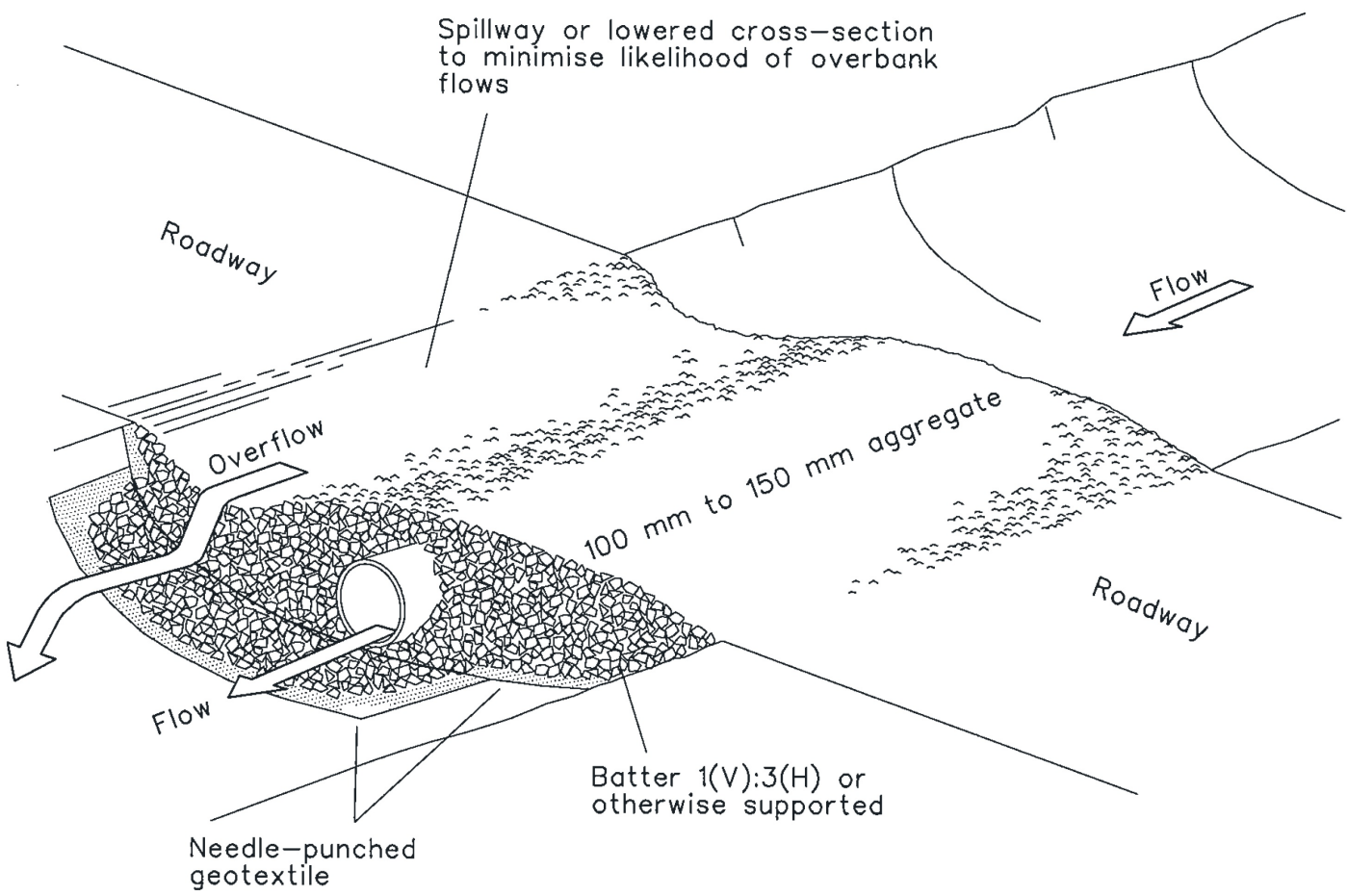


Construction Notes

- 1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
- 2. Construct on the contour as low, flat, elongated mounds.
- 3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
- 4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
- 5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

STOCKPILES SD 4-1

4-5

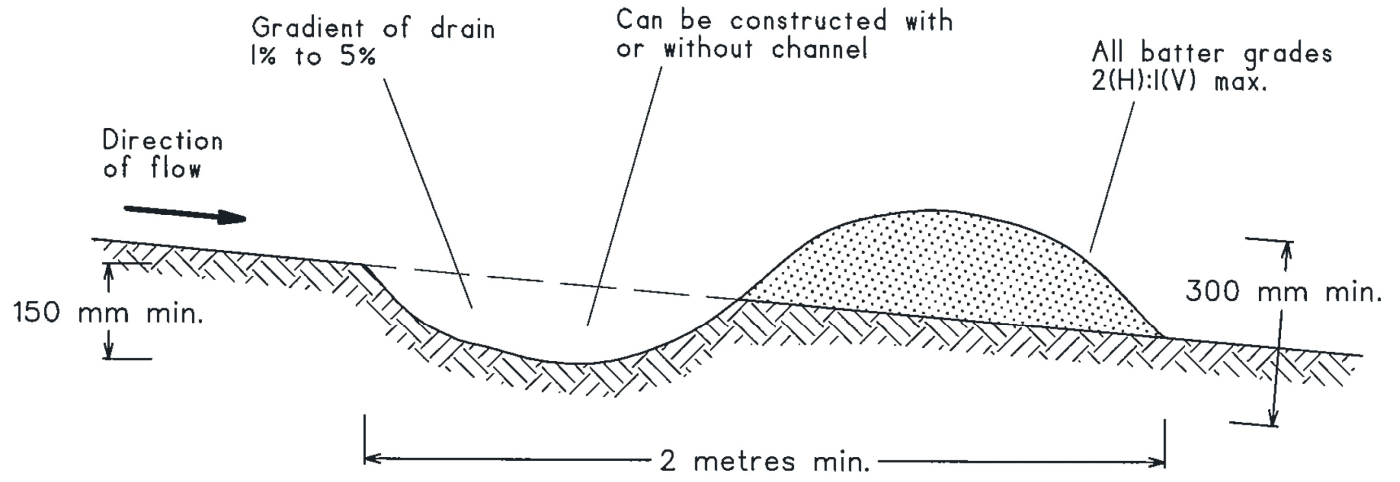


Construction Notes

- 1. Prohibit all traffic until the access way is constructed.
- 2. Strip any topsoil and place a needle-punched textile over the base of the crossing.
- 3. Place clean, rigid, non polluting aggregate or gravel in the 100 mm to 150 mm size class over the fabric to a minimum depth of 200 mm.
- 4. Provide a 3-metre wide carriageway with sufficient length of culvert pipe to allow less than a 3(H): 1 (V) slope on side batters.
- 5. Install a lower section to act as an emergency spillway in greater than design storm events.
- 6. Ensure that culvert outlets extend beyond the toe of fill embankments.

TEMPORARY WATERWAY CROSSING SD 5-1

5-14



NOTE: Only to be used as temporary bank where maximum upslope length is 80 metres.

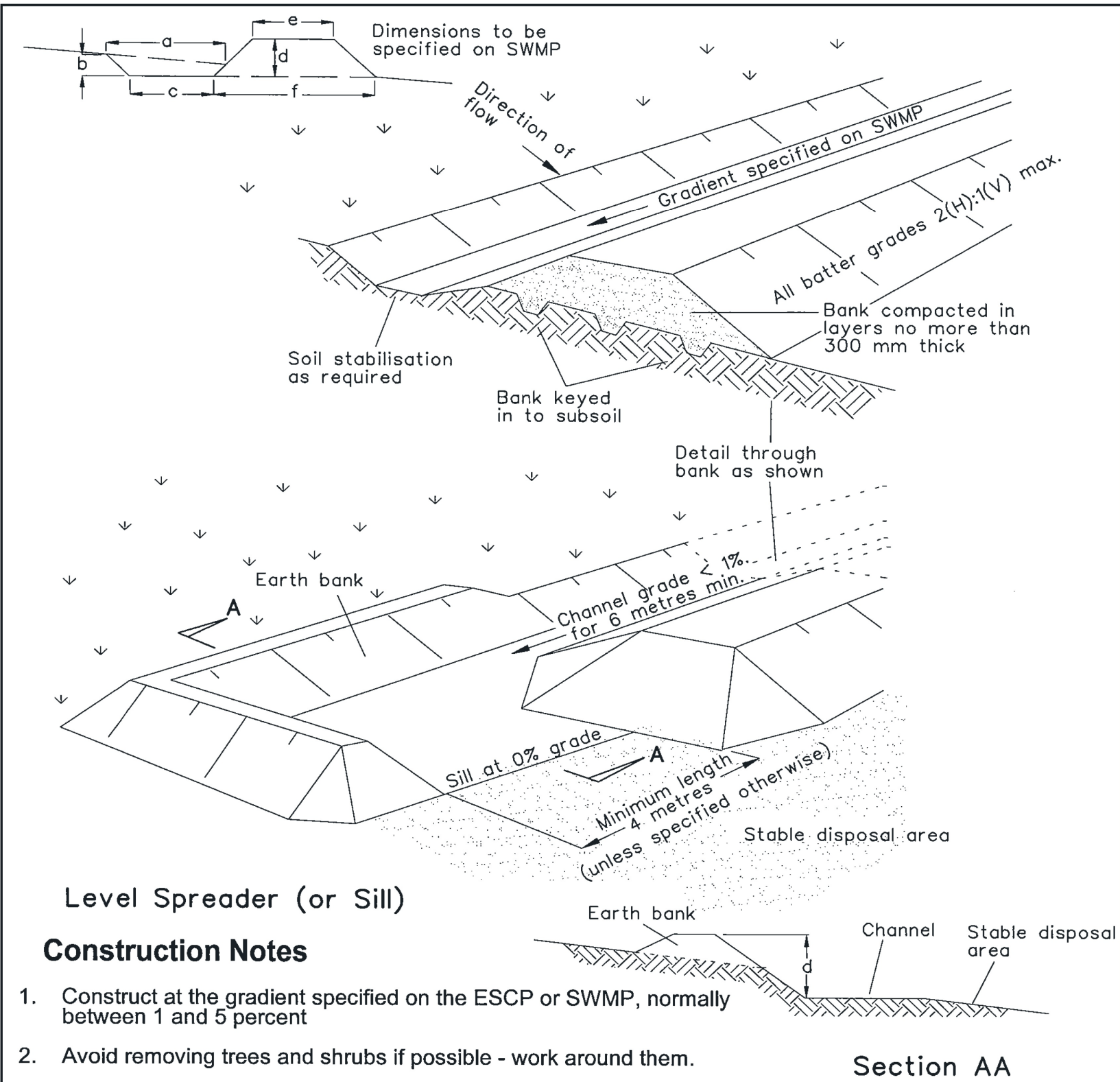
Construction Notes

- 1. Build with gradients between 1 percent and 5 percent.
- 2. Avoid removing trees and shrubs if possible - work around them.
- 3. Ensure the structures are free of projections or other irregularities that could impede water flow.
- 4. Build the drains with circular, parabolic or trapezoidal cross sections, not V shaped.
- 5. Ensure the banks are properly compacted to prevent failure.
- 6. Complete permanent or temporary stabilisation within 10 days of construction.

EARTH BANK (LOW FLOW) SD 5-5

5-25

			Bar Scales	THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client 	Scales		Drawn	JC	Project SEED STAGE 1B SSD 8250 SERIES LOT 8 ESCP PACKAGE	Civil Engineers and Project Managers  Level 10, 124 Walker Street North Sydney NSW 2060 P 02 9439 1777 E info@atl.net.au www.atl.net.au ABN 96 130 882 405				
		N.T.S.				Designed	JC	Title DETAILS SHEET 1			Status FOR APPROVAL NOT FOR CONSTRUCTION		A1		
		Grid MGA2020				Checked	DS				Project - Drawing No.		Issue		
		Height Datum AHD				Approved					16-369-C8257		A		
															
A	ISSUED FOR SSDA	11-11-25													
Issue	Description	Date													



Level Spreader (or Sill)

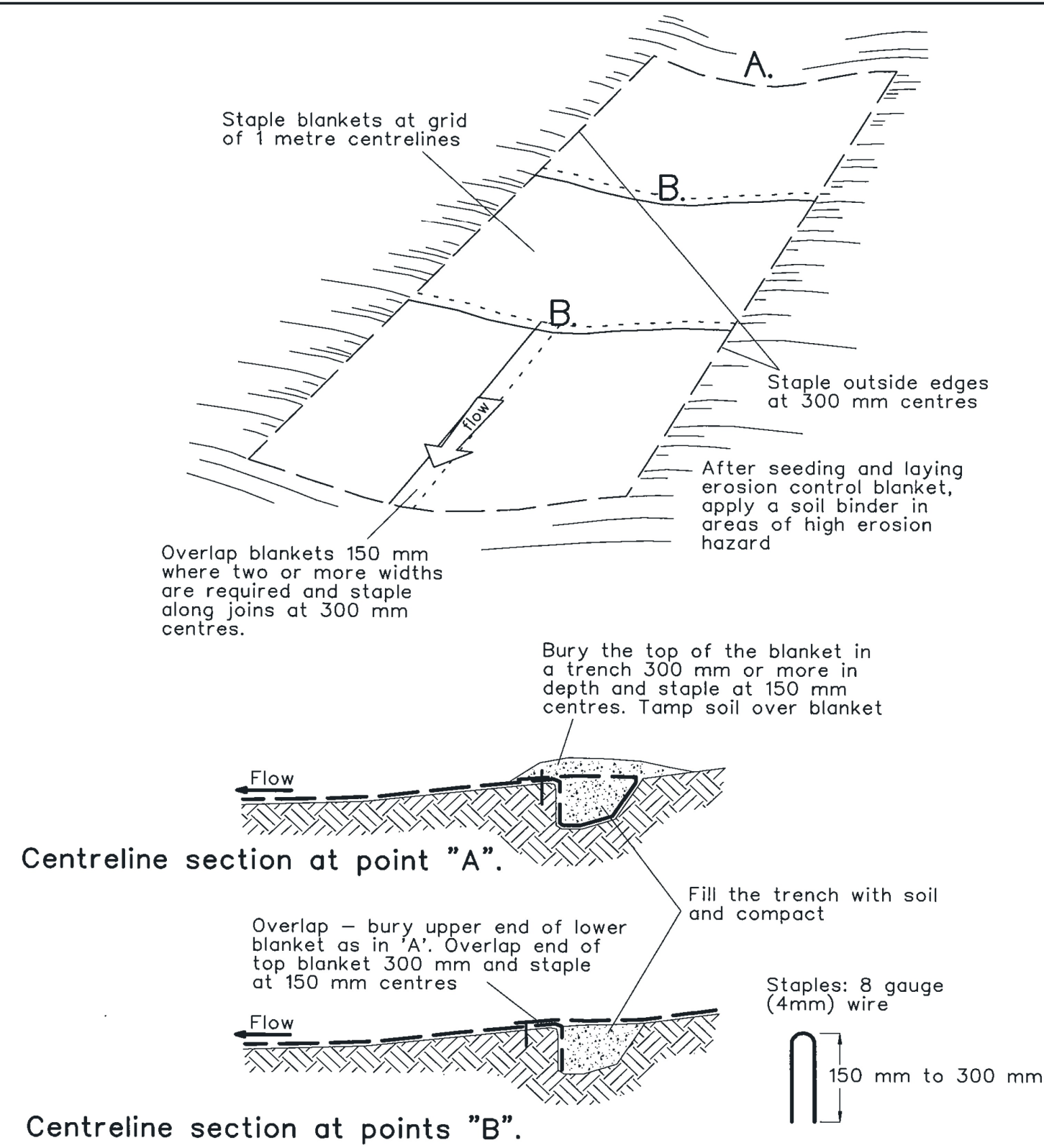
Construction Notes

1. Construct at the gradient specified on the ESCP or SWMP, normally between 1 and 5 percent
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V-shaped, at the dimensions shown on the SWMP.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction following Table 5.2 in Landcom (2004).
7. Where discharging to erodible lands, ensure they outlet through a properly constructed level spreader.
8. Construct the level spreader at the gradient specified on the ESCP or SWMP, normally less than 1 percent or level.
9. Where possible, ensure they discharge waters onto either stabilised or undisturbed disposal sites within the same subcatchment area from which the water originated. Approval might be required to discharge into other subcatchments.

EARTH BANK (HIGH FLOWS)

SD 5-6

5-26



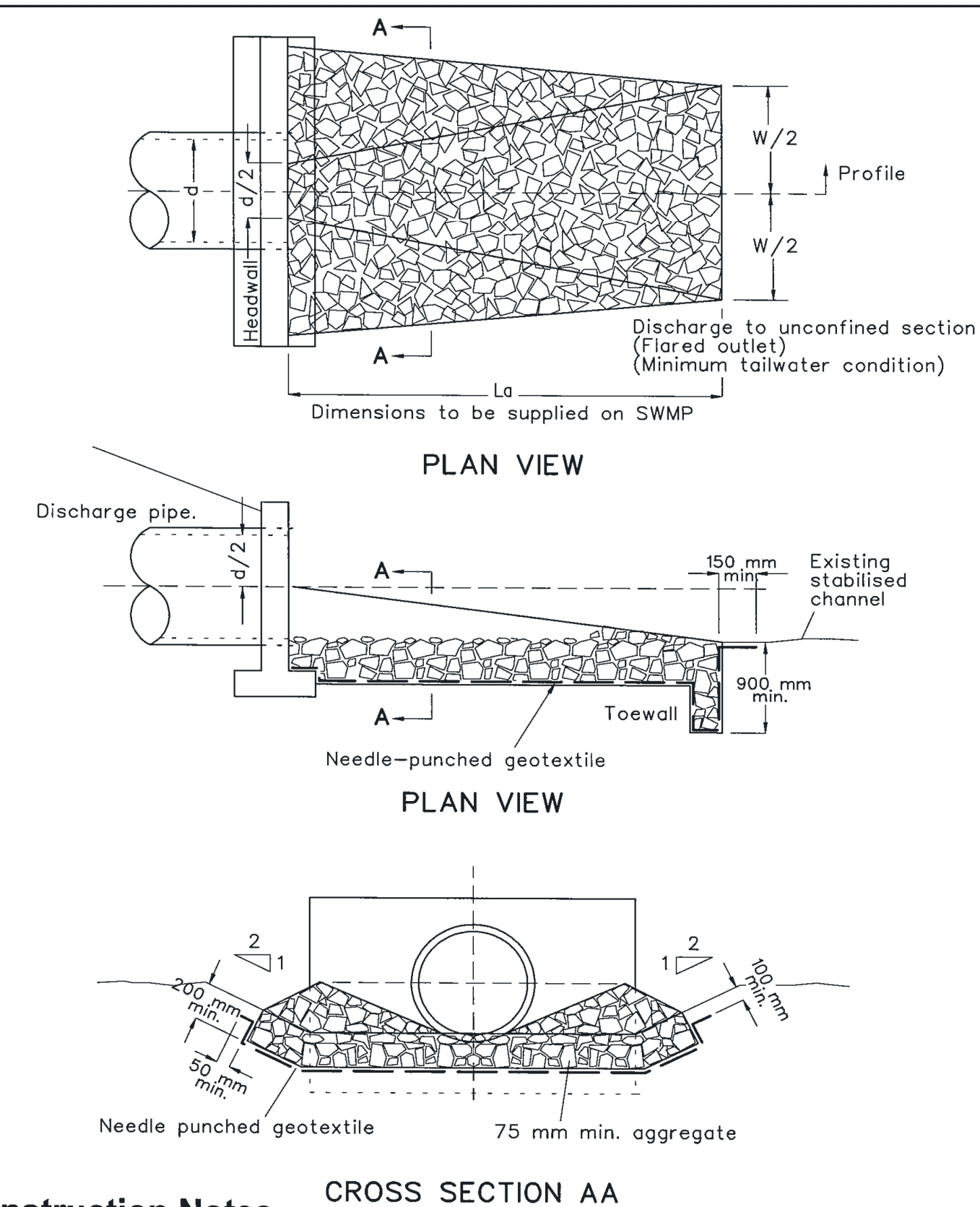
Construction Notes

1. Remove any rocks, clods, sticks or grass from the surface before laying matting
2. Ensure that topsoil is at least 75 mm deep.
3. Complete fertilising and seeding before laying the matting.
4. Ensure fabric will be continuously in contact with the soil by grading the surface carefully first.
5. Lay the fabric in "shingle-fashion", with the end of each upstream roll overlapping those downstream. Ensure each roll is anchored properly at its upslope end (Standard Drawing 5-7b).
6. Ensure that the full width of flow in the channel is covered by the matting up to the design storm event, usually in the 10-year ARI time of concentration storm event.
7. Divert water from the structure until vegetation is stabilised properly.

RECP : CONCENTRATED FLOW

SD 5-7

5-28



Construction Notes

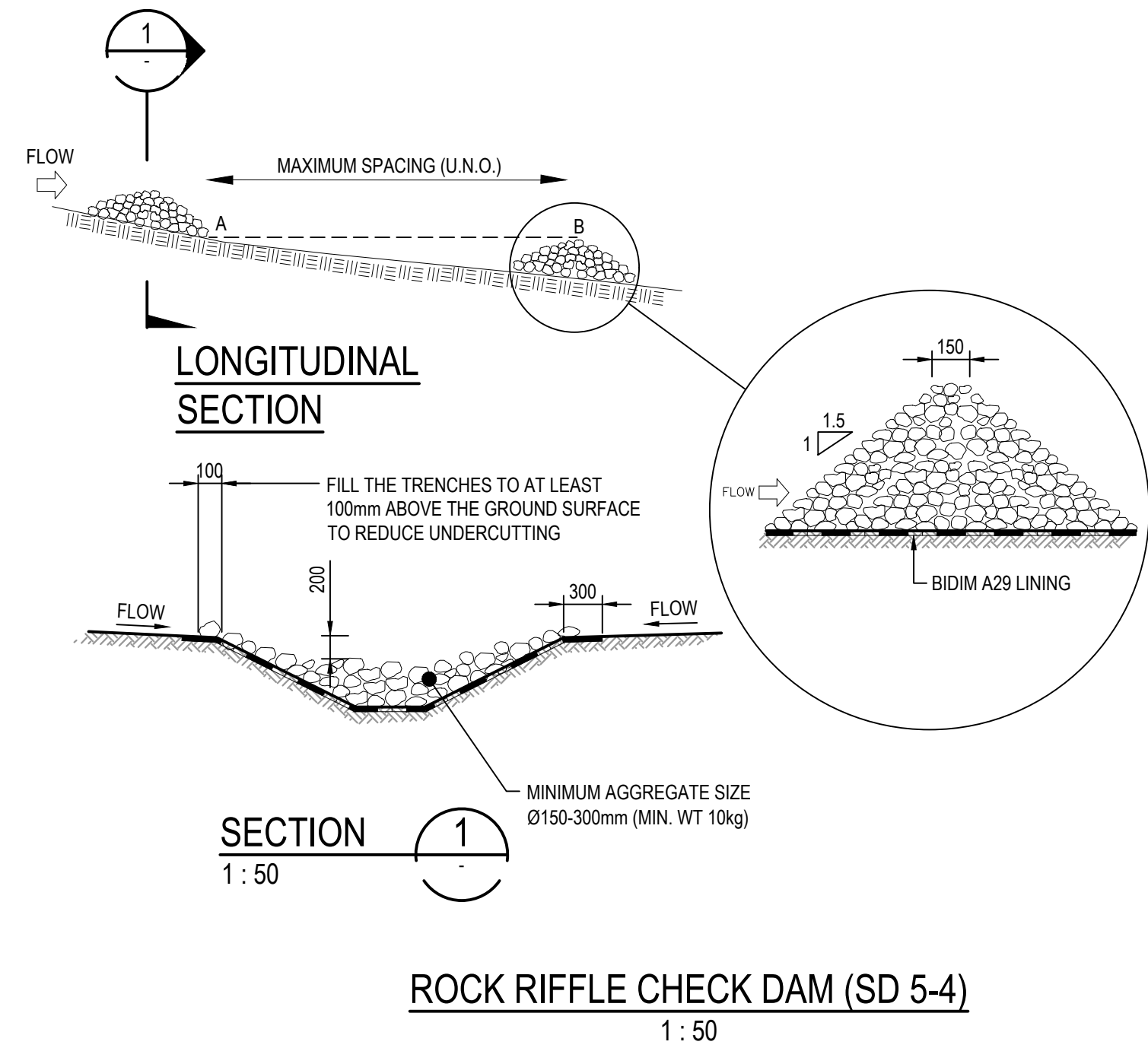
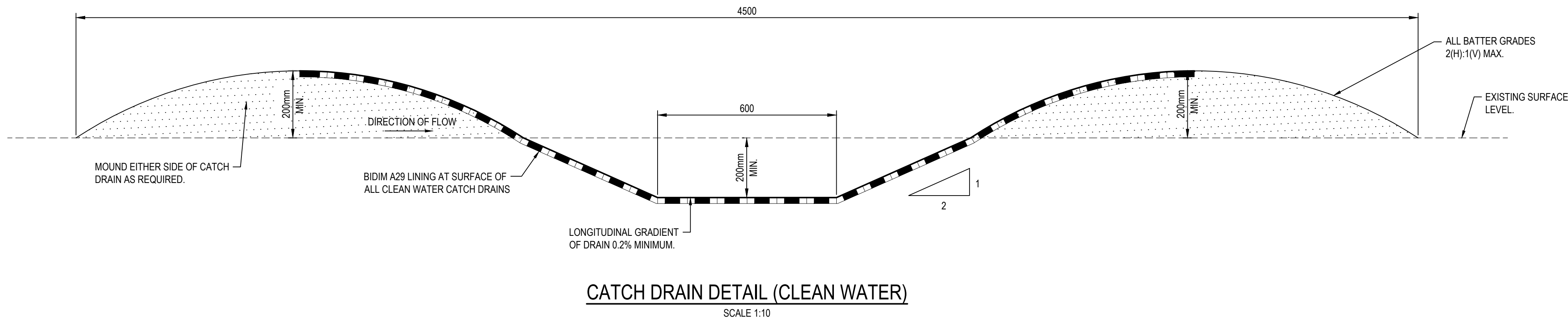
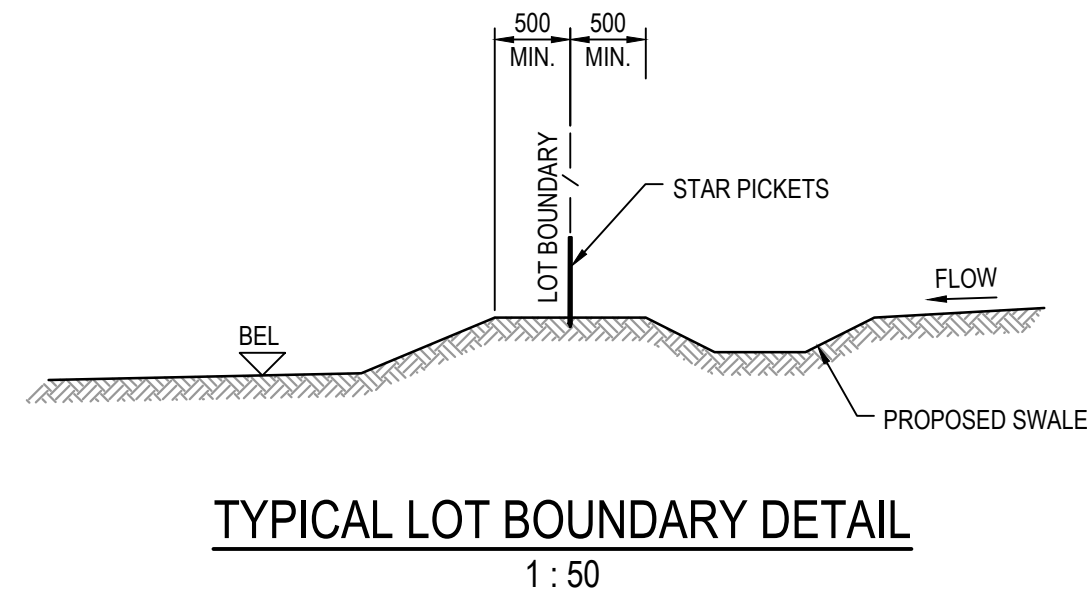
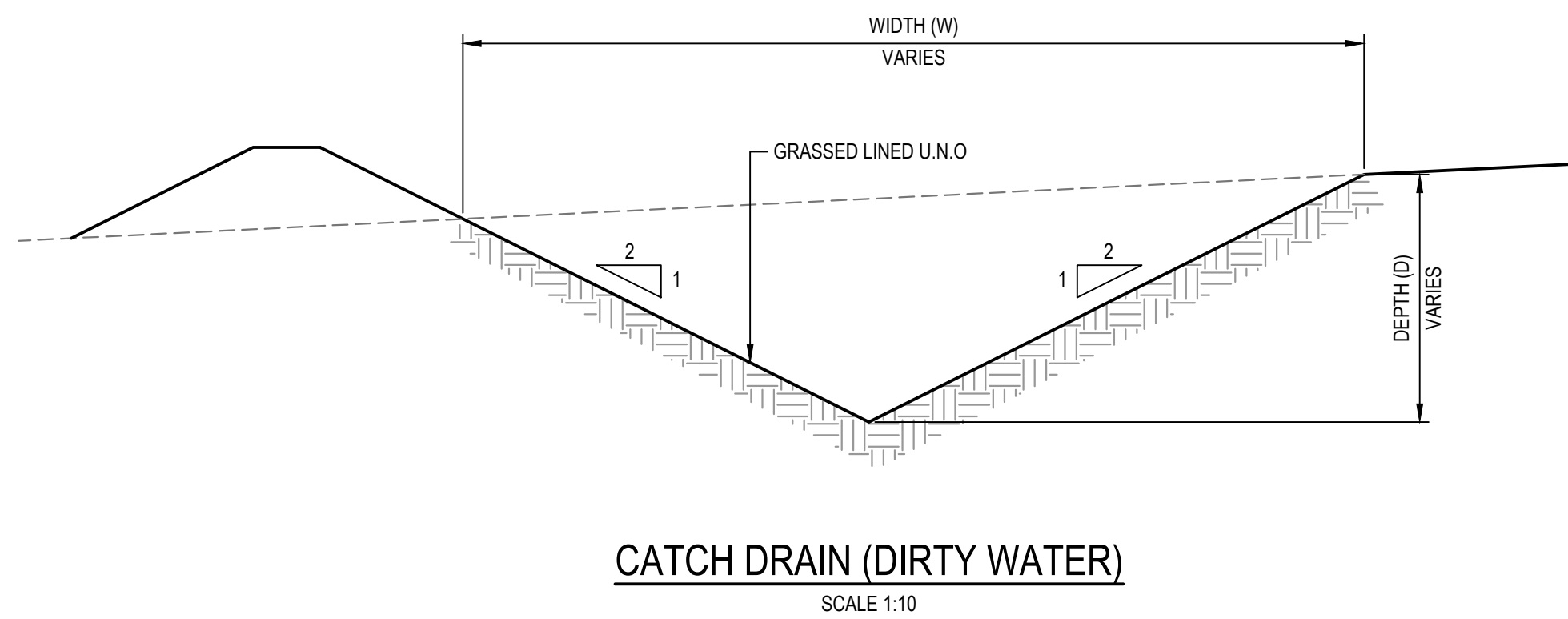
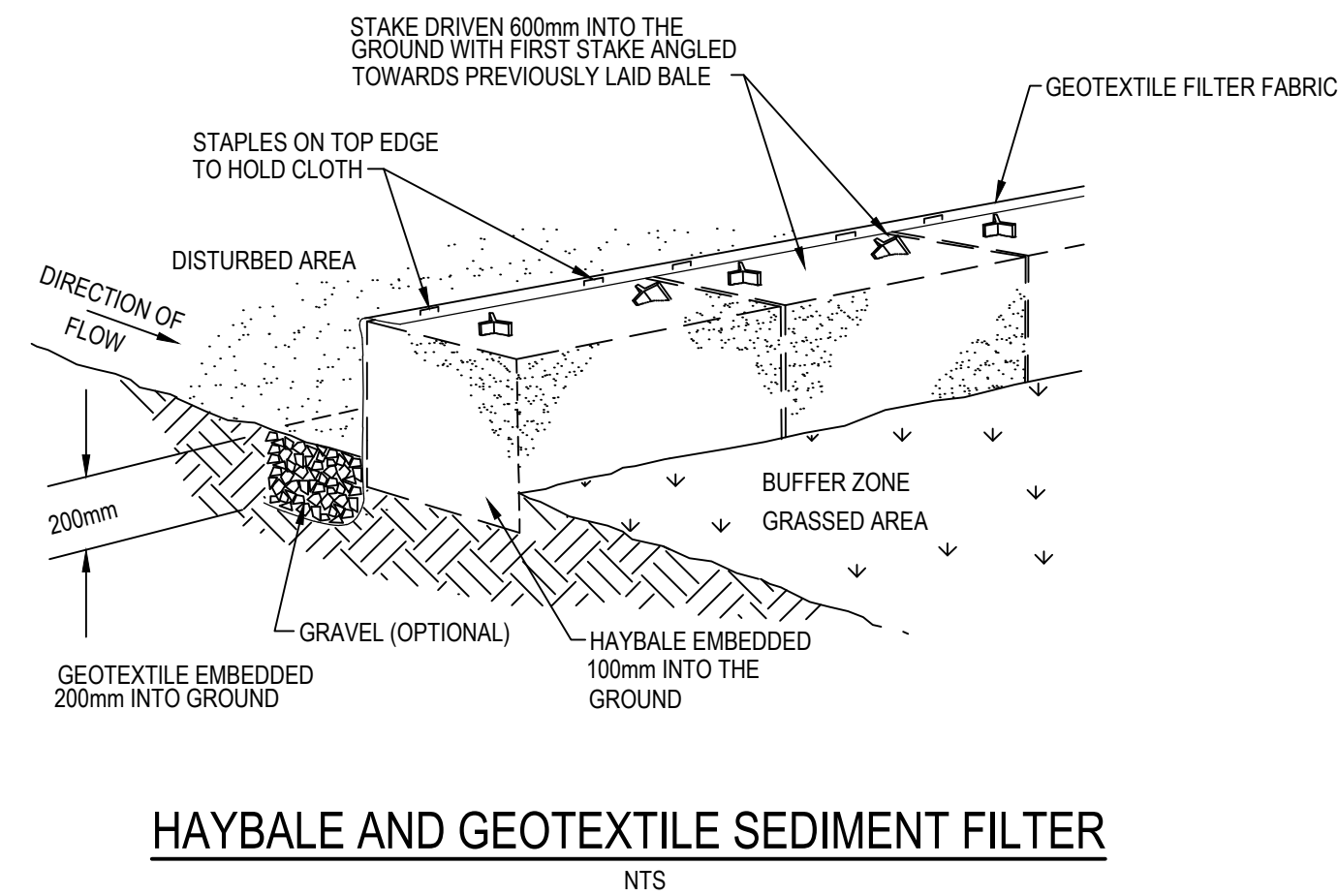
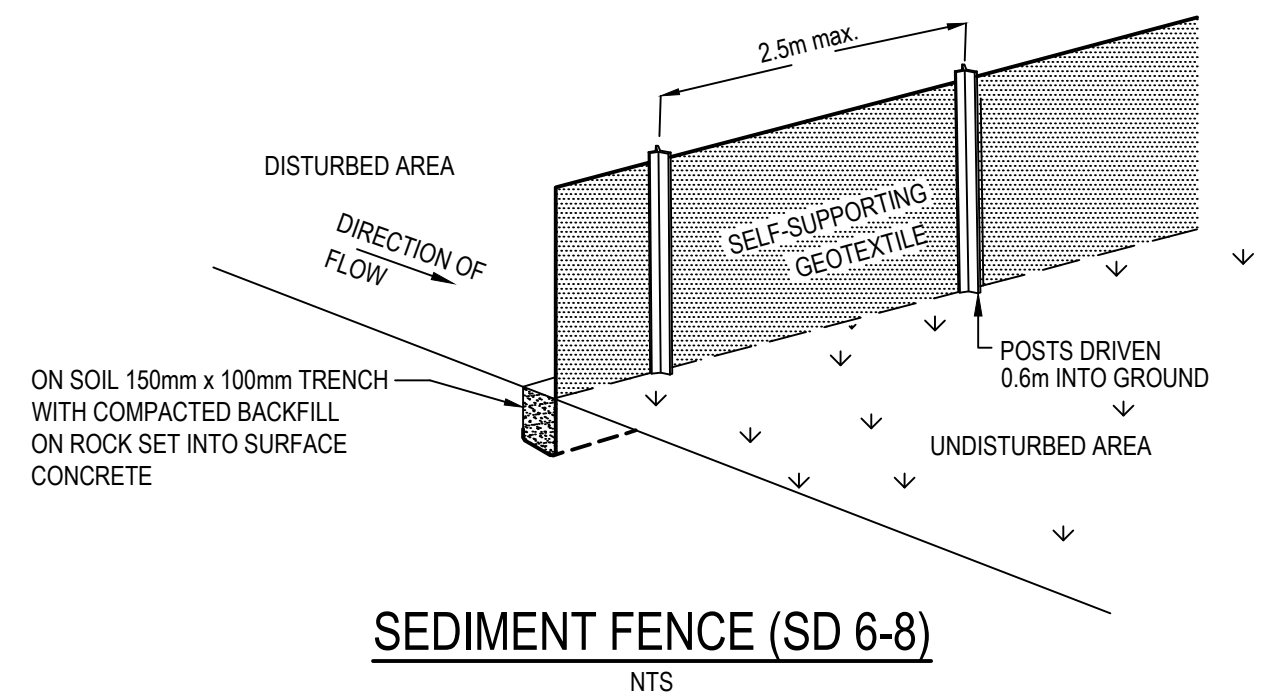
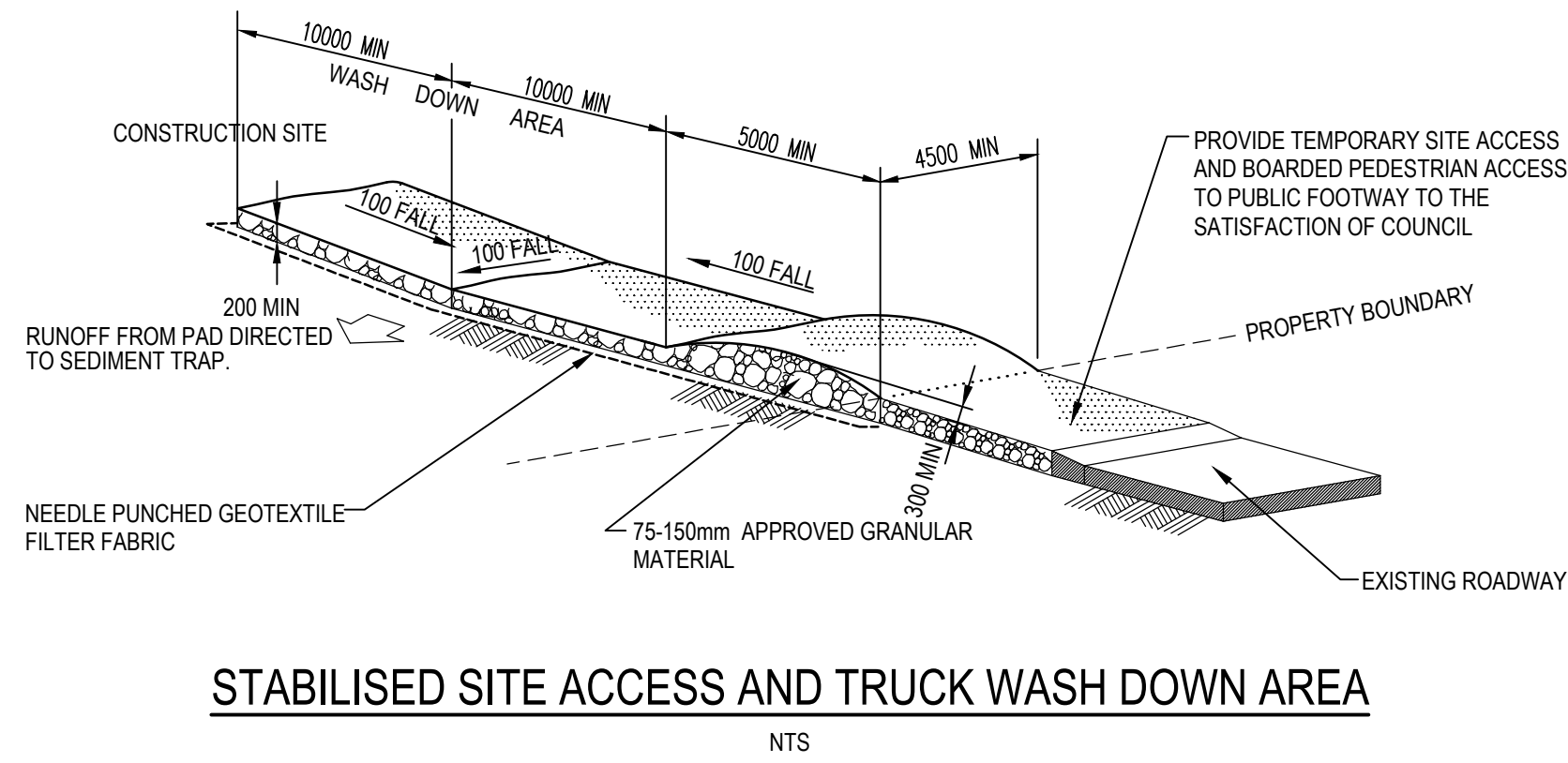
1. Compact the subgrade fill to the density of the surrounding undisturbed material.
2. Prepare a smooth, even foundation for the structure that will ensure that the needle-punched geotextile does not sustain serious damage when covered with rock.
3. Should any minor damage to the geotextile occur, repair it before spreading any aggregate. For repairs, patch one piece of fabric over the damage, making sure that all joints and patches overlap more than 300 mm.
4. Lay rock following the drawing, according to Table 5.2 of Landcom (2004) and with a minimum diameter of 75 mm.
5. Ensure that any concrete or riprap used for the energy dissipater or the outlet protection conforms to the grading limits specified on the SWMP.

ENERGY DISSIPATER

SD 5-8

5-34

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			Bar Scales	THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client 	Scales N.T.S. Grid MGA2020 Height Datum AHD 	Drawn JC Designed JC Checked DS Approved	Project SEED STAGE 1B SSD 8250 SERIES LOT 8 ESCP PACKAGE	Civil Engineers and Project Managers  Level 10, 124 Walker Street North Sydney NSW 2060 P 02 9439 1777 E info@atl.net.au www.atl.net.au ABN 96 130 882 405	
A	ISSUED FOR SSDA		11-11-25							
Issue	Description		Date							

SEED

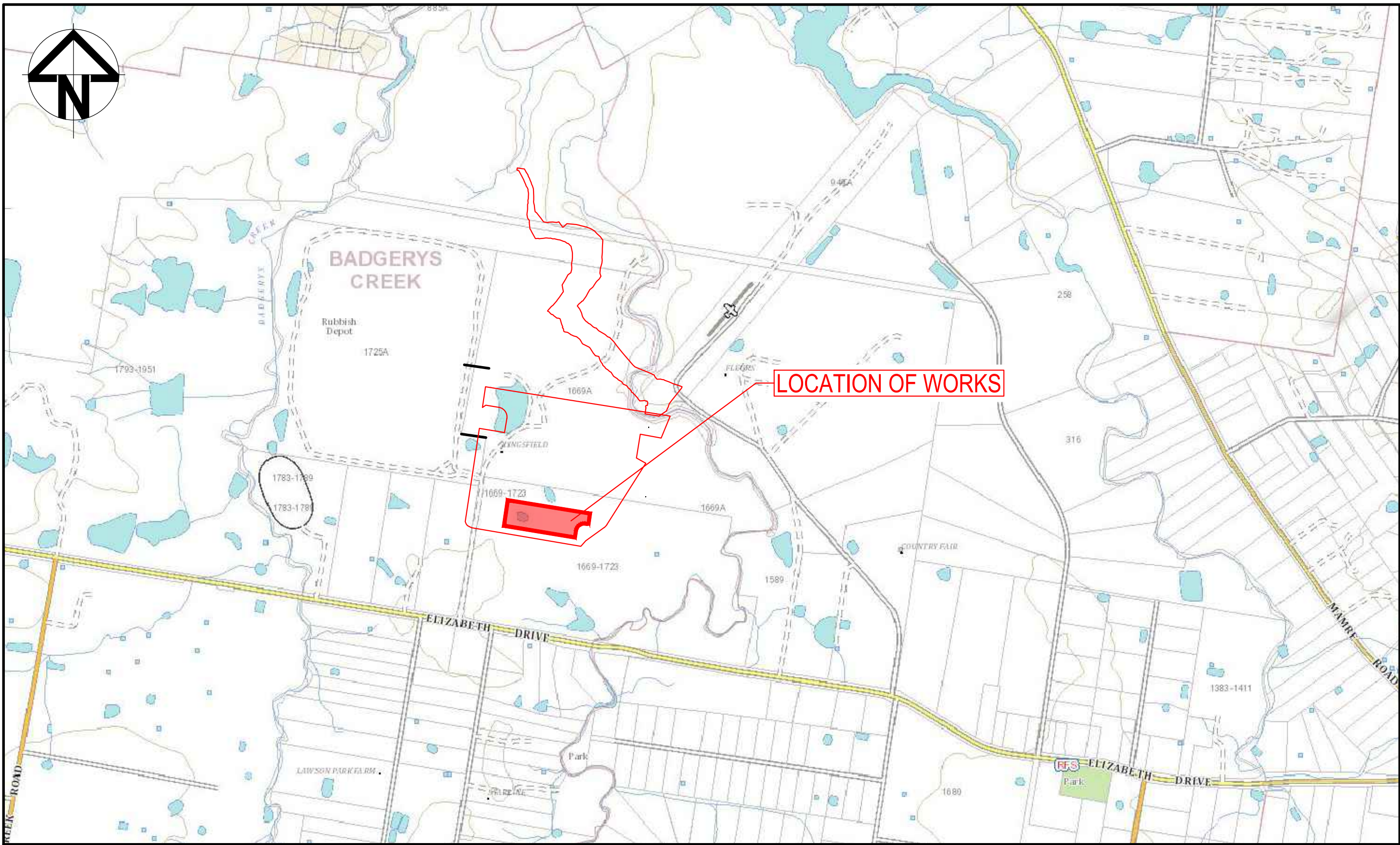
8650 SERIES - LOT 3

ONLOT CIVIL WORKS PACKAGE

STAGE 1B STATE SIGNIFICANT DEVELOPMENT

CONCEPT EROSION & SEDIMENT CONTROL PLAN

DRAWING LIST	
16-369-C8650	COVER SHEET & DRAWING LIST
16-369-C8651	NOTES AND SPECIFICATIONS SHEET 1
16-369-C8652	NOTES AND SPECIFICATIONS SHEET 2
16-369-C8653	NOTES AND SPECIFICATIONS SHEET 3
16-369-C8654	CONCEPT ESCP BULK EARTHWORKS LOT 3
16-369-C8655	DETAILS SHEET 1
16-369-C8656	DETAILS SHEET 2
16-369-C8657	DETAILS SHEET 3



LOCALITY PLAN
NOT TO SCALE

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						Designed WP					
						Checked GB					
						Height Datum AHD	Approved DS	Title COVER SHEET & DRAWING LIST	Status FOR APPROVAL NOT FOR CONSTRUCTION	A1	
A ISSUED FOR SSDA 20-02-2026									Project - Drawing No. 16-369-C8650	Issue A	
Issue Description Date											

GENERAL REQUIREMENTS

EROSION AND SEDIMENT CONTROL DESIGN

- THE DETAILS SHOWN WITHIN THIS PLAN ARE OVER-ARCHING EROSION AND SEDIMENT CONTROL REQUIREMENTS ONLY FOR THE INITIAL STAGE OF THE BULK EARTHWORKS. AS THE WORKS PROGRESS AND SITE CONDITIONS CHANGE, THIS PLAN IS TO BE UPDATED ACCORDINGLY. SITE SPECIFIC PROGRESSIVE EROSION AND SEDIMENT CONTROL PLANS (PESCPs) WILL ALSO BE REQUIRED TO DETAIL SPECIFIC WORKS. THIS ESCP HAS BEEN PREPARED TO ACCOMPANY THE PROJECT'S CEMP.
- THIS EROSION AND SEDIMENT CONTROL PLAN (ESCP) HAS BEEN PREPARED BY A CPESC (AS CERTIFIED) IN ACCORDANCE WITH BLUE BOOK VOLUME 1 (LANDCOM, 2004) AND TO MEET THE REQUIREMENTS OF THE CONSTRUCTION WSDU PRINCIPALS SET OUT IN THE DRAFT TECHNICAL GUIDANCE FOR ACHIEVING WIANAMATTA SOUTH CREEK STORMWATER MANAGEMENT TARGETS (NSW GOVERNMENT, 2022). IT DEMONSTRATES THE CONSTRUCTION APPROACH AND TIMING REQUIREMENTS FOR ACHIEVING THE CONSTRUCTION PHASE STORMWATER QUALITY TARGETS.
- THE NSW GOVERNMENT (2022) TECHNICAL GUIDELINE (AS NOTED ABOVE) REQUIRES 80% OF THE AVERAGE ANNUAL RUNOFF VOLUME ACHIEVES 50mg/L TOTAL SUSPENDED SOLIDS (TSS) OR LESS AND PH IN THE RANGE (6.5-8.5). THE STANDARD BLUE BOOK SEDIMENT BASIN DESIGN AND OTHER STANDARD EROSION AND SEDIMENT CONTROL MEASURES ARE ESTIMATED TO ACHIEVE APPROXIMATELY 60% HYDROLOGICAL EFFECTIVENESS THEREFORE, IN ORDER TO ACHIEVE 80% HYDROLOGICAL EFFECTIVENESS, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES ABOVE THE STANDARD BLUE BOOK DESIGN HAVE BEEN RECOMMENDED WITHIN THIS PLAN. REFER TO THE FOLLOWING INSTRUCTIONS AND NOTES AND THE PLANS ON ESCP03&04. THESE ADDITIONAL MEASURES INCLUDE:
- SEDIMENT BASIN DESIGN TO THE 85TH PERCENTILE RAINFALL DEPTH RATHER THAN THE STANDARD 80TH PERCENTILE BLUE BOOK REQUIREMENT PROVIDING ADDITIONAL WATER STORAGE VOLUME;
- UTILISING EXISTING DAMS AND/OR FUTURE WATER RETENTION DEVICES WHERE PRACTICABLE TO PROVIDE ADDITIONAL WATER STORAGE VOLUME AND BREAK UP CATCHMENTS;
- ENHANCED EROSION CONTROLS (E.G. REDUCED SLOPE LENGTHS, INCREASED FOCUS ON TEMPORARY AND PROGRESSIVE STABILISATION, ADDITIONAL CHECK DAMS AND A FOCUS ON TEMPORARY DRAINAGE CONTROL);
- PASSIVE BROADCAST GYPSUM SPREADING OVER THE ENTIRE DISTURBED CATCHMENT PRIOR TO LARGER RAINFALL EVENTS BEYOND THE SEDIMENT BASIN DESIGN TO ASSIST WITH WATER TREATMENT AND TO MINIMISE SOIL LOSS;
- PRE-LOADING SEDIMENT BASIN, SEDIMENT TRAPS AND THEIR INLET DRAINAGE DEVICES WITH GYPSUM OR BIOPOLYMER SOCKS TO SPEED UP SETTLEMENT RATES; AND
- REGULAR (MONTHLY) INSPECTIONS BY A CPESC TO MONITOR THE SITE CONDITIONS AND WATER QUALITY AND PROVIDE ADVICE IF CHANGES TO THE EROSION AND SEDIMENT CONTROLS ARE NECESSARY.

IF ALL OF THE PROPOSED MEASURES WITHIN THIS PLAN ARE IMPLEMENTED SUCCESSFULLY, THE TARGET WATER QUALITY OUTCOMES CAN BE ACHIEVED FOR AT LEAST 80% OF THE AVERAGE ANNUAL RUNOFF AS REQUIRED BY THE NSW GOVERNMENT (2022) TECHNICAL GUIDELINE.

DESIGN ASSUMPTIONS

- THE IFD: 2YEAR, 6HOUR STORM INTENSITY = 9.13MMHR (BOM).
- THE SITE IS LOCATED ON THE BLACKTOWN SOIL LANDSCAPE (ACROSS THE MAJORITY OF THE SITE).
- POTENTIAL LIMITATIONS TO THE SOILS/LANDSCAPES INCLUDE LOCALISED SEASONAL WATERLOGGING, LOCALISED WATER EROSION HAZARD, MODERATELY REACTIVE HIGHLY PLASTIC SUBSOILS, MODERATE SALINITY POTENTIAL, POTENTIALLY SODIC AND HIGHLY DISPERSIVE SUBSOILS, LOCALISED SURFACE MOVEMENT POTENTIAL, LOCALISED IMPERMEABLE AND LOCALISED HIGH WATER TABLES.
- THE K-FACTOR IS BLACKTOWN SOIL LANDSCAPES OF 0.038. THIS IS THEN INCREASED BY 20% TO ACCOUNT FOR POTENTIAL DISPERSIBLE SOILS. THIS GIVES AN K-FACTOR OF 0.0456.
- 5-DAY, 85TH %ILE RAINFALL DEPTH = 34MM - BASED ON AN AVERAGE OF THE RAINFALL DEPTHS FOR BLACKTOWN, LIVERPOOL, PENRITH AND WALLACIA PROVIDED WITHIN THE BLUE BOOK (KEMPS CREEK IS APPROXIMATELY IN THE MIDDLE OF THESE LOCATIONS).
- VOLUMETRIC RUNOFF COEFFICIENT (C_V) = 0.64 (ASSUMING HYDROLOGIC GROUP D RUNOFF COEFFICIENT - LOW INFILTRATION, HIGH RUNOFF).
- RUNOFF COEFFICIENT (C₁₀) = 0.9.

EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO CONTROL EROSION AND DOWNSTREAM SEDIMENTATION DURING ALL STAGES OF CONSTRUCTION INCLUDING THE MAINTENANCE PERIOD. THE EXTENT AND POSITION OF THE EROSION AND SEDIMENT CONTROL MEASURES TO BE DETERMINED ON SITE BY THE CONTRACTOR TO SUIT THE CONSTRUCTION PROGRAM.
- THESE PLANS PRESENT CONCEPTS ONLY AND THE MEASURES SHOWN ON THIS DRAWING(S) ARE MINIMUM REQUIREMENTS ONLY.
- THE CONTRACTOR SHALL AT ALL TIMES BE RESPONSIBLE FOR THE ESTABLISHMENT, MANAGEMENT AND MAINTENANCE OF THE EROSION AND SEDIMENT CONTROL MEASURES TO MEET COUNCIL STANDARDS.
- LARGE OPEN AREAS OR STEEP BATTERS SHOULD NOT BE LEFT EXPOSED/UNSTABILISED FOR MORE THAN 10 DAYS OR IF WET WEATHER IS FORECAST.
- EXPOSED AREAS INCLUDING BATTERS WHICH REMAIN UN-WORKED FOR MORE THEN 10 DAYS SHOULD BE STABILISED USING TEMPORARY HYDROMULCHING, HYDROSEEDING OR MULCHING, EVEN IF AREAS WILL BE WORKED AT A LATER TIME.
- ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE INSTITUTION OF ENGINEERS AUSTRALIA, 'SOIL EROSION AND SEDIMENT CONTROL - ENGINEERING GUIDELINES FOR QUEENSLAND CONSTRUCTION SITES'
- THE CONTRACTOR SHALL BE AWARE OF ITS RESPONSIBILITIES FOR PROTECTING THE DOWNSTREAM ENVIRONMENT AND RECEIVING WATER FROM POLLUTION AND ENVIRONMENTAL HARM, UNDER THE ENVIRONMENTAL PROTECTION ACT. 1994.
- ADDITIONALLY THE CONTRACTOR SHALL BE AWARE OF ITS DUTY TO NOTIFY THE LOCAL AUTHORITY AND THE ENVIRONMENTAL PROTECTION AGENCY OF A POTENTIAL OR ACTUAL INCIDENT OF ENVIRONMENTAL HARM.

RECOMMENDED IMPLEMENTATION SEQUENCE:

- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO WORKS COMMENCING AND IN THE FOLLOWING SEQUENCE:
 - CONSTRUCT TEMPORARY STABILISED SITE ACCESS, ENSURING ADJACENT STORMWATER RUN OFF IS DIVERTED AWAY FROM ACCESS
 - INSTALL SEDIMENT FENCING AND/OR BARRIER FENCING TO CONFINE INGRESS TO AND EGRESS FROM THE SITE TO STABILISED ACCESS POINT(S) ONLY.
 - PROVIDE INLET PROTECTION TO STORMWATER INLETS AND GULLIES ON ALL ROADS ADJOINING THE SITE.
 - CONSTRUCT BARRIER FENCING AROUND RESTRICTED 'NO-GO' ZONES OF RETAINED VEGETATION, AREAS NOT TO BE DISTURBED AND AREAS WHICH WILL REMAIN UN-WORKED.
 - CONSTRUCT UPSTREAM DIVERSION CHANNELS TO DIVERT CLEAN WATER AROUND WORKSITE, AND INSTALL APPROPRIATE CHANNEL STABILISATION.
 - CONSTRUCT LOW FLOW EARTH BANKS AS CATCH DRAINS PARALLEL TO CONTOURS TO LIMIT LARGE SLOPE LENGTHS (SLOPES SHOULD BE LESS THEN 80M IN LENGTH).
 - INSTALL ALL TEMPORARY SEDIMENT FENCES.
 - CONSTRUCT ANY NOMINATED SEDIMENT BASINS AND SEDIMENT TRAPS.
 - STABILISE ALL DISTURBED AREAS ASAP AND PROGRESSIVELY AS WORKS ARE COMPLETED. TEMPORARY STABILISATION TO BE DONE USING MULCHING, HYDROMULCHING, HYDROSEEDING OR DIRECT SEEDING TO GIVE A 70% COVERAGE OF GROUND SURFACE WITHIN 14 DAYS OF WORKS COMPLETING (EVEN IF WORKS MAY CONTINUE LATER).
- UNDERTAKE SITE DEVELOPMENT WORKS SO THAT LAND DISTURBANCE IS CONFINED TO MINIMUM WORKABLE AREAS.
- DISTURBED AREAS TO EXTEND NO MORE THAN 5 METRES (PREFERABLY 2 METRES) FROM ESSENTIAL WORKS AREAS.
- WORK AREAS TO BE DELINEATED BY BARRIER FENCING AND DIVERSION CHANNEL. UPSLOPE AND SEDIMENT FENCING DOWNSLOPE. THE CONTRACTOR SHALL ENSURE THAT THE EXISTING VEGETATION AND GROUND COVER IS RETAINED AS MUCH AS POSSIBLE.
- TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR LATER USE ONSITE.
- SITE VEGETATION APPROVED FOR CLEARING SHOULD BE MULCHED AND STOCKPILED FOR LATER USE IN LANDSCAPING, STABILISATION AND/OR SITE REHABILITATION WORKS.
- AT ALL TIMES THE CONTRACTOR SHALL MONITOR THE PREVAILING WEATHER CONDITIONS AND PROTECT ANY DOWNSTREAM CONSTRUCTION AND RECEIVING ENVIRONMENTS.
- EROSION AND SEDIMENT CONTROL PROTECTION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONTRACT.
- PLANS AND CONTROL MEASURES FOR LARGE SITES WILL NEED TO BE REVISED AND UPDATED TO REFLECT THE SITE STAGES AND PROGRESSION OF WORKS.
- MEASURES INCLUDING SEDIMENT FENCES SHOULD BE MOVED AND REINSTATED AS WORKS PROGRESS.
- FOOT AND VEHICULAR TRAFFIC TO BE RESTRICTED IN RECENTLY STABILISED AREAS INCLUDING THOSE HYDROSEEDED, TURFED OR SEEDED.

DUST CONTROL

- DURING WINDY AND DRY WEATHER ANY UNPROTECTED AREAS SHALL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL. WHERE WATER IS NOT AVAILABLE IN SUFFICIENT QUANTITIES, SOIL BINDERS OR DUST RETARDANTS TO BE USED FOR DUST SUPPRESSION.
- EXPOSED SURFACES INCLUDING BATTERS SHOULD BE LEFT ROUGH TO REDUCE WIND SPEEDS AND POTENTIAL FOR WIND EROSION.
- USE OPEN WEAVE BARRIER FENCING ON WINDWARD SIDE OF SITE IF REQUIRED. FENCING IS GENERALLY REQUIRED WHERE AREA OF DISTURBANCE IS >5000m².

CONTROL MEASURES

- FINAL SITE LANDSCAPING SHALL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS OF CONSTRUCTION COMPLETION
- SEDIMENT LADEN WATER SHALL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM BY USING INLET PROTECTION.
- ALL PERIMETER BANKS AND CHANNEL DRAINS SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL ONLY BE REMOVED ONCE SITE IS STABILISED AND UPSTREAM WORKS HAVE BEEN COMPLETED.
- AT CONSTRUCTION COMPLETION ALL TEMPORARY EARTH STRUCTURES, INCLUDING SOIL STOCKPILES ARE TO BE TRACK ROLLED AND SEEDED. THE CONTRACTOR IS TO ENSURE A 70% COVERAGE WITHIN 14 DAYS.

OTHER MATTERS

- ACCEPTABLE RECEPTORS AND DISPOSAL PRACTICES WILL BE USED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHERS, LITTER AND GENERAL WASTE MATERIALS.
- ANY EXISTING TREES WHICH ARE NOT REQUIRED OR APPROVED TO BE CLEARED FOR THE WORKS AND/OR FORM PART OF THE FINAL LANDSCAPING PLAN SHOULD BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
 - PROTECTING THEM WITH BARRIER FENCING OR MARKERS.
 - ENSURING NOTHING IS NAILED TO THEM
 - PROHIBITING PAVING, GRADING OR PLACING OF STOCKPILES WITHIN DRIP LINE.
- ALL VEHICLE AND EQUIPMENT WASHING SHOULD BE CONTAINED IN SPECIFIC BUNDED AREAS, DISCONNECTED FROM CONCENTRATED FLOW PATHS AND THE STORMWATER SYSTEM.
- ANY NECESSARY VEHICLE OR EQUIPMENT REFUELING SHOULD BE UNDERTAKEN AWAY FROM CONCENTRATED FLOW PATHS AND PREFERABLY WITHIN A BUNDED AREA.
- ANY ONSITE FUEL STORAGE AREAS SHOULD BE COVERED AND BUNDED.

MAINTENANCE OF PUBLIC ROADS

- ALL CONSTRUCTION VEHICLES DEPARTING FROM THE SITE SHALL HAVE THEIR TYRES WASHED DOWN OR SEDIMENT REMOVED BY A STABILISED SITE ACCESS DEVICE.
- THE STABILISED SITE ACCESS AREAS SHALL BE LOCATED SUCH THAT SILTED WATER IS FILTERED THROUGH A SUITABLE SEDIMENT TRAP (SUCH AS A SEDIMENT FENCE) INSTALLED DOWNSTREAM OF ACCESS.
- THE CONTRACTOR SHALL INSPECT THE PUBLIC ROADS ADJACENT TO THE SITE DAILY AND MANUALLY REMOVE ANY SEDIMENT DEPOSITS (BY SWEEPING NOT WASH DOWN).

SITE INSPECTION AND MAINTENANCE

- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED REGULARLY, IMMEDIATELY BEFORE SITE CLOSURE, PRIOR TO PREDICTED LARGE STORM EVENTS AND AFTER EVERY SIGNIFICANT (> 5MM) RAINFALL EVENT OR AT LEAST ON A WEEKLY BASIS.
- THE CONTRACTOR WILL AS A MINIMUM CONDUCT EACH INSPECTION IN LINE WITH THE FOLLOWING:
 - RECORD TYPE OF DEVICE/CONTROL MEASURE BEING INSPECTED AND ITS LOCATION.
 - RECORD THE CONDITION OF EVERY CONTROL MEASURE.
 - RECORD MAINTENANCE REQUIREMENTS FOR EVERY CONTROL DEVICE.
 - RECORD SEDIMENT VOLUMES REMOVED FROM SEDIMENT TRAPPING DEVICES.
 - RECORD DETAILS OF SEDIMENT BASIN TREATMENT, FLOCCULANT DOSAGE AND CLEANOUT.
 - RECORD SEDIMENT DISPOSAL PROCEDURES AND LOCATION.
- REPAIRS AND MAINTENANCE OF ALL DEVICES AND MEASURES INCLUDING DIVERSION CHANNELS SHALL BE UNDERTAKEN AS REQUIRED, ENSURING ALL MEASURES ARE FULLY FUNCTIONAL AT ALL TIMES.
- ENSURE SEDIMENT LADEN WATER HAS NOT BEEN DIVERTED AROUND DEVICES.
- REPAIR SCOUR DAMAGE TO SEDIMENT CONTROL MEASURES AFTER RAINFALL EVENTS AND REINSTATE DEVICES AS NECESSARY.
- SEDIMENT FENCES WILL REQUIRE CLEANING WHEN SEDIMENT REACHES 300MM DEPTH OR ONE-HALF THE HEIGHT OF THE FILTER FABRIC AND ALL OTHER SEDIMENT TRAPS WILL REQUIRE CLEANING OUT WHEN 30% OF DESIGN CAPACITY IS REACHED.
- ALL INLET AND GULLY TRAPS TO BE CLEANED NOT HOSED AFTER EVERY RAINFALL EVENT, (1>5mm) OR AT LEAST ON A WEEKLY BASIS.
- SEDIMENT REMOVED FROM ANY TRAPPING DEVICE TO BE RELOCATED, ENSURING FURTHER POLLUTION TO DOWNSTREAM ENVIRONMENTS WILL NOT OCCUR.
- ALL SEEDING, HYDROSEEDING AND TURFING REQUIRES REGULAR WATERING, UNTIL EFFECTIVE COVER ESTABLISHED AND PLANTS ARE GROWING VIGOROUSLY. WATERING SHOULD VARY DEPENDING ON WEATHER AND SOIL CONDITIONS.
- WATERING SHOULD START IMMEDIATELY AFTER PLANTING AND SHOULD COMPLY WITH THE FOLLOWING AS A MINIMUM:

WEEK 1	3 WATERINGS/WEEK
WEEK 2-6	2 WATERINGS/WEEK
WEEK 7-12	1 WATERING/WEEK
- EXCESSIVE VEGETATION GROWTH WILL BE CONTROLLED THROUGH MOWING OR SLASHING.
- IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE INSPECTION, MAINTENANCE AND TESTING OF DEVICES IS UNDERTAKEN ON SITE.
- THE CONTRACTOR TO KEEP DETAILED AND LEGIBLE RECORDS OF ALL INSPECTION AND MAINTENANCE UNDERTAKEN ON THE EROSION AND SEDIMENT CONTROL DEVICES.
- ALL SITE WASTE INCLUDING GENERAL RUBBISH TO BE DISPOSED OF IN AN ENVIRONMENTALLY RESPONSIBLE MANNER IN ACCORDANCE WITH THE ENVIRONMENTAL PROTECTION (WASTE MANAGEMENT) POLICY 2000 AND ENVIRONMENTAL PROTECTION (WASTE MANAGEMENT) REGULATION 2000.
- THE CONTRACTOR SHALL CONSTRUCT AND IMPLEMENT ADDITIONAL MEASURES AS NECESSARY TO ENSURE PROTECTION OF DOWNSTREAM ENVIRONMENTS.

SOIL STRIPPING AND STOCKPILING

- IDEALLY, STRIP TOPSOIL WHEN IT IS MOIST, NOT TOO WET OR TOO DRY.
- TAKE CARE WHEN STRIPPING TOPSOIL NOT TO STRIP SUBSOIL WITH THE TOPSOIL PROFILE. TOPSOIL AND SUBSELS SHOULD BE MANAGED SEPARATELY.
- WHEREVER POSSIBLE, STOCKPILES ARE TO BE ESTABLISHED AND MAINTAINED IN ACCORDANCE WITH STANDARD DRAWING SD 4-1 (LANDCOM, 2004).
- AS MUCH AS IS FEASIBLE, MULCHED VEGETATION, TOPSOIL AND SUBSOIL (IF APPLICABLE) ARE TO BE STOCKPILED SEPARATELY.
- SEDIMENT FENCING IS TO BE INSTALLED AROUND THE LOWER EDGE OF STOCKPILES AS PER STANDARD DRAWING SD 4-1, UNLESS THE STOCKPILE IS IMMEDIATELY ADJACENT TO A SUITABLE ALTERNATIVE CONTROL SUCH AS A SEDIMENT BASIN. A DIVERSION DRAIN/BUND IS TO BE INSTALLED ON THE HIGH SIDE OF STOCKPILES IF RUN-ON FROM UPSLOPE LANDS COULD IMPACT ON THE STOCKPILE.
- STACKPILES ARE NOT TO BE POSITIONED WITHIN 5M OF POSSIBLE CONCENTRATED WATER FLOW (INCLUDES ROAD GUTTERS AND TABLE DRAINS).
- STACKPILES ARE TO BE SITED AT LEAST 50M FROM ANY WATERCOURSE, NATURAL DRAINAGE LINE OR CREEK AND AT LEAST 2M FROM ANY TREES TO BE RETAINED.
- STACKPILES WILL NOT BE LACATED ON FLOOD PRONE LANDS BELOW THE 2YEAR FLOOD LEVEL.
- STACKPILES WILL BE POSITIONED WITHIN THE APPROVED PROJECT CONSTRUCTION BOUNDARY AND AWAY FROM PROTECTED AREAS (E.G. NATIVE VEGETATION).
- INACTIVE STOCKPILE FACES ARE TO BE PROVIDED WITH AT LEAST 60% COVER (I.E. RUSLE C-FACTOR OF 0.1) WITHIN 10 DAYS OF FORMATION. STABILISATION OF STOCKPILES CAN BE ACHIEVED BY SEEDING AND SPRAYING WITH A SOIL STABILISER (E.G. VITAL P47), COVERING WITH GEOTEXTILE OR MATTING OR EQUIVALENT (NOTE SEEDING IS NOT REQUIRED FOR STOCKPILES IF THEY WILL BE IN PLACE FOR LESS THAN 3 MONTHS OR IF THEY HAVE AN EXISTING SEEDBANK). STOCKPILES OF TOPSOIL OR MULCH SHOULD BE CONSTRUCTED TO NO MORE THAN 2 METERS IN HEIGHT WHEREVER POSSIBLE (NOTE THIS ANLY APPLIES TO TOPSOIL AND MULCH).
- STACKPILES SHOULD BE FORMED TO BE NO STEEPER THAN 2:1 (H:V) WHEREVER POSSIBLE.

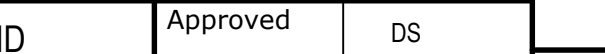
DUST SUPPRESSION

- DUST SUPPRESSION IS TO BE CARRIED OUT WHENEVER NECESSARY TO MINIMISE SEDIMENT BECOMING AIR BORNE DUE TO WIND EROSION.
- AN APPROPRIATE WATER SOURCE FOR DUST SUPPRESSION AND/OR DUST SUPPRESSANT MANAGEMENT SYSTEM MUST BE IDENTIFIED PRIOR TO STARTING CONSTRUCTION WORKS.
- ENSURE DUST SUPPRESSION IS CARRIED OUT IN A MANNER TO AVEID WATER RUNOFF, EROSION OR PONDING ON SURFACES (I.E. APPLY IN A GENTLE MANNER AT APPROPRIATE RATES AND MONITOR REGULARLY).
- TEMPORARY STABILISERS (E.G. VITAL BON-MATT P47), GEOTEXTILE, JUTE MATTING OR EQUIVALENT CAN BE USED IN NON-TRAFFICKED AREAS TO ASSIST WITH DUST CONTROL.

GENERAL REQUIREMENTS

STABILISATION

- UNDERTAKE PROGRESSIVE STABILISATION OF DISTURBED GROUND SURFACES AS THEY ARE COMPLETED RATHER THAN AT THE END OF THE WORKS PROGRAM (REFER TO TABLES 1 AND 2).
- FINAL STABILISATION IS TO ACHIEVE THE C-FACTORS (GROUND COVER) DETAILED IN TABLES 1 AND 2.
- FINAL REHABILITATION IS TO BE IN ACCORDANCE WITH THE LANDSCAPING/REHABILITATION PLANS.
- AREAS TO BE REVEGETATED ARE TO BE TOPSOILED FIRST. TOPSOIL IS TO BE SPREAD EVENLY TO AT LEAST 75MM. REFER TO STANDARD DRAWING (SD 4-2) FOR INSTRUCTIONS REGARDING TOPSOIL REPLACEMENT.
- TOPSOIL IS TO BE TESTED PRIOR TO REVEGETATION TO CONFIRM TREATMENT (AMELIORATION/FERTILIZATION) REQUIREMENTS INCLUDING TESTING FOR DISPERSION, PH, TRACE NUTRIENTS, EC AND CEC.
- APPROPRIATE SEEDBED PREPARATION SHOULD BE CARRIED OUT WHEN REVEGETATING LANDS (SEE STANDARD DRAWING (SD 7-1)).
- AS MUCH AS POSSIBLE, AVOID HANDLING TOPSOILS WHEN THEY ARE TOO WET OR TOO DRY. THIS HELPS PRESERVE SOIL STRUCTURE.
- AVOID BLENDING FRESH MULCH WITH TOPSOIL, AS THIS LEADS TO DE-NITRIFICATION.
- TO HELP PRESERVE SOIL STRUCTURE, AVOID EXCESSIVE COMPACTION OF TOPSOILS.
- GYPSUM SHOULD BE APPLIED TO SUBSOILS (AS CLAY BREAKER) AT AROUND 0.5kg/m² FOR GENERAL SURFACES AND BATTERS. RATES TO BE CONFIRMED PRIOR TO REVEGETATION WITH SOIL TESTING.
- ALL FLOW AREA SUBSOILS (DRAINAGE LINES, WATERWAYS, DIVERSION DRAINS, CHANNELS, BASINS) SHOULD BE GYSPUM TREATED AT A RATE OF 1.5kg/m².
- TOPSOILS SHOULD BE AMELIORATED WITH LIME TO ADJUST PH IF FIELD TESTING SHOWS pH IS BELOW 6.
- TOPSOILS WOULD MOST LIKELY BENEFIT FROM AN APPLICATION OF NPK FERTILIZER PLUS TRACE ELEMENTS (S, CA AND MO). SOIL TESTING PRIOR TO RE-SPREADING CAN CONFIRM THE APPROPRIATE RATE.
- PERMANENT DRAINS ARE TO BE STABILISED IN ACCORDANCE WITH ENGINEERING DESIGN BUT MUST ACHIEVE THE C-FACTORS (GROUND COVER) DETAILED IN TABLE 1. SOIL TESTING OF SUBSOILS AND TOPSOILS IS TO BE UNDERTAKING TO POTENTIAL SOIL TREATMENT/STABILISATION REQUIREMENTS.
- TEMPORARY DIVERSION DRAINS/BUNDS ARE TO BE STABILISED TO ACHIEVE THE C-FACTORS AS DETAILED IN TABLES 1 AND 2. USING SEEDING + VITAL P47 + JUTE MESH/MATTING OR ALTERNATIVELY GEOTEXTILE FABRIC, ROCK OR TRM. SUBSOILS ARE TO BE TREATED FIRST BY LIGHTLY RIPPING GYPSUM INTO THE SURFACE AT A RATE OF APPROX. 1.5kg/m². REFER TO THE PLANS FOR SPECIFIC DETAILS. ALSO REFER TO STANDARD DRAWINGS (SD 5-6 AND SD 5-7).
- REFER TO THE 'SOIL STRIPPING AND STOCKPILING' NOTES FOR STABILISATION REQUIREMENTS ON STOCKPILES. ALSO REFER TO TABLES 1 AND 2 AND STANDARD DRAWING (SD 4-1).
- SEDIMENT BASIN INLETS/OUTLETS ARE TO BE STABILISED IN ACCORDANCE WITH PERMANENT ENGINEERING DESIGN (WHERE APPLICABLE) OR WITH GEOTEXTILE UNDERLAY AND ROCK IN ACCORDANCE WITH RECOMMENDATIONS FOR 'HIGH FLOW' AREAS ON TABLE 1 AND AS DETAILED ON THE PLAN.
- HIGHLY TRAFFICKED AREAS SUCH AS LAYDOWN/STORAGE AREAS, HAUL ROADS/ACCESS TRACKS AND SITE COMPOUNDS WILL BE FORMED IN ACCORDANCE WITH ENGINEERING SPECIFICATIONS AND STABILISED WHERE NECESSARY AND AS MUCH AS PRACTICABLE TO MINIMISE EROSION AND PROVIDE A TRAFFICABLE SURFACE. STABILISATION OF THESE AREAS WILL BE ACHIEVED WITH SUITABLE TRAFFICABLE MEASURES (E.G. WITH HEAVY BOUND DGB (CEMENT STABILISED), AGGREGATE, CRUSHED ROCK, ROAD BASE OR A HEAVY DUTY TRAFFICABLE SOIL STABILISER) AND RE-GRADING/RE-SURFACING AS NECESSARY.
- AS SURFACES ARE STABILISED (AT LEAST 90% OF ANY FINISHED AREA HAS AT LEAST 70% GROUND COVER) AND PERMANENT DRAINAGE MEASURES ARE INSTALLED, TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AND WATER MANAGEMENT STRUCTURES CAN BE REMOVED (E.G. DIVERSION DRAINS).
- TEMPORARY STABILISATION OF EXPOSED SURFACES ON HIGH RISK AREAS (I.E. STEEP SLOPES (>5%), BATTERS, SURFACES NOT DRAINING TO SEDIMENT
- SURFACES NOT DRAINING TO SEDIMENT BASINS AND WORKS INNNEAR WATERWAYS) WILL BE UNDERTAKEN PRIOR TO RAINFALL IN ACCORDANCE WITH THE 'RAINFALL PREPARATION PROCEDURE' NOTES AND THE INSTRUCTIONS ON THE PLAN.
- ALL EXPOSED LANDS WHERE WORKS ARE NOT ACTIVELY OCCURRING (FOR 20 DAYS OR MORE) ARE TO BE TEMPORARILY STABILISED WITH A TEMPORARY GROUND COVER (I.E. A SOIL BINDER (E.G. VITAL STONEWALL), MATTING, GEOTEXTILE OR EQUIVALENT).
- WHEREVER POSSIBLE, RE-USE CLEARED/MULCHED VEGETATION FOR EITHER TEMPORARY OR PERMANENT STABILISATION OF DISTURBED AREAS.

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Issue	Description	Date										

1. IN ACCORDANCE WITH PLANNING POLICY APPLICABLE AT THE SITE, ALL SEDIMENT BASINS ARE TO BE DESIGNED, CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH IECA "BEST PRACTICE EROSION AND SEDIMENT CONTROL- APPENDIX B- SEDIMENT BASIN DESIGN AND OPERATION" (JUNE 2018) WHICH REQUIRES ALL BASINS TO BE CONTINUOUS FLOW TYPE A OR B BASINS WITH AUTOMATED CHEMICAL DOSING, NOT TRADITIONAL TYPE D/F UNLESS SITE CONSTRAINTS DICTATE.
2. THE CONTRACTOR SHALL KEEP DETAILED AND ACCURATE RECORDS OF THE MONITORING, TREATMENT, TESTING AND MAINTENANCE OF THE SEDIMENT BASIN INCLUDING RECORDED RAINFALL VOLUME, FLOCCULATING AGENTS USED
3. ALL CHEMICAL DOSING AND WATER TESTING TO BE UNDERTAKEN BY A SUITABLY QUALIFIED PERSON.
4. ALL LABORATORY TESTING TO BE UNDERTAKEN BY A NATA ACCREDITED LABORATORY.
5. ALL WATER PUMPED FROM THE SEDIMENT BASIN SHALL BE TESTED FOR ENVIRONMENTAL COMPLIANCE AGAINST THE RELEASE CRITERIA IN THE TABLE BELOW (AS A MINIMUM), UNLESS ALTERNATIVE (MORE STRINGENT) STANDARDS ARE SPECIFIED BY THE LOCAL AUTHORITY **PRIOR TO RELEASE.**

6. WATER TESTING TO BE UNDERTAKEN USING EITHER A HANDHELD PH/TURBIDITY METER OR SAMPLES COLLECTED FOR LABORATORY TESTING PRIOR TO ANY MANUAL BASIN DEWATERING.
7. THE TREATED BASIN SHALL BE DEWATERED WITH A PUMP SYSTEM WITH A FLOATING INLET TO ENSURE SETTLED SEDIMENT IS NOT ENTRAINED AND DISCHARGED.
8. COMPLETE BASIN DEWATERING SHALL OCCUR WITHIN 5 DAYS FROM CONCLUSION OF RAINFALL EVENT.
9. SEDIMENT BASINS WILL REQUIRE DEWATERING AND SEDIMENT CLEANOUT ONCE STORAGE CAPACITY REACHES 70%.
10. CAPTURED SEDIMENT WILL BE DISPOSED OF IN AN ENVIRONMENTALLY RESPONSIBLE MANNER AS TO NOT CAUSE FURTHER CONTAMINATION OR DOWNSTREAM POLLUTION. SEDIMENT SHOULD NOT BE DISPOSED OF IN CONCENTRATED FLOWS, WHERE IT CAN BE RE-ENTRAINED OR RE-RELEASED TO RECEIVING WATERS WITH A PH OF < 5.5.
11. THE BASIN AND ALL OTHER CONTROL DEVICES WILL BE MAINTAINED IN AN OPERATIONAL STATE UNTIL SITE STABILIZED.
12. REPAIR ANY SCOUR DAMAGE TO THE SEDIMENT BASIN BATTERS AND EMERGENCY SPILLWAY FOLLOWING RAINFALL EVENTS.
13. SEDIMENT BASIN SHOULD NOT BE CONSTRUCTED WITH SMOOTH INTERNAL SLOPES AND BASIN BATTERS SHOULD NOT BE STEEPER THAN 3(H):1(V).
14. BASINS SHOULD BE APPROPRIATELY FENCED AND MARKED BY WARNING SIGNS IF UNSUPERVISED PUBLIC ACCESS IS LIKELY AND PUBLIC SAFETY IS AT RISK.
15. ALL INLET CHUTES TO BE FORMED FROM DUMPED ROCK PLACED OVER GEOTEXTILE LINER (BIDM #34 OR EQUIVALENT). ROCK USED TO BE CRUSHED, CLEAN, HARD DURABLE AND MINIMUM AVERAGE SIZE (d_{50})=150mm

1. RE-USED FOR DUST SUPPRESSION OR CONSTRUCTION PURPOSES; OR
2. TREATED (IF REQUIRED) AND TESTED IN SITU, THEN RELEASED OFF SITE ONCE IT MEETS THE REQUIRED WATER QUALITY DISCHARGE CRITERIA (SEE BELOW); OR
3. PUMPED INTO A TANK, TRUCK OR OTHER HOLDING AREA FOR LATER TREATMENT; OR
4. SPREAD OUT AND INFILTRATED ONTO WELL VEGETATED LANDS WITHIN THE SITE BOUNDARY AT LEAST 50m AWAY FROM ANY WATERWAY, SWALE, OR DRAINAGE LINE. ENSURE WATER IS APPLIED SLOWLY AND IN A MANNER TO AVOID CONCENTRATED SURFACE RUNOFF AND/OR EROSION
5. ANY ACTIVE DISCHARGE OF WATER FROM THE PROJECT (I.E. WHERE WATER IS MOVED OFFSITE VIA DIRECT ACTION SUCH AS PUMPING RATHER THAN FLOWING OFF THE PROJECT AS A RESULT OF HEAVY RAINFALL) IS TO ACHIEVE:
 - 6. II 50MG/L OR LESS TSS (TOTAL SUSPENDED SEDIMENT); AND
 - 7. PH 6.5 TO 8.5, AND
 - 8. 10MG/L OIL AND GREASE AND NO VISIBLE TRACE.
9. ADEQUATE WATER QUALITY CAN BE ACHIEVED BY USING GYPSUM AT A RATE OF APPROXIMATELY 30 KG/100 M³ OF STORMWATER. ALTERNATIVE FLOCULATING AGENTS CAN ONLY BE USED IF THEY DO NOT CAUSE ENVIRONMENTAL HARM
10. WHEN DISCHARGED, REFER TO MANUFACTURERS GUIDELINES FOR DOSAGE DETAILS.
11. SPREAD THE TREATMENT AGENT EVENLY OVER THE ENTIRE POND SURFACE FOR PROPER TREATMENT OF WATER.
11. THESE DE-WATERING REQUIREMENTS APPLY TO DIRTY WATER ACCUMULATING IN ANY SORT OF EXCAVATION, SUMP, OR OTHER PONDED WATER BODY ON THE PROJECT.
12. IF THE WATER IS GOING TO BE USED WITHIN THE CONSTRUCTION SITE FOR DUST-SUPPRESSION OR CONSTRUCTION
13. PURPOSES AND WILL DRAIN BACK INTO THE SEDIMENT CAPTURE SYSTEM IT DOES NOT REQUIRE TREATMENT.

7. CHECK DAMS ARE TO BE PROVIDED WITH ALL DRAINAGE DEVICES INCLUDING ROADSIDE TABLE DRAINS AT 40m INTERVALS.
8. PRIOR TO FORECAST HIGH RAINFALL (> 70% CHANCE OF 10mm OR MORE OVER 24 HOURS) AND SITE CLOSURE OF MORE THAN 2 DAYS, THE FOLLOWING WILL OCCUR IN ADDITION TO THE BELOW:
9. WINDOW/SBUNDS ARE TO BE PROVIDED ALONG THE TOP EDGE OF FILL BATTERS TO PROTECT FILL BATTERS. LOCATIONS AND DETAILS ARE TO BE CONFIRMED ONSITE AS WORKS PROGRESS AND DOCUMENTED ON SITE SPECIFIC PROGRESSIVE ESCPS. THEY ARE NOT REQUIRED FOR INITIAL STRIPPING WORKS. THEY ARE TO BE FORMED AS COMPACTED EARTH BERMIS (MIN. 600MM HIGH) ALONG THE TOP EDGE OF FILL PLATFORMS PRIOR TO RAINFALL AND SITE CLOSURE (2 DAYS). THEY ARE NOT REQUIRED DURING DRY WEATHER. ADDITIONAL WINDOW/S AND GEOFABRIC LINED BATTER CHUTES AT REGULAR INTERVALS MAY NEED TO BE PROVIDED AS THE WORKS PROGRESS - LOCATIONS AND DETAILS ARE TO BE PROVIDED ON SITE SPECIFIC PROGRESSIVE ESCPS.
10. PRIOR TO FORECAST RAINFALL (~70% CHANCE OF 34MM OR MORE OVER A 5 DAY PERIOD) AND SITE CLOSURE OF MORE THAN 2 DAYS, THE FOLLOWING WILL OCCUR IN ADDITION TO THE ABOVE:
11. GYPSUM WILL BE SPREAD/DUSTED EVENLY OVER ALL EXPOSED SOIL SURFACES.
12. SEDIMENT BASIN AND SEDIMENT TRAP INLET POINTS WILL BE PRELOADED WITH GYPSUM.
13. MAJOR DIRTY WATER DIVERSION DRAINS WILL HAVE GYPSUM, BIOPOLYMER GEL SOCKS (OR EQUIVALENT) PLACED WITHIN THEM OR REPLENISHED AT 80m INTERVALS (IF NOT ALREADY IN PLACE).

1. REGULAR SITE INSPECTIONS ARE TO BE CONDUCTED BY THE SITE ENVIRONMENT MANAGER (OR THEIR REPRESENTATIVE);
2. AT LEAST WEEKLY DURING NORMAL CONSTRUCTION HOURS; AND
3. PRIOR TO FORECAST RAINFALL (SEE ABOVE); AND
4. DAILY DURING RAIN EVENTS (IF SAFE TO DO SO); AND
5. WITHIN 24 HOURS OF THE CESSATION OF A RAIN EVENT THAT CAUSES RUNOFF.
6. MINIMUM MONTHLY AUDITS/SITE INSPECTIONS ARE ALSO TO BE CONDUCTED BY A CPESC TO ENSURE ALL OF THE REQUIRED OUTCOMES AND WATER QUALITY TARGETS ARE BEING MET AND WHERE NECESSARY PROVIDE ADVICE AND MODIFICATIONS TO THIS PLAN TO ENSURE ONGOING COMPLIANCE.
7. RECORDS OF THE SITE INSPECTIONS/AUDITS ARE TO BE KEPT FOR THE DURATION OF CONSTRUCTION AND FOR A MINIMUM OF 12 MONTHS FOLLOWING THE COMPLETION OF CONSTRUCTION WORKS.
8. PRIOR TO FORECAST RAINFALL OF 5MM OR MORE OVER 24 HOURS, THE SITE ENVIRONMENT MANAGER (OR THEIR REPRESENTATIVE) IS TO INSPECT THE CONDITION OF ALL EROSION AND SEDIMENT CONTROLS AND ACTION ANY URGENT REPAIR, MAINTENANCE OR IMPROVEMENT WORKS. THEY ARE TO KEEP A RECORD ALL FINDINGS (INCLUDING DETAILS OF ACTIONS AND THEIR CLOSE OUTS).
9. PRIOR TO SITE SHUTDOWN OF MORE THAN 2 DAYS, SLOPE BREAKS/CONTOUR BERMS WILL BE PUSHED UP OR CUT IN ACROSS LARGE, EXPOSED AREAS TO SLOW DOWN FLOWS AND MINIMISE EROSION. DIVERSION DUNDS/DRAINS, LOW FLOW EARTH BANKS (STANDARD DRAWING SD 5-S) OR SANDBAGS/EQUIVALENT SHOULD BE INSTALLED TO ACHIEVE THIS WHERE REQUIRED.
10. ADDITIONAL EROSION AND SEDIMENT CONTROLS WILL BE INSTALLED AT EXISTING CONTROLS REPAIRED/UPGRADED/MAINTAINED AS NECESSARY TO ENSURE SATISFACTORY OUTCOMES IN KEEPING WITH THE PROJECT CONDITIONS AND BEST-PRACTICE BLUE BOOK GUIDELINES.
11. SITE SPECIFIC PROGRESSIVE ESCPS WILL BE PREPARED AND/OR UPDATED AS REQUIRED.
12. SEDIMENT OR ROCKS TRACKED FROM THE SITE WILL BE REMOVED FROM PUBLIC ROADS AS SOON AS POSSIBLE (E.G. WITH STREET SWEEPERS).
13. AFTER RAINFALL, SEDIMENT ACCUMULATED IN TRAPPING DEVICES (E.G. BASIN, SEDIMENT FENCE) WILL BE REMOVED TO A SECURE LOCATION WHERE IT CAN'T WASH OR BLOW OFFSITE (PREFERABLY TO AN ACTIVE STOCKPILE).
14. WEATHER CONDITIONS WILL BE MONITORED ONSITE AND DAILY RAINFALL WILL BE RECORDED. A RAINFALL GAUGE WILL BE INSTALLED AT THE SITE COMPOUND.
15. SAFE STORAGE AREAS FOR WASTES, FUELS, EXCESS CONCRETE AND OTHER POTENTIAL CONTAMINANTS ARE TO BE DELINEATED BY THE SITE MANAGER.
16. ADEQUATE SUPPLIES OF EROSION CONTROL MEASURES (E.G. GEOTABRIC ROLLS, JUTE MATTING, HYDRAULIC SOIL BINDERS) ARE TO MAINTAINED IN THE SITE COMPOUND FOR RAPID DEPLOYMENT AS REQUIRED.
17. WATER TREATMENT CHEMICAL(S) AND EQUIPMENT ARE TO BE MAINTAINED ONSITE.

- LINE WITH GEOTEXTILE (BIDIM A24 MIN. EQUIVALENT)

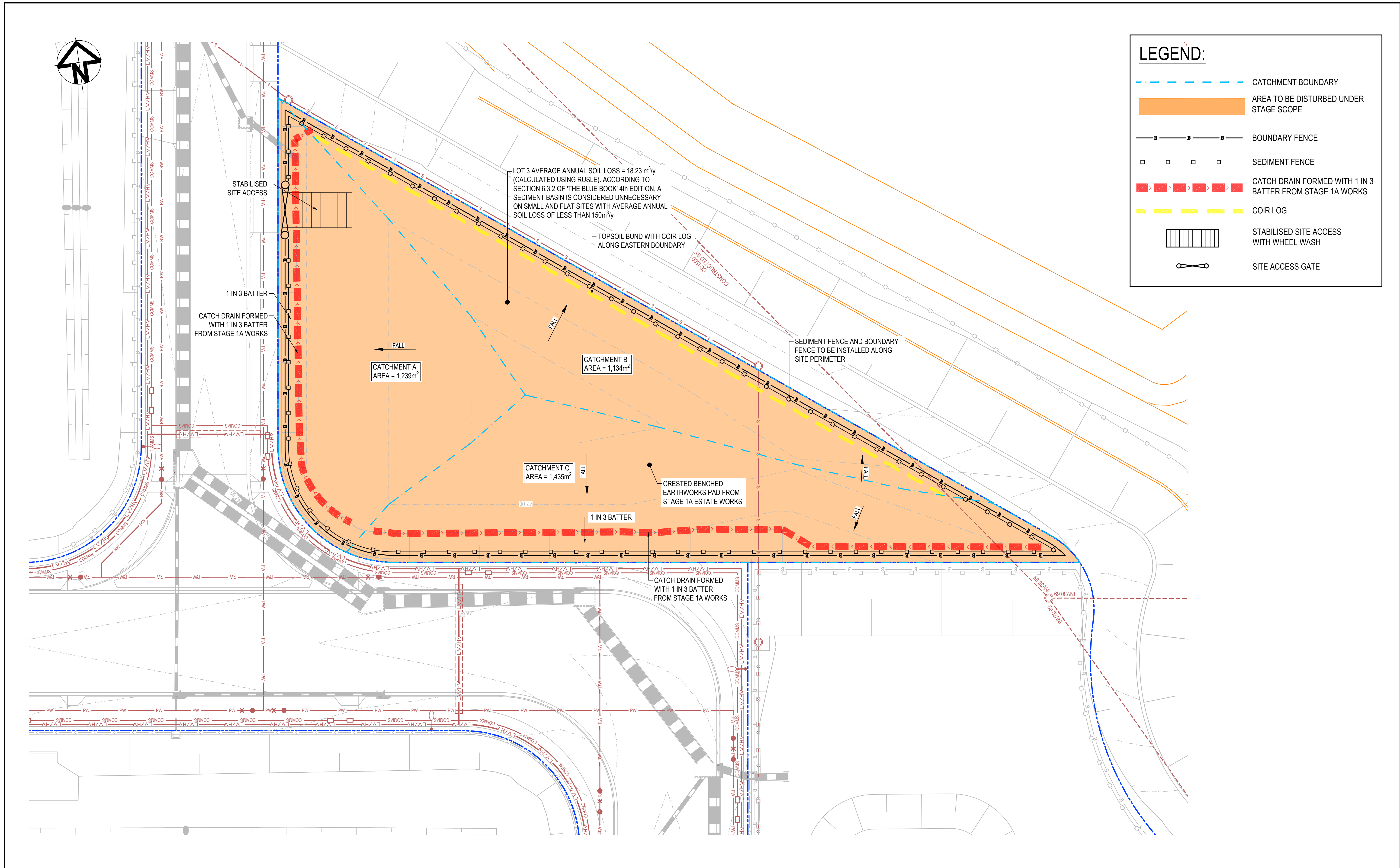
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TABLE 2 - STABILISATION REQUIREMENTS AND TREATMENT METHODS CONTINUED				
POST CONSTRUCTION				
LANDS	STABILISATION REQUIREMENT	TIMEFRAMES	TREATMENT METHODS PRODUCTS	REMARKS
WATERWAYS, DRAINAGE LINES AND CONCENTRATED FLOW AREAS	C-FACTOR = 0.05 (70% GRASS COVER OR EQUIVALENT GROUND COVER¹)	APPLIES AFTER 10 WORKING DAYS FROM COMPLETION OF FORMATION AND BEFORE THEY ARE ALLOWED TO CARRY CONCENTRATED FLOWS.	REFER TO THE DRAIN SPECIFICATIONS DETAILED ON THE PLAN FOR SPECIFIC LINING/STABILISATION REQUIREMENTS. EXAMPLE TREATMENT METHODS ARE SHOWN BELOW.	
			TEMPORARY LINING - GEOTEXTILE (i.e. BIDIM A24 OR EQUIVALENT¹)	- COMPLETE ANY SUBSOIL TREATMENT BEFORE LAYING THE MATTING. -INSTALL MATTING IN ACCORDANCE WITH SD 5-7 -RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PROVIDED.
			JUTE MESH, SEEDING AND SOIL BINDER (i.e VITAL P47/STONEWALL OR EQUIVALENT¹) - LOW FLOWS	-COMPLETE SUBSOIL TREATMENT (E.G. GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING ". - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - WATERWAYS AND (50% GRASS COVER OR * OF INACTIVITY LEVEN THOUGH MONTHS- - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / 7m² OF DILUTED VITAL MIXTURE. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			JUTE MATTING (350gsm) AND SEEDING OR EQUIVALENT¹ - LOW TO MODERATE FLOWS	-COMPLETE SUBSOIL TREATMENT (E.G. GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING ". - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - WATERWAYS AND (50% GRASS COVER OR * OF INACTIVITY LEVEN THOUGH MONTHS- - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / 7m² OF DILUTED VITAL MIXTURE. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			- TURN REINFORCEMENT MATTING (TRM) (e.g TERRAMAT OR EQUIVALENT¹) (TRN) -MODERATE FLOWS	-COMPLETE SUBSOIL TREATMENT (E.G. GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
STOCKPILES	C-FACTOR = 0.10 / 0.05 (60% GRASS COVER OR EQUIVALENT GROUND COVER¹)	APPLIES AFTER 10 WORKING DAYS FROM COMPLETION OF FORMATION	ROCK LINING - HIGH FLOWS	-COMPLETE SUBSOIL TREATMENT (E.G. GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			SEEDING AND SOIL BINDER (i.e VITAL P47/ STONEWALL OR EQUIVALENT¹)	- APPLY SEED TO ALL STOCKPILE SURFACES (NOTE: SEEDING MAY NOT BE REQUIRED IF EXISTING SEEDBED IS PRESENT). - SPRAY ALL STOCKPILE SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - VITAL DILUTION RATE = 1L / m² OF DILUTED VITAL MIXTURE. - RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
GENERAL SURFACES	C-FACTOR = 0.10 / 0.05 (60% / 70% GRASS COVER OR EQUIVALENT GROUND COVER¹)	C-FACTOR = 0.1 APPLIES AFTER 10 WORKING DAYS FROM COMPLETION OF FORMATION AND C-FACTOR= 0.05 APPLIES WITHIN A FURTHER 60 DAYS	GEOTEXTILE, JUTE MATTING, BLACK PLASTIC (SECURELY PINNED) OR EQUIVALENT¹	- COVER ALL EXPOSED SOILS. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PROVIDED.
			TOPSOIL, SEEDING AND SOIL BINDER (i.e VITAL P47/STONEWALL OR EQUIVALENT¹)	-REFER TO SD 7-1 -COMPLETE SUBSOIL TREATMENT (i.e GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - APPLY ANY FERTILISERS REQUIRED. - APPLY SEED TO ALL SURFACES (Note: SEEDING MAY NOT BE REQUIRED IF EXISTING SEEDBED IS PRESENT. - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / 7m² OF DILUTED VITAL MIXTURE. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			HYDROMLUCH OR EQUIVALENT¹	-REFER TO SD 7-1 -COMPLETE SUBSOIL TREATMENT (i.e GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - APPLY ANY FERTILISERS REQUIRED. - APPLY SEED TO ALL SURFACES (Note: SEEDING MAY NOT BE REQUIRED IF EXISTING SEEDBED IS PRESENT. - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / 7m² OF DILUTED VITAL MIXTURE. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.

TABLE 3 - LIMITATIONS TO ACCESS DURING CONSTRUCTION		
LAND USE	LIMITATION	REMARKS
CONSTRUCTION AREAS	LIMITED TO 5 (PREFERABLE 2) METRES FROM THE EDGE OF ANY ESSENTIAL CONSTRUCTION ACTIVITY AS SHOWN ON THE ENGINEERING PLANS.	ALL SITE WORKERS SHOULD CLEARLY RECOGNISE THESE AREAS THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS.
ACCESS AREAS	LIMITED TO A MAXIMUM WIDTH OF METRES	THE SITE MANAGER WILL DETERMINE AND MARK THE LOCATION OF THESE ZONES ON SITE. THEY CAN VARY IN POSITION SO AS TO BE BEST CONSERVE EXISTING VEGETATION AND PROTECT DOWNSTREAM AREAS WHILE BEING CONSIDERATE OF THE NEEDS OF EFFICIENT WORKS ACTIVITIES. ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE BOUNDARIES.
ALL LANDS (INCLUDING WATERWAYS AND STOCKPILES)	APPLIES AFTER 20 WORKING DAYS OF INACTIVITY (EVEN THOUGH WORKS MIGHT CONTINUE LATER)	APPLIES AFTER 20 WORKING DAYS OF INACTIVITY (EVEN THOUGH WORKS MIGHT CONTINUE LATER)

			Bar Scales	THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client 	Scales N.T.S. Drawn WP Designed WP Grid MGA2020 Height Datum AHD 	Project SEED STAGE 1B SSD 8650 SERIES LOT 3 ESCP PACKAGE	Civil Engineers and Project Managers  Level 10, 124 Walker Street North Sydney NSW 2060 P 02 9439 1777 E info@atl.net.au www.atl.net.au ABN 96 130 882 405	Status FOR APPROVAL NOT FOR CONSTRUCTION		A1
									Title NOTES AND SPECIFICATIONS SHEET 3		
									Project - Drawing No. 16-369-C8653		Issue A
A	ISSUED FOR SSDA	20-02-2026									
Issue	Description	Date									

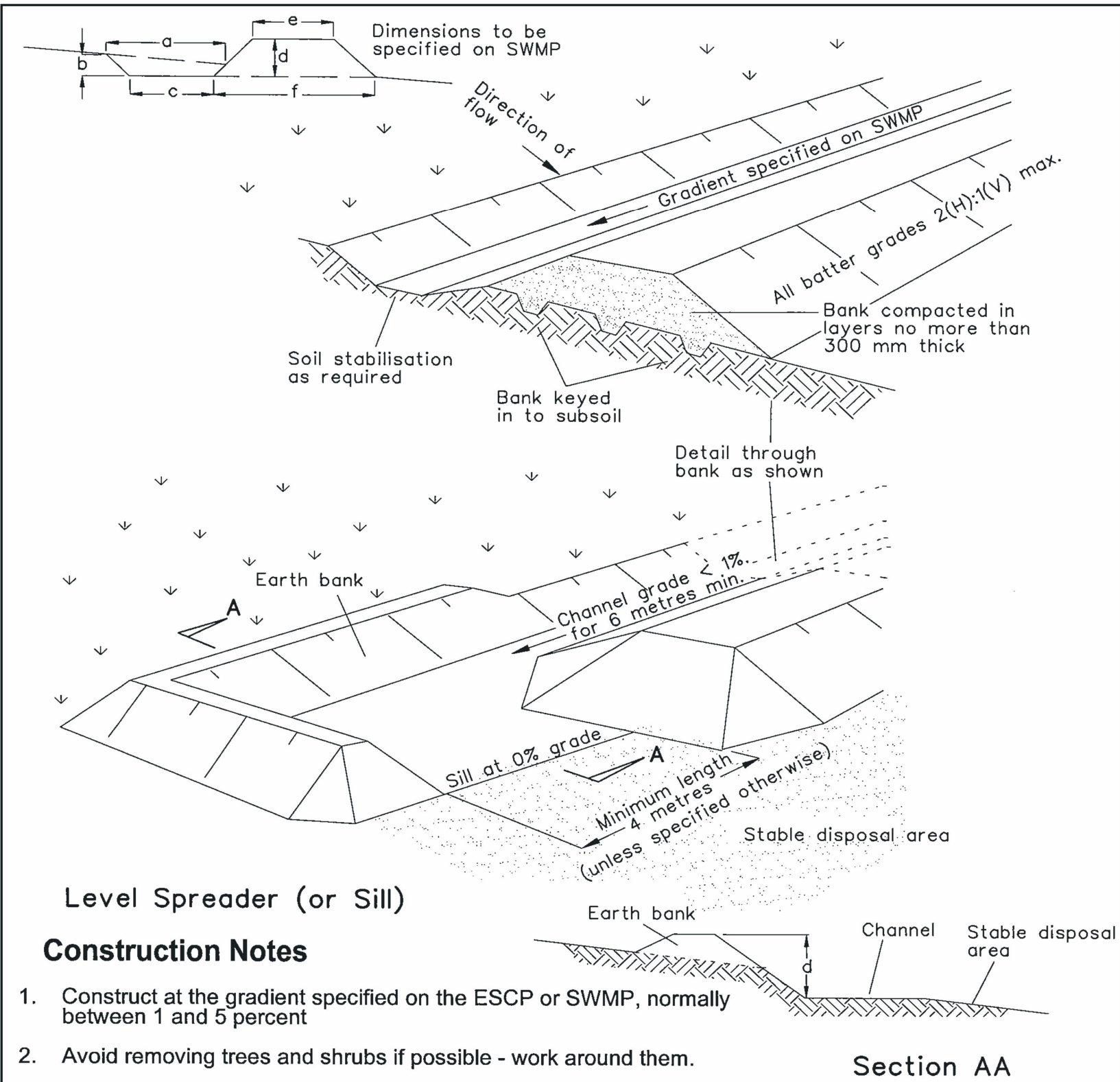
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F:\16-369 Kemps Creek\Drqs\Civil\Final\8000 Onlot Works Packages\8650 LOT 3 ESCP\16-369-C8655.dwg



Level Spreader (or Sill)

Construction Notes

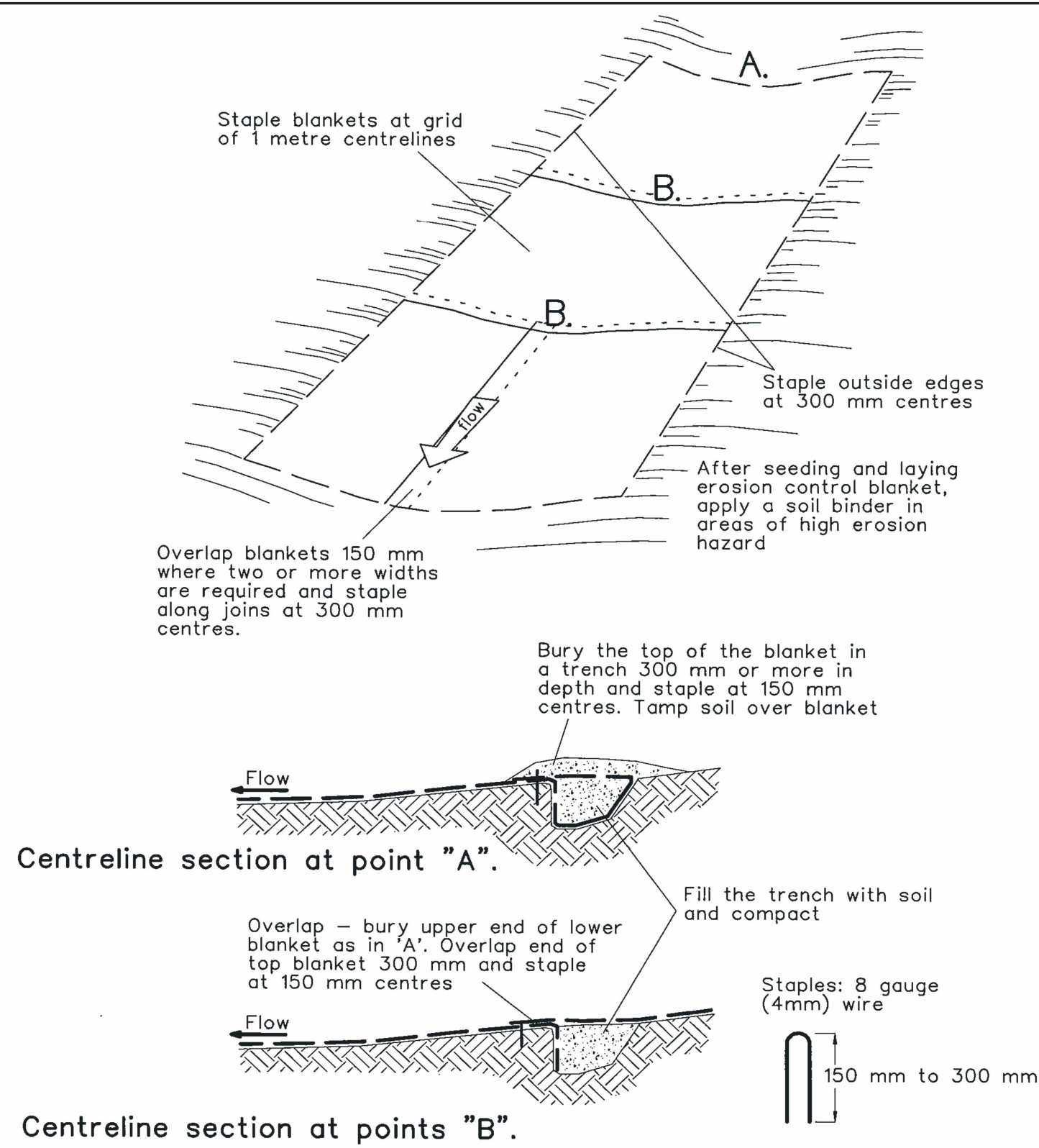
1. Construct at the gradient specified on the ESCP or SWMP, normally between 1 and 5 percent
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V-shaped, at the dimensions shown on the SWMP.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction following Table 5.2 in Landcom (2004).
7. Where discharging to erodible lands, ensure they outlet through a properly constructed level spreader.
8. Construct the level spreader at the gradient specified on the ESCP or SWMP, normally less than 1 percent or level.
9. Where possible, ensure they discharge waters onto either stabilised or undisturbed disposal sites within the same subcatchment area from which the water originated. Approval might be required to discharge into other subcatchments.

Section AA

EARTH BANK (HIGH FLOWS)

SD 5-6

5-26



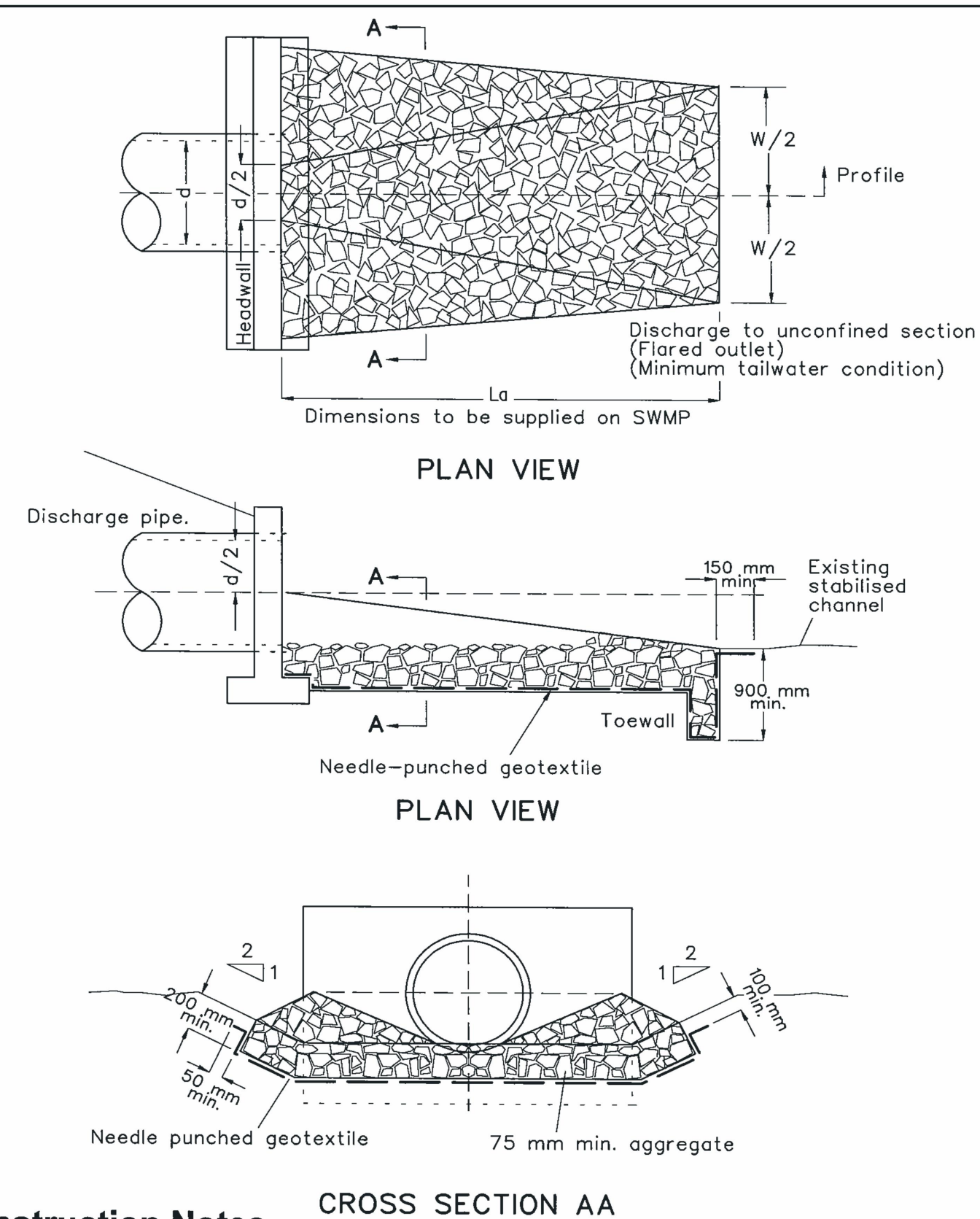
Construction Notes

1. Remove any rocks, clods, sticks or grass from the surface before laying matting
2. Ensure that topsoil is at least 75 mm deep.
3. Complete fertilising and seeding before laying the matting.
4. Ensure fabric will be continuously in contact with the soil by grading the surface carefully first.
5. Lay the fabric in "shingle-fashion", with the end of each upstream roll overlapping those downstream. Ensure each roll is anchored properly at its upslope end (Standard Drawing 5-7b).
6. Ensure that the full width of flow in the channel is covered by the matting up to the design storm event, usually in the 10-year ARI time of concentration storm event.
7. Divert water from the structure until vegetation is stabilised properly.

RECP : CONCENTRATED FLOW

SD 5-7

5-28



Construction Notes

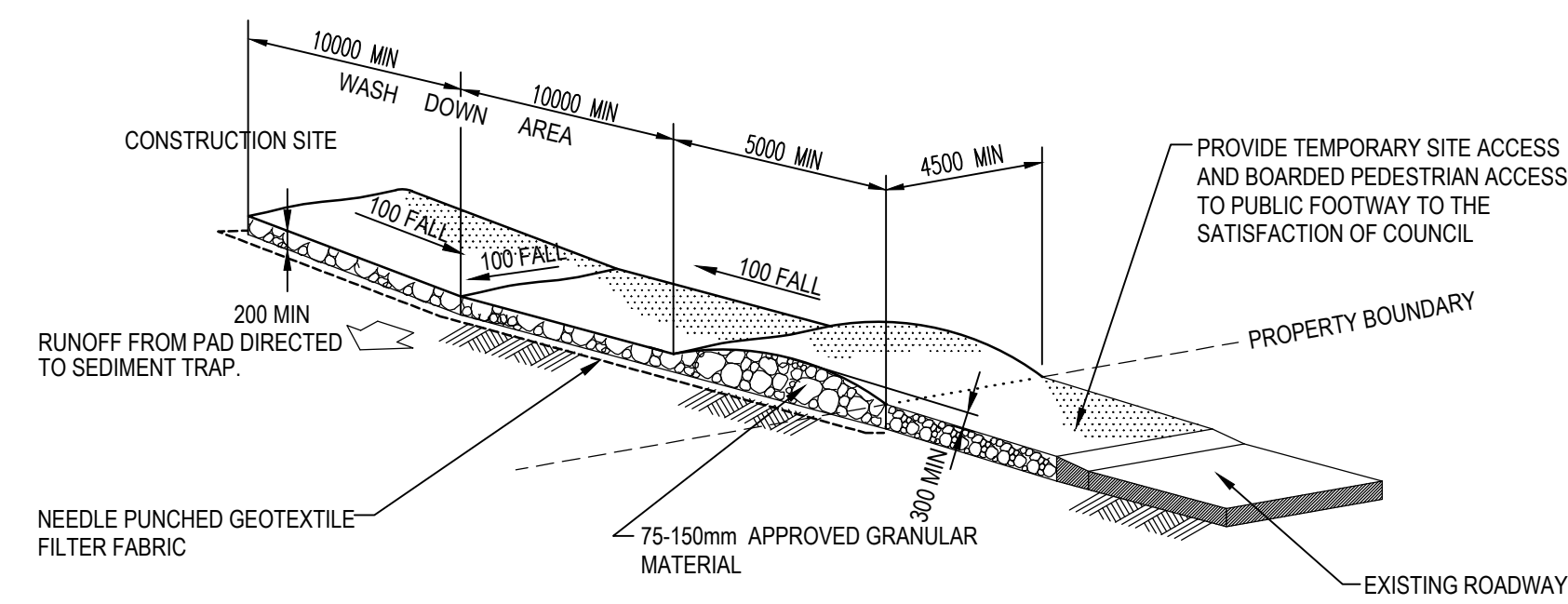
1. Compact the subgrade fill to the density of the surrounding undisturbed material.
2. Prepare a smooth, even foundation for the structure that will ensure that the needle-punched geotextile does not sustain serious damage when covered with rock.
3. Should any minor damage to the geotextile occur, repair it before spreading any aggregate. For repairs, patch one piece of fabric over the damage, making sure that all joints and patches overlap more than 300 mm.
4. Lay rock following the drawing, according to Table 5.2 of Landcom (2004) and with a minimum diameter of 75 mm.
5. Ensure that any concrete or riprap used for the energy dissipater or the outlet protection conforms to the grading limits specified on the SWMP.

ENERGY DISSIPATER

SD 5-8

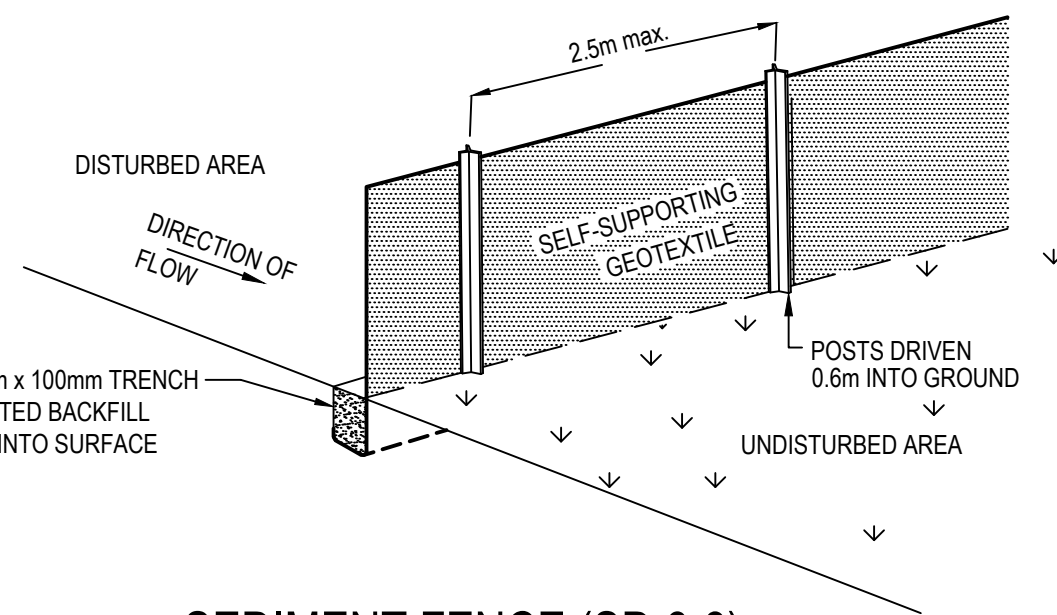
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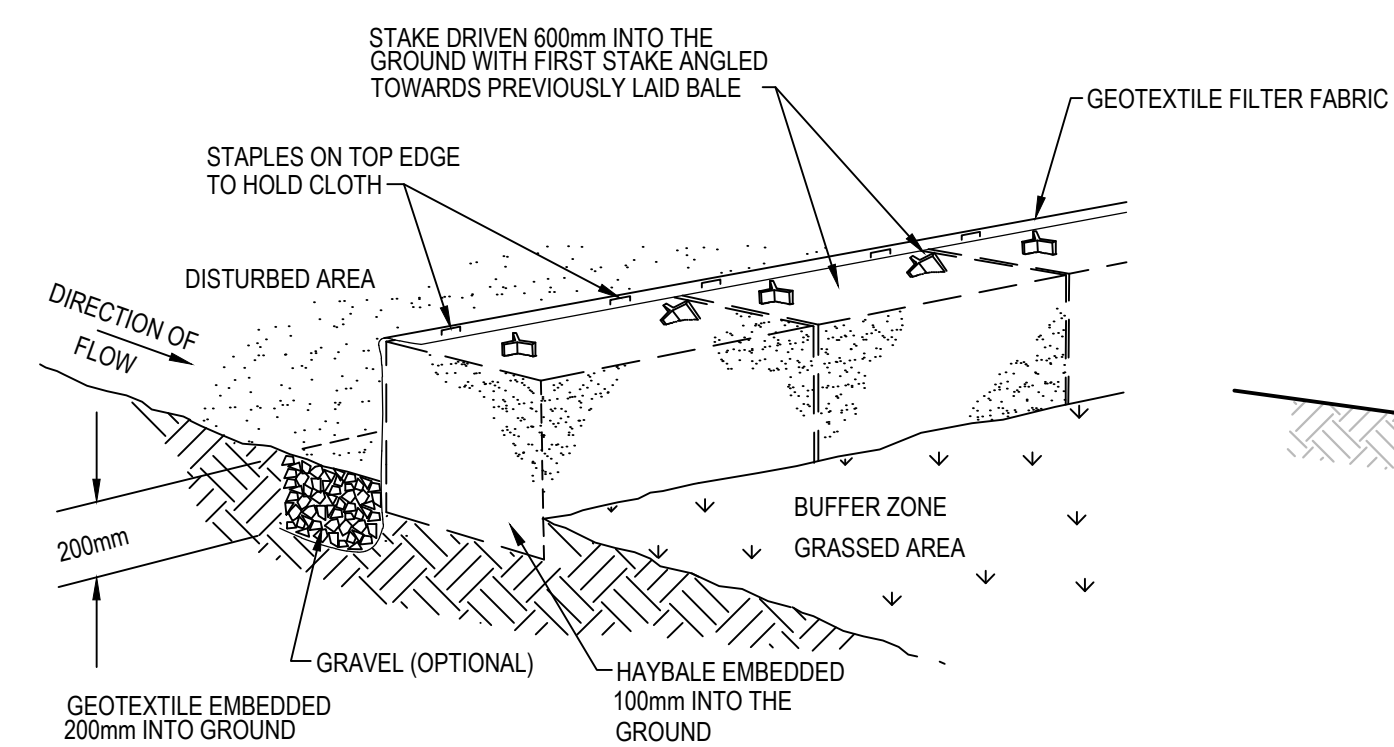
STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA

NTS



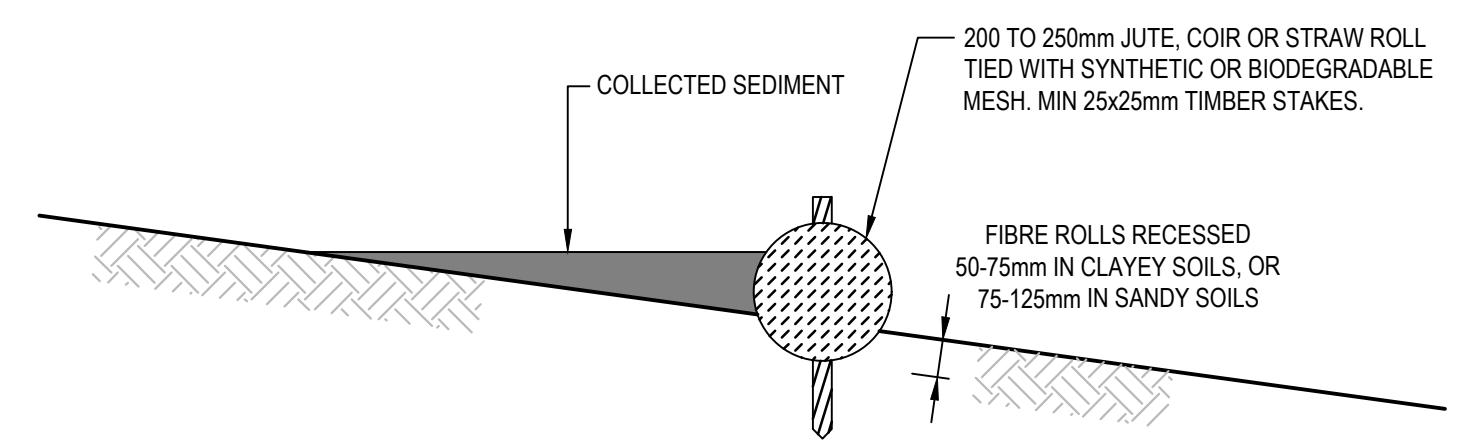
SEDIMENT FENCE (SD 6-8)

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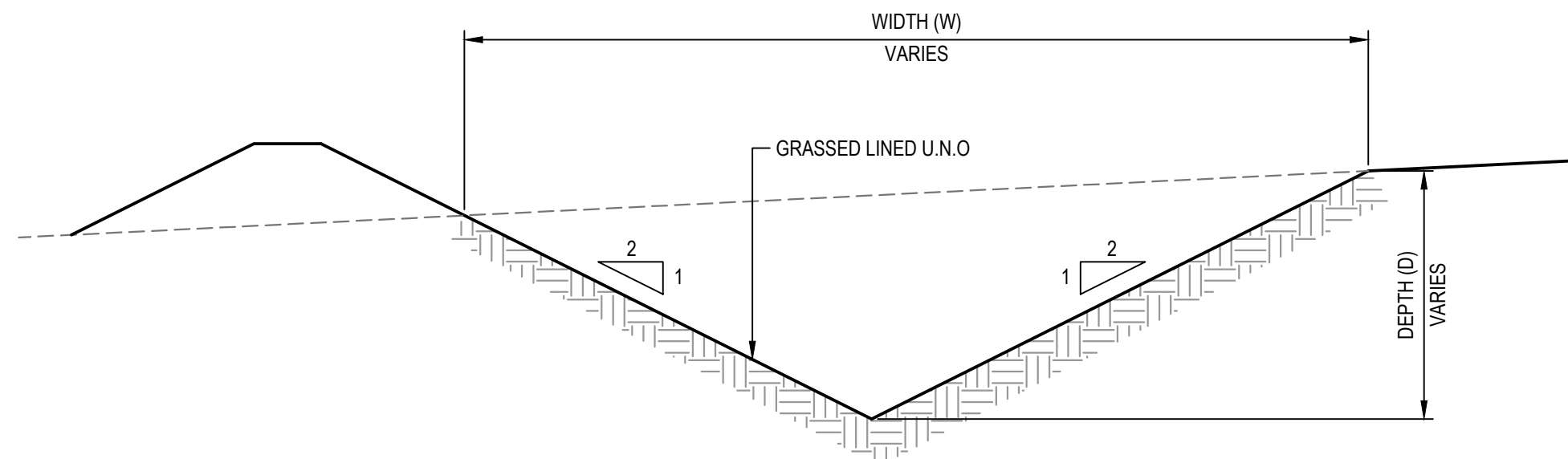
HAYBALE AND GEOTEXTILE SEDIMENT FILTER

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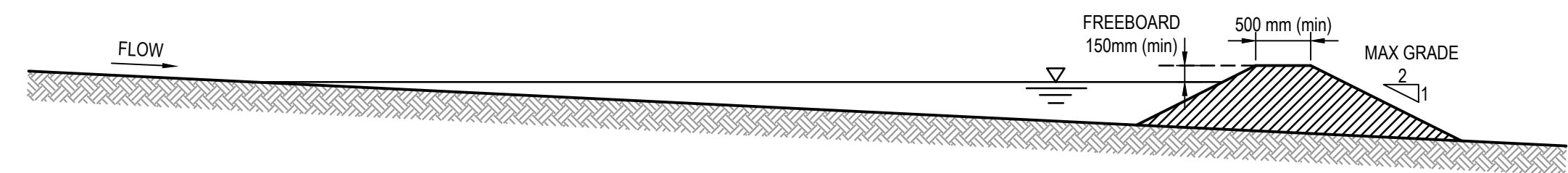
COIR LOG (FIBRE ROLL)

SCALE 1:10



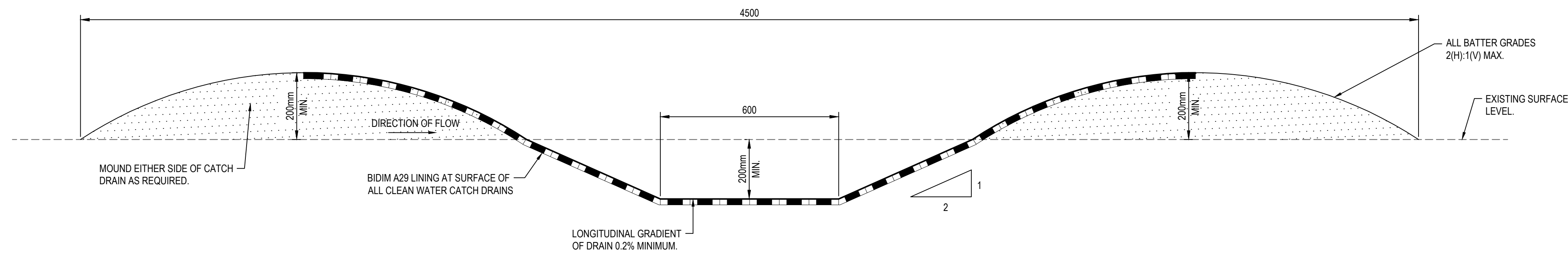
CATCH DRAIN (DIRTY WATER)

SCALE 1:10



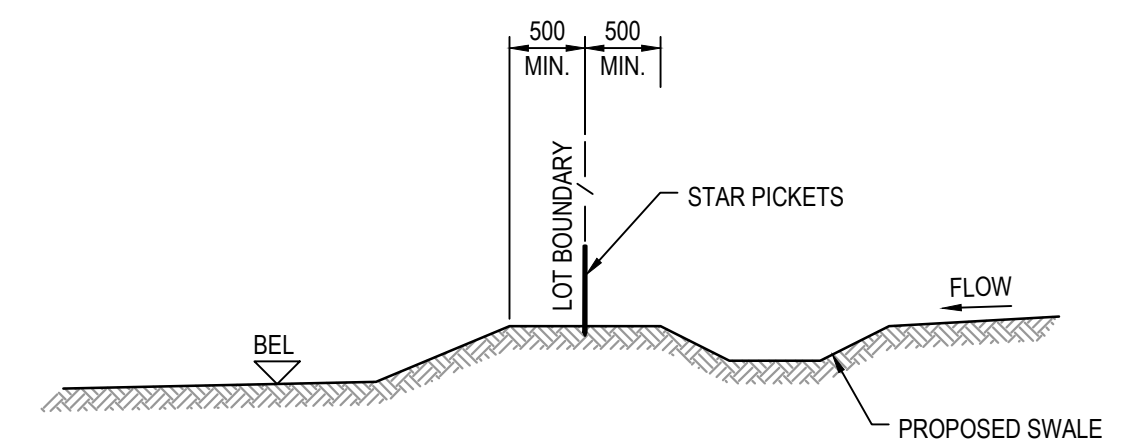
TOPSOIL BUND

1 : 50



CATCH DRAIN DETAIL (CLEAN WATER)

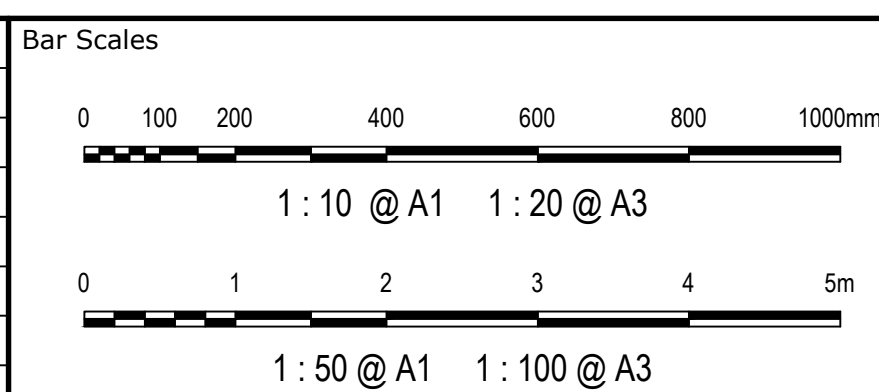
SCALE 1:10



TYPICAL LOT BOUNDARY DETAIL

1 : 50

A	ISSUED FOR SSDA	20-02-2026
Issue	Description	Date



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Client



Scales	AS SHOWN	Drawn	WP
		Designed	WP
Grid	MGA2020	Checked	GB
Height Datum	AHD	Approved	DS

Project

SEED
STAGE 1B SSD
8650 SERIES
LOT 3 ESCP PACKAGE

Title

DETAILS
SHEET 3

Civil Engineers and Project Managers

Level 10, 124 Walker Street
North Sydney
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Status	FOR APPROVAL NOT FOR CONSTRUCTION	A1
Project - Drawing No.	16-369-C8657	Issue A

EROSION AND SEDIMENT CONTROL DESIGN

1. THE DETAILS SHOWN WITHIN THIS PLAN ARE OVER-ARCHING EROSION AND SEDIMENT CONTROL REQUIREMENTS ONLY FOR THE INITIAL STAGE OF THE BULK EARTHWORKS. AS THE WORKS PROGRESS AND SITE CONDITIONS CHANGE, THIS PLAN IS TO BE UPDATED ACCORDINGLY. SITE SPECIFIC PROGRESSIVE EROSION AND SEDIMENT CONTROL PLANS (PESSS) WILL ALSO BE REQUIRED TO DETAIL SPECIFIC WORKS. THIS ESCP HAS BEEN PREPARED TO ACCOMPANY THE PROJECTS CEMP.
2. THIS EROSION AND SEDIMENT CONTROL PLAN (ESCP) HAS BEEN PREPARED BY A CPESC (AS CERTIFIED) IN ACCORDANCE WITH BLUE BOOK VOLUME 1 (LANDCOM, 2004) AND TO MEET THE REQUIREMENTS OF THE CONSTRUCTION WSUD PRINCIPALS SET OUT IN THE DRAFT TECHNICAL GUIDANCE FOR ACHIEVING WIANAMATTA SOUTH CREEK STORMWATER MANAGEMENT TARGETS (NSW GOVERNMENT, 2022). IT DEMONSTRATES THE CONSTRUCTION APPROACH AND TIMING REQUIREMENTS FOR ACHIEVING THE CONSTRUCTION PHASE STORMWATER QUALITY TARGETS.
3. THE NSW GOVERNMENT (2022) TECHNICAL GUIDELINE (AS NOTED ABOVE) REQUIRES 80% OF THE AVERAGE ANNUAL RUNOFF VOLUME ACHIEVES 50mg/L TOTAL SUSPENDED SOLIDS (TSS) OR LESS AND PH IN THE RANGE (6.5-8.5). THE STANDARD BLUE BOOK SEDIMENT BASIN DESIGN AND OTHER STANDARD EROSION AND SEDIMENT CONTROL MEASURES ARE ESTIMATED TO ACHIEVE APPROXIMATELY 60% HYDROLOGICAL EFFECTIVENESS. THEREFORE, IN ORDER TO ACHIEVE 80% HYDROLOGICAL EFFECTIVENESS, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES ABOVE THE STANDARD BLUE BOOK DESIGN HAVE BEEN RECOMMENDED WITHIN THIS PLAN - REFER TO THE FOLLOWING INSTRUCTIONS AND NOTES AND THE PLANS ON ESCP03&04. THESE ADDITIONAL MEASURES INCLUDE:
4. SEDIMENT BASIN DESIGN TO THE 85TH PERCENTILE RAINFALL DEPTH RATHER THAN THE STANDARD 80TH PERCENTILE BLUE BOOK REQUIREMENT PROVIDING ADDITIONAL WATER STORAGE VOLUME;
5. UTILISING EXISTING DAMS AND/OR FUTURE WATER RETENTION DEVICES WHERE PRACTICABLE TO PROVIDE ADDITIONAL WATER STORAGE VOLUME AND BREAK UP CATCHMENTS;
6. ENHANCED EROSION CONTROLS (E.G. REDUCED SLOPE LENGTHS, INCREASED FOCUS ON TEMPORARY AND PROGRESSIVE STABILISATION, ADDITIONAL CHECK DAMS AND A FOCUS ON TEMPORARY DRAINAGE CONTROL);
6. PASSIVE BROADCAST GYPSUM SPREADING OVER THE ENTIRE DISTURBED CATCHMENT PRIOR TO LARGER RAINFALL EVENTS BEYOND THE SEDIMENT BASIN DESIGN TO ASSIST WITH WATER TREATMENT AND TO MINIMISE SOIL LOSS;
7. PRE-LOADING SEDIMENT BASIN, SEDIMENT TRAPS AND THEIR INLET DRAINAGE DEVICES WITH GYPSUM OR BIOPOLYMER SOCKS TO SPEED UP SETTLEMENT RATES; AND
8. REGULAR (MONTHLY) INSPECTIONS BY A CPESC TO MONITOR THE SITE CONDITIONS AND WATER QUALITY AND PROVIDE ADVICE IF CHANGES TO THE EROSION AND SEDIMENT CONTROLS ARE NECESSARY.

IF ALL OF THE PROPOSED MEASURES WITHIN THIS PLAN ARE IMPLEMENTED SUCCESSFULLY, THE TARGET WATER QUALITY OUTCOMES CAN BE ACHIEVED FOR AT LEAST 80% OF THE AVERAGE ANNUAL RUNOFF AS REQUIRED BY THE NSW GOVERNMENT {2022} TECHNICAL GUIDELINE.

DESIGN ASSUMPTIONS

1. THE IFD: 2YEAR, 6HOUR STORM INTENSITY = 9.13MM/HR (BOM).
2. THE SITE IS LOCATED ON THE BLACKTOWN SOIL LANDSCAPE (ACROSS THE MAJORITY OF THE SITE).
3. POTENTIAL LIMITATIONS TO THE SOILS/LANDSCAPES INCLUDE LOCALISED SEASONAL WATERLOGGING, LOCALISED WATER EROSION HAZARD, MODERATELY REACTIVE HIGHLY PLASTIC SUBSOILS, MODERATE SALINITY POTENTIAL, POTENTIALLY SODIC AND HIGHLY DISPERSIVE SUBSOILS, LOCALISED SURFACE MOVEMENT POTENTIAL, LOCALISED IMPERMEABLE AND LOCALISED HIGH WATER TABLES.
4. THE K-FACTOR IS BLACKTOWN SOIL LANDSCAPES OF 0.038. THIS IS THEN INCREASED BY 20% TO ACCOUNT FOR POTENTIAL DISPERSIBLE SOILS. THIS GIVES AN K-FACTOR OF 0.0456.
5. 5-DAY, 85TH %ILE RAINFALL DEPTH = 34MM - BASED ON AN AVERAGE OF THE RAINFALL DEPTHS FOR BLACKTOWN, LIVERPOOL, PENRITH AND WALLACIA PROVIDED WITHIN THE BLUE BOOK (KEMPS CREEK IS APPROXIMATELY IN THE MIDDLE OF THESE LOCATIONS).
6. VOLUMETRIC RUNOFF COEFFICIENT (CV) = 0.64 (ASSUMING HYDROLOGIC GROUP D RUNOFF COEFFICIENT - LOW INFILTRATION, HIGH RUNOFF).
7. RUNOFF COEFFICIENT {C10} = 0.9.

NOTES

GENERAL INSTRUCTIONS

1. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO CONTROL EROSION AND DOWNSTREAM SEDIMENTATION DURING ALL STAGES OF CONSTRUCTION INCLUDING THE MAINTENANCE PERIOD.
2. THE EXTENT AND POSITION OF THE EROSION AND SEDIMENT CONTROL MEASURES TO BE DETERMINED ON SITE BY THE CONTRACTOR TO SUIT THE CONSTRUCTION PROGRAM.
3. THESE PLANS PRESENT CONCEPTS ONLY AND THE MEASURES SHOWN ON THIS DRAWING(S) ARE MINIMUM REQUIREMENTS ONLY.
4. THE CONTRACTOR SHALL AT ALL TIMES BE RESPONSIBLE FOR THE ESTABLISHMENT, MANAGEMENT AND MAINTENANCE OF THE EROSION AND SEDIMENT CONTROL MEASURES TO MEET COUNCIL STANDARDS.
5. LARGE OPEN AREAS OR STEEP BATTERS SHOULD NOT BE LEFT EXPOSED/UNSTABILISED FOR MORE THAN 10 DAYS OR IF WET WEATHER IS FORECAST.
6. EXPOSED AREAS INCLUDING BATTERS WHICH REMAIN UN-WORKED FOR MORE THEN 10 DAYS SHOULD BE STABILISED USING TEMPORARY HYDROMULCHING, HYDROSEEDING OR MULCHING, EVEN IF AREAS WILL BE WORKED AT A LATER TIME.
7. ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE INSTITUTION OF ENGINEERS AUSTRALIA, 'SOIL EROSION AND SEDIMENT CONTROL - ENGINEERING GUIDELINES FOR QUEENSLAND CONSTRUCTION SITES'.
8. THE CONTRACTOR SHALL BE AWARE OF ITS RESPONSIBILITIES FOR PROTECTING THE DOWNSTREAM ENVIRONMENT AND RECEIVING WATER FROM POLLUTION AND ENVIRONMENTAL HARM, UNDER THE ENVIRONMENTAL PROTECTION ACT, 1994.
9. ADDITIONALLY THE CONTRACTOR SHALL BE AWARE OF ITS DUTY TO NOTIFY THE LOCAL AUTHORITY AND THE ENVIRONMENTAL PROTECTION AGENCY OF A POTENTIAL OR ACUTAL INCIDENT OF ENVIRONMENTAL HARM.

RECOMMENDED IMPLEMENTATION SEQUENCE

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO WORKS COMMENCING AND IN THE FOLLOWING SEQUENCE:
 - a. CONSTRUCT TEMPORARY STABILISED SITE ACCESS, ENSURING ADJACENT STORMWATER RUN OFF IS DIVERTED AWAY FROM ACCESS
 - b. INSTALL SEDIMENT FENCING AND/OR BARRIER FENCING TO CONFINE INGRESS TO AND EGRESS FROM THE SITE TO STABILISED ACCESS POINTS ONLY
 - c. PROVIDE INLET PROTECTION TO STORMWATER INLETS AND GULLIES ON ALL ROADS ADJOINING THE SITE
 - d. CONSTRUCT BARRIER FENCING AROUND RESTRICTED 'NO-GO' ZONES OF RETAINED VEGETATION, AREAS NOT TO BE DISTURBED AND AREAS WHICH WILL REMAIN UN-WORKED.
 - e. CONSTRUCT UPSTREAM DIVERSION CHANNELS TO DIVERT CLEAN WATER AROUND WORKSITE, AND INSTALL APPROPRIATE CHANNEL STABILISATION.
 - f. CONSTRUCT LOW FLOW EARTH BANKS AS CATCH DRAINS PARALLEL TO CONTOURS TO LIMIT LARGE SLOPE LENGTHS (SLOPES SHOULD BE LESS THAN 80% IN LENGTH).
 - g. INSTALL ALL TEMPORARY SEDIMENT FENCES
 - h. CONSTRUCT ANY NOMINATED SEDIMENT BASINS AND SEDIMENT TRAPS
 - i. STABILISE ALL DISTURBED AREAS ASAP AND PROGRESSIVELY AS WORKS ARE COMPLETED. TEMPORARY STABILISATION TO BE DONE USING MULCHING, HYDROMULCHING, HYDROSEEDING OR DIRECT SEEDING TO GIVE A 70% COVERAGE OF GROUND SURFACE WITHIN 14 DAYS OF WORKS COMPLETING (EVEN IF WORKS MAY CONTINUE)
2. UNDERTAKE SITE DEVELOPMENT WORKS SO THAT LAND DISTURBANCE IS CONFINED TO MINIMUM WORKABLE AREAS
3. DISTURBED AREAS TO EXTEND NO MORE THAN 5 METRES (PREFERABLY 2 METRES) FROM ESSENTIAL WORKS AREAS.
4. WORK AREAS TO BE DELINEATED BY BARRIER FENCING AND DIVERSION CHANNEL UPSLOPE AND SEDIMENT FENCING DOWNSLOPE.
5. THE CONTRACTOR SHALL ENSURE THAT THE EXISTING VEGETATION AND GROUND COVER IS RETAINED AS MUCH AS POSSIBLE.
6. TOPSOIL SHALL BE STRIPPED AND STOCKPILED FOR LATER USE ONSITE
7. SITE VEGETATION APPROVED FOR CLEARING SHOULD BE MULCHED AND STOCKPILED FOR LATER USE IN LANDSCAPING, STABILISATION AND/OR SITE REHABILITATION WORKS
8. AT ALL TIMES THE CONTRACTOR SHALL MONITOR THE PREVAILING WEATHER CONDITIONS AND PROTECT ANY DOWNSTREAM CONSTRUCTION AND RECEIVING ENVIRONMENTS.
9. EROSION AND SEDIMENT CONTROL PROTECTION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONTRACT.
10. PLANS AND CONTROL MEASURES FOR LARGE SITES WILL NEED TO BE REVISED AND UPDATED TO REFLECT THE SITE STAGES AND PROGRESSION OF THE WORKS
11. MEASURES INCLUDING SEDIMENT FENCES SHOULD BE MOVED AND REINSTATED AS WORKS PROGRESS
12. FOOT AND VEHICULAR TRAFFIC TO BE RESTRICTED IN RECENTLY STABILISED AREAS INCLUDING THOSE HYDROSEEDED, TURFED OR SEEDED.

DUST CONTROL

1. DURING WINDY AND DRY WEATHER ANY UNPROTECTED AREAS SHALL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL. WHERE WATER IS NOT AVAILABLE IN SUFFICIENT QUANTITIES, SOIL BINDERS OR DUST RETARDANTS TO BE USED FOR DUST SUPPRESSION.
2. EXPOSED SURFACES INCLUDING BATTERS SHOULD BE LEFT ROUGH TO REDUCE WIND SPEEDS AND POTENTIAL FOR WIND EROSION.
3. USE OPEN WEAVE BARRIER FENCING ON WINDWARD SIDE OF SITE IF REQUIRED. FENCING IS GENERALLY REQUIRED WHERE AREA OF DISTURBANCE IS >5000m².

CONTROL MEASURES

1. FINAL SITE LANDSCAPING SHALL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS OF CONSTRUCTION COMPLETION
2. SEDIMENT LOADED WATER SHALL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM BY USING INLET PROTECTION.
3. ALL PERIMETER BANKS AND CHANNEL DRAINS SHALL HAVE UNINTERFERRED POSITIVE GRADE TO AN OUTLET.
4. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL ONLY BE REMOVED ONCE SITE IS STABILISED AND UPSTREAM WORKS HAVE BEEN COMPLETED.
5. AT CONSTRUCTION COMPLETION ALL TEMPORARY EARTH STRUCTURES INCLUDING SOIL STOCKPILES ARE TO BE TRACK ROLLED AND SEEDED. THE CONTRACTOR IS TO ENSURE A 70% COVERAGE WITHIN 14 DAYS.

OTHER MATTERS

1. ACCEPTABLE RECEPTORS AND DISPOSAL PRACTICES WILL BE USED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHERS, LITTER AND GENERAL WASTE MATERIALS.
2. ANY EXISTING TREES WHICH ARE NOT REQUIRED OR APPROVED TO BE CLEARED FOR THE WORKS AND/OR FORM PART OF THE FINAL LANDSCAPING PLAN SHOULD BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
 - a. PROTECTING THEM WITH BARRIER FENCING OR MARKERS.
 - b. ENSURING NOTHING IS NAILED TO THEM
 - c. PROHIBITING PAVING, GRADING OR PLACING OF STOCKPILES WITHIN Drip LINE.
3. ALL VEHICLE AND EQUIPMENT WASHING SHOULD BE CONTAINED IN SPECIFIC BUNDED AREAS, DISCONNECTED FROM CONCENTRATED FLOW PATHS AND THE STORMWATER SYSTEM.
4. ANY NECESSARY VEHICLE OR EQUIPMENT REFUELLING SHOULD BE UNDERTAKEN AWAY FROM CONCENTRATED FLOW PATHS AND PREFERABLY WITHIN A BUNDED AREA.
5. ANY ONSITE FUEL STORAGE AREAS SHOULD BE COVERED AND BUNDED.

MAINTENANCE OF PUBLIC ROADS

1. ALL CONSTRUCTION VEHICLES DEPARTING FROM THE SITE SHALL HAVE THEIR TYRES WASHED DOWN OR SEDIMENT REMOVED BY A STABILISED SITE ACCESS DEVICE.
2. THE STABILISED SITE ACCESS AREAS SHALL BE LOCATED SUCH THAT SILTED WATER IS FILTERED THROUGH A SUITABLE SEDIMENT TRAP (SUCH AS A SEDIMENT FENCE) INSTALLED DOWNSTREAM OF ACCESS.
3. THE CONTRACTOR SHALL INSPECT THE PUBLIC ROADS ADJACENT TO THE SITE DAILY AND MANUALLY REMOVE ANY SEDIMENT DEPOSITS (BY SWEEPING NOT WASH DOWN).

SITE INSPECTION AND MAINTENANCE

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED REGULARLY, IMMEDIATELY BEFORE SITE CLOSURE, PRIOR TO THE SCHEDULED LARGE STORM EVENTS AND AFTER EVERY SIGNIFICANT (>5MM) RAINFALL EVENT OR AT LEAST ON A WEEKLY BASIS.
2. THE CONTRACTOR WILL AS A MINIMUM CONDUCT EACH INSPECTION IN LINE WITH THE FOLLOWING
 - a. RECORD TYPE OF DEVICE/CONTROL MEASURE BEING INSPECTED AND ITS LOCATION;
 - b. RECORD THE CONDITION OF EVERY CONTROL MEASURE;
 - c. RECORD MAINTENANCE REQUIREMENTS FOR EVERY CONTROL DEVICE;
 - d. RECORD SEDIMENT VOLUMES REMOVED FROM SEDIMENT TRAPPING DEVICES;
 - e. RECORD DETAILS OF SEDIMENT BASIN TREATMENT, FLOCCULANT DOSAGE AND CLEANOUT;
 - f. RECORD SEDIMENT DISPOSAL PROCEDURES AND LOCATION.
3. REPAIRS AND MAINTENANCE OF ALL DEVICES AND MEASURES INCLUDING DIVERSION CHANNELS SHALL BE UNDERTAKEN AS REQUIRED, ENSURING ALL MEASURES ARE FULLY FUNCTIONAL AT ALL TIMES.
4. ENSURE SEDIMENT LADEN WATER HAS NOT BEEN DIVERTED AROUND DEVICES.
5. REPAIR SCOUR DAMAGE TO SEDIMENT CONTROL MEASURES AFTER RAINFALL EVENTS AND REINSTATE DEVICES AS NECESSARY.
6. SEDIMENT FENCES WILL REQUIRE CLEANING WHEN SEDIMENT REACHES 300MM DEPTH OR ONE-HALF THE HEIGHT OF THE FILTER FABRIC AND ALL OTHER SEDIMENT TRAPS WILL REQUIRE CLEANING OUT WHEN 30% OF DESIGN CAPACITY IS REACHED.
7. ALL INLET AND GULLY TRAPS TO BE CLEANED NOT HOSED AFTER EVERY RAINFALL EVENT OR AT LEAST ON A WEEKLY BASIS.
8. SEDIMENT REMOVED FROM ANY TRAPPING DEVICE TO BE RELOCATED, ENSURING FURTHER POLLUTION TO DOWNSTREAM ENVIRONMENTS WILL NOT OCCUR.
9. ALL SEEDING, HYDROSEEDING AND TURFING REQUIRES REGULAR WATERING, UNTIL EFFECTIVE COVER ESTABLISHED AND PLANTS ARE GROWING VIGOROUSLY. WATERING SHOULD VARY DEPENDING ON WEATHER AND SOIL CONDITIONS.
10. WATERING SHOULD START IMMEDIATELY AFTER PLANTING AND SHOULD COMPLY WITH THE FOLLOWING AS A MINIMUM:

WEEK 1	3 WATERINGS/WEEK
WEEK 2-8	2 WATERINGS/WEEK
WEEK 7-12	1 WATERING/WEEK
11. EXCESSIVE VEGETATION GROWTH WILL BE CONTROLLED THROUGH MOWING OR SLASHING.
12. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE INSPECTION, MAINTENANCE AND TESTING OF DEVICES IS UNDERTAKEN ON SITE.
13. THE CONTRACTOR TO KEEP DETAILED AND LEGIBLE RECORDS OF ALL INSPECTION AND MAINTENANCE UNDERTAKEN ON THE EROSION AND SEDIMENT CONTROL DEVICES.
14. ALL SITE WASTE INCLUDING GENERAL RUBBISH TO BE DISPOSED OF IN AN ENVIRONMENTALLY RESPONSIBLE MANNER IN ACCORDANCE WITH THE ENVIRONMENTAL PROTECTION (WASTE MANAGEMENT) POLICY 2000 AND ENVIRONMENTAL PROTECTION (WASTE MANAGEMENT) REGULATION 2000.
15. THE CONTRACTOR SHALL CONSTRUCT AND IMPLEMENT ADDITIONAL MEASURES AS NECESSARY TO ENSURE PROTECTION OF DOWNSTREAM ENVIRONMENTS.

SOIL STRIPPING AND STOCKPILING

1. IDEALLY, STRIP TOPSOIL WHEN IT IS MOIST, NOT TOO WET OR TOO DRY.
2. TAKE CARE WHEN STRIPPING TOPSOIL NOT TO STRIP SUBSOIL WITH THE TOPSOIL PROFILE. TOPSOIL AND SUBSOILS SHOULD BE MANAGED SEPARATELY.
3. WHEREVER POSSIBLE, STOCKPILES ARE TO BE ESTABLISHED AND MAINTAINED IN ACCORDANCE WITH STANDARD DRAWING SD 4-1 (LANDCOM, 2004).
4. AS MUCH AS IS FEASIBLE, MULCHED VEGETATION, TOPSOIL AND SUBSOIL (IF APPLICABLE) ARE TO BE STOCKPILED SEPARATELY.
5. SEDIMENT FENCING IS TO BE INSTALLED AROUND THE LOWER EDGE OF STOCKPILES AS PER STANDARD DRAWING SD 4-1, UNLESS THE STOCKPILE IS IMMEDIATELY ADJACENT TO A SUITABLE ALTERNATIVE CONTROL SUCH AS A SEDIMENT BASIN. A DIVERSION DRAIN/BUND IS TO BE INSTALLED ON THE HIGH SIDE OF STOCKPILES IF RUN-ON FROM UPSLOPE LANDS COULD IMPACT ON THE STOCKPILE.
6. STOCKPILES ARE NOT TO BE POSITIONED WITHIN 5M OF POSSIBLE CONCENTRATED WATER FLOW (INCLUDES ROAD GUTTERS AND TABLE DRAINS).
7. STOCKPILES ARE TO BE SITED AT LEAST 50M FROM ANY WATERCOURSE, NATURAL DRAINAGE LINE OR CREEK AND AT LEAST 2M FROM ANY TREES TO BE RETAINED.
8. STOCKPILES WILL NOT BE LOCATED ON FLOOD PRONE LANDS BELOW THE 2YEAR FLOOD LEVEL.
9. STOCKPILES WILL BE POSITIONED WITHIN THE APPROVED PROJECT CONSTRUCTION BOUNDARY AND AWAY FROM PROTECTED AREAS (E.G. NATIVE VEGETATION).
10. INACTIVE STOCKPILE FACES ARE TO BE PROVIDED WITH AT LEAST 60% COVER (I.E. RUS E-FACTOR OF 0.1) WITHIN 10 DAYS OF FORMATION. STABILISATION OF STOCKPILES CAN BE ACHIEVED BY SEEDING AND SPRAYING WITH A SOIL STABILISER (E.G. VITAL P47), COVERING WITH GEOTEXTILE OR MATTING OR EQUIVALENT (NOTE SEEDING IS NOT REQUIRED FOR STOCKPILES IF THEY WILL BE IN PLACE FOR LESS THAN 3 MONTHS OR IF THEY HAVE AN EXISTING SEEDBANK). STOCKPILES OF TOPSOIL OR MULCH SHOULD BE CONSTRUCTED TO NO MORE THAN 2 METERS IN HEIGHT WHEREVER POSSIBLE (NOTE THIS ONLY APPLIES TO TOPSOIL AND MULCH).
11. STOCKPILES SHOULD BE FORMED TO BE NO STEEPER THAN 2:1 (H:V) WHEREVER POSSIBLE.

DUST SUPPRESSION

1. DUST SUPPRESSION IS TO BE CARRIED OUT WHENEVER NECESSARY TO MINIMISE SEDIMENT BECOMING AIR BORNE DUE TO WIND EROSION.
2. AN APPROPRIATE WATER SOURCE FOR DUST SUPPRESSION AND/OR DUST SUPPRESSANT MANAGEMENT SYSTEM MUST BE IDENTIFIED PRIOR TO STARTING CONSTRUCTION WORKS.
3. ENSURE DUST SUPPRESSION IS CARRIED OUT IN A MANNER TO AVOID WATER RUNOFF, EROSION OR PONDING ON SURFACES (I.E. APPLY IN A GENTLE MANNER AT APPROPRIATE RATES AND MONITOR REGULARLY).
4. TEMPORARY STABILISERS (E.G. VITAL BON-MATT P47), GEOTEXTILE, JUTE MATTING OR EQUIVALENT CAN BE USED IN NON-TRAFFICKED AREAS TO ASSIST WITH DUST CONTROL.

STABILISATION

1. UNDERTAKE PROGRESSIVE STABILISATION OF DISTURBED GROUND SURFACES AS THEY ARE COMPLETED RATHER THAN AT THE END OF THE WORKS PROGRAM (REFER TO TABLES 1 AND 2).
2. FINAL STABILISATION IS TO ACHIEVE THE C-FACTORS (GROUND COVER) DETAILED IN TABLES 1 AND 2.
3. FINAL REHABILITATION IS TO BE IN ACCORDANCE WITH THE LANDSCAPING/REHABILITATION PLANS.
4. AREAS TO BE REVEGETATED ARE TO BE TOPSOILED FIRST. TOPSOIL IS TO BE SPREAD EVENLY TO AT LEAST 75MM. REFER TO STANDARD DRAWING (SD 4-2) FOR INSTRUCTIONS REGARDING TOPSOIL REPLACEMENT.
5. TOPSOILS IS TO BE TESTED PRIOR TO REVEGETATION TO CONFIRM TREATMENT (AMELIORATION/FERTILIZATION) REQUIREMENTS INCLUDING TESTING FOR DISPERSION, PH, TRACE NUTRIENTS, EC AND CEC.
6. APPROPRIATE SEEDBED PREPARATION SHOULD BE CARRIED OUT WHEN REVEGETATING LANDS (SEE STANDARD DRAWING (SD 7-1).
7. AS MUCH AS POSSIBLE, AVOID HANDLING TOPSOILS WHEN THEY ARE TOO WET OR TOO DRY. THIS HELPS PRESERVE SOIL STRUCTURE.
8. AVOID BLENDING FRESH MULCH WITH TOPSOIL, AS THIS LEADS TO DE-NITRIFICATION.
9. TO HELP PRESERVE SOIL STRUCTURE, AVOID EXCESSIVE COMPACTION OF TOPSOILS.
10. GYPSUM SHOULD BE APPLIED TO SUBSOILS (AS CLAY BREAKER) AT AROUND 0.5kg/m² FOR GENERAL SURFACES AND BATTERS. RATES TO BE CONFIRMED PRIOR TO REVEGETATION WITH SOIL TESTING.
11. ALL FLOW AREA SUBSOILS (DRAINAGE LINES, WATERWAYS, DIVERSION DRAINS, CHANNELS, BASINS) SHOULD BE GYPSUM TREATED AT A RATE OF 1.5kg/m².
12. TOPSOILS SHOULD BE AMELIORATED WITH LIME TO ADJUST PH IF FIELD TESTING SHOWS pH IS BELOW 6.
13. TOPSOILS WOULD MOST LIKELY BENEFIT FROM AN APPLICATION OF NPK FERTILIZER PLUS TRACE ELEMENTS (S, CA AND MO). SOIL TESTING PRIOR TO RE-SPREADING CAN CONFIRM THE APPROPRIATE RATE.
14. PERMANENT DRAINS ARE TO BE STABILISED IN ACCORDANCE WITH ENGINEERING DESIGN BUT MUST ACHIEVE THE C-FACTORS (GROUND COVER) DETAILED IN TABLE 1. SOIL TESTING OF SUBSOILS AND TOPSOILS IS TO BE UNDERTAKING TO POTENTIAL SOIL TREATMENT/STABILISATION REQUIREMENTS.
15. TEMPORARY DIVERSION DRAINS/BUNDLES ARE TO BE STABILISED TO ACHIEVE THE C-FACTORS AS DETAILED IN TABLES 1 AND 2, USING SEEDING + VITAL P42 + JUTE MESH/MATTING OR ALTERNATIVELY GEOTEXTILE FABRIC. ROCK OR TRM. SUBSOILS ARE TO BE TREATED FIRST BY LIGHTLY RIPPING GYPSUM INTO THE SURFACE AT A RATE OF APPROX. 1.5kg/m². REFER TO THE PLANS FOR SPECIFIC DETAILS. ALSO REFER TO STANDARD DRAWINGS (SD 5-6 AND SD 5-7).
16. REFER TO THE 'SOIL STRIPPING AND STOCKPILING' NOTES FOR STABILISATION REQUIREMENTS ON STOCKPILES. ALSO REFER TO TABLES 1 AND 2 AND STANDARD DRAWING (SD 4-1).
17. SEDIMENT BASIN INLETS/OUTLETS ARE TO BE STABILISED IN ACCORDANCE WITH PERMANENT ENGINEERING DESIGN (WHERE APPLICABLE) OR WITH GEOTEXTILE UNDERLAY AND ROCK IN ROCK IN ACCORDANCE WITH RECOMMENDATIONS FOR "HIGH FLOW AREAS ON TABLE 1 AND AS DETAILED ON THE PLAN.
18. HIGHLY TRAFFICKED AREAS SUCH AS LAYDOWN/STORAGE AREAS, HAUL ROADS/ACCESS TRACKS AND SITE COMPOUNDS WILL BE FORMED IN ACCORDANCE WITH ENGINEERING SPECIFICATIONS AND STABILISED WHERE NECESSARY AND AS MUCH AS PRACTICABLE TO MINIMISE EROSION AND PROVIDE A TRAFFICABLE SURFACE. STABILISATION OF THESE AREAS WILL BE ACHIEVED WITH SUITABLE TRAFFICABLE MEASURES (E.G. WITH HEAVY BOUND DOB (CEMENT STABILISED), AGGREGATE, CRUSHED ROCK, ROAD BASE OR A HEAVY DUTY TRAFFICABLE SOIL STABILISER) AND RE-GRADING/RE-SURFACING AS NECESSARY.
19. AS SURFACES ARE STABILISED (AT LEAST 90% OF ANY FINISHED AREA HAS AT LEAST 70% GROUND COVER) AND PERMANENT DRAINAGE MEASURES ARE INSTALLED, TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AND WATER MANAGEMENT STRUCTURES CAN BE REMOVED (E.G. DIVERSION DRAINS).
20. TEMPORARY STABILISATION OF EXPOSED SURFACES ON HIGH RISK AREAS (I.E. STEEP SLOPES >5%), BATTERS, SURFACES NOT DRAINING TO SEDIMENT
21. SURFACES NOT DRAINING TO SEDIMENT BASINS AND WORKS (NEAR WATERWAYS) WILL BE UNDERTAKEN PRIOR TO RAINFALL IN ACCORDANCE WITH THE RAINFALL PREPARATION PROCEDURE' NOTES AND THE INSTRUCTIONS ON THE PLAN.
22. ALL EXPOSED LANDS WHERE WORKS ARE NOT ACTIVELY OCCURRING (FOR 20 DAYS OR MORE) ARE TO BE TEMPORARILY STABILISED WITH A TEMPORARY GROUND COVER (I.E. A SOIL BINDER (E.G. VITAL STONEWALL), MATTING, GEOBARIC OR EQUIVALENT).
23. WHEREVER POSSIBLE, RE-USE CLAMMULCH/DECOMPOSED VEGETATION FOR EITHER TEMPORARY OR PERMANENT STABILISATION OF DISTURBED AREAS.

			Bar Scales	THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client 	Scales	Drawn JT	Project SEED STAGE 1B SSD 4000 SERIES SWC REGIONAL BASIN SC09	Civil Engineers and Project Managers  Level 10, 124 Walker Street North Sydney NSW 2060 P 02 9439 1777 E info@atl.net.au www.atl.net.au ABN 96 130 882 405		
							Designed JT				
							Checked LB				
							Height Datum	Approved DS	Title EROSION AND SEDIMENT CONTROL NOTES AND SPECIFICATIONS SHEET 1	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION Project - Drawing No. 16-369-C4801	A1 Issue A
A	ISSUED FOR SSDA APPROVAL	27-01-26									
Issue	Description	Date									

1. IN ACCORDANCE WITH PLANNING POLICY APPLICABLE AT THE SITE, ALL SEDIMENT BASINS ARE TO BE DESIGNED, CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH IECA "BEST PRACTICE EROSION AND SEDIMENT CONTROL- APPENDIX B- SEDIMENT BASIN DESIGN AND OPERATION" (JUNE 2018) WHICH REQUIRES ALL BASINS TO BE CONTINUOUS FLOW TYPE A OR B BASINS WITH AUTOMATED CHEMICAL DOSING, NOT TRADITIONAL TYPE D/F UNLESS SITE CONSTRAINTS DICTATE.
2. THE CONTRACTOR SHALL KEEP DETAILED AND ACCURATE RECORDS OF THE MONITORING, TREATMENT, TESTING AND MAINTENANCE OF THE SEDIMENT BASIN INCLUDING RECORDED RAINFALL VOLUME, FLOCCULATING AGENTS USED
3. ALL CHEMICAL DOSING AND WATER TESTING TO BE UNDERTAKEN BY A SUITABLY QUALIFIED PERSON.
4. ALL LABORATORY TESTING TO BE UNDERTAKEN BY A NATA ACCREDITED LABORATORY.
5. ALL WATER PUMPED FROM THE SEDIMENT BASIN SHALL BE TESTED FOR ENVIRONMENTAL COMPLIANCE AGAINST THE RELEASE CRITERIA IN THE TABLE BELOW (AS A MINIMUM), UNLESS ALTERNATIVE (MORE STRINGENT) STANDARDS ARE SPECIFIED BY THE LOCAL AUTHORITY **PRIOR TO RELEASE.**

6. WATER TESTING TO BE UNDERTAKEN USING EITHER A HANDHELD PH/TURBIDITY METER OR SAMPLES COLLECTED FOR LABORATORY TESTING PRIOR TO ANY MANUAL BASIN DEWATERING.
7. THE TREATED BASIN SHALL BE DEWATERED WITH A PUMP SYSTEM WITH A FLOATING INLET TO ENSURE SETTLED SEDIMENT IS NOT ENTRAINED AND DISCHARGED.
8. COMPLETE BASIN DEWATERING SHALL OCCUR WITHIN 5 DAYS FROM CONCLUSION OF RAINFALL EVENT.
9. SEDIMENT BASINS WILL REQUIRE DEWATERING AND SEDIMENT CLEANOUT ONCE STORAGE CAPACITY REACHES 70%.
10. CAPTURED SEDIMENT WILL BE DISPOSED OF IN AN ENVIRONMENTALLY RESPONSIBLE MANNER AS TO NOT CAUSE FURTHER CONTAMINATION OR DOWNSTREAM POLLUTION. SEDIMENT SHOULD NOT BE DISPOSED OF IN CONCENTRATED FLOWS, WHERE IT CAN BE RE-ENTRAINED OR RE-RELEASED TO RECEIVING WATERS WITH A PH OF < 5.5.
11. THE BASIN AND ALL OTHER CONTROL DEVICES WILL BE MAINTAINED IN AN OPERATIONAL STATE UNTIL SITE STABILIZED.
12. REPAIR ANY SCOUR DAMAGE TO THE SEDIMENT BASIN BATTERS AND EMERGENCY SPILLWAY FOLLOWING RAINFALL EVENTS.
13. SEDIMENT BASIN SHOULD NOT BE CONSTRUCTED WITH SMOOTH INTERNAL SLOPES AND BASIN BATTERS SHOULD NOT BE STEEPER THAN 3(H):1(V).
14. BASINS SHOULD BE APPROPRIATELY FENCED AND MARKED BY WARNING SIGNS IF UNSUPERVISED PUBLIC ACCESS IS LIKELY AND PUBLIC SAFETY IS AT RISK.
15. ALL INLET CHUTES TO BE FORMED FROM DUMPED ROCK PLACED OVER GEOTEXTILE LINER (BIDM #34 OR EQUIVALENT). ROCK USED TO BE CRUSHED, CLEAN, HARD DURABLE AND MINIMUM AVERAGE SIZE (d_{50})=150mm

DIRTY WATER TREATMENT AND DISCHARGE REQUIREMENTS

WATER ACCUMULATING IN SEDIMENT BASINS, TRAPS, EXCAVATIONS OR IN ANY OTHER LOW POINTS ONSITE CAN EITHER BE:

1. RE-USED FOR DUST SUPPRESSION OR CONSTRUCTION PURPOSES; OR
2. TREATED (IF REQUIRED) AND TESTED IN SITU, THEN RELEASED OFF SITE ONCE IT MEETS THE REQUIRED WATER QUALITY DISCHARGE CRITERIA [SEE BELOW]; OR
3. PUMPED INTO A TANK, TRUCK OR OTHER HOLDING AREA FOR LATER TREATMENT; OR
4. SPREAD OUT AND INFILTRATED ONTO WELL VEGETATED LANDS WITHIN THE SITE BOUNDARY AT LEAST 50m AWAY FROM ANY WATERWAY, SWALE, OR DRAINAGE LINE. ENSURE WATER IS APPLIED SLOWLY AND IN A MANNER TO AVOID CONCENTRATED SURFACE RUNOFF AND/OR EROSION
5. ANY ACTIVE DISCHARGE OF WATER FROM THE PROJECT (I.E. WHERE WATER IS MOVED OFFSITE VIA DIRECT ACTION SUCH AS PUMPING RATHER THAN FLOWING OFF THE PROJECT AS A RESULT OF HEAVY RAINFALL) IS TO ACHIEVE:
 6. 1150µg/L OR LESS TSS (TOTAL SUSPENDED SEDIMENT); AND
 7. PH 6.5 TO 8.5, AND
 8. <10MG/L OIL AND GREASE AND NO VISIBLE TRACE.
9. ADEQUATE WATER QUALITY CAN BE ACHIEVED BY USING GYPSUM AT A RATE OF APPROXIMATELY 30 KG/1000 M3 OF STORMWATER. ALTERNATIVE FLOCULATING AGENTS CAN ONLY BE USED IF THEY DO NOT CAUSE ENVIRONMENTAL HARM WHEN DISCHARGED. REFER TO MANUFACTURERS GUIDELINES FOR DOSAGE DETAILS.
10. SPREAD THE TREATMENT AGENT EVENLY OVER THE ENTIRE POND SURFACE FOR PROPER TREATMENT OF WATER.
11. THESE DE-WATERING REQUIREMENTS APPLY TO DIRTY WATER ACCUMULATING IN ANY SORT OF EXCAVATION, SUMP, OR OTHER PONDED WATER BODY ON THE PROJECT.
12. IF THE WATER IS GOING TO BE USED WITHIN THE CONSTRUCTION SITE FOR DUST-SUPPRESSION OR CONSTRUCTION
13. PURPOSES AND WILL DRAIN BACK INTO THE SEDIMENT CAPTURE SYSTEM IT DOES NOT REQUIRE TREATMENT.

1. THE WEATHER FORECAST IS TO BE MONITORED REGULARLY (AT LEAST DAILY AND HOURLY WHEN RAINFALL IS IMMINENT) BY THE SITE ENVIRONMENTAL MANAGER (OR THEIR REPRESENTATIVE).
2. PRIOR TO FORECAST RAINFALL: $\geq 70\%$ CHANCE OF 5MM OR MORE OVER 24 HOURS) AND SITE CLOSURE OF MORE THAN 2 DAYS, THE FOLLOWING WILL OCCUR:
 - 2.1. THE SITE ENVIRONMENTAL MANAGER (OR THEIR REPRESENTATIVE) IS TO INSPECT THE CONDITION OF ALL EROSION AND SLOPE CONTROL MEASURES AND ACTION ANY URGENT REPAIR, MAINTENANCE OR IMPROVEMENT THEY ARE TO KEEP A RECORD ALL FINDINGS (INCLUDING DETAILS OF ACTIONS AND THEIR CLOSE OUTS).
3. SLOPE BREAKS/CONTOUR BERMS WILL BE PUSHED UP OR CUT IN ACCORD LARGE, EXPOSED AREAS FO SLOW DOWN FLOWS AND MINIMISE EROSION. SLOPE LENGTHS ARE TO BE RESTRICTED TO 40M INTERVALS ACROSS ALL EXPOSED SURFACES PRIOR TO AND DURING RAINFALL. DIVERSION BUNDSDRAINS, LOW FLOW EARTH BANKS (STANDARD DRAWING SD 5-5) OR SANDBAGS/EQUIVALENT SHOULD BE INSTALLED PRIOR TO RAINFALL EVENT TO ACHIEVE THIS WHERE REQUIRED. NOTE THAT SLOPE B BREAKS/CONTOUR BERMS ARE NOT REQUIRED TO BE IN PLACE DURING ACTIVE CONSTRUCTION WORKS WHEN RAINFALL IS NOT FORECAST/OCCURRING. LOCATIONS OF SLOPE BREAKS FOR THE INITIAL EARTHWORKS ARE SHOWN. HOWEVER, AS WORKS PROGRESS LOCATIONS FOR SLOPES BREAKS WILL CHANGE AND THESE ARE TO BE UPDATED ON PROGRESSIVE ESCPS.
4. TEMPORARY DIVERSIONS AROUND CULVERT WORKS ARE TO BE INSTALLED TO TAKE UPSLOPE CLEAN WATER FLOWS AROUND/THROUGH THE WORKS - REFER TO THE PLANS AND TO FOR SPECIFIC INSTRUCTIONS.
5. ALL EXPOSED SURFACES OF HIGH RISK AREAS (I.E. STEEP SLOPES (5%), BATTERS, SURFACES NOT DRAINING TO SEDIMENT BASINS AND WORKS INNERE WATERWAYS AND FLOW AREAS) WILL BE STABILISED WITH TEMPORARY GROUND COVERS I.E. VITAL P47/STONEWALL, GEOTEXTILE OR BLACK PLASTIC (SECURELY PINNED/ROD EQUIVALENT).

SALINITY CONSIDERATIONS

TO MINIMISE THE RISK OF SALINITY OCCURRING DURING THE CONSTRUCTION PHASE OF WORKS THE FOLLOWING MEASURES ARE TO BE IMPLEMENTED:

1. TOPSOIL IS TO BE TESTED PRIOR TO REVEGETATION TO CONFIRM TREATMENT REQUIREMENTS.
2. ENSURE TOPSOIL IS SPREAD OVER AREAS TO BE REVEGETATED TO AT LEAST 75MM.
3. WATERING OF NEWLY REVEGETATED AREAS IS TO BE MINIMISED FOR ONLY WHAT IS NECESSARY FOR PLANTS TO THRIVE.
AVOID OVER-WATERING WHICH COULD EXACERBATE CATCHMENT SALINITY.
4. THE FLOOR AND WALLS OF EACH SEDIMENT BASIN IS TO BE WELL COMPACTED TO MINIMISE INFILTRATION.
5. SWALE/DIVERSION DRAINS ARE TO BE GYPSUM-DUSTED AND LINED WITH MATTING AS NOTED TO PROMOTE FLOW AND REDUCE PONDING AND EROSION.
6. AVOID PONDING WATER ACROSS THE SITE IN AREAS WHERE SHALE OR CLAY FILL MATERIALS HAVE BEEN PLACED.
7. REHABILITATION AND REVEGETATION OF COMPLETED EARTHWORKS IS TO BE UNDERTAKEN PROGRESSIVELY AS EACH AREA IS FINISHED.

THE ABOVE LIST OUTLINES GENERAL STRATEGIES FOR MINIMISING THE POTENTIAL SALINITY RISK DURING CONSTRUCTION. REFER TO THE PROJECT'S SALINITY MANAGEMENT PLAN FOR DETAILED RECOMMENDATIONS.

1. REGULAR SITE INSPECTIONS ARE TO BE CONDUCTED BY THE SITE ENVIRONMENT MANAGER (OR THEIR REPRESENTATIVE);
2. AT LEAST WEEKLY DURING NORMAL CONSTRUCTION HOURS; AND
3. PRIOR TO FORECAST RAINFALL (SEE ABOVE); AND
4. DAILY DURING RAIN EVENTS (IF SAFE TO DO SO); AND
5. WITHIN 24 HOURS OF THE CESSATION OF A RAIN EVENT THAT CAUSES RUNOFF.
6. MINIMUM MONTHLY AUDITS/SITE INSPECTIONS ARE ALSO TO BE CONDUCTED BY A CPSC TO ENSURE ALL OF THE REQUIRED OUTCOMES AND WATER QUALITY TARGETS ARE BEING MET AND WHERE NECESSARY PROVIDE ADVICE AND MODIFICATIONS TO THIS PLAN TO ENSURE ONGOING COMPLIANCE.
7. RECORDS OF THE SITE INSPECTIONS/AUDITS ARE TO BE KEPT FOR THE DURATION OF CONSTRUCTION AND FOR A MINIMUM OF 12 MONTHS FOLLOWING THE COMPLETION OF CONSTRUCTION WORKS.
8. PRIOR TO FORECAST RAINFALL OF 5MM OR MORE OVER 24 HOURS, THE SITE ENVIRONMENT MANAGER (OR THEIR REPRESENTATIVE IS TO INSPECT THE CONDITION OF ALL EROSION AND SEDIMENT CONTROLS AND ACTION ANY URGENT REPAIR, MAINTENANCE OR IMPROVEMENT WORKS. THEY ARE TO KEEP A RECORD ALL FINDINGS (INCLUDING DETAILS OF ACTIONS AND THEIR CLOSE OUTS).
9. PRIOR TO SITE SHUTDOWN OF MORE THAN 2 DAYS, SLOPE BREAKS/CONTOUR BERMS WILL BE PUSHED UP OR CUT IN ACROSS LARGE, EXPOSED AREAS TO SLOW DOWN FLOWS AND MINIMISE EROSION, DIVERSION BODIES/DRAINS, LOW FLOW EARTH BANKS (STANDARD DRAWING SD 5-5) OR SANDBAGS/EQUIVALENT SHOULD BE INSTALLED TO ACHIEVE THIS WHERE REQUIRED.
10. ADDITIONAL EROSION AND SEDIMENT CONTROLS WILL BE INSTALLED AND EXISTING CONTROLS REPAIRED/UPGRADED/MAINTAINED AS NECESSARY TO ENSURE SATISFACTORY OUTCOMES IN KEEPING WITH THE PROJECT CONDITIONS AND BEST-PRACTICE BLUE BOOK GUIDELINES.
11. SITE SPECIFIC PROGRESSIVE ESCPS WILL BE PREPARED AND/OR UPDATED AS REQUIRED.
12. SEDIMENT OR ROCKS TRACKED FROM THE SITE WILL BE REMOVED FROM PUBLIC ROADS AS SOON AS POSSIBLE (I.E. WITH STREET SWEEPERS).
13. AFTER RAINFALL, SEDIMENT ACCUMULATED IN TRAPPING DEVICES (E.G. BASIN, SEDIMENT FENCE) WILL BE REMOVED TO A SECURE LOCATION WHERE IT CAN'T WASH OR BLOW OFFSITE (PREFERABLY TO AN ACTIVE STOCKPILE).
14. WEATHER CONDITIONS WILL BE MONITORED ONSITE AND DAILY RAINFALL WILL BE RECORDED. A RAINFALL GAUGE WILL BE INSTALLED AT THE SITE COMPOUND.
15. SAFE STORAGE AREAS FOR WASTES, FUELS, EXCESS CONCRETE AND OTHER POTENTIAL CONTAMINANTS ARE TO BE DELINEATED BY THE SITE MANAGER.
16. ADEQUATE SUPPLIES OF EROSION CONTROL MEASURES (E.G. GEOFABRIC ROLLS, JUTE MATTING, HYDRAULIC SOIL BINDERS) ARE TO BE MAINTAINED IN THE SITE COMPOUND FOR RAPID DEPLOYMENT AS REQUIRED.
17. WATER TREATMENT CHEMICAL(S) AND EQUIPMENT ARE TO BE MAINTAINED ONSITE.

DURING CONSTRUCTION - TEMPORARY STABILISATION
(DURING PERIODS OF INACTIVITY WHEN WORKS ARE ON HOLD)

WORKS MIGHT CONTINUE (LATER)	WORKS MIGHT CONTINUE (LATER)	GEOTEXTILE, JUTE MATTING, BLACK PLASTIC (SECURELY PINNED) - COVER ALL EXPOSED SOILS. - E-APPLY / MAINTAIN AS NECESSARY TO - ENSURE THE REQUIRED COVER IS PROVIDED
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SOIL PREPERATION PRIOR TO LINING DRAINS:

- GYPSUM SHALL/LIGHTLY RIPPED INTO SUBGRADE AT A RATE OF 500g/m² (eg: RIP IN USING GRADER OR EXCAVATOR BUCKET TINES (TEETH)).
- PLACE TOPSOIL OVER ENTIRE DRAIN SURFACE TO A MINIMUM DEPTH OF 75mm. (SOIL PREPARATION ALSO APPLIES TO TEMPORARY DRAINS IN PLACE FOR <6 MONTHS)

- SEEDING + VITAL P47 (OR VITAL STONEWALL) + JUTE MATTING:
- (VITAL P47/ STONEWALL TO BE APPLIED AT A MAXIMUM DILUTION OF 1:10 (VITAL:WATER)
- SEEDING TO BE A COMBINATION OF A COVER CROP (eg: RYE GRASS FOR WINTER MONTHS / JAPANESE MILLET FOR SUMMER MONTHS) AND A SUITABLE PERENNIAL (LONG TERM) LOCAL NATIVE GRASS MIX.

- REGULAR WATERING REQUIRED WHERE RAINFALL IS INSUFFICIENT.
- ENSURE WATER IS APPLIED GENTLY (NOT WITH A PRESSURE SPRAY).
- ENSURE OVERWATERING DOES NOT OCCUR AND IS MINIMISED TO ONLY WHAT IS NECESSARY FOR PLANTS TO THRIVE.

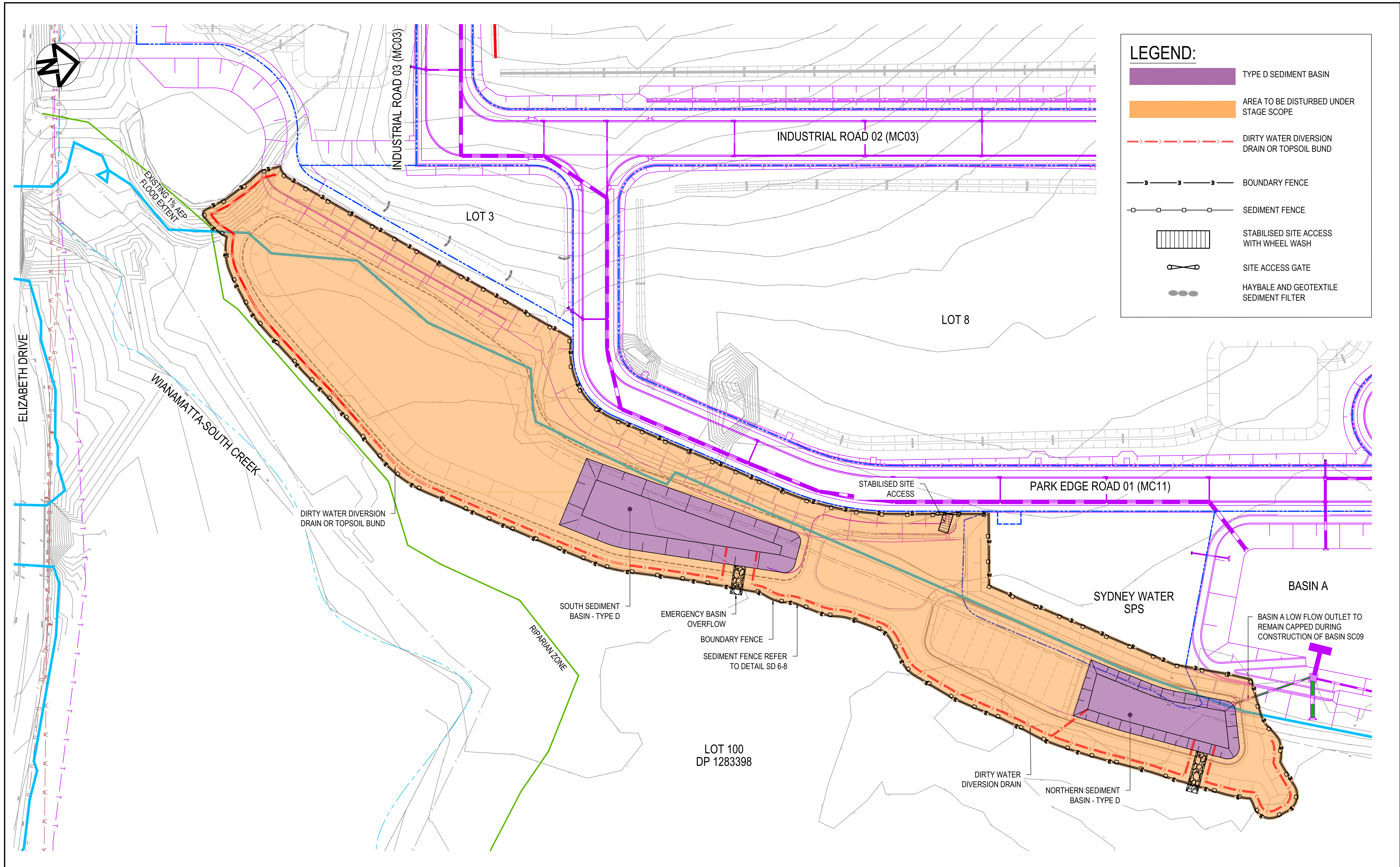
- LINE WITH GEOTEXTILE (BIDIM A24 MIN. EQUIVALENT).

100mm on Original

TABLE 2 - STABILISATION REQUIREMENTS AND TREATMENT METHODS CONTINUED				
POST CONSTRUCTION				
LANDS	STABILISATION REQUIREMENT	TIMEFRAMES	TREATMENT METHODS PRODUCTS	REMARKS
WATERWAYS, DRAINAGE LINES AND CONCENTRATED FLOW AREAS	C-FACTOR = 0.05 (70% GRASS COVER OR EQUIVALENT GROUND COVER¹)	APPLIES AFTER 10 WORKING DAYS FROM COMPLETION OF FORMATION AND BEFORE THEY ARE ALLOWED TO CARRY CONCENTRATED FLOWS.	REFER TO THE DRAIN SPECIFICATIONS DETAILED ON THE PLAN FOR SPECIFIC LINING/STABILISATION REQUIREMENTS. EXAMPLE TREATMENT METHODS ARE SHOWN BELOW.	
			TEMPORARY LINING - GEOTEXTILE (i.e. BIDIM A24 OR EQUIVALENT¹)	- COMPLETE ANY SUBSOIL TREATMENT BEFORE LAYING THE MATTING. -INSTALL MATTING IN ACCORDANCE WITH SD 5-7 -RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PROVIDED.
			JUTE MESH, SEEDING AND SOIL BINDER (i.e VITAL P47/STONEWALL OR EQUIVALENT¹) - LOW FLOWS	-COMPLETE SUBSOIL TREATMENT (E.G. GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING ". - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - WATERWAYS AND (50% GRASS COVER OR * OF INACTIVITY LEVEN THOUGH MONTHS- - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / 7m² OF DILUTED VITAL MIXTURE. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			JUTE MATTING (350gsm) AND SEEDING OR EQUIVALENT¹ - LOW TO MODERATE FLOWS	-COMPLETE SUBSOIL TREATMENT (E.G. GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING ". - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - WATERWAYS AND (50% GRASS COVER OR * OF INACTIVITY LEVEN THOUGH MONTHS- - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / 7m² OF DILUTED VITAL MIXTURE. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			- TURN REINFORCEMENT MATTING (TRM) (e.g TERRAMAT OR EQUIVALENT¹) (TRN) -MODERATE FLOWS	-COMPLETE SUBSOIL TREATMENT (E.G. GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
STOCKPILES	C-FACTOR = 0.10 / 0.05 (60% GRASS COVER OR EQUIVALENT GROUND COVER¹)	APPLIES AFTER 10 WORKING DAYS FROM COMPLETION OF FORMATION	ROCK LINING - HIGH FLOWS	-COMPLETE SUBSOIL TREATMENT (E.G. GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			SEEDING AND SOIL BINDER (i.e VITAL P47/ STONEWALL OR EQUIVALENT¹)	- APPLY SEED TO ALL STOCKPILE SURFACES (NOTE: SEEDING MAY NOT BE REQUIRED IF EXISTING SEEDBED IS PRESENT). - SPRAY ALL STOCKPILE SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - VITAL DILUTION RATE = 1L / m² OF DILUTED VITAL MIXTURE. - RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
GENERAL SURFACES	C-FACTOR = 0.10 / 0.05 (60% / 70% GRASS COVER OR EQUIVALENT GROUND COVER¹)	C-FACTOR = 0.1 APPLIES AFTER 10 WORKING DAYS FROM COMPLETION OF FORMATION AND C-FACTOR= 0.05 APPLIES WITHIN A FURTHER 60 DAYS	GEOTEXTILE, JUTE MATTING, BLACK PLASTIC (SECURELY PINNED) OR EQUIVALENT¹	- COVER ALL EXPOSED SOILS. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PROVIDED.
			TOPSOIL, SEEDING AND SOIL BINDER (i.e VITAL P47/STONEWALL OR EQUIVALENT¹)	-REFER TO SD 7-1 -COMPLETE SUBSOIL TREATMENT (i.e GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - APPLY ANY FERTILISERS REQUIRED. - APPLY SEED TO ALL SURFACES (Note: SEEDING MAY NOT BE REQUIRED IF EXISTING SEEDBED IS PRESENT. - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / 7m² OF DILUTED VITAL MIXTURE. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			HYDROMLUCH OR EQUIVALENT¹	-REFER TO SD 7-1 -COMPLETE SUBSOIL TREATMENT (i.e GYPSUM LIGHTLY RIPPED INTO SURGRADE AT A RATE OF 15 TONNES/ha). TESTING TO CONFIRM TREATMENT RATES. - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75MM. - APPLY ANY FERTILISERS REQUIRED. - APPLY SEED TO ALL SURFACES (Note: SEEDING MAY NOT BE REQUIRED IF EXISTING SEEDBED IS PRESENT. - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT¹. - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / 7m² OF DILUTED VITAL MIXTURE. - RE-APPLY / MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.

TABLE 3 - LIMITATIONS TO ACCESS DURING CONSTRUCTION		
LAND USE	LIMITATION	REMARKS
CONSTRUCTION AREAS	LIMITED TO 5 (PREFERABLE 2) METRES FROM THE EDGE OF ANY ESSENTIAL CONSTRUCTION ACTIVITY AS SHOWN ON THE ENGINEERING PLANS.	ALL SITE WORKERS SHOULD CLEARLY RECOGNISE THESE AREAS THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS.
ACCESS AREAS	LIMITED TO A MAXIMUM WIDTH OF METRES	THE SITE MANAGER WILL DETERMINE AND MARK THE LOCATION OF THESE ZONES ON SITE. THEY CAN VARY IN POSITION SO AS TO BE BEST CONSERVE EXISTING VEGETATION AND PROTECT DOWNSTREAM AREAS WHILE BEING CONSIDERATE OF THE NEEDS OF EFFICIENT WORKS ACTIVITIES. ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE BOUNDARIES.
ALL LANDS (INCLUDING WATERWAYS AND STOCKPILES)	APPLIES AFTER 20 WORKING DAYS OF INACTIVITY (EVEN THOUGH WORKS MIGHT CONTINUE LATER)	APPLIES AFTER 20 WORKING DAYS OF INACTIVITY (EVEN THOUGH WORKS MIGHT CONTINUE LATER)

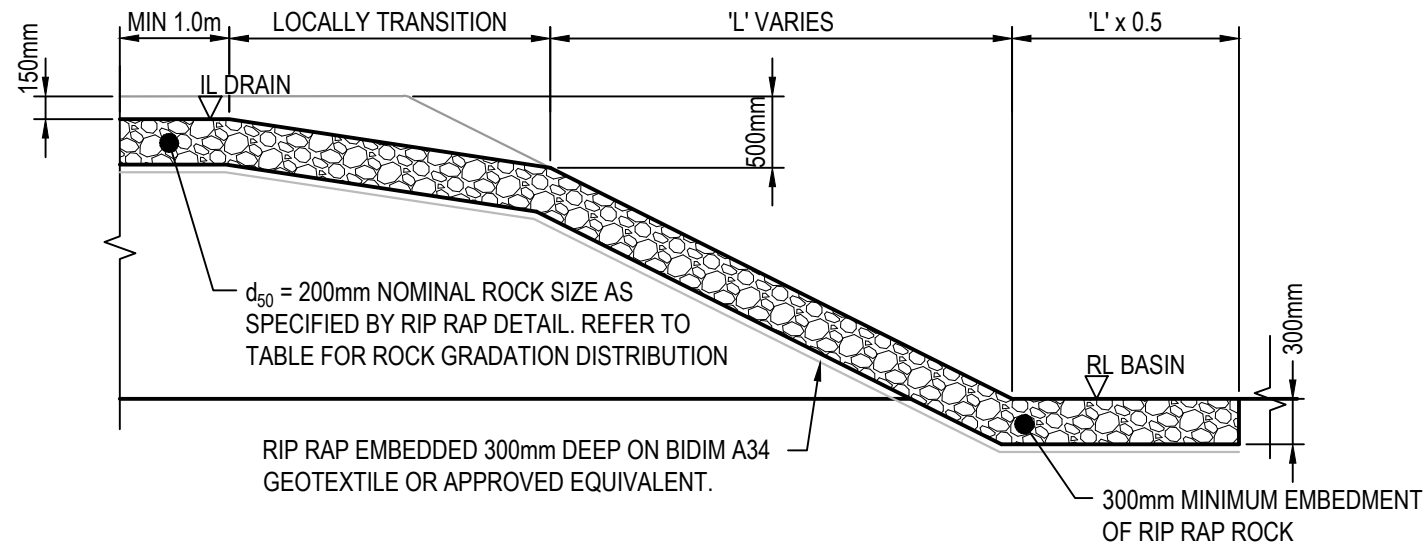
			Bar Scales	THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client		Scales		Drawn	JT	Project	SEED STAGE 1B SSD 4000 SERIES SWC REGIONAL BASIN SC09	Civil Engineers and Project Managers  Level 10, 124 Walker Street North Sydney NSW 2060 P 02 9439 1777 E info@atl.net.au www.atl.net.au ABN 96 130 882 405					
		Designed					JT											
Grid	MGA	Checked					LB											
Height Datum	AHD	Approved					DS											
									Title							EROSION AND SEDIMENT CONTROL NOTES AND SPECIFICATIONS SHEET 3		
		Status							FOR APPROVAL							A1		
		NOT TO BE USED FOR CONSTRUCTION																
		Project - Drawing No.							Issue									
		16-369-C4803							A									
A	ISSUED FOR SSDA APPROVAL						27-01-26											
Issue	Description		Date															



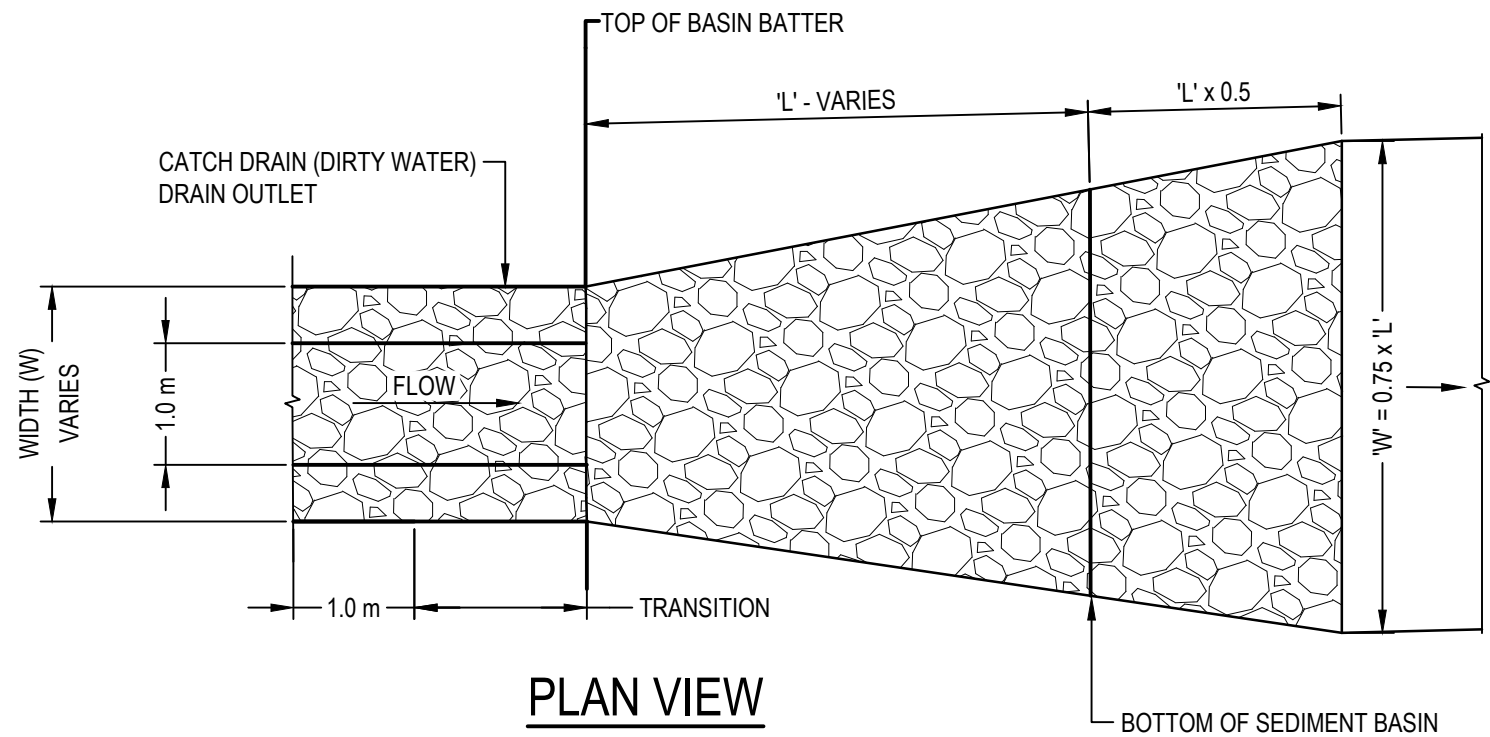
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								Grid MGA		Designed JT		SEED STAGE 1B SSD 4000 SERIES SWC REGIONAL BASIN SC09		Level 10, 124 Walker Street North Sydney NSW 2060 P 02 9439 1777 E info@atl.net.au www.atl.net.au ABN 96 130 882 405	
								Height Datum AHD		Checked LB		EROSION AND SEDIMENT CONTROL CONCEPT ESCP BULK EARTHWORKS			
A ISSUED FOR SSDA APPROVAL		27-01-26						Approved DS				Title		Status	
Issue		Description		Date										FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION	
														Project - Drawing No. 16-369-C4804	
														Issue A	

ROCK GRADATION TABLE

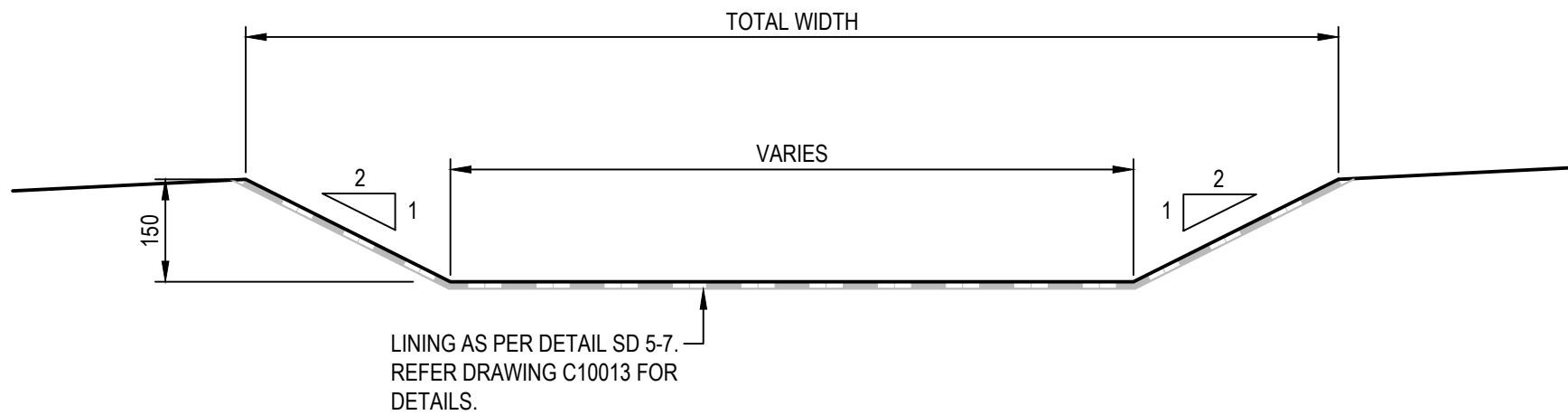
	d ₅₀					ROCK DISTRIBUTION BY %
	200mm	300mm	400mm	500mm	600mm	
ROCK SIZE (mm)	400	600	750	850	900	15-25%
	300	400	525	600	750	20%
	200	300	400	500	600	50%
	75	100	150	150	200	15-25%



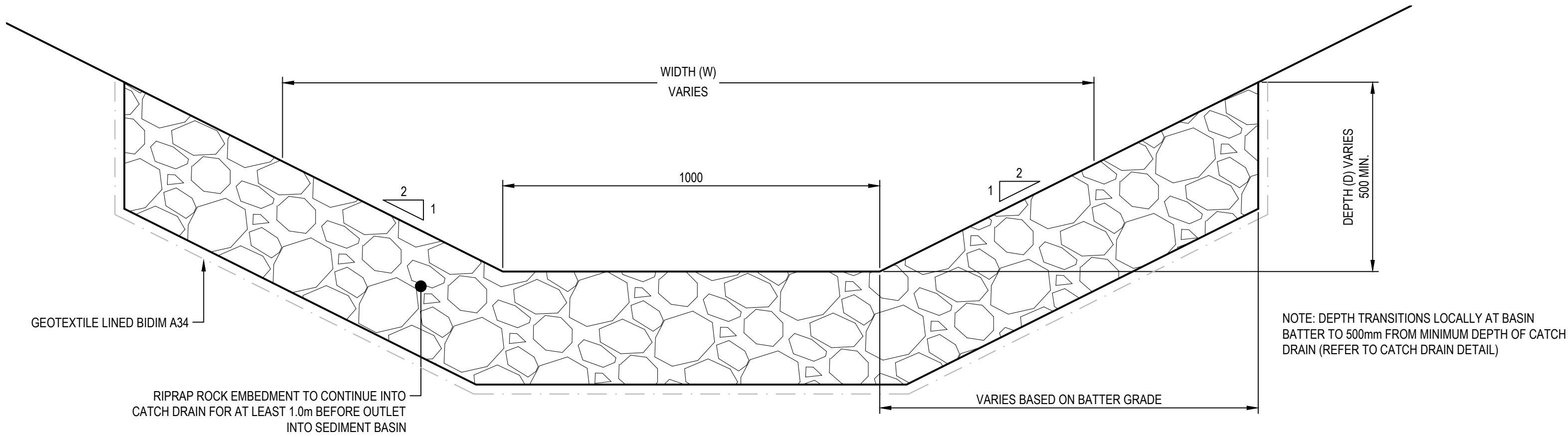
TYPICAL SECTION
CATCH DRAIN OUTLET
1 : 50



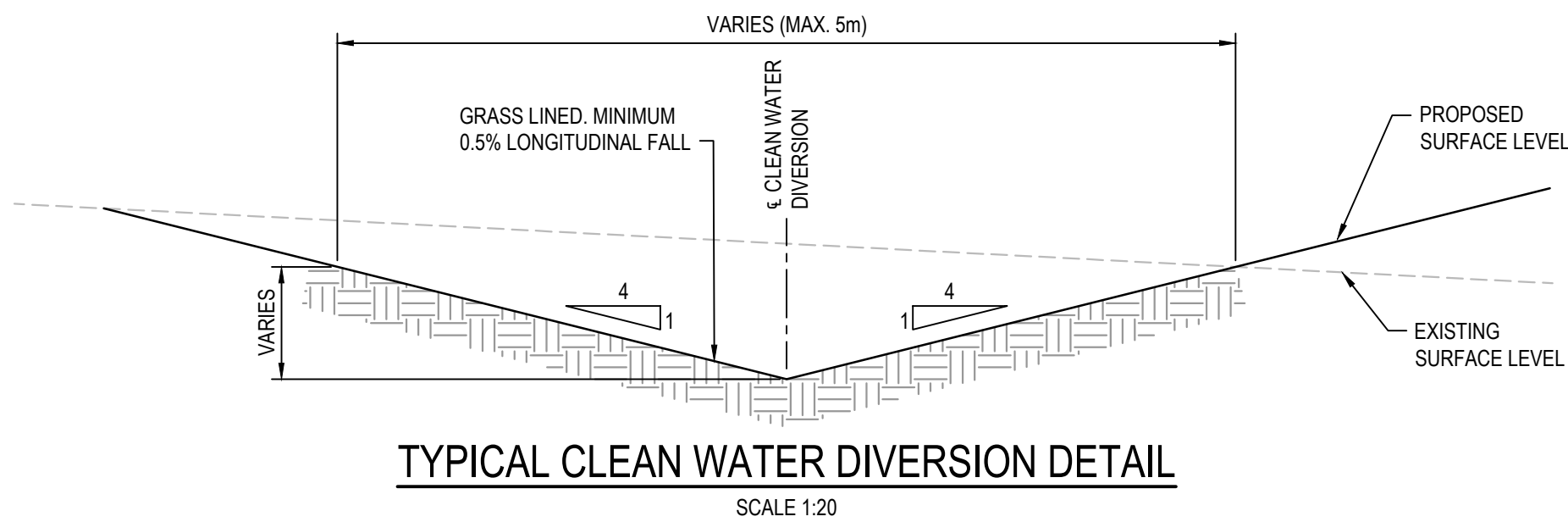
PLAN VIEW
CATCH DRAIN OUTLET
NTS



SEDIMENT BASIN SPILLWAY DETAIL
(DIRTY WATER)
SCALE 1:10



TYPICAL SECTION
CATCH DRAIN OUTLET
SCALE 1:10



TYPICAL CLEAN WATER DIVERSION DETAIL
SCALE 1:20

	CATCHMENT AREA (ha)	ADOPTED DEEMED TO COMPLY BASIN VOLUME (900m ³ /ha) (m ³)	MINIMUM BASIN DIMENSIONS AT BASE		
			LENGTH AT BASE (m)	WIDTH AT BASE (m)	SURFACE AREA AT BASE (m ²)
STAGE 1B					
Regional Basin SC09 - North	1.14	1030	60.0	13.0	780
Regional Basin SC09 - South	1.94	1750	85.0	10.0	850
NOTES:					
HIGHLIGHTED CELLS DENOTE BASINS WITH NON-UNIFORM GEOMETRY, REFER TO PLANS FOR ARRANGEMENT AND DIMENSIONS					
	LENGTH TO WIDTH RATIO	3:1 (MEASURED AT BASE OF BASIN)			
	INTERNAL BATTER SLOPE	1V:2H			
	SEDIMENT STORAGE DEPTH	0.20m			
	SETTLING ZONE DEPTH	2.00m			
	SPILLWAY WIDTH	5m			
	SPILLWAY FREEBOARD	0.15m			
INTERNAL BAFFLES TO BE INSTALLED TO INCREASE THE EFFECTIVE LENGTH TO WIDTH RATIO, NOTING MULTIPLE INLETS WILL BE PRESENT IN MOST OF THE BASINS					

NOTE:
ENLARGED TYPE D SEDIMENT BASINS WITH A VOLUME OF 900m³ PER HECTARE OF CONTRIBUTING CATCHMENT HAVE BEEN ADOPTED IN LIEU OF HIGH EFFICIENCY SEDIMENT BASINS (TYPE A OR B).

A	ISSUED FOR SSDA APPROVAL	27-01-26
Issue	Description	Date

Bar Scales

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Project	SEED STAGE 1B SSD 4000 SERIES SWC REGIONAL BASIN SC09
Title	EROSION AND SEDIMENT CONTROL BASIN SPECIFICATIONS

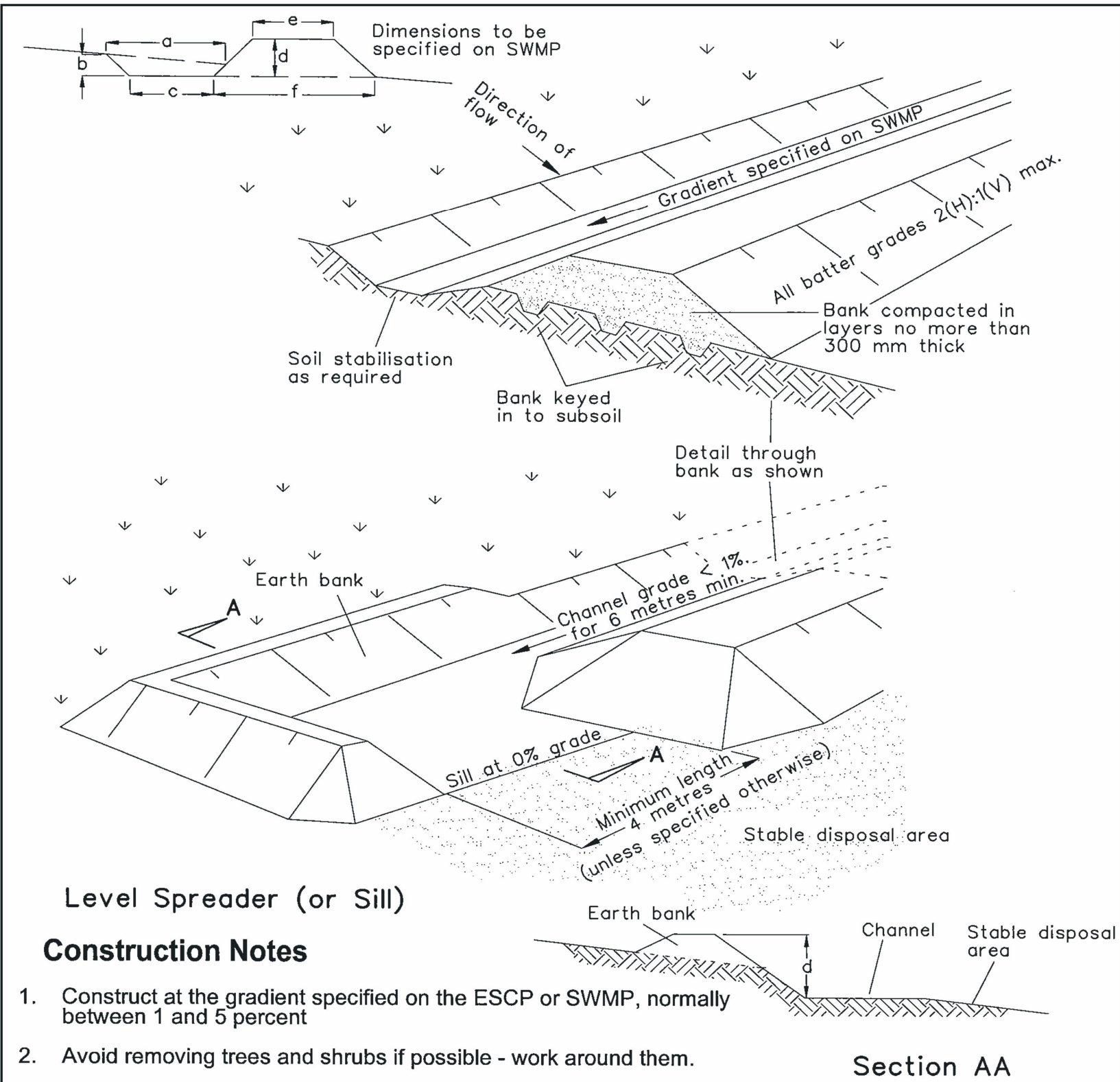
Civil Engineers and Project Managers		
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Status	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION	A1
Project - Drawing No.	16-369-C4805	Issue A

4-5

5-14

5-25

F:\16-369 Kemps Creek\Drgs\Civil\Final\4000_Regional Basin 09\16-369-C4806.dwg



Level Spreader (or Sill)

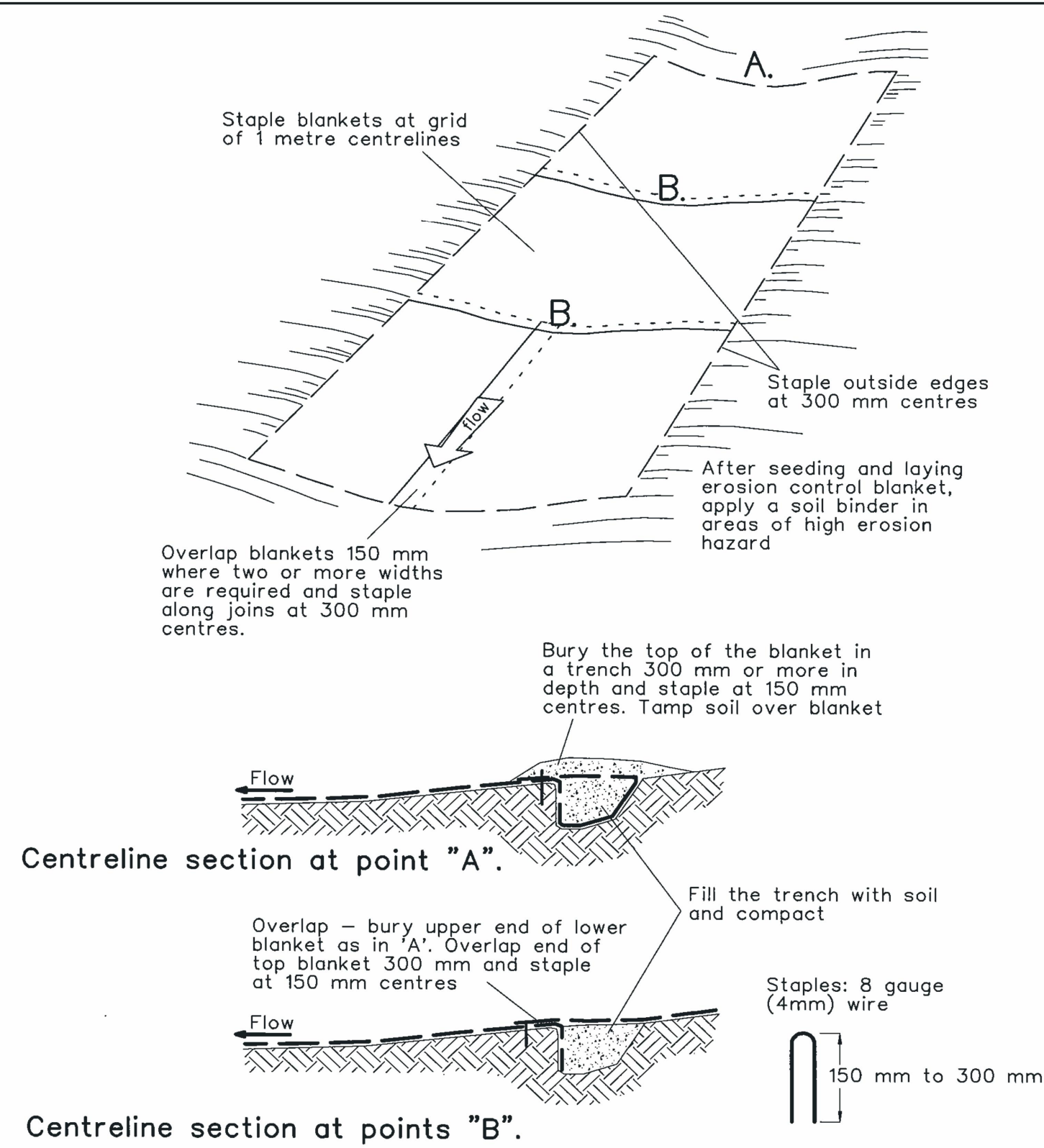
Construction Notes

1. Construct at the gradient specified on the ESCP or SWMP, normally between 1 and 5 percent
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V-shaped, at the dimensions shown on the SWMP.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction following Table 5.2 in Landcom (2004).
7. Where discharging to erodible lands, ensure they outlet through a properly constructed level spreader.
8. Construct the level spreader at the gradient specified on the ESCP or SWMP, normally less than 1 percent or level.
9. Where possible, ensure they discharge waters onto either stabilised or undisturbed disposal sites within the same subcatchment area from which the water originated. Approval might be required to discharge into other subcatchments.

EARTH BANK (HIGH FLOWS)

SD 5-6

5-26



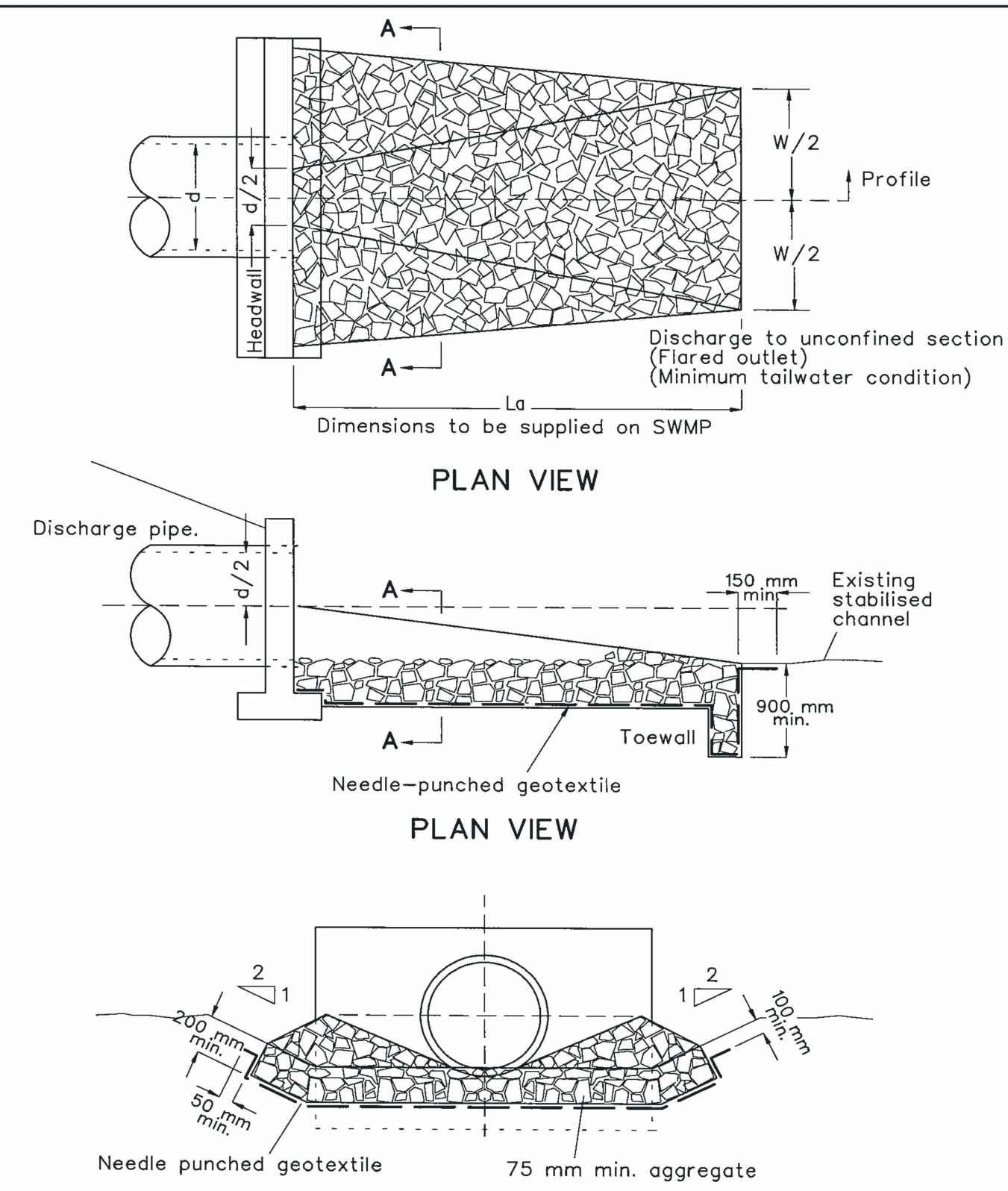
Construction Notes

1. Remove any rocks, clods, sticks or grass from the surface before laying matting
2. Ensure that topsoil is at least 75 mm deep.
3. Complete fertilising and seeding before laying the matting.
4. Ensure fabric will be continuously in contact with the soil by grading the surface carefully first.
5. Lay the fabric in "shingle-fashion", with the end of each upstream roll overlapping those downstream. Ensure each roll is anchored properly at its upslope end (Standard Drawing 5-7b).
6. Ensure that the full width of flow in the channel is covered by the matting up to the design storm event, usually in the 10-year ARI time of concentration storm event.
7. Divert water from the structure until vegetation is stabilised properly.

RECP : CONCENTRATED FLOW

SD 5-7

5-28



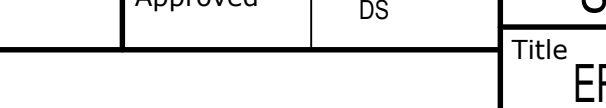
Construction Notes

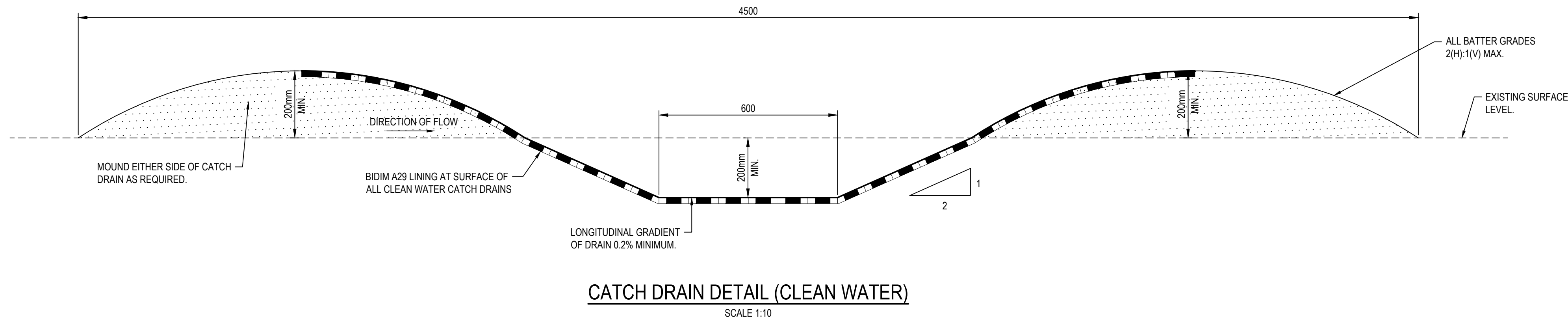
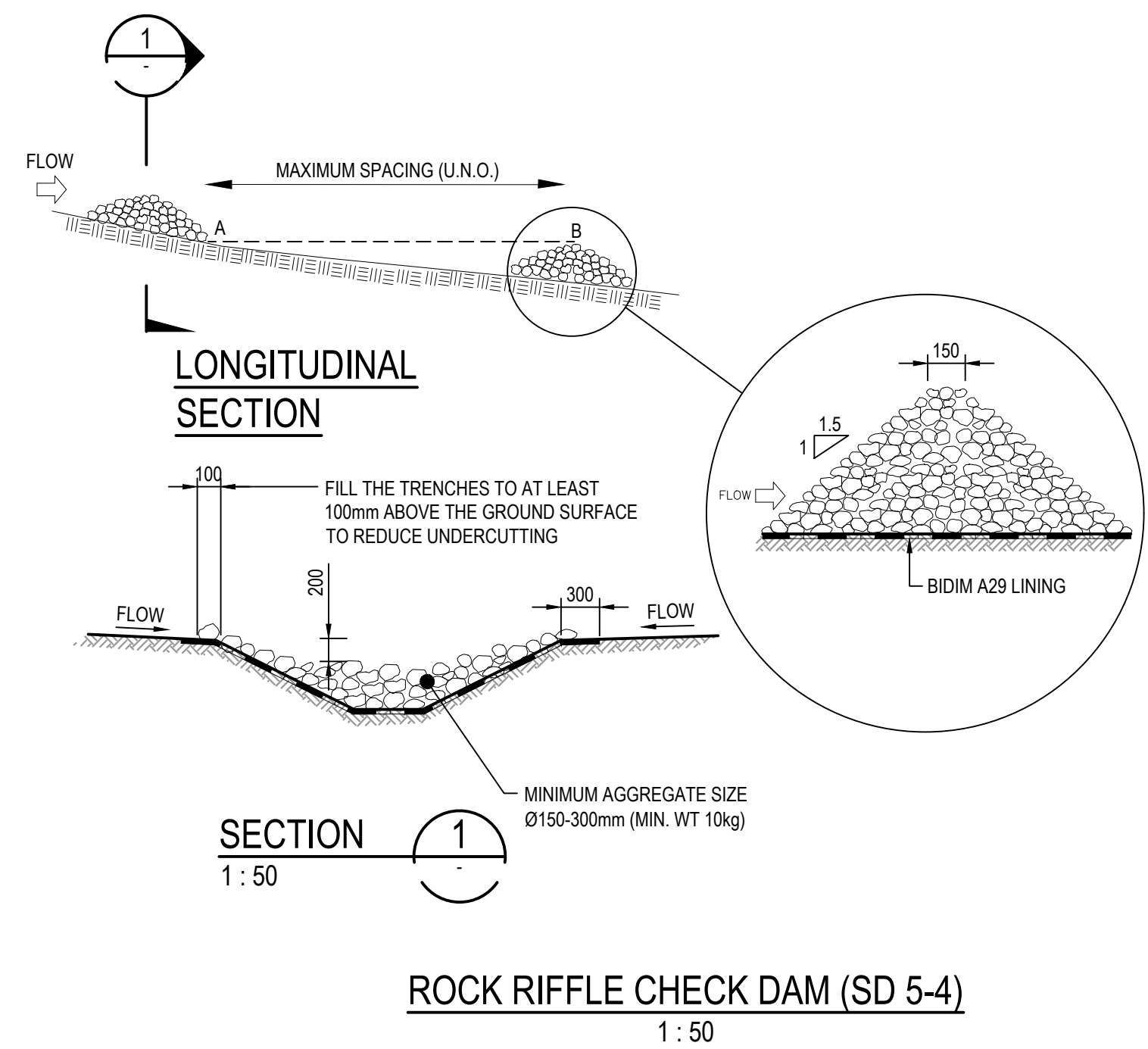
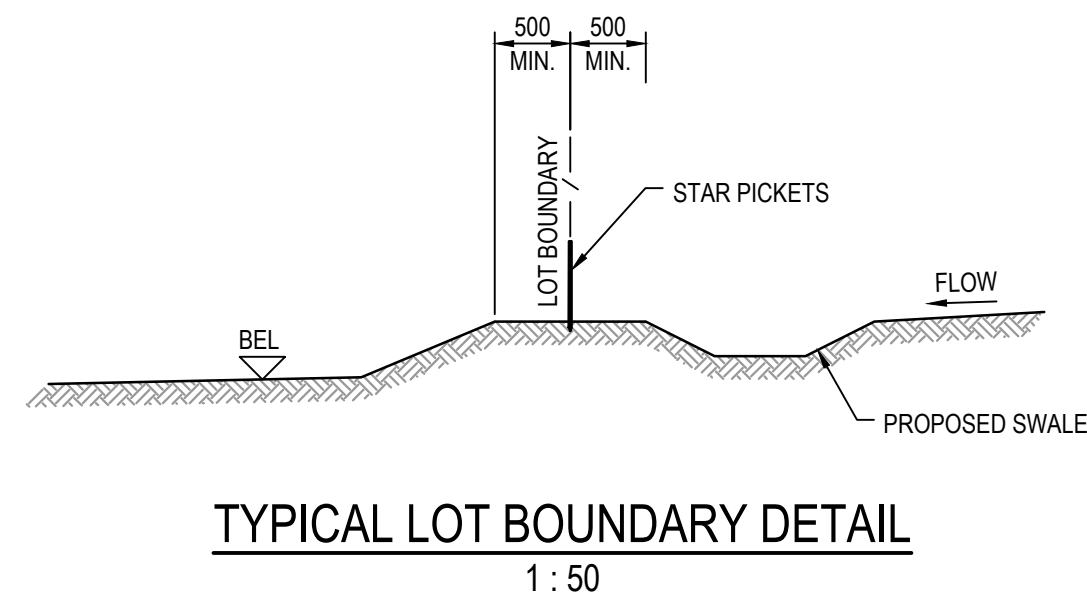
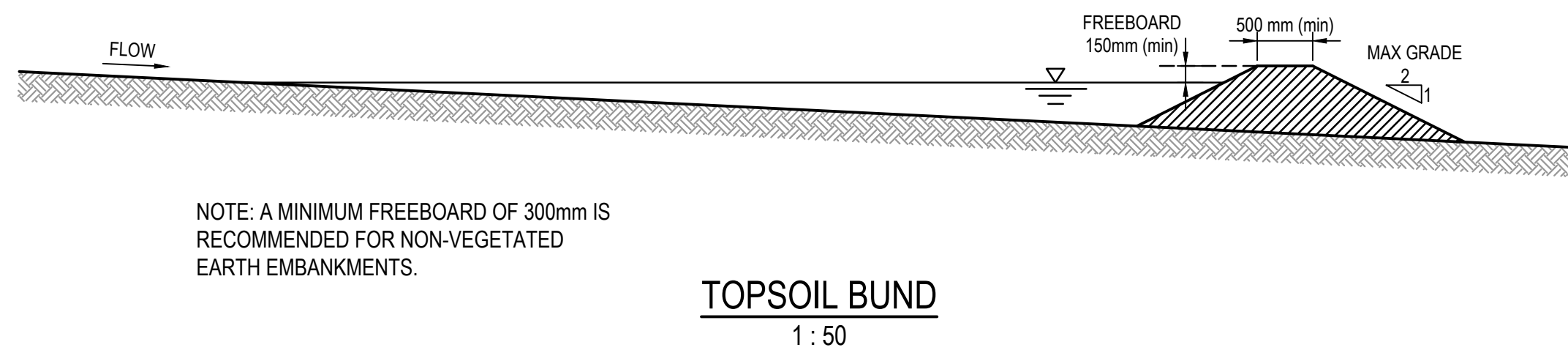
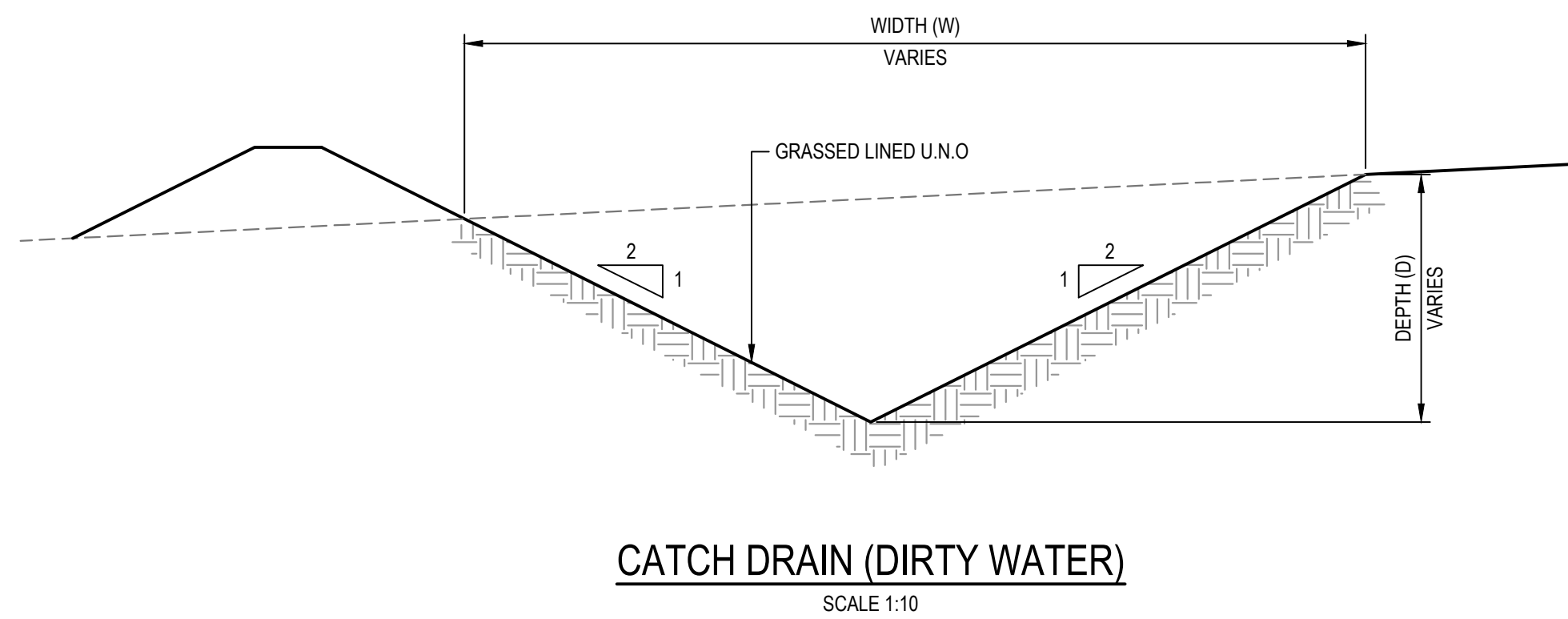
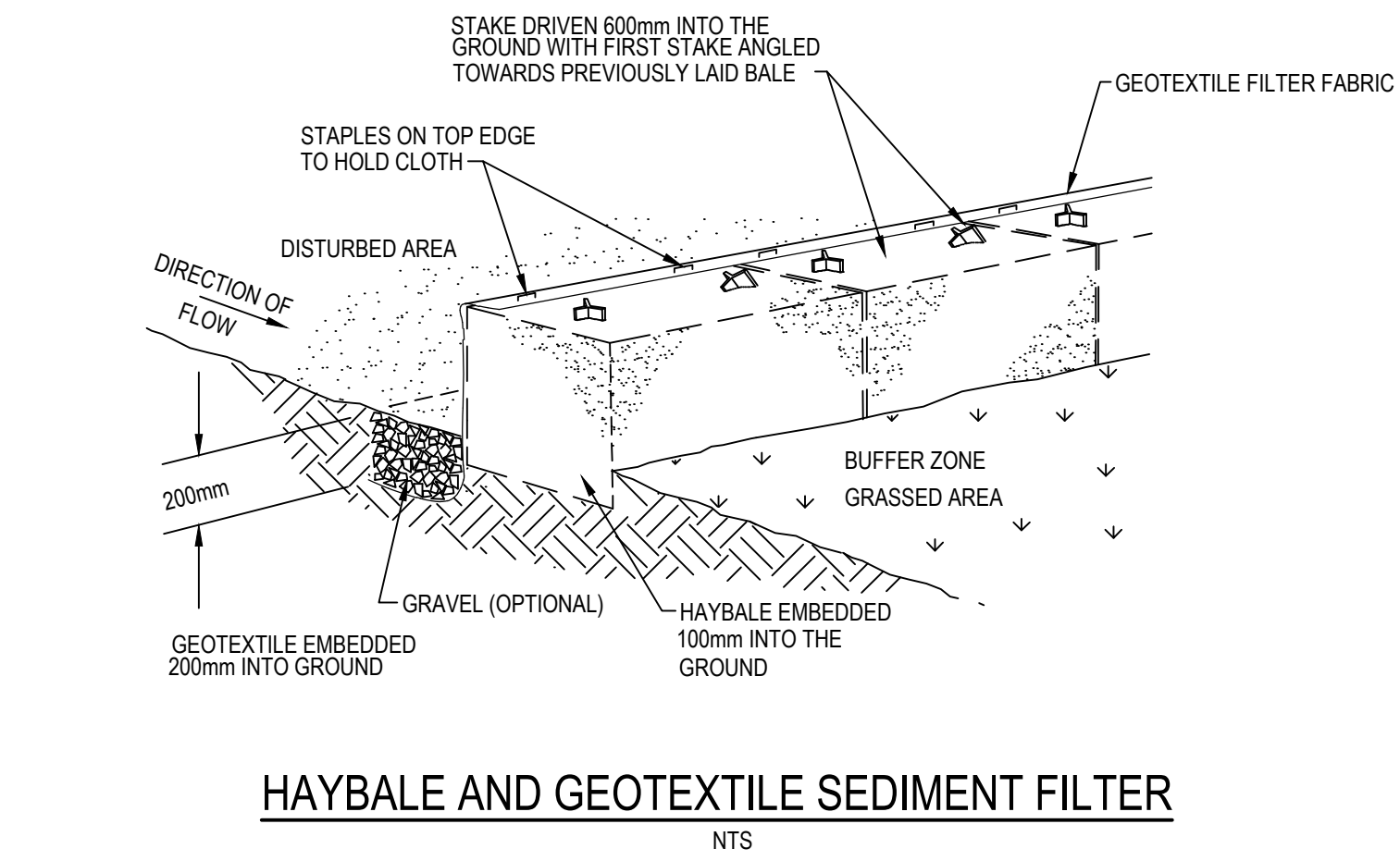
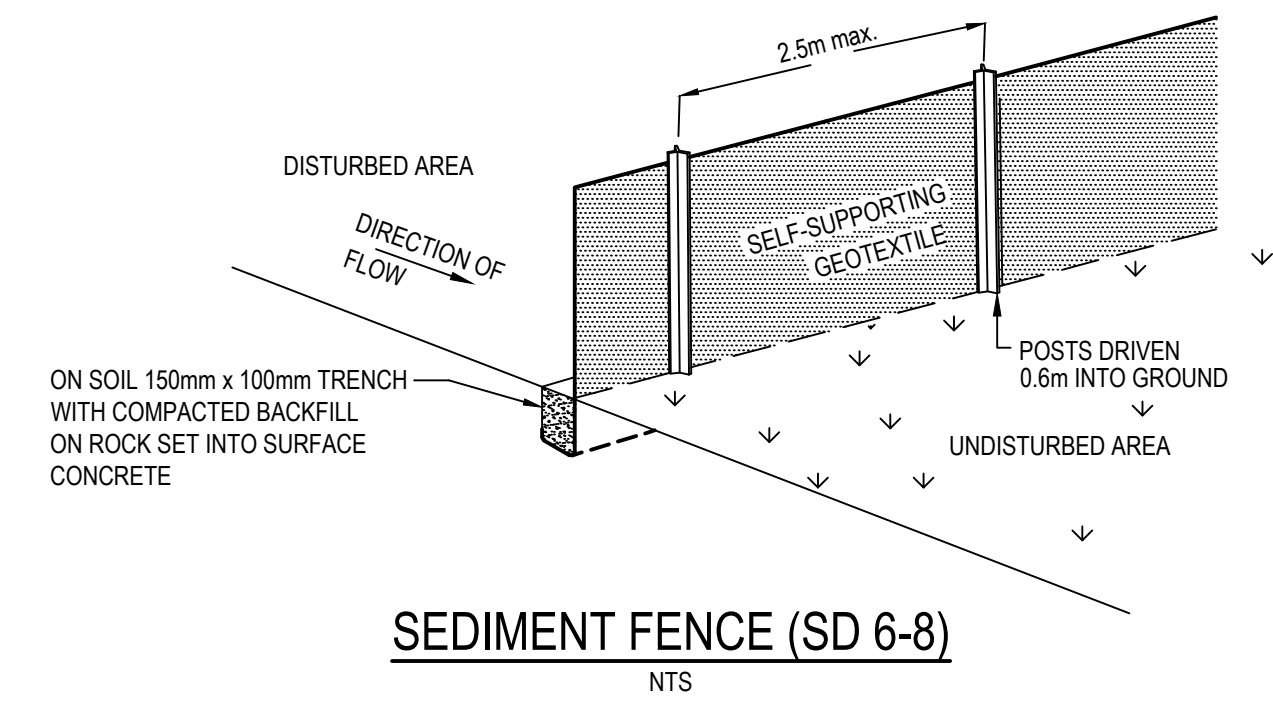
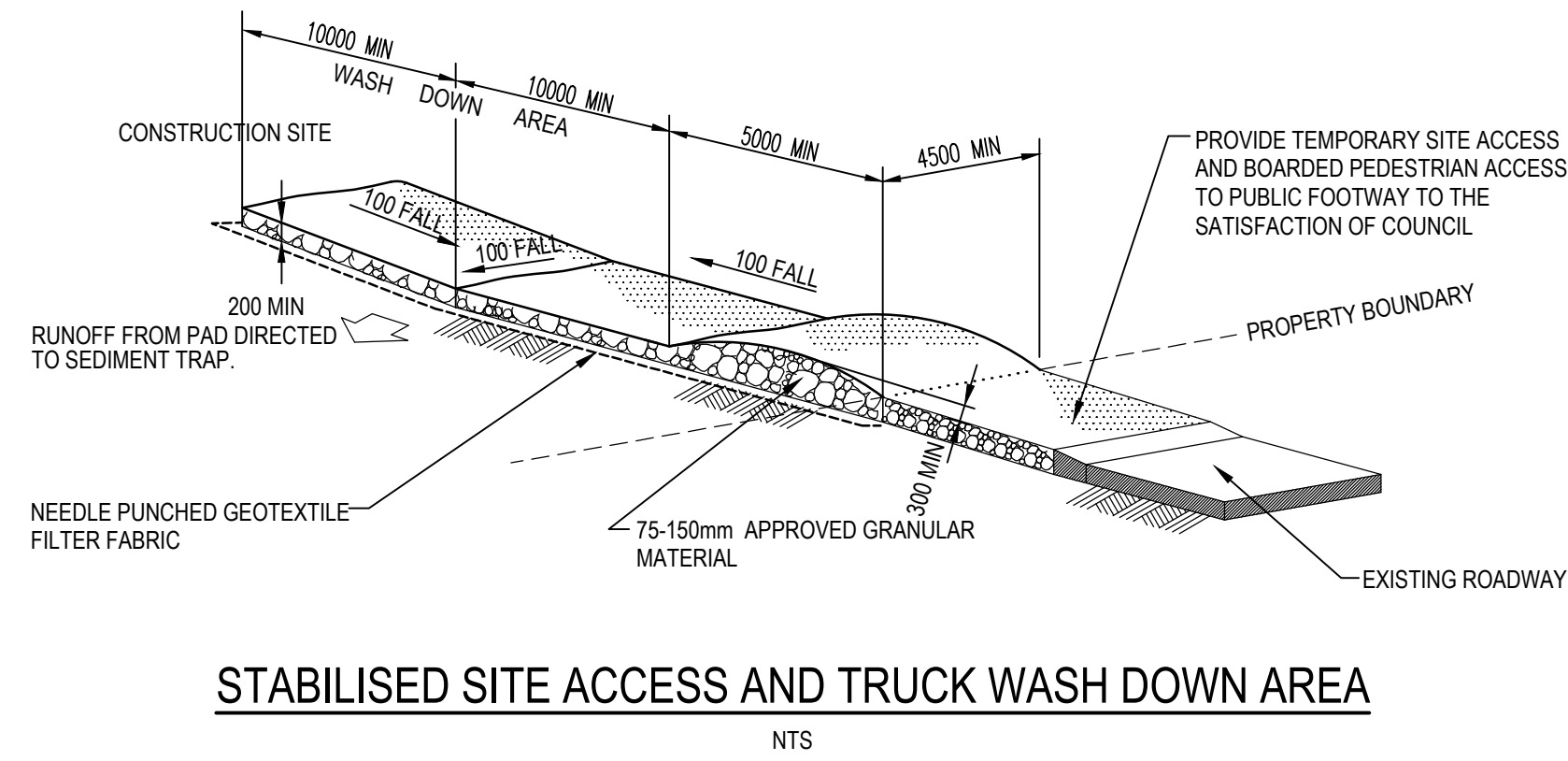
1. Compact the subgrade fill to the density of the surrounding undisturbed material.
2. Prepare a smooth, even foundation for the structure that will ensure that the needle-punched geotextile does not sustain serious damage when covered with rock.
3. Should any minor damage to the geotextile occur, repair it before spreading any aggregate. For repairs, patch one piece of fabric over the damage, making sure that all joints and patches overlap more than 300 mm.
4. Lay rock following the drawing, according to Table 5.2 of Landcom (2004) and with a minimum diameter of 75 mm.
5. Ensure that any concrete or riprap used for the energy dissipater or the outlet protection conforms to the grading limits specified on the SWMP.

ENERGY DISSIPATER

SD 5-8

5-34

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								Designed	JT							
								Checked	LB							
								Approved	DS							
													Title	EROSION AND SEDIMENT CONTROL DETAILS SHEET 2	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION	A1
A	ISSUED FOR SSDA APPROVAL		27-01-26													
Issue	Description		Date													



		Bar Scales	THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L	Client 	Scales DrawnJT DesignedJT CheckedLB ApprovedDS 	Project SEED STAGE 1B SSD 4000 SERIES SWC REGIONAL BASIN SC09	Civil Engineers and Project Managers  Level 10, 124 Walker Street North Sydney NSW 2060 P 02 9439 1777 E info@atl.net.au www.atl.net.au ABN 96 130 882 405	
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							NOT TO BE USED FOR CONSTRUCTION	
							Project - Drawing No.	
							Issue	
							16-369-C4808	
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A	ISSUED FOR SSDA APPROVAL	27-01-26						
Issue	Description	Date						

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