



Surface Analysis: Elevation Ranges			
Number	Color	Minimum Elevation (m)	Maximum Elevation (m)
1		-5.0	-4.0
2		-4.0	-3.0
3		-3.0	-2.0
4		-2.0	-1.0
5		-1.0	0.0
6		0.0	1.0
7		1.0	2.0
8		2.0	3.0
9		3.0	4.0

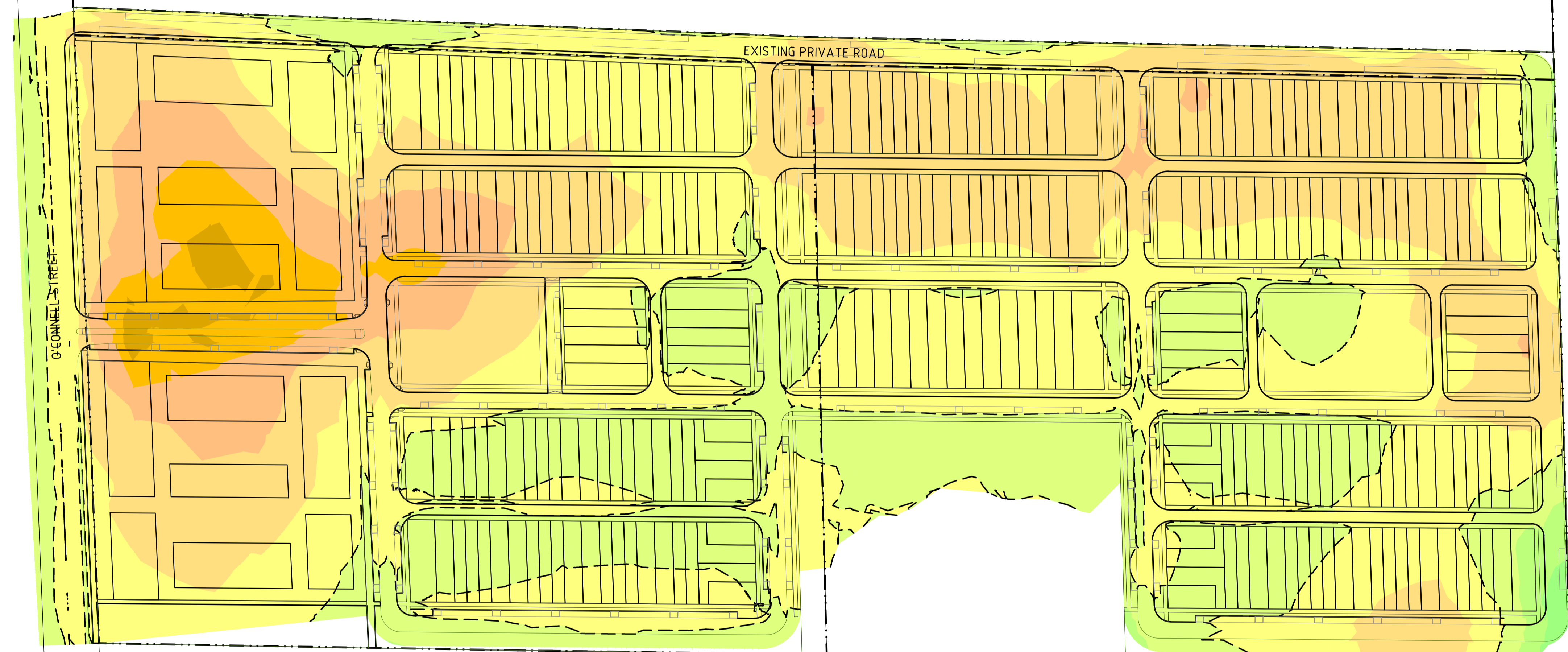
CUT
FILL

BULK EARTHWORKS - AREAS & VOLUMES:

SUMMARY:

SURFACE AREA	=	11.9ha
CUT	=	100 485m ³
FILL	=	8 366m ³
EXCESS CUT	=	92 119m ³

- NOTES:**
- CUT AND FILL BASED ON FINISHED SURFACE LEVEL TO EXISTING SURFACE LEVEL.
 - THE PURPOSE OF THIS PLAN IS TO SHOW EARTHWORK QUANTITIES PROPOSED AS PART OF THE MASTER PLAN DA.
 - THE QUANTITIES PROVIDED ARE THE DIFFERENCE IN LEVEL BETWEEN DESIGN AND NATURAL SURFACE (ONLY).
 - DEDUCTION OF BOXING OF ROADS, EXCESS TRENCH SPOIL, STRIPPING OF TOPSOIL SHALL BE CONSIDERED TO CONFIRM FINAL QUANTITIES.



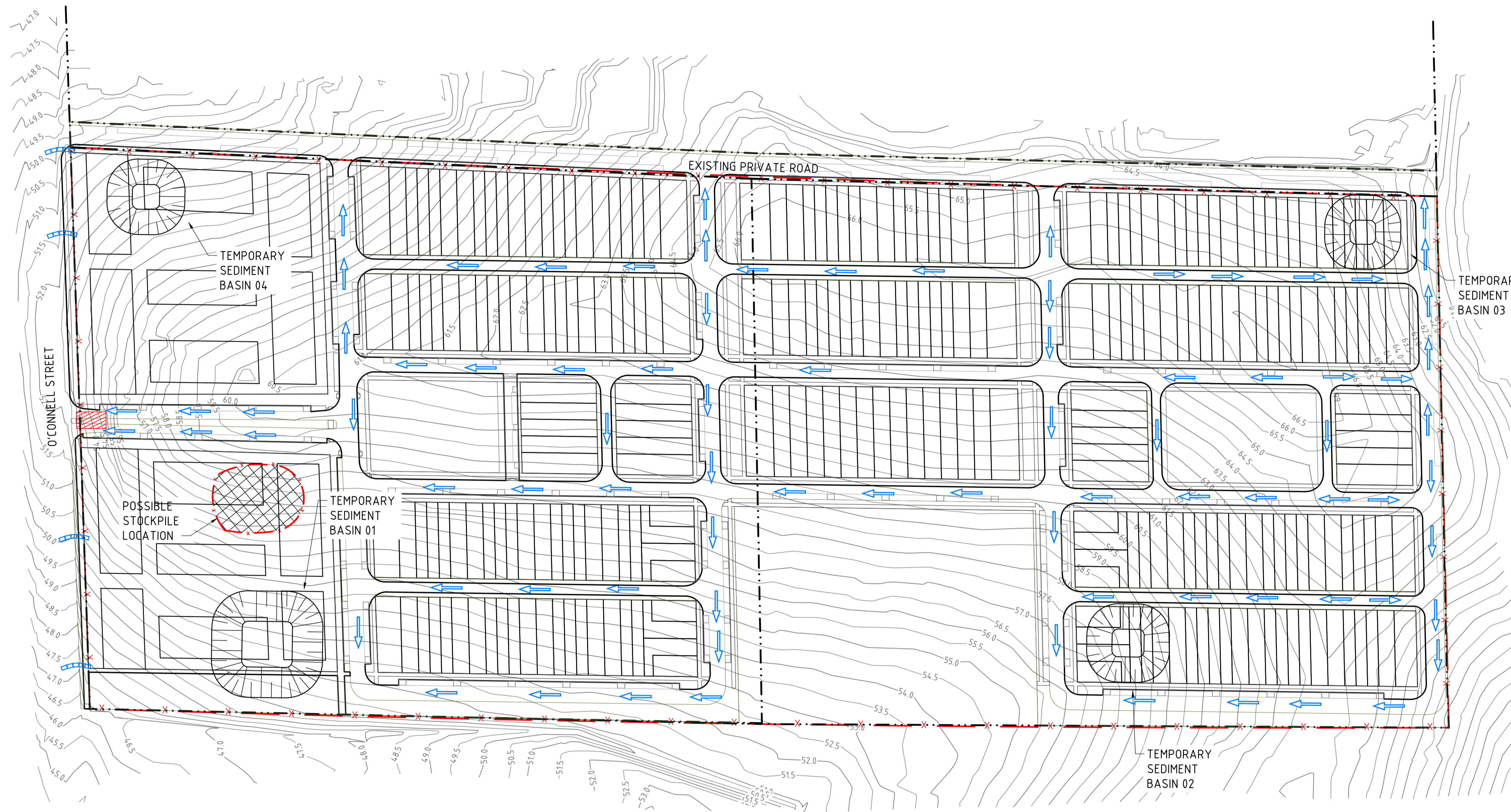
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A1
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	01	0/01/00	ISSUED FOR xxx	001	0
	DRAFTER	NAME			
	DRAFTING CHECK	T. CRAMER			
	DESIGNER	C. HOOD			
	DESIGN CHECK	C. WIEWIORA			
PROJECT MANAGER	C. HOOD				
PROJECT DIRECTOR	G. FLEMING				
SCALES AT A1 SIZE DRAWING			DESIGNER		
SCALE 1:1000			 SMC AUSTRALIA PTY LTD © ABN 47 065 475 149 LEVEL 1 178-180 QUEEN STREET CAMPBELLTOWN NSW, 2560 PH 02 4640-8222 FAX 02 4628-1056 SMEC PROJECT No. 300178090.01		
CLIENT			PROJECT TITLE		
 Suite 1702, Level 17, 25 Bligh Street, SYDNEY NSW 2000 Australia T +61 2 8076 5156 www.chiwaylandau.com			PENRITH CITY COUNCIL O'CONNELL STREET, CADDENS CUT AND FILL PLAN		
SCALE	PHASE	PROJECT / DRAWING No.	REVISION		
AS NOTED	PRELIMINARY	300178090.01.DA051	01		



LEGEND

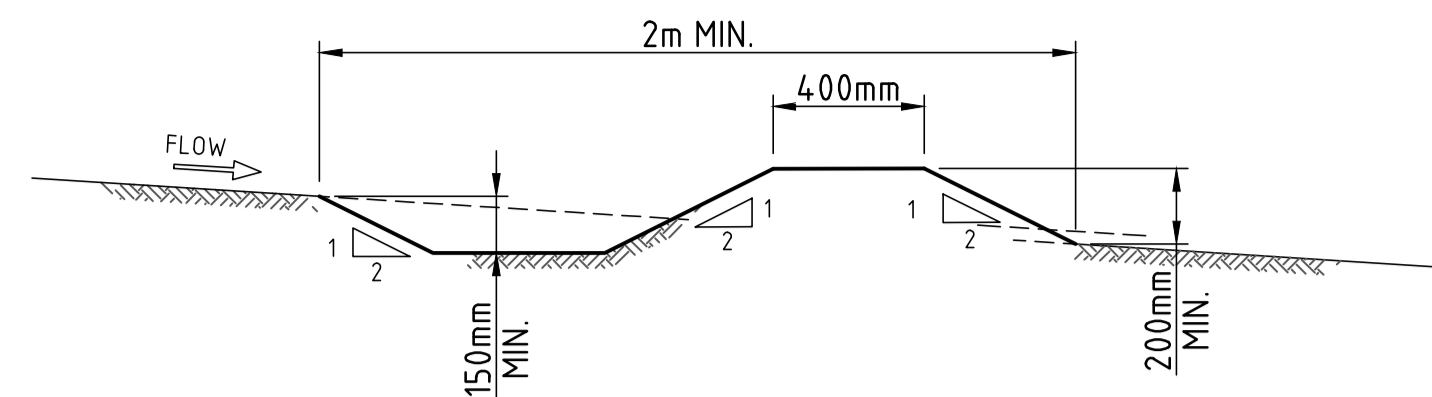
- EXISTING CADASTRAL BOUNDARY
- EXISTING CONTOUR
- STAGE BOUNDARY
- LOT BOUNDARY
- DRAINAGE PIPE
- EXISTING DRAINAGE
- DRAINAGE PIT/STRUCTURE
- OVERLAND FLOW
- SEDIMENT FENCE (INDICATIVE LOCATION)
- DISTURBED SITE AREA
- SURFACE INLET SEDIMENT TRAP
- STABILISED SITE ACCESS
- POSSIBLE STOCKPILE AREA
- SCOUR PROTECTION
- STRAW BALES



150 mm ON ORIGINAL

A1
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

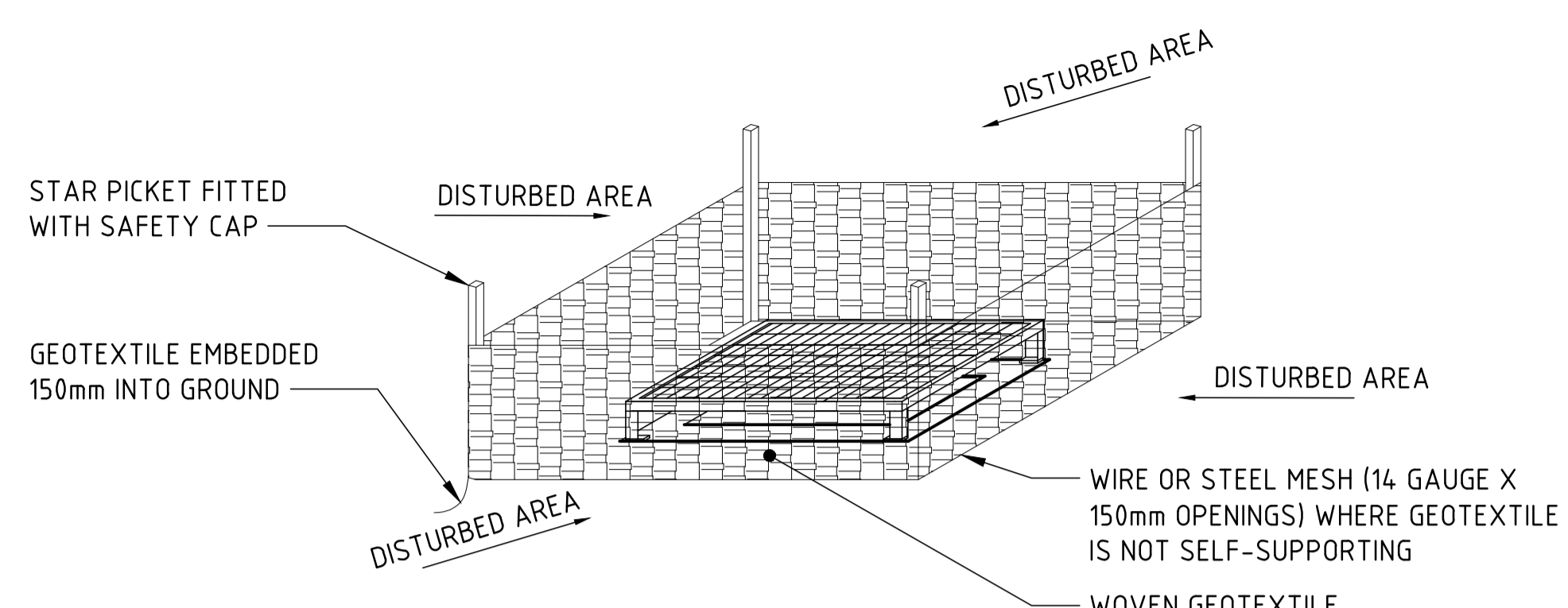
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WVR No. 001		APPROVAL 0		TITLE			
DRAFTER <i>T. CRAMER</i>		NAME		SCALES AT A1 SIZE DRAWING SCALE 1:1000			
DRAFTING CHECK <i>C. HOOD</i>		DESIGNER <i>C. WIEWIORA</i>				DESIGNER SMC SMC AUSTRALIA PTY LTD © ABN 47 065 475 149 LEVEL 1 178-180 QUEEN STREET CAMPBELLTOWN NSW, 2560 PH 02 4640-8222 FAX 02 4628-1056 SMC PROJECT No. 300178090.01	
DESIGN CHECK <i>C. HOOD</i>		PROJECT MANAGER <i>C. HOOD</i>					
PROJECT DIRECTOR <i>G. FLEMING</i>		CLIENT Chiwayland Suite 1702, Level 17, 25 Bligh Street, SYDNEY NSW 2000 Australia T +61 2 8076 5156 www.chiwaylandau.com					
PROJECT TITLE PENRITH CITY COUNCIL O'CONNELL STREET, CADDENS SOIL AND WATER MANAGEMENT PLAN		SCALE AS NOTED	PHASE PRELIMINARY				



EARTH BANK (LOW FLOW)
SCALE N.T.S

CONSTRUCTION NOTES:

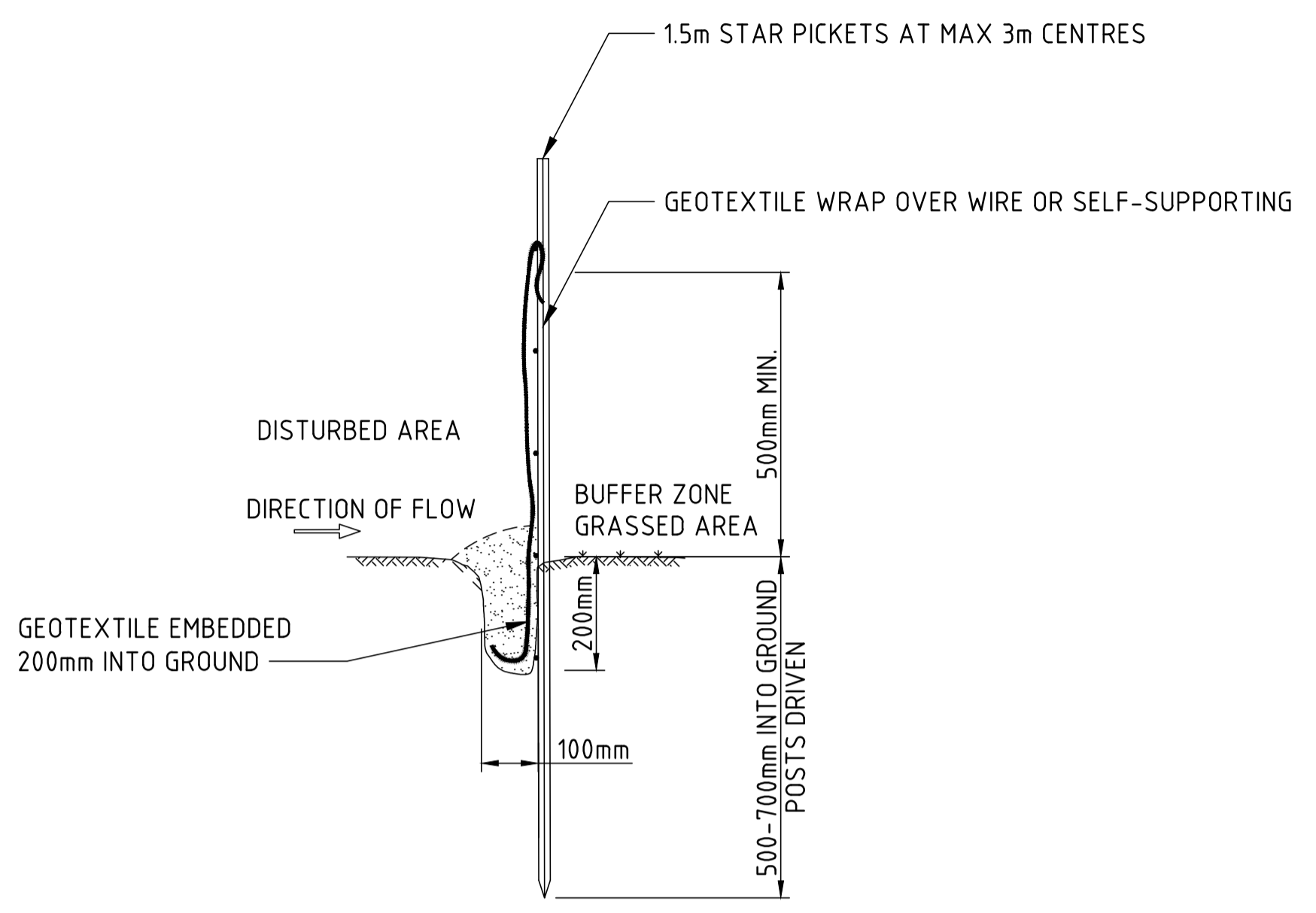
- BUILD WITH GRADIENTS BETWEEN 1% - 5%.
- AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.
- ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.
- BUILD THE DRAINS WITH CIRCULAR, PARABOLOIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V-SHAPED.
- ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
- COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION.



GEOTEXTILE INLET FILTER
SCALE N.T.S

CONSTRUCTION NOTES:

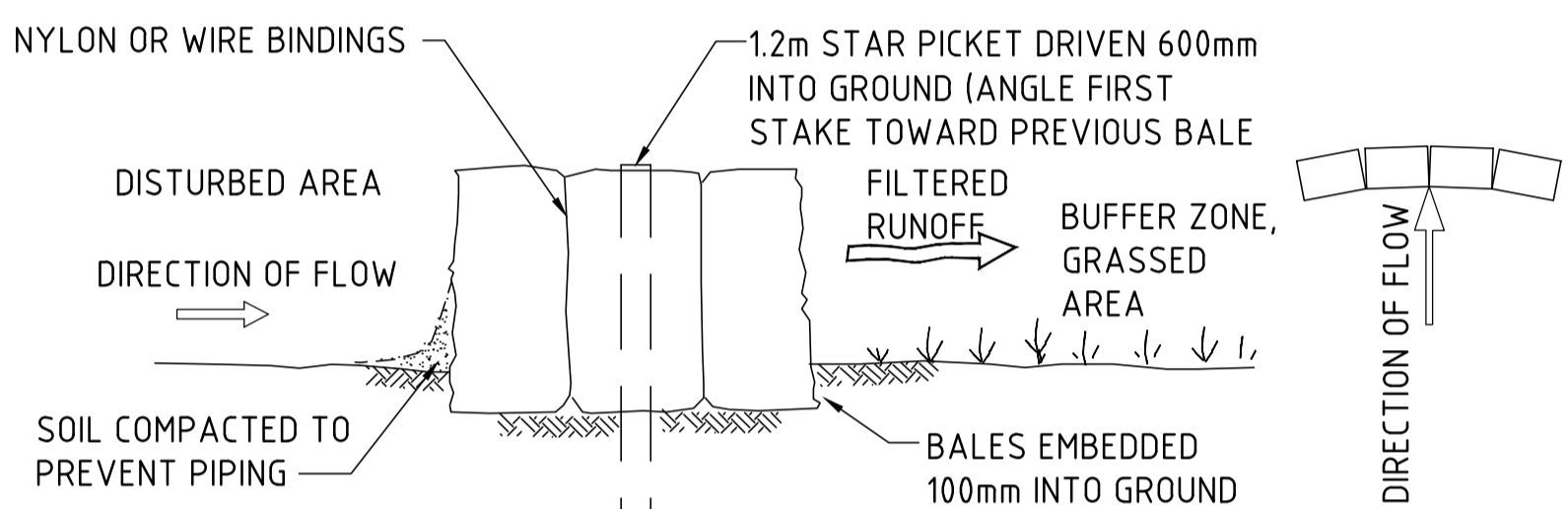
- FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
- REDUCE THE PICKET SPACING TO 1m CENTRES.
- IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
- DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.



SEDIMENT FENCE
SCALE N.T.S

CONSTRUCTION NOTES:

- CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10 YEAR EVENT.
- CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
- DRIVE 1.5 METRE LONG STAR PICKETS INTO THE GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
- FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
- JOIN THE SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
- BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

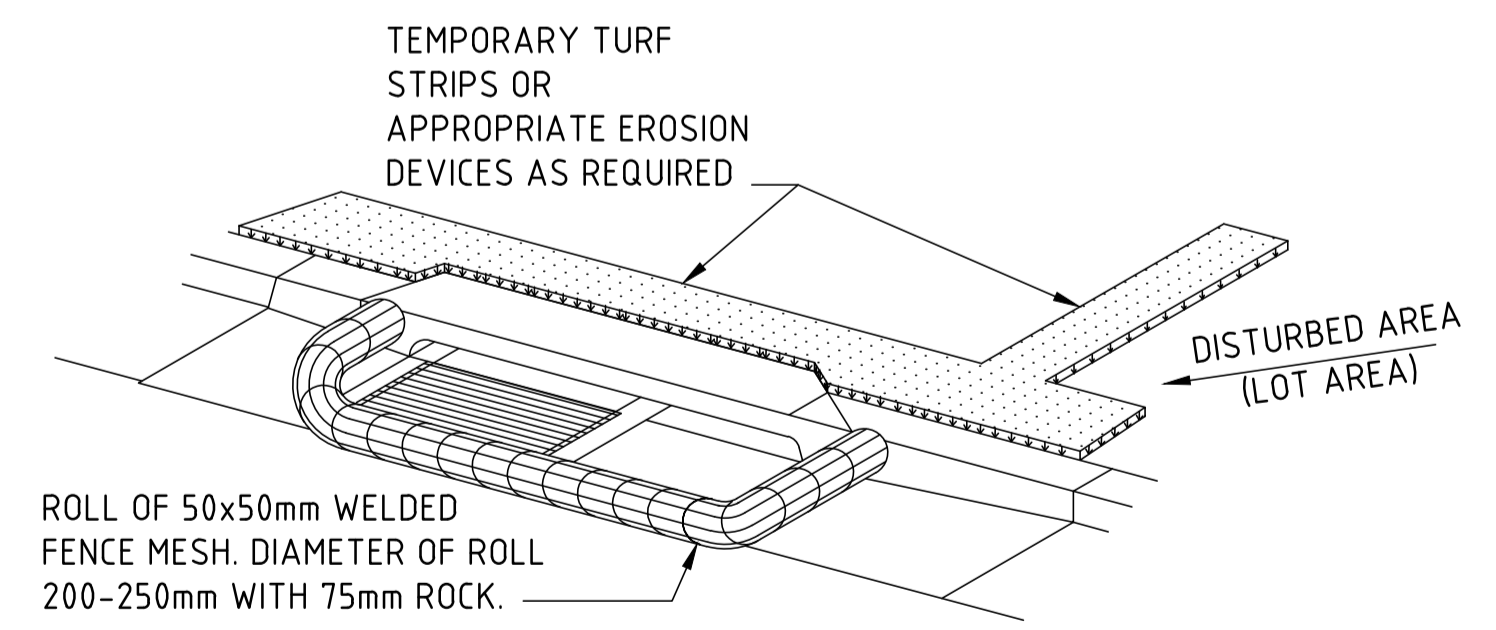


STRAW BALE FILTER ELEVATION
SCALE N.T.S

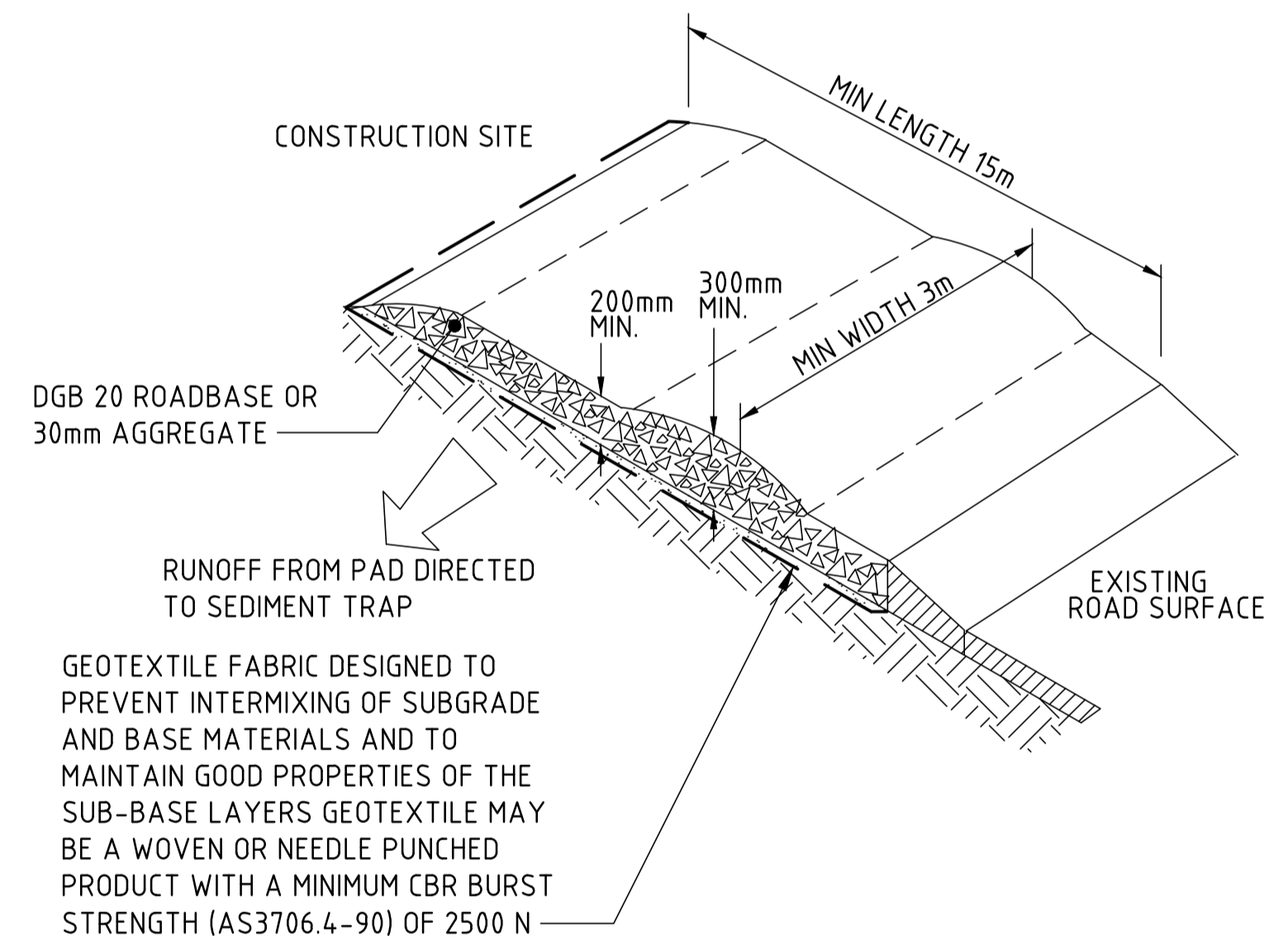
PLAN
N.T.S.

CONSTRUCTION NOTES:

- CONSTRUCT STRAW BALE FILTER AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOURS OF THE SITE OR AT THE TOE OF A SLOPE.
- PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ABUTTING. USE STRAW TO FILL ANY GAPS BETWEEN BALES. STRAW TO BE PLACED PARALLEL TO GROUND.
- MAXIMUM HEIGHT OF FILTER IS ONE BALE.
- ON SOFT MATERIALS, EMBED EACH BALE IN THE GROUND 75mm TO 100mm AND ANCHOR WITH TWO 1.2m STAR PICKETS. ANGLE THE FIRST STAKE IN EACH BALE TOWARDS THE PREVIOUSLY LAID BALE. DRIVE STAKES 600mm INTO THE GROUND AND FLUSH WITH THE TOP OF THE BALES.
- WHERE STRAW BALE FILTER IS CONSTRUCTED DOWNSLOPE FROM A DISTURBED BATTER THE BALES SHOULD BE LOCATED 1.5m TO 2m DOWNSLOPE FROM THE TOE OF THE BATTER.
- ESTABLISH A MAINTENANCE PROGRAM THAT ENSURES THE INTEGRITY OF THE BALES IS RETAINED - THEY COULD REQUIRE REPLACEMENT EACH TWO TO FOUR MONTHS.



PLAN OF KERB INLET SEDIMENT TRAP
SCALE N.T.S



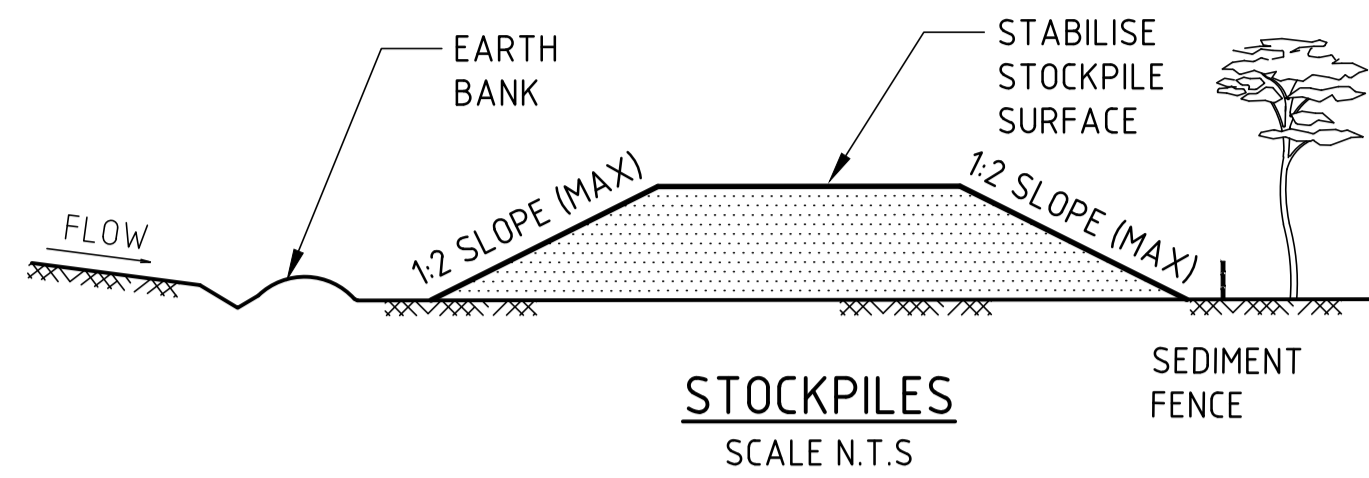
STABILISED SITE ACCESS
N.T.S.

CONSTRUCTION NOTES:

- STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE.
- COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
- CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASE OR 30mm AGGREGATE.
- ENSURE THE STRUCTURE IS AT LEAST 15 METRES LONG OR TO BUILDING ALIGNMENT AND AT LEAST 3 METRES WIDE.
- WHERE A SEDIMENT FENCE JOINS ONTO THE STABILISED ACCESS, CONSTRUCT A HUMP IN THE STABILISED ACCESS TO DIVERT WATER TO THE SEDIMENT FENCE.

150 mm ON ORIGINAL
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0

DRAWING FILE LOCATION / NAME J:\70thousands\78090\11_CAD\DWG\02_DA\Stage_01\300178090.01.DA861.dwg		PLOT DATE 14 Dec 2016		TIME 10.04.44	
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DRAFTER DRAFTING CHECK DESIGNER DESIGN CHECK PROJECT MANAGER PROJECT DIRECTOR			NAME <i>T. CRAMERI</i> <i>C. HOOD</i> <i>C. WIEWIORA</i> <i>C. HOOD</i> <i>C. HOOD</i> <i>G. FLEMING</i>		
DESIGNER SMC SMC AUSTRALIA PTY LTD © ABN 47 065 475 149 LEVEL 1 178-180 QUEEN STREET CAMPBELLTOWN NSW, 2560 PH 02 4640-8222 FAX 02 4628-1056 SMC PROJECT No. 300178090.01			CLIENT Chiwayland Suite 1702, Level 17, 25 Bligh Street, SYDNEY NSW 2000 Australia T +61 2 8076 5156 www.chiwaylandau.com		
PROJECT TITLE PENRITH CITY COUNCIL O'CONNELL STREET, CADDENS SOIL AND WATER MANAGEMENT DETAILS AND NOTES SHEET 1			SCALE AS NOTED		
PHASE PRELIMINARY			PROJECT / DRAWING No. 300178090.01.DA861		
			REVISION 01		



CONSTRUCTION NOTES:

1. PLACE STOCKPILES MORE THEN 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 ABLE 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 ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES 1 TO 2 METRES DOWNSLOPE.

SEDIMENT & EROSION CONTROL

GENERAL NOTES:

1. THE CONTRACTOR SHALL IMPLEMENT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO DISTURBANCE OF THE RELATED CATCHMENT AREA AND TO THE STANDARDS OF THE N.S.W DEPARTMENT OF HOUSING MANAGING URBAN STORMWATER "SOILS AND CONSTRUCTION 4TH EDITION MARCH 2004.
2. TOPSOIL SHALL BE STRIPPED AND STOCKPILED OUTSIDE HAZARD AREAS AS SHOWN ON PLANS. THIS TOPSOIL IS TO BE RESPREAD LATER ON AREAS TO BE REVEGETATED AND STABILISED ONLY. (I.E. ALL FOOTPATHS, TOPSOIL SHALL NOT BE RESPREAD ON ANY OTHER AREAS UNLESS BATTERS) SPECIFICALLY INSTRUCTED BY THE SUPERINTENDENT. IF STOCKPILES ARE TO REMAIN FOR LONGER THAN 14 DAYS STOCKPILES SHALL BE PROTECTED FROM EROSION BY COVERING THEM WITH A MULCH AND HYDROSEEDING AND, IF NECESSARY, BY LOCATING BANKS OR DRAINS UPSLOPE TO DIVERT THE RUNOFF AROUND THEM. IN SOME CIRCUMSTANCES IT MAY BE NECESSARY TO PLACE BANKS OR DRAINS DOWNSTREAM OF A STOCKPILE TO RETARD SEDIMENT LADEN RUNOFF.
3. THE CONTRACTOR SHALL REGULARLY MAINTAIN ALL SEDIMENT AND EROSION CONTROL DEVICES AND REMOVE ACCUMULATED SILT FROM SUCH DEVICES BEFORE NO MORE THAN 60% OF THEIR CAPACITY IS LOST. ALL THE SILT REMOVED SHALL BE DISPOSED OF AS DIRECTED BY THE SUPERINTENDENT. NO SILT IS TO BE PLACED OUTSIDE THE LIMIT OF WORKS. THE PERIOD FOR MAINTAINING THESE DEVICES SHALL BE AT LEAST UNTIL ALL DISTURBED AREAS ARE REVEGETATED AND FURTHER AS MAY BE DIRECTED BY THE SUPERINTENDENT OR COUNCIL.
4. THE CONTRACTOR SHALL PROVIDE SAND BAGS OR SEDIMENT TRAPS AT 20m CTS ACROSS EACH ROAD GUTTER AS AT COMPLETION OF FOOTPATH FORMATION TO AVOID SEDIMENT LOSS FROM THE ROAD & FOOTPATH AREAS.
5. VEHICULAR TRAFFIC SHALL BE CONTROLLED DURING CONSTRUCTION CONFINING ACCESS WHERE POSSIBLE TO PROPOSED OR EXISTING ROAD ALIGNMENTS.
6. WHEN ANY DEVICES ARE TO BE HANDED OVER TO ROAD & DRAINAGE CONTRACTORS THEY SHALL BE IN A CLEAN AND STABLE CONDITION.
7. THE CONTRACTOR SHALL MAINTAIN ALL REVEGETATED AREAS, INCLUDING WATERING UNTIL FINAL COMPLETION OF WORKS.
8. THE CONTRACTOR SHALL MAINTAIN DUST CONTROL UNTIL FINAL COMPLETION OF WORKS.
9. THE CONTRACTOR MUST COMMENCE REHABILITATION WITHIN A REASONABLE TIME OF ANY SITE REGRADING AND BATTER FORMATION.

WASTE CONTROL:

1. THE CONTRACTOR TO BE RESPONSIBLE FOR WASTE DISPOSAL ON SITE.
2. ALL BUILDING PRODUCTS & CLEARED VEGETATION TO BE REMOVED OFF SITE IN AN APPROVED MANNER TO LICENSED LAND FILL SITE.
3. EQUIPMENT MAINTENANCE & REFUELLING OF CONSTRUCTION VEHICLES TO BE DONE IN A DESIGNATED AREA USING BUNDING AND BEST PRACTICE MANAGEMENT CONTROLS FOR REFUELLING.
4. ALL SPILLS TO BE CLEARED UP IMMEDIATELY.

(CONTRACTOR TO CONFIRM FINAL SIGNAGE WITH COUNCIL)

(SIGN TO BE ERECTED AT SITE ENTRY POINTS)

The sign(s) must be constructed of durable materials, at least the size of a standard "For Sale" sign (1200x900). The wording of the sign must be as follows: The warning and fine statement wording must be at least 120mm high and the remainder, at least 60mm high. The warning and fine details must be red bolded capitals and the remaining words in dark coloured lower case letters on a white background, surrounded by a red border.



150 mm ON ORIGINAL
A1
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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						DRAFTER	T. CRAMERI				
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SCALES AT A1 SIZE DRAWING				DESIGNER SMC SMC AUSTRALIA PTY LTD © ABN 47 065 475 149 LEVEL 1 178-180 QUEEN STREET CAMPBELLTOWN NSW, 2560 PH 02 4640-8222 FAX 02 4628-1056 SMC PROJECT No. 300178090.01				CLIENT Chiwayland Suite 1702, Level 17, 25 Bligh Street, SYDNEY NSW 2000 Australia T +61 2 8076 5156 www.chiwaylandau.com			
PROJECT TITLE PENRITH CITY COUNCIL O'CONNELL STREET, CADDENS SOIL AND WATER MANAGEMENT DETAILS AND NOTES SHEET 2		SCALE AS NOTED	PHASE PRELIMINARY	PROJECT / DRAWING No. 300178090.01.DA862	REVISION 01						