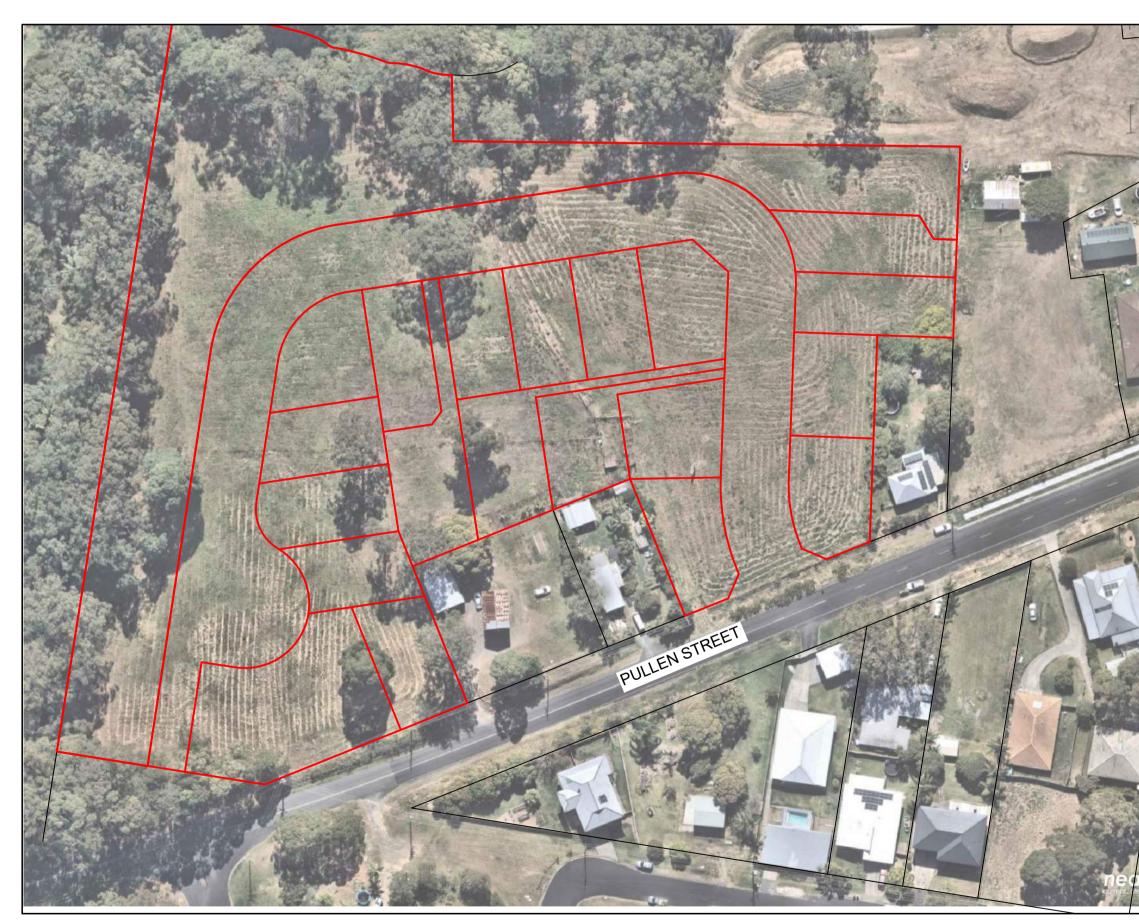


PROPOSED SUBDIVISION

54 PULLEN STREET

WOOLGOOLGA



LOCALITY SKETCH

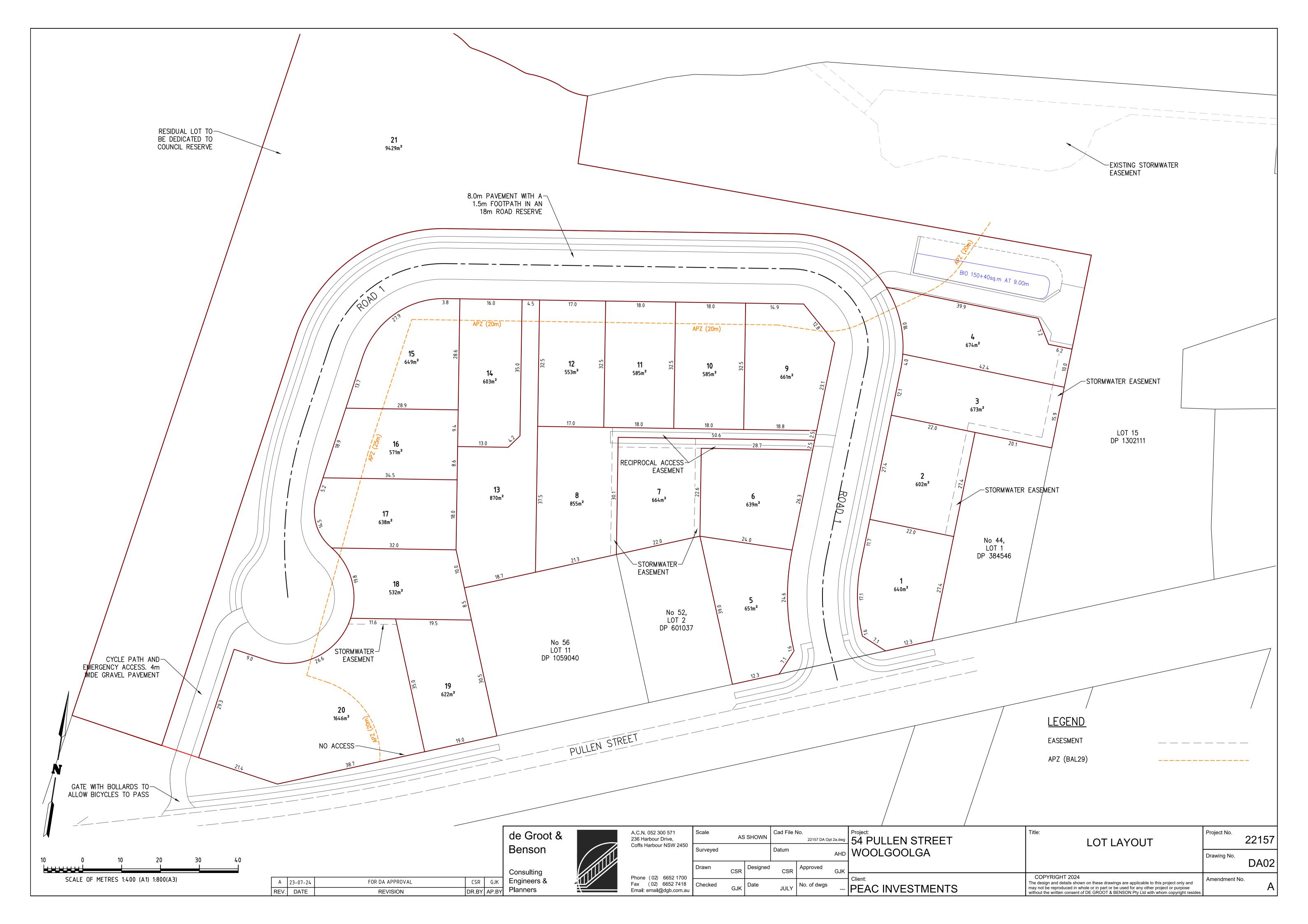
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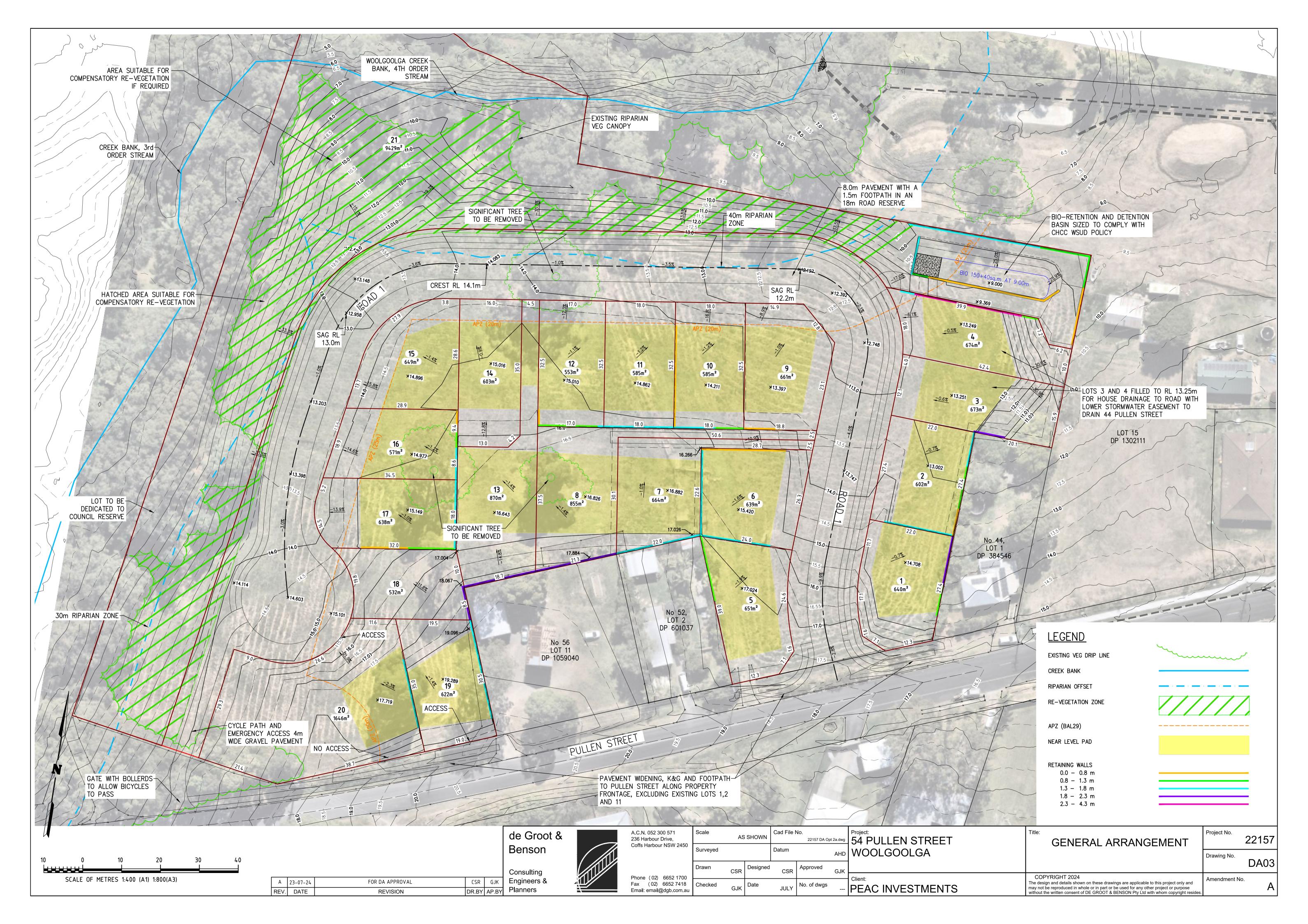
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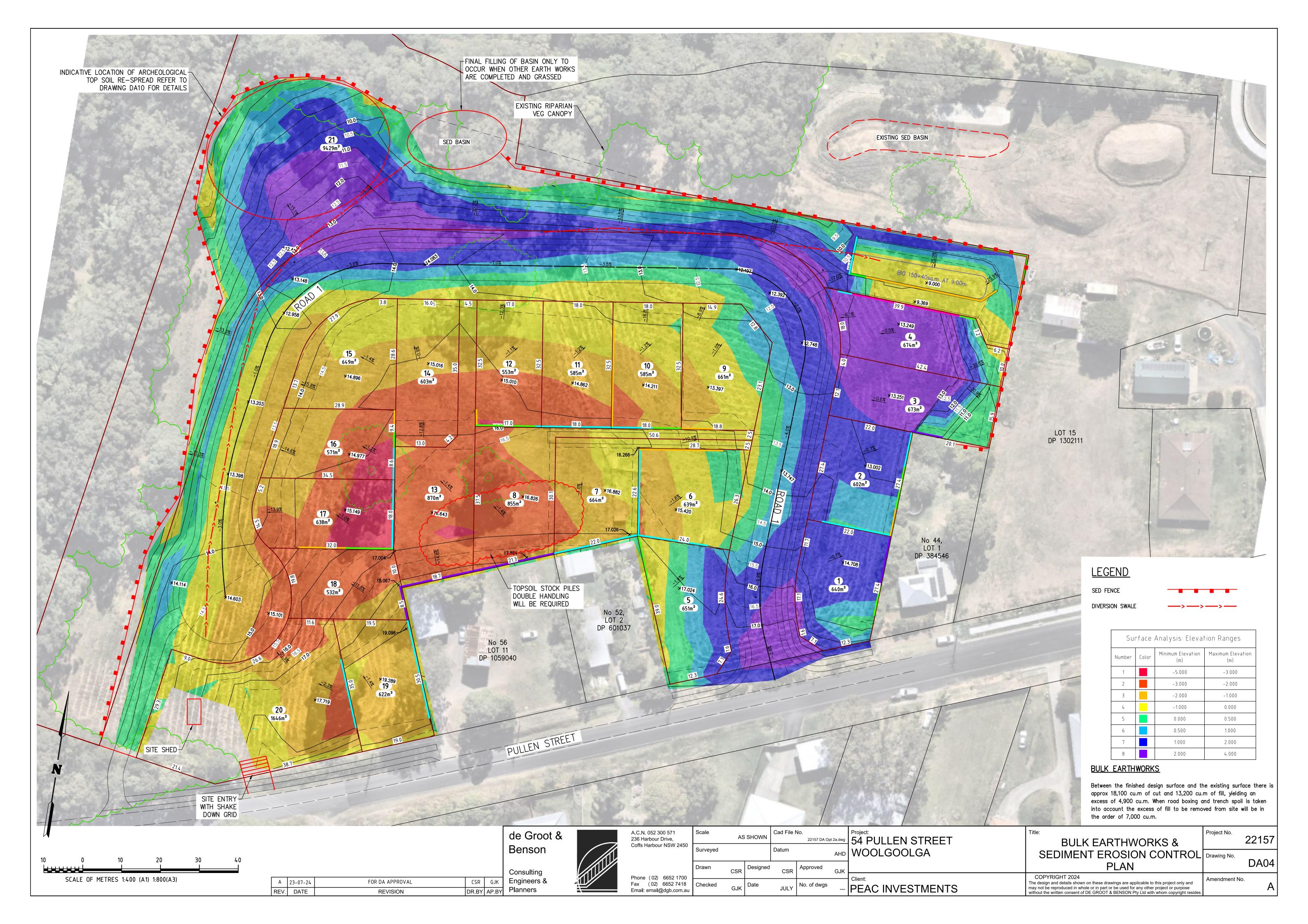
REVISION

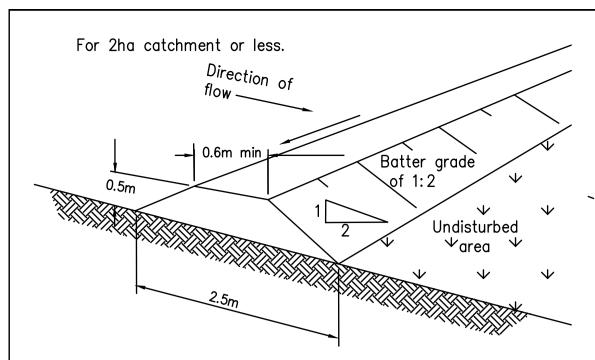
DRAWING INDEX							
DRAWING No.	DESCRIPTION						
22157-DA01	COVER SHEET						
22157-DA02	LOT LAYOUT						
22157-DA03	GENERAL ARRANGEMENT						
22157-DA04	BULK EARTHWORKS & SEDIMENT EROSION CONTROL PLAN						
22157-DA05	SEDIMENT EROSION CONTROL DETAILS						
22157-DA06	SERVICES PLAN						
22157-DA07	BIORETENTION BASIN PLAN						
22157-DA08	BIORETENTION BASIN TYPICAL SECTION						
22157-DA09	RIPARIAN PLANTING PLAN						
22157-DA10	ARCHEOLOGICAL TOP SOIL						
22157-DA11	ROAD 1 LONGITUDINAL AND TYPICAL CROSS SECTIONS						
22157-DA12	STREET TREE MASTER PLAN						

	de Groot & Benson Consulting Engineers & Planners		A.C.N. 052 300 571 236 Harbour Drive, Coffs Harbour NSW 2450	Scale	AS SHOWN			?a.dwg	Project: 54 PULLEN STREET	Title: COVER SHEET	Project No.	2215
				Surveyed Drawn	CSR Designed	Datum	Approved	AHD GJK	WOOLGOOLGA		Drawing No.	DA0
CSR GJK DR.BY AP.BY					GJK Date		No. of dwgs		Client: PEAC INVESTMENTS	COPYRIGHT 2024 The design and details shown on these drawings are applicable to this project only and may not be reproduced in whole or in part or be used for any other project or purpose without the written consent of DE GROOT & BENSON Pty Ltd with whom copyright resides.	Amendment No). /

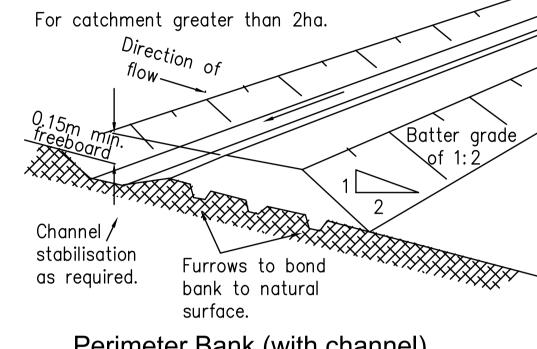




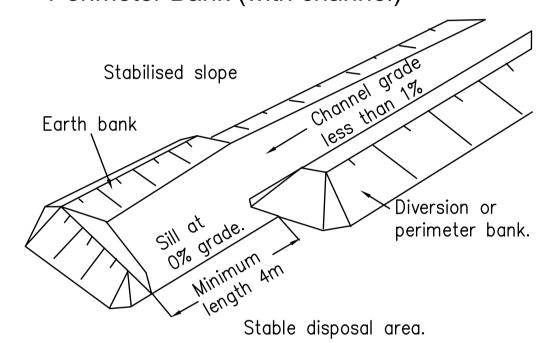




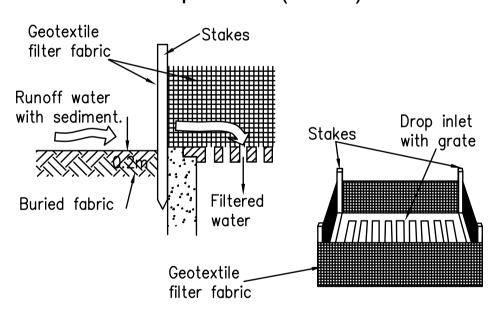
Perimeter Bank (without channel)



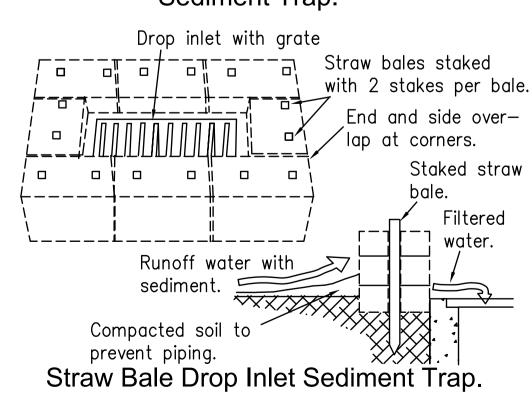
Perimeter Bank (with channel)



Level Spreader (or Sill)

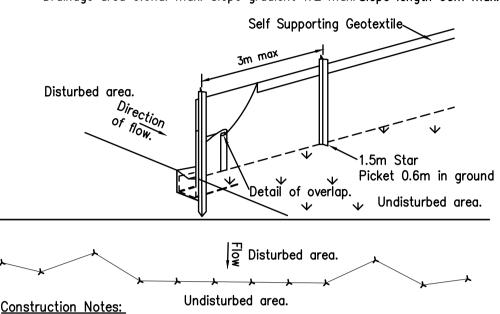


Geotextile Filter Fabric Drop Inlet Sediment Trap.



Drainage area 0.5ha. max. Slope gradient 1:2 max. Slope length 50m max. Stakes driven 0.6m into the ground with first stake angled towards previously laid bale Staples on top edge. Disturbered area \ flow. of Undisturbed area

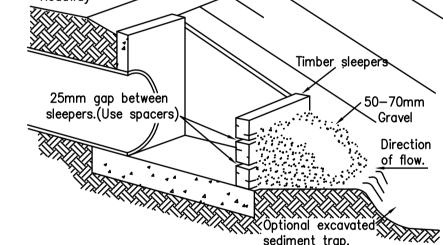
Hay Bale Sediment Fence. Drainage area 0.6ha. max. Slope gradient 1:2 max. Slope length 60m max.



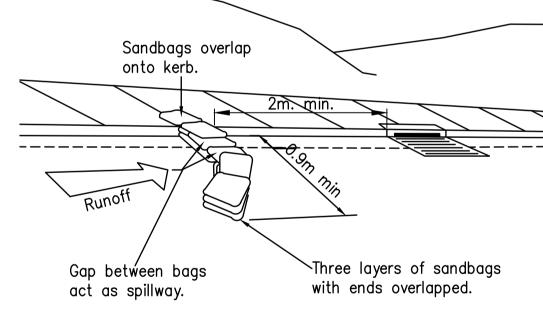
- Construct sediment fence as close as possible to parallel to site
- 2. Drive 1.5m star pickets into ground 3m apart.
- 3. Dig 150mm deep trench along upslope line of fence for the bottom of the fabric to be entrenched.
- Backfill trench over base of fabric.
- 5. Fix self supporting Geotextile to upslope side of posts with wire ties or as recommended by Geotextile manufacturer.
- 6. Join sections of fabric at a support post with a 150mm overlap.

Roadway Timber sleeper

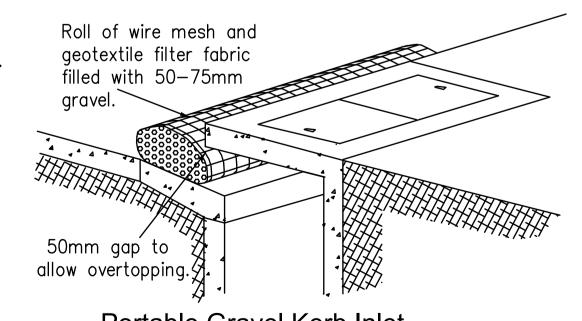
Sediment Fence.



Culvert Entry Sediment Trap.



Sandbag Kerb Inlet Sediment Trap.



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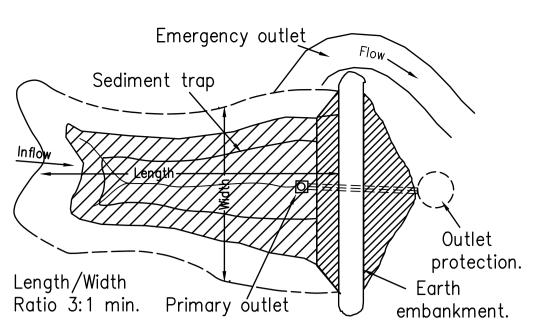
CSR GJK

DR.BY AP.BY

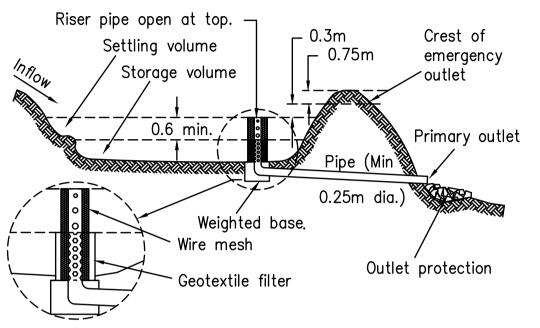
Portable Gravel Kerb Inlet **Sediment Trap**

A 23-07-24

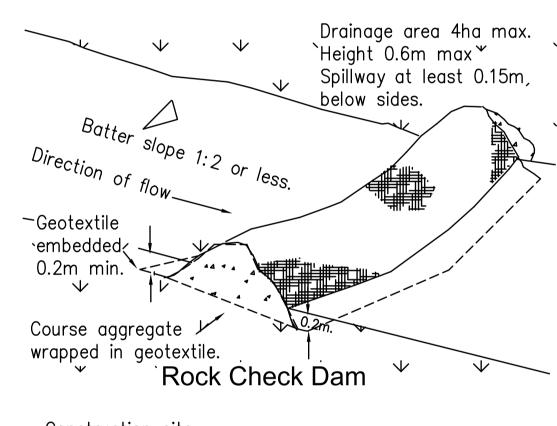
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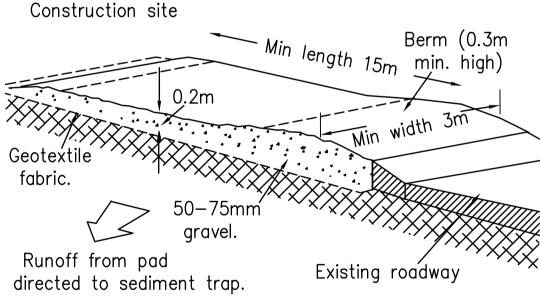


Plan View of Typical Sediment Basin

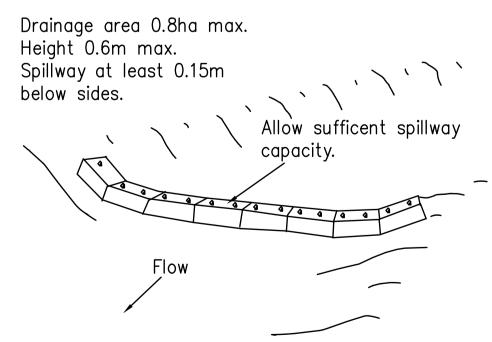


Cross Section of Typical Sediment Basin.





Temporary Construction Exit



Straw Bale Check Dam

SEDIMENT AND EROSION CONTROL NOTES

GENERAL

- 1. ALL WORK IS TO BE IN ACCORDANCE WITH THE PLAN AND CONSISTENT WITH NSW LANDCOM PUBLICATION "MANAGING STORMWATER: SOILS & CONSTRUCTION"
- (THE "BLUE BOOK" 4th EDITION 2004) 2. THE NOMINATED PROJECT MANAGER (OR EARTHWORKS CONTRACTOR) SHALL BE RESPONSIBLE
- FOR THE IMPLEMENTATION OF THE EROSION AND SEDIMENT CONTROL PLAN 3. THE PROJECT MANAGER SHALL INFORM ALL CONTRACTORS AND SUB CONTRACTORS OF THEIR OBLIGATIONS UNDER THE ESCP
- 4. THE PROJECT MANAGER SHALL PROVIDE APPROPRIATE ENVIRONMENTAL INDUCTION TO ALL
- 5. THE PROJECT MANAGER SHALL PROVIDE APPROPRIATE ENVIRONMENTAL TRAINING TO ALL
- 6. THE PLAN SHALL INCLUDE A WORKS PROGRAM (E.G GANTT CHART) INCLUDING
- ACCOUNTABILITY FOR EACH ACTION (I.E RESPONSIBILITY / SIGN OFF)
- 7. CONTROL MEASURES SHALL BE IN PLACE PRIOR TO EACH SITE DISTÚRBANCE
- 8. SITE DISTURBANCE SHALL BE STAGED WHERE POSSIBLE 9. WORK SHALL BE RESTRICTED TO THE WELL DEFINED WORKS ZONES
- 10. ALL WORKS ARE TO BE INSPECTED, AND MAINTAINED WHERE NECESSARY, ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT
- 11. FAILURE TO IMPLEMENT ANY PART OF THE PLAN WILL CONSTITUTE A HOLD POINT (THIS WOULD ALSO CONSTITUTE A BREACH OF THE PROTECTION OF THE ENVIRONMENT OPERATIONS

SITE INFRASTRUCTURE

- 12. THE SITE SUPERVISOR SHALL ENSURE ALL MATERIALS REQUIRED FOR EROSION AND SEDIMENT CONTROL, INCLUDING REHABILITATION WORKS, SHALL BE ON-SITE PRIOR TO IMPLEMENTATION
- 13. ALL PROJECT MATERIALS SHALL BE CORRECTLY LOCATED AND PROTECTED TO AVOID ANY ADVERSE ENVIRONMENTAL IMPACT
- 14. ALL WEATHER AND SAFE SITE ACCESS SHALL BE IDENTIFIED
- 15. A SOIL RETENTION SYSTEM (E.G., GRAVEL SHAKEDOWN ZONE) SHALL BE PROVIDED AT ALL SITE ACCESSES
- 16. ANY SOIL MATERIAL TRACKED OFF-SITE ONTO ROADWAYS SHALL BE IMMEDIATELY REMOVED
- 17. ALL CHEMICAL STORAGE SHALL BE MANAGED (E.G BUNDED) IN ACCORDANCE WITH WORKCOVER OR EPA GUIDELINES

CLEARING

- 18. NO-GO AREAS SHALL BE CLEARLY MARKED BY MEANS OF APPROPRIATE MARKINGS.
- 20. MACHINERY CUTTING EDGES SHALL NOT CONTACT THE SOIL (GRASS, SMALLER SHRUBS, AND ROOTS ETC. WILL BE INCORPORATED INTO THE TOPSOIL WHEN STRIPPED)

19. VEGETATION TO BE CLEARED SHALL BE CLEARLY MARKED USING APPROPRIATE MARKINGS

- 21. MINIMUM FORWARD CLEARING SHALL BE ADOPTED. CLEARING OF WATERCOURSES WILL NOT BE CARRIED OUT UNTIL THE ASSOCIATED WORK COMMENCES
- 22. LOGS SHALL BE SALVAGED OR REPLACED AS HABITAT. REMAINING VEGETATION SHALL BE USED AS MULCH, REMOVED TO AN AUTHORISED WASTE STATION OR BURNED IN PITS UNDER A
- LICENCE FROM THE EPA 23. VEGETATION WINDROWS SHALL BE LOCATED OUT OF FLOW LINES AND AWAY FROM
- UNDISTURBED VEGETATION 24. TEMPORARY OR PERMANENT STABILISATION (E.G., SOWING OF COVERCROP) SHALL BE IMPLEMENTED WITHIN 1 WEEK ON SECTIONS OF CLEARED ZONES NOT FURTHER SUBJECT TO

TOPSOIL STRIPPING

STORMWATER INLETS

- 25. TOPSOIL SHALL INCLUDE A MINIMUM OF THE FIRST 100-150 MM OF THE SOIL SURFACE. 26. ALL TOPSOIL SHALL BE STRIPPED FROM ALL AREAS THAT ARE TO BE CUT OR FILLED AND STOCKPILED IN AREAS INDICATED ON THE PLAN. AWAY FROM DRAINAGE FLOWPATHS OR
- 27. TOPSOIL STOCKPILES SHALL BE LIMITED TO 1.5M IN HEIGHT, TRACK ROLLED AND WHERE STOCKPILED FOR PERIODS GREATER THAN 6 WEEKS FURTHER STABILISED (E.G., EROSION PROTECTION BLANKET, VEGETATIVE COVER CROP (SEE BELOW) OR MULCHED).

EROSION CONTROL

- 28. THE EXTENT OF CUT AND FILLS SHALL BE MINIMISED
- 29. CUT AND FILL BATTER GRADES SHALL IDEALLY BE AT 1:3
- 30. OVER FILLING OF BATTERS SHALL BE AVOIDED
- 1. BARRIER OR SIMILAR FENCING SHALL BE USED TO PROTECT NO-GO AREAS 32. DISTURBED SOIL AREAS SHALL BE EFFECTIVELY MANAGED BY STAGING, MINIMISING AREA
- EXPOSED AT ANY ONE TIME AND MINIMISING THE EXPOSURE TIMEFRAME OF EACH 33. CATCHMENTS SHALL BE BROKEN INTO SMALLER SUB-CATCHMENTS THEREBY REDUCING
- RUNOFF VOLUMES E.G.: - DIVERTING CLEAN 'RUN-ON' WATER SAFELY AROUND THE SITE USING CATCH DRAINS OR BANKS
- (GRADES GENERALLY 1-2%, TO STABLE OUTLET AREAS), OR THROUGH THE DISTURBED WORK SITE TEMPORARILY LINING DESIGNATED FLOW PATHS
- REDUCING SLOPE LENGTHS USING DIVERSION DRAINS (GRADES GENERALLY 3-4%) AT REGULAR INTERVALS ACROSS THE SLOPE) GENERALLY LOCATED AT EVERY LM FALL IN LONG
- GROUNDSLOPE) TO SUITABLE SEDIMENT TRAPS / ENERGY DISSIPATERS - MINIMISING THE STEEPNESS OF DISTURBED SLOPES
- 34. SOIL MATERIAL STOCKPILES (EXCAVATED AND IMPORTED) SHALL BE LOCATED OUT OF
- 35. TEMPORARY OR PERMANENT SOIL COVERING SHALL BE PROVIDED WHERE APPROPRIATE TO REDUCE EROSION
- 36. ALL CONTROL MEASURES SHALL BE APPROPRIATELY DESIGNED, SIZED, LOCATED AND INSTALLED
- 37. ALL PERMANENT EROSION CONTROL MEASURES SHALL BE INSTALLED AS EARLY AND AS SOON AS THEIR EARTHWORKS ARE COMPLETED.

SEDIMENT CONTROL

- 38. THE NEED FOR SEDIMENT CONTROL MEANS THAT EROSION CONTROL HAS NOT BEEN
- 39. SEDIMENT FILTERS (E.G., SEDIMENT FENCE) SHALL BE USED TO FILTER ALL 'SHEET FLOW' RUNOFF FROM DISTURBED AREAS. SEDIMENT FENCING SHALL BE INSTALLED TO THE MANUFACTURERS SPECIFICATIONS AND: - BE SPACED SUCCESSIVELY SPACED DOWNSLOPE NO GREATER THAN 50 M APART AND
- APPROXIMATELY AT EVERY 1 M FALL IN GROUNDSLOPE - BE INSTALLED TO THE CONTOUR
- HAVE THE ENDS TURNED UPSLOPE 500 MM WHERE APPROPRIATE TO CREATE STORAGE - WHERE SEDIMENT FENCING CANNOT BE PLACED ON THE CONTOUR, SMALL CHECK DAMS OR FENCE RETURNS SHALL BE INCORPORATED AT REGULAR INTERVALS ALONG THE FENCE LINE TO SLOW RUNOFF

SEDIMENT CONTROL (Cont)

- 40. SEDIMENT TRAPS (E.G EXCAVATIONS, BARRIERS) SHALL BE USED TO POND 'CONCENTRATED' RUNOFF THEREBY ALLOWING SETTLEMENT AND RETENTION OF SEDIMENT. SEDIMENT TRAPS SHALL BE INSTALLED IN ACCORDANCE WITH PLAN DETAILS OR NOTE 1. THEY
- BE AS LARGE AS PRACTICAL
- BE CONSTRUCTED TO SUIT EXPECTED FLOW CONDITIONS
- BE LOCATED APPROXIMATELY EVERY 1 M FALL IN GROUNDSLOPE - PROVIDE FOR SAFE OVERFLOW
- 41. SEDIMENT CONTROLS SHALL BE LOCATED AS CLOSE TO DISTURBED AREAS AS PRACTICAL 42. TRAPPED SEDIMENT SHALL BE REMOVED TO AN APPROPRIATE NOMINATED LOCATION
- 43. TEMPORARY CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL THE CATCHMENT THEY
- ARE SERVICING IS STABILISED (FOR GRASS THIS WILL MEAN 70% GROUNDCOVER).

DUST CONTROL

COMPACTED.

REVEGETATION

- 44. ALL SOIL LOADED TRUCKS LEAVING OR ENTERING THE SITE SHALL BE TARPED
- 45. A WATER CART SHALL BE CONTINUALLY PROVIDED TO AVOID DUST GENERATION
- 46. WATERING, WIND FENCING, MANUFACTURED COVERINGS AND/OR MULCH SHALL BE PROVIDED WHERE COVERCROP STRIKE IS INHIBITED

TOPSOIL REPLACEMENT

- 47. TOPSOIL SHALL BE RE-SPREAD OVER ALL EXPOSED SOIL SURFACES WHERE VEGETATION IS REQUIRED. A MAXIMUM DEPTH OF 50 MM SHALL BE PLACED ON SLOPES STEEPER THAN 1:3 AND A MINIMUM DEPTH OF 100 MM SHALL BE PLACED ON SLOPES LESS THAN 1:3
- 48. WHERE CUT BATTERS ARE TO BE SEEDED, SLOPES EXCEEDING 1:2.5 (H: V) SHALL BE
- ROUGHENED HORIZONTALLY TO ENHANCE THE RETENTION OF TOPSOIL 49. SOIL AMELIORANTS SHALL BE PROVIDED WHERE REQUIRED AS DETERMINED BY THE PROJECT
- 50. SEEDBED PREPARATION SHALL BE PROVIDED WHERE TOPSOIL HAS BEEN OVERLY

- 51. REVEGETATION SHALL BE ON-GOING AND PROGRESSIVE
- 52. WHERE ANY BREAK IN OPERATIONS, OR WHERE WORK IS CEASED IN AN AREA FOR LONGER THAN 4 WEEKS, THE EXPOSED AREAS SHALL BE STABILISED (E.G., TEMPORARY TOPSOILING AND
- SEEDING WITH AN APPROPRIATE COVERCROP, MULCHES, BLANKETS / MATTINGS) 53. TOPSOILED AREAS SHALL BE SEEDED WITH THE FOLLOWING COVERCROP SPECIES: - SEPTEMBER TO FEBRUARY JAPANESE MILLET (15 KG/HA)
- MARCH TO AUGUST ANNUAL RYEGRASS OR CEREAL RYE OR OATS (15 KG/HA)
- 54. FROM LATE FEBRUARY TO EARLY MARCH AND LATE AUGUST TO EARLY SEPTEMBER A COMBINATION OF SPECIES CAN BE USED
- 55. PERMANENT GRASS SPECIES SHALL COMPRISE:
- PRE CONSTRUCTION OR NOMINATED SPECIES. 56. PERMANENT SHRUB AND TREE SPECIES SHALL COMPRISE:
- AS PER LANDSCAPE PLAN:
- IN ABSENCE OF LANDSCAPE PLAN, LOCAL NATIVE SPECIES. NOMINATE PLANT SPECIES, ITS FORM (SEED OR SEEDLING), PLANTING RATES, REGIMES, MATRICES. 57. AN NPK 11-34-11 FERTILISER OR SIMILAR AS APPROPRIATE SHALL BE APPLIED AT A RATE

FOOTPATH AND SITE DISTURBANCE HAS OCCURRED AND COMPLIMENTED BY ADDITIONAL STRIPS

- OF 200-400 KG/HA. CARE IS TO BE TAKEN TO AVOID ANY FERTILISER DIRECTLY ENTERING WATERCOURSES.
- 58. SCARIFYING OR DIRECT DRILLING SHOULD BE USED TO IMPROVE SEED STRIKE RATES 59. REVEGETATION WORKS SHALL BE MAINTAINED / ENHANCE (E.G., RESEEDING, FERTILISING,
- WATERING) UNTIL A MINIMUM OF 70% GROUND COVER IS ESTABLISHED.
- 60. ADDITIONAL PROTECTION MEASURES (E.G ORGANIC MATTING / BLANKETS) SHALL BE 61. A STRIP OF TURF SHALL BE PROVIDED AND MAINTAINED IMMEDIATELY BEHIND KERB WHERE
- ACROSS THE FOOTPATH AT REGULAR INTERVALS WHERE RUNOFF IS EXPECTED TO FLOW ALONG 62. STOCKPILE SITES, BORROW PITS ETC. SHALL BE REVEGETATED IMMEDIATELY UPON

MONITORING

DECOMMISSION.

- 63. THE WORKS SUPERVISOR SHALL BE RESPONSIBLE FOR:
 - AUDIT OF THE ESCP
- MONITORING OF ESCs
- MAINTENANCE OF ESCs - MANAGEMENT OF ANY NON-CONFORMANCES

MAINTENANCE

- 64. THE WORKS SUPERVISOR SHALL BE RESPONSIBLE FOR ENSURING CONTROL MEASURES ARE CHECKED WEEKLY AND AFTER EACH RAINFALL EVENT INSPECTION AND MAINTENANCE PROVIDED
- 65. TEMPORARY CONTROL MEASURES SHALL BE MAINTAINED UNTIL A MINIMUM OF 70% GROUND COVER IS ACHIEVED
- 66. WATER QUALITY ASSESSMENT SHALL BE PROVIDED PRIOR TO DISCHARGE OF ANY CONTAMINATED SITE STORMWATER INTO EITHER SURFACE OR GROUND WATERS
- 67. REHABILITATED AREAS SHALL BE MONITORED PERIODICALLY TO CHECK FOR THE POSSIBLE ONSET OF SOIL EROSION AND/OR WEED PROBLEMS.

AT COMPLETION

- 68. THE WORKS SUPERVISOR SHALL ENSURE THAT:
 - ALL PERMANENT ESC WORKS ARE CORRECTLY INSTALLED - ALL TEMPORARY CONTROL MEASURES ARE REMOVED, BUT ONLY WHEN AT LEAST 70% GROUND COVER HAS BEEN ACHIEVED

EVALUATION

69. THE WORKS SUPERVISOR SHALL ENSURE THE PLAN IS CONTINUALLY EVALUATED AND AMENDMED WHERE REQUIRED.

	de Groot & Benson		236 Harbour Drive, Coffs Harbour NSW 2450	Surveyed	AS SHOWN Designed		Approved	Project: 54 PULLEN STREET WOOLGOOLGA	SEDIMENT & EROSION CONTROL DETAILS	Project No. Drawing No.	22157 DA05
Y	Consulting Engineers & Planners		Phone (02) 6652 1700 Fax (02) 6652 7418 Email: email@dgb.com.au	CSR Checked GJK		CSR JULY	No. of dwgs	Client: PEAC INVESTMENTS	COPYRIGHT 2024 The design and details shown on these drawings are applicable to this project only and may not be reproduced in whole or in part or be used for any other project or purpose without the written consent of DE GROOT & BENSON Pty Ltd with whom copyright resides.	Amendment N	A

