

DA2 08/03/18 REV. DATE FOR DA APPROVAL

SALTWATER DEVELOPMENT

48 BELLE O'CONNOR ST

SOUTH WEST ROCKS

DRAWING INDEX				
DRAWING No.	DESCRIPTION			
13056 - DA00 13056 - DA01 13056 - DA02 13056 - DA03 13056 - DA04 13056 - DA05 13056 - DA06	COVER SHEET LAYOUT PLAN WITH AERIAL GENERAL ARRANGEMENT AND LOT LAYOUT PLAN BULK EARTHWORKS & SEDIMENT EROSION CONTROL PLAN ROAD & DRAINAGE PLAN SEWER & WATER SERVICES PLAN SEDIMENT & EROSION CONTROL DETAILS			

de Groot &
Benson

Consulting
Engineers &

KWW RDG DR.BY AP.BY



C.N. 052 300 571 6 Harbour Drive,	Scale	AS	SHOWN	Cad File No. 13056_Civil - LOT 36 2018-03-07a.dwg		
ffs Harbour NSW 2450	Surveyed		MR	Datum		AHE
one (02) 6652 1700	Drawn	KWW	Designed	KWW	Approved	RDG
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Project:
SALTWATER DEVELOPMENT
SOUTH WEST ROCKS, NSW

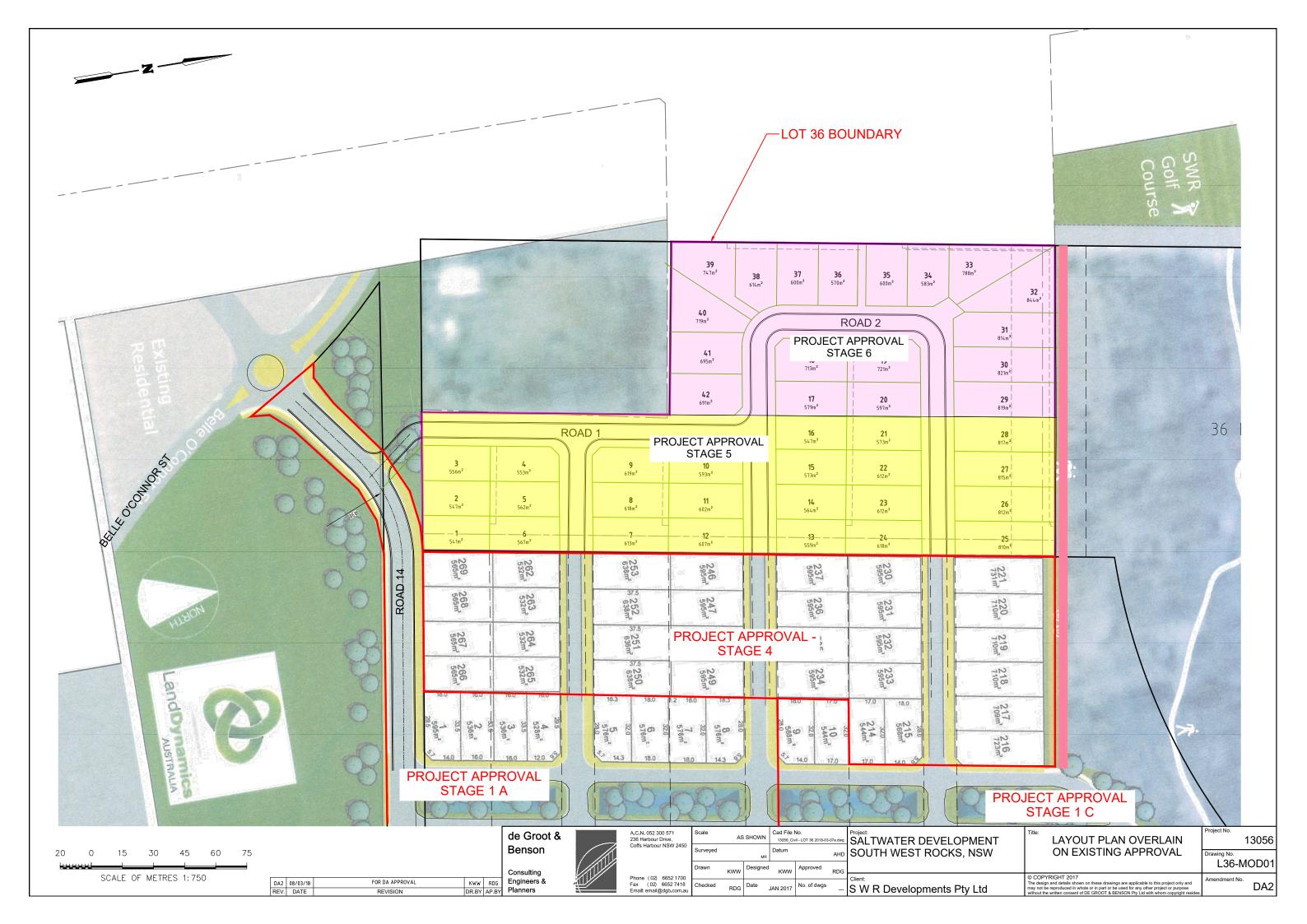
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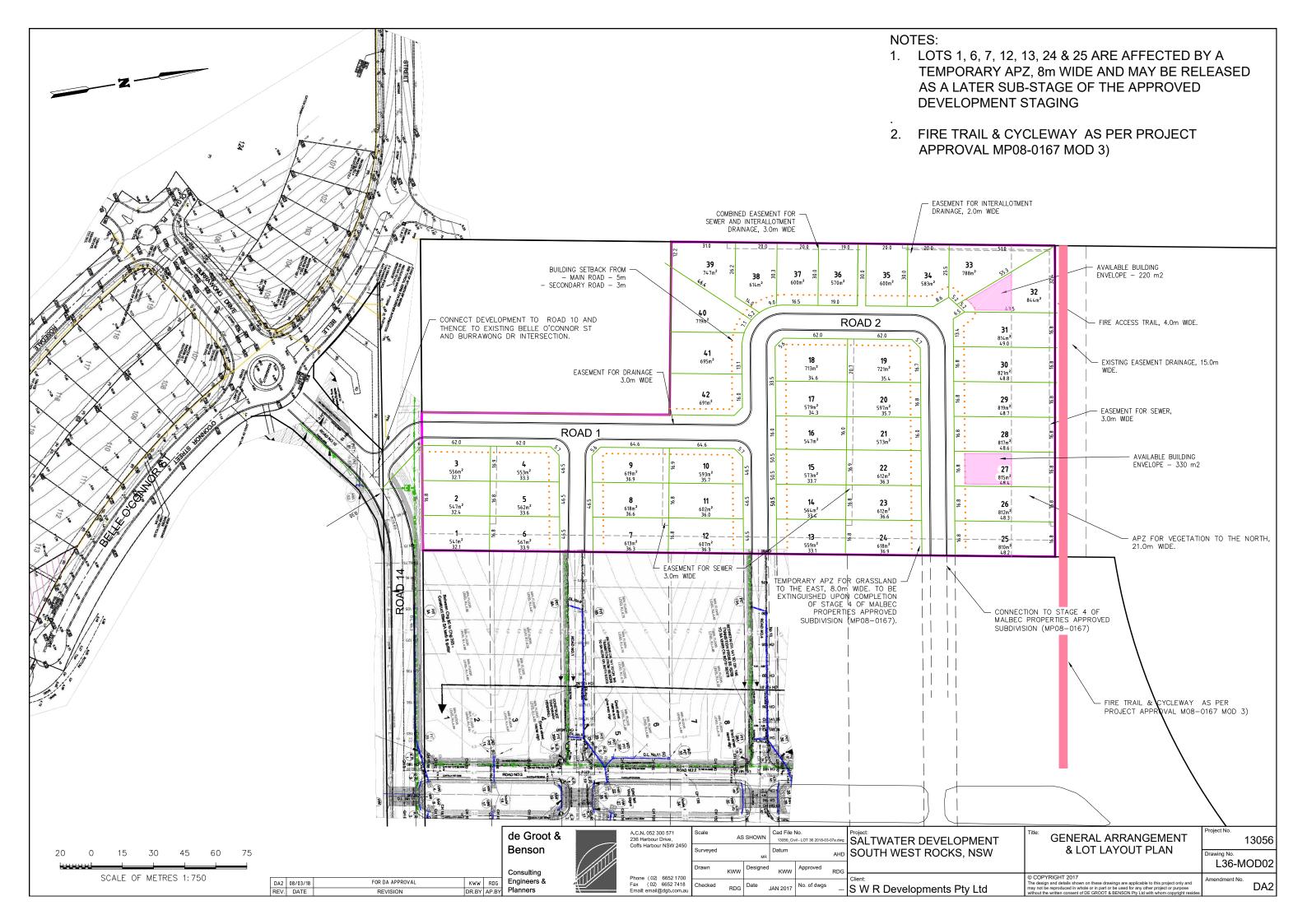
COVER SHEET 13056

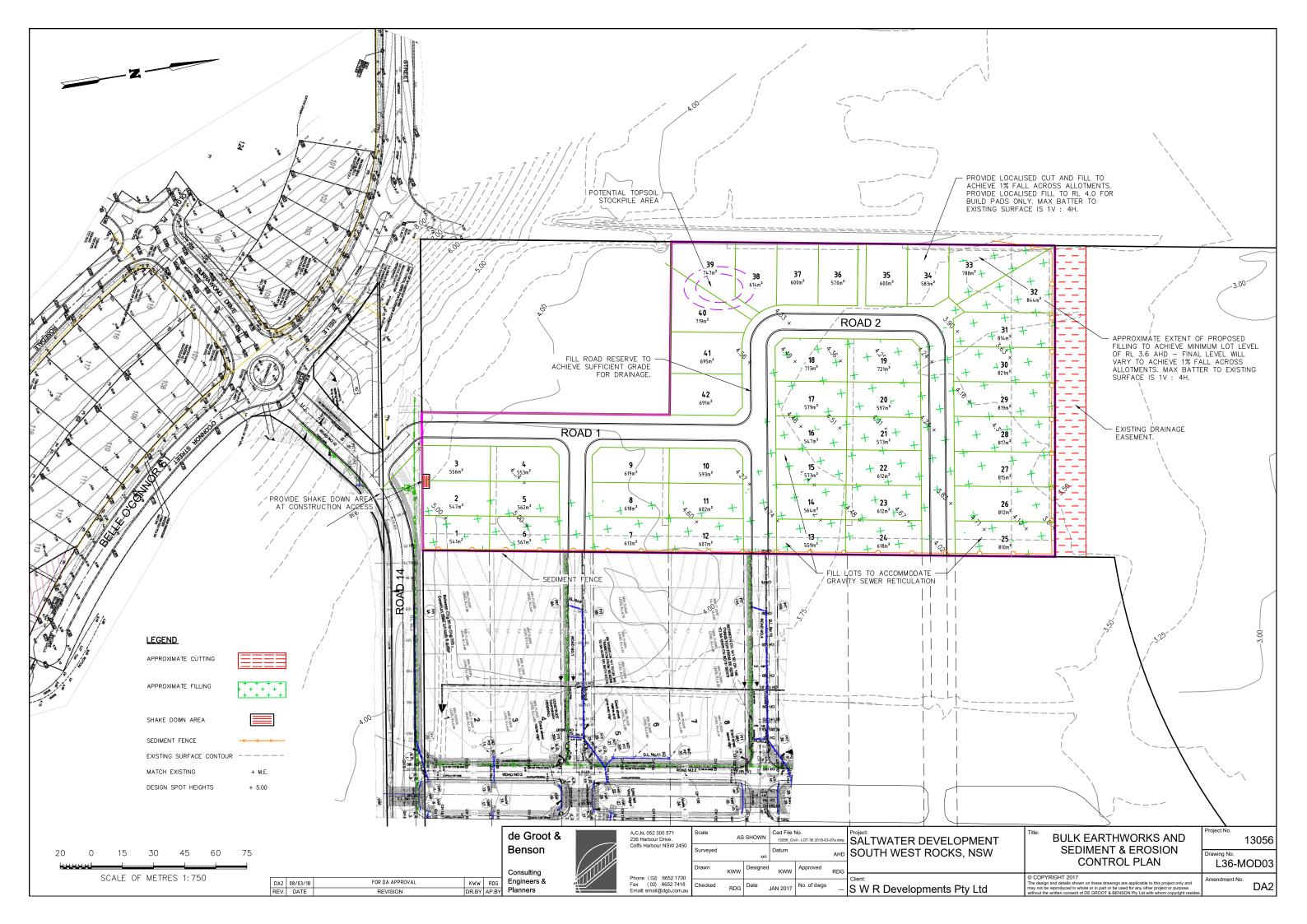
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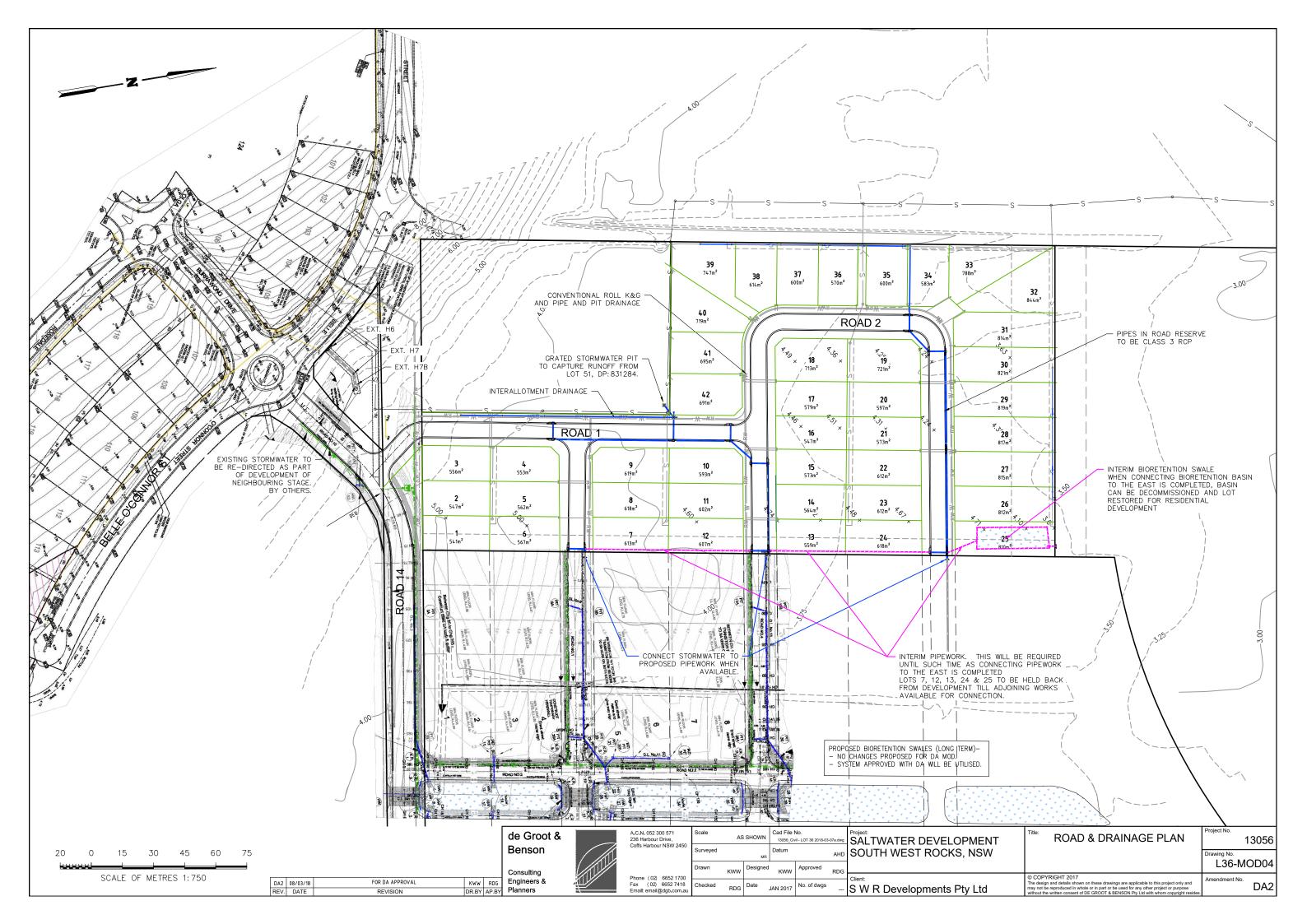
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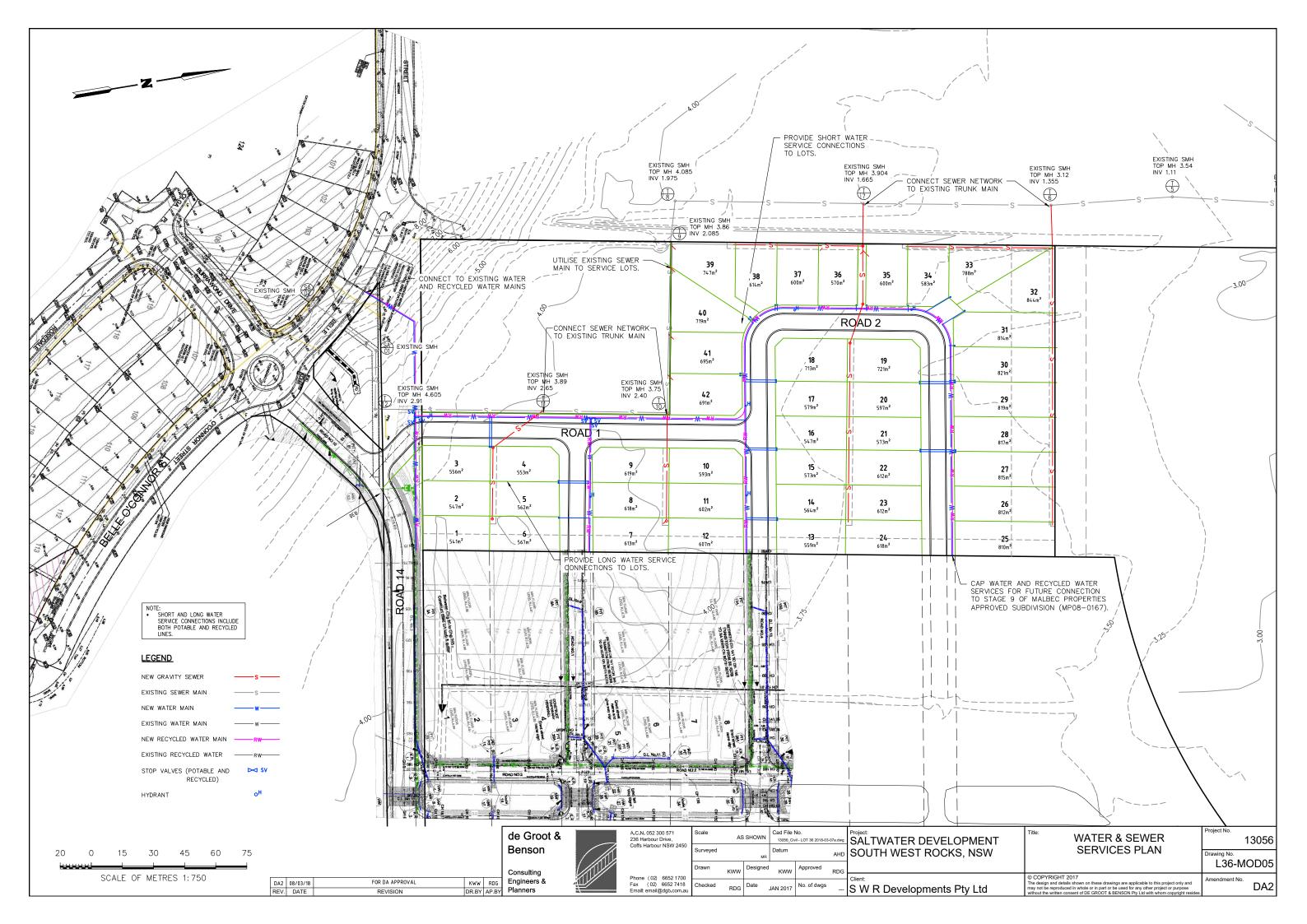
02; 6652 1700 22; 6652 1700 Checked RDG Date JAN 2017 No. of dwgs --- S W R Developments Pty Ltd S W R

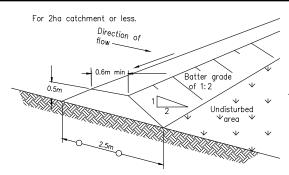




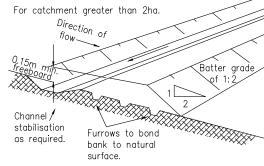




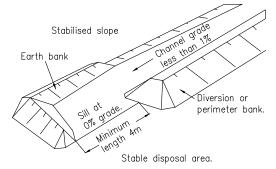




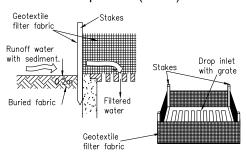
Perimeter Bank (without channel)



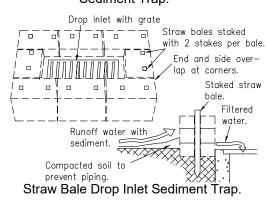
Perimeter Bank (with channel)



Level Spreader (or Sill)



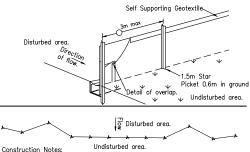
Geotextile Filter Fabric Drop Inlet Sediment Trap.



Drainage area 0.5ha. max. Slope gradient 1:2 max Slope length 50m max. Stakes driven 0.6m into the Geotextile filter fabric ground with first stake angled towards previously laid bale Staples on top edge - B Disturbered area

Hay Bale Sediment Fence.

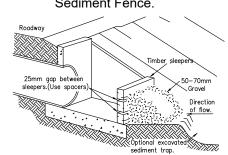
Drainage area 0.6ha. max. Slope gradient 1:2 max. Slope length 60m max.



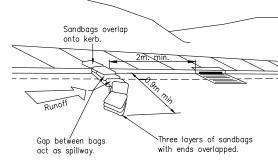
- Construct sediment fence as close as possible to parallel to site
- contours.

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

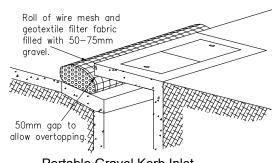
Sediment Fence.



Culvert Entry Sediment Trap.



Sandbag Kerb Inlet Sediment Trap.



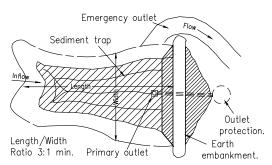
FOR DA APPROVAL

REVISION

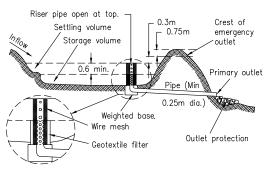
Portable Gravel Kerb Inlet Sediment Trap

DA2 08/03/18

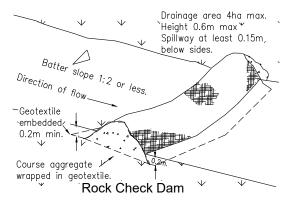
REV DATE

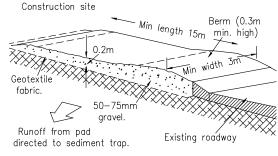


Plan View of Typical Sediment Basin

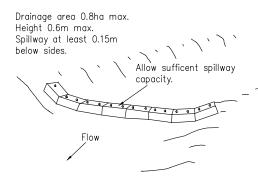


Cross Section of Typical Sediment Basin.





Temporary Construction Exit



Straw Bale Check Dam

A.C.N. 052 300 571

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
- THE PROJECT MANAGER SHALL PROVIDE APPROPRIATE ENVIRONMENTAL INDUCTION TO ALL
- THE PROJECT MANAGER SHALL PROVIDE APPROPRIATE ENVIRONMENTAL TRAINING TO ALL
- 6. THE PLAN SHALL INCLUDE A WORKS PROGRAM (F.G. GANTT CHART) INCLUDING
- ACCOUNTABILITY FOR EACH ACTION (I.E. RESPONSIBILITY / SIGN OFF)

 7. CONTROL MEASURES SHALL BE IN PLACE PRIOR TO EACH SITE DISTURBANCE

 8. SITE DISTURBANCE SHALL BE STAGED WHERE POSSIBLE

 9. WORK SHALL BE RESTRICTED TO THE WELL DEFINED WORKS ZONES

- ALL WORKS ARE TO BE INSPECTED, AND MAINTAINED WHERE NECESSARY, ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT
- 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 DATES

 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

- 14. ALC WRATHER AND SALE SHE ACCESS SHAKE DOWN 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.
 19. VEGETATION TO BE CLEARED SHALL BE CLEARLY MARKED USING 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)
- 21. MINIMUM FORWARD CLEARING SHALL BE ADDPTED. CLEARING OF WATERCOURSES WILL NOT BE CARRIED OUT UNTIL THE ASSOCIATED WORK COMMENCES
- 22 LOGS SHALL RE SALVAGED OR REPLACED AS HARITAT REMAINING VEGETATION SHALL RE LOGS STALL BE DEVELOPED OR REPLACED AS HABITAL REWAINING VECENTION SHED IN PITS UNDER A LICENCE FROM THE EPA VECETATION WINDROWS SHALL BE LOCATED OUT OF FLOW LINES AND AWAY FROM UNDISTURBED VEGETATION
- 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

- 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

- - 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
- 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 ACHIEVED.
- 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

- 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
- WLL: BE AS LARGE AS PRACTICAL

- 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

- 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

REVEGETATION

- 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)
 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 ARSENCE OF LANDSCAPE PLAN, LOCAL NATIVE SPECIES, NOMINATE PLANT SPECIES.
- 11X ASSENCE OF LANDSCAPE FLAN, LOCAL NATIVES SFECIES, NOMINATE FEMALY SFECIES, 11X 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 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
- 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
- PROVIDED (NOMINATE) A STRIP OF TURF SHALL BE PROVIDED AND MAINTAINED IMMEDIATELY BEHIND KERB WHERE FOOTPATH AND SITE DISTURBANCE HAS OCCURRED AND COMPLIMENTED BY ADDITIONAL STRIPS 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

- 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

- CHECKED WEEKLY AND AFTER EACH RAINFALL EVENT INSPECTION AND MAINTENANCE PROVID
 WHERE REQUIRED.

 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



KWW RNG

DR.BY AP.BY



Cad File No AS SHOWN Coffs Harbour NSW 2450 Designed Approved KWW hecked Date No. of dwgs JAN 2017 RDG

S W R Developments Pty Ltd

SALTWATER DEVELOPMENT AHD SOUTH WEST ROCKS, NSW

SEDIMENT AND EROSION **CONTROL DETAILS**

13056 L36-MOD06

2017

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