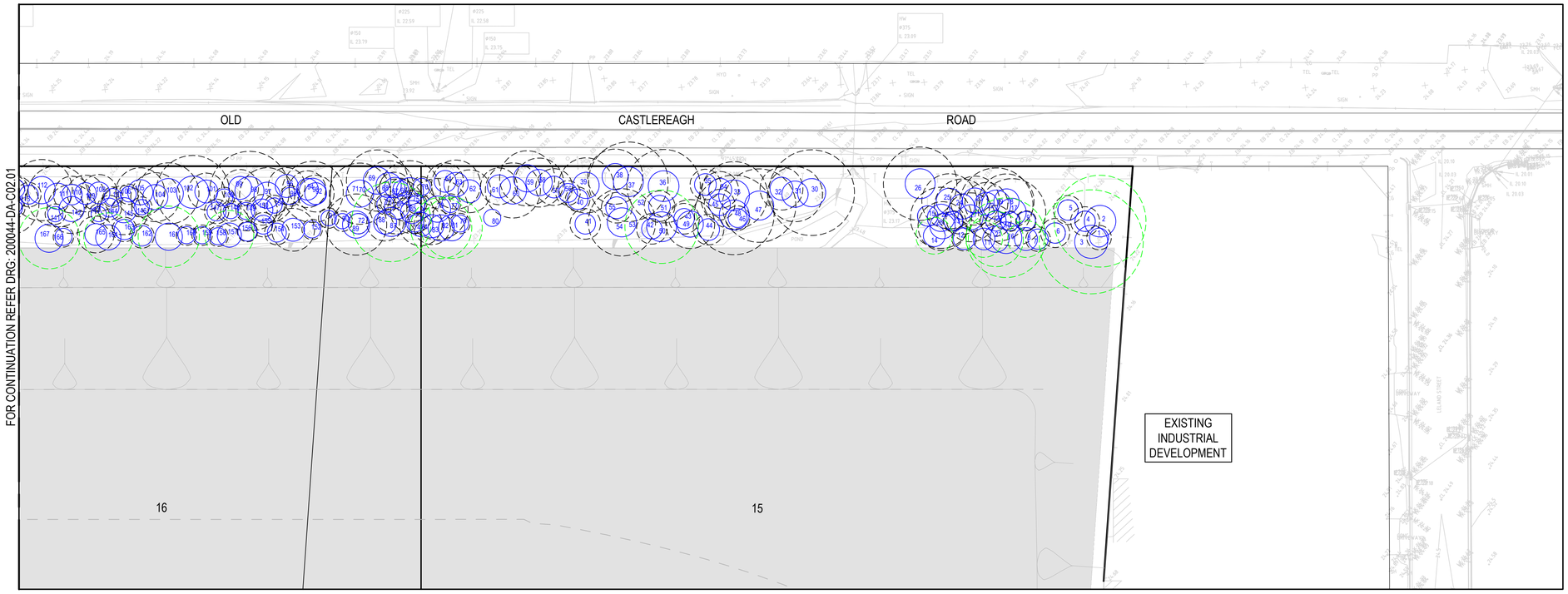


FOR CONTINUATION REFER DRG: 200044-DA-C02.01

TREE REMOVAL LEGEND

TREE TO BE REMOVED FOR OLD CASTLEREAGH ROAD CONNECTION	393
TREE TO BE RETAINED ALONG OLD CASTLEREAGH ROAD	393
TREE PROTECTION ZONE	
TREE PROTECTION ZONE IMPACTED BY BATTER AND SLIP LANE BY 10% OR MORE	
EXTENT OF CUT AND FILL EARTHWORKS	

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
2	23/09/2021	RE-ISSUED FOR INFORMATION	MDH	ML	MKH	MKH
1	9/09/2021	ISSUED FOR INFORMATION	MDH	ML	MKH	MKH

Client: NEPEAN BUSINESS PARK

Scale: 0 10 20 30 40 50m — SCALE 1:500 @A1

North: N

Enspire Solutions Pty Ltd
205/275 Alfred Street N, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: NEPEAN BUSINESS PARK
PENRITH

Title: TREE REMOVAL PLAN
SHEET 02

Scale: 1:500
Date: 09/09/2021
Size: A1
Datum: AHD

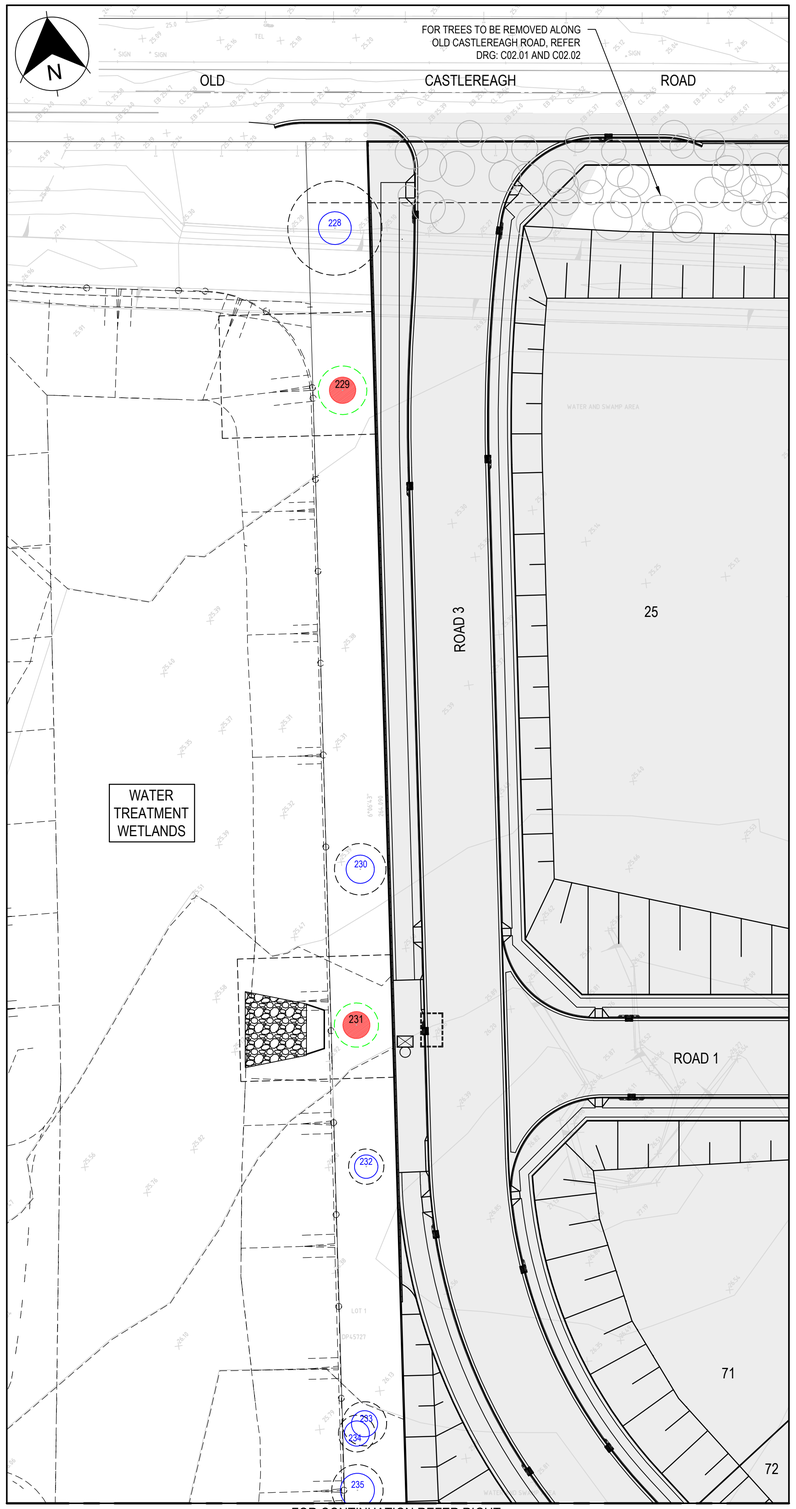
Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 200044-DA-C02.02

Revision: 2

DATE PLOTTED: 5 November 2021 11:11 AM BY : MARK HENNESSEY

CAD File: P:\200044 NepeanBusinessPark\D-Civil\01-Subdivision\Drawings\6-DACC\3-DA COURT DRAWINGS\200044-DA-C02.01-C02.02 TREE REMOVAL PLAN.dwg



FOR CONTINUATION REFER RIGHT

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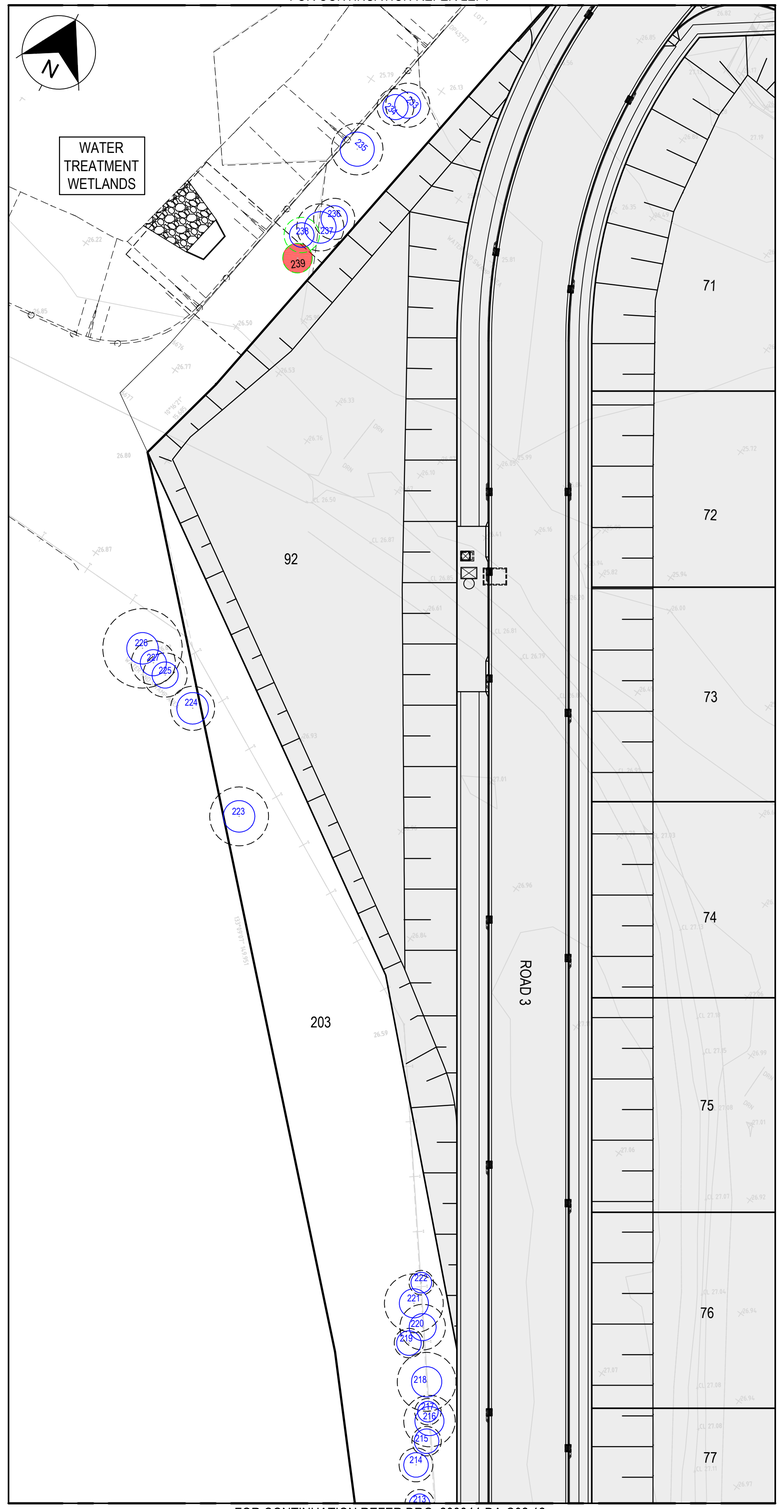

FOR CONTINUATION REFER DRG: 200044-DA-C02.12

TREE REMOVAL LEGEND

TREE TO BE REMOVED	393
TREE TO BE RETAINED	393
TREE PROTECTION ZONE	
TREE PROTECTION ZONE IMPACTED BY BATTER AND EASEMENT BY 10% OR MORE	
EXTENT OF CUT AND FILL EARTHWORKS	

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	8/10/2021	ISSUED FOR INFORMATION	MDH	ML	AD	AD

Client: NEPEAN BUSINESS PARK

Scale: 0 10 20 30 40 50m — SCALE 1:500 @A1

North

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Project: NEPEAN BUSINESS PARK PENRITH

Scale: 1:500

Date: 06/10/2021

Status: FOR INFORMATION ONLY — NOT TO BE USED FOR CONSTRUCTION

Title: TREE REMOVAL PLAN WESTERN BOUNDARY SHEET 01

Size: A1

Datum: AHD

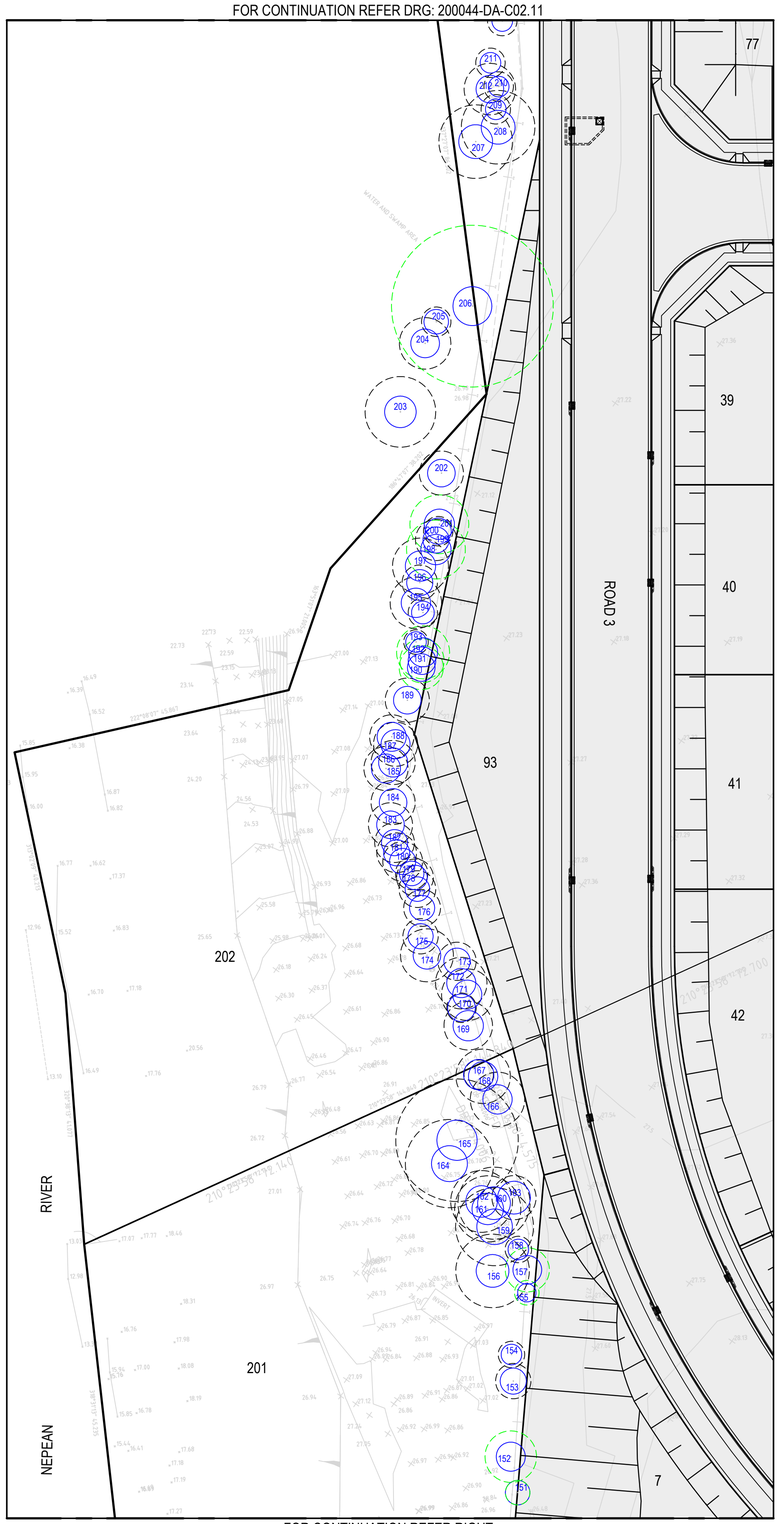
Project Number/Drawing Number: 200044-DA-C02.11

Revision: 1

DATE PLOTTED: 5 November 2021 11:12 AM BY : MARK HENNESSEY

CAD File: P:\200044 NepeanBusinessPark\D-Civil\01-Subdivision\Drawings\6-DACC\3-DA COURT DRAWINGS\200044-DA-C02.11-C02.12 TREE REMOVAL PLAN WESTERN BOUNDARY.dwg

FOR CONTINUATION REFER DRG: 200044-DA-C02.11



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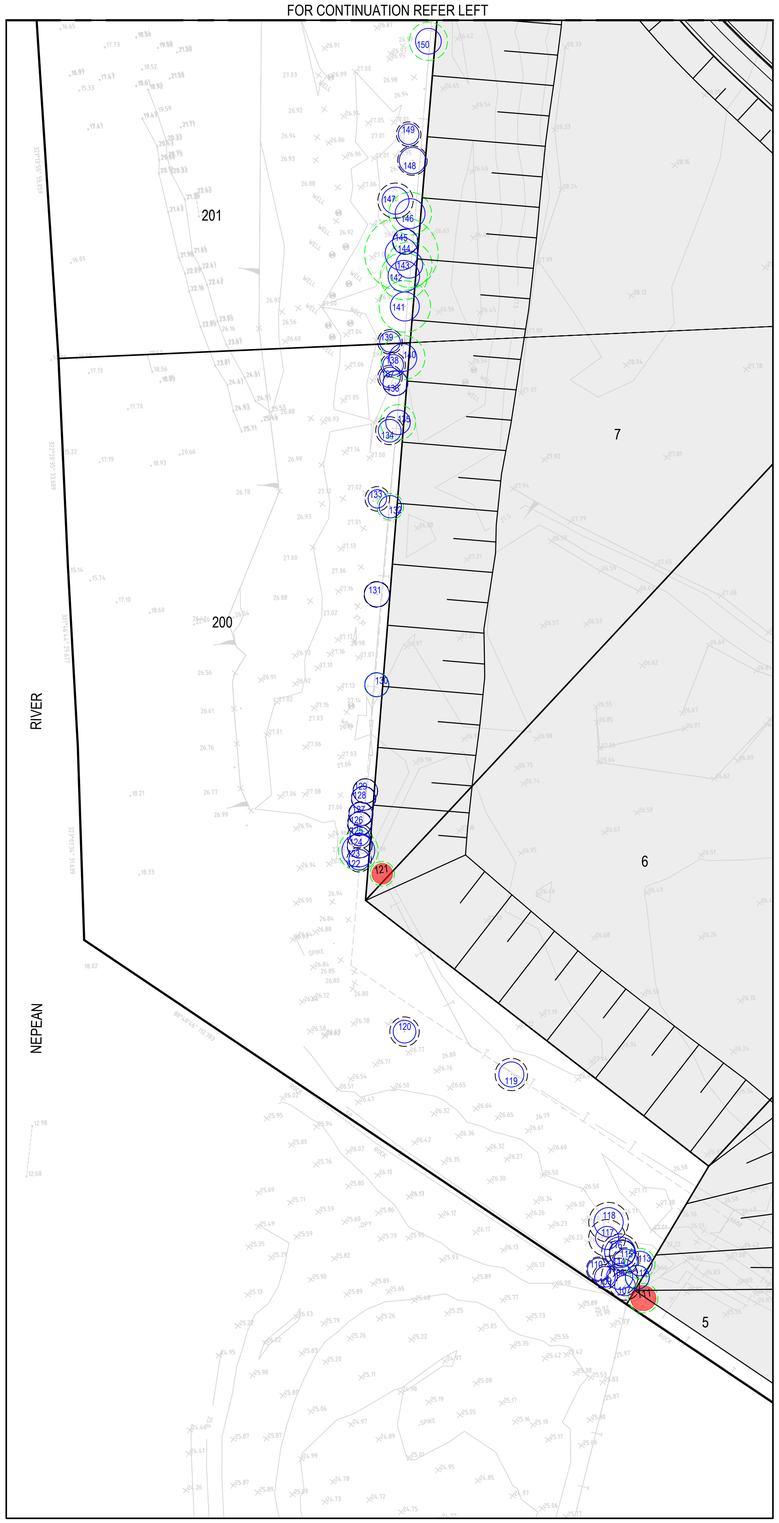


FOR CONTINUATION REFER RIGHT

TREE REMOVAL LEGEND

TREE TO BE REMOVED	393
TREE TO BE RETAINED	393
TREE PROTECTION ZONE	
TREE PROTECTION ZONE IMPACTED BY BATTER AND EASEMENT BY 10% OR MORE	
EXTENT OF CUT AND FILL EARTHWORKS	

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	8/10/2021	ISSUED FOR INFORMATION	MDH	ML	AD	AD

Client: NEPEAN BUSINESS PARK

Scale: 0 10 20 30 40 50m — SCALE 1:500 @A1

North

Enspire Solutions Pty Ltd
205/275 Alfred Street N, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: NEPEAN BUSINESS PARK
PENRITH

Scale: 1:500

Date: 06/10/2021

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Title: TREE REMOVAL PLAN
WESTERN BOUNDARY
SHEET 02

Size: A1

Datum: AHD

Project Number/Drawing Number: 200044-DA-C02.12

Revision: 1

DATE PLOTTED: 5 November 2021 11:12 AM BY : MARK HENNESSEY

CAD File: P:\200044 NepeanBusinessPark\D-Civil\01-Subdivision\Drawings\6-DACC\3-DA COURT DRAWINGS\200044-DA-C02.11-C02.12 TREE REMOVAL PLAN WESTERN BOUNDARY.dwg

NOTE

REFER DRG: 03.21 FOR SEDIMENT BASIN CALCULATIONS

LEGEND

- TEMPORARY CONSTRUCTION EXIT (WASH DOWN DETAIL)
- SEDIMENT FENCE (SD 6-8)
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- SEDIMENT TRAP FOR KERB INLET (ON GRADE - SANDBAG)
- SEDIMENT TRAP FOR KERB INLET (AT LOW POINT - SANDBAG)
- GEOTEXTILE INLET FILTER (SD 6-12)
- STRAWBALE SEDIMENT FILTER (SD 6-7)
- DISCHARGE FLOW ARROWS

PENRITH LAKES REGIONAL PARK

JOINS EXISTING SITE SECURITY FENCE.

EXISTING SITE SECURITY FENCE TO REMAIN.

OLD CASTLEREAGH ROAD

WETLANDS

SEDIMENT BASIN 'C'

SEDIMENT BASIN 'B'

STRAWBALE SEDIMENT FILTER.

STRAWBALE SEDIMENT FILTER.

JOINS EXISTING SITE SECURITY FENCE.

ROAD 1

ROAD 2

ROAD 3

25 24 23 22 21 20 19

71 70 69 68 67 66 65 64 63 62 61 60

72 73 74 75 76 77 78 79 80 81 82 83 84 85 86

92 203

38 39 37 36 35 34 40 41

FOR CONTINUATION REFER DRG: 200044-DA-C03.02

FOR CONTINUATION REFER DRG: 200044-DA-C03.03

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
2	04/11/2021	ISSUED FOR INFORMATION	MDH	ML	MKH	MKH
1	17/12/2020	ISSUED FOR DEVELOPMENT APPLICATION	MDH	ML	MKH	MKH

Client: NEPEAN BUSINESS PARK

Scale: 0 20 40 60 80 100m — SCALE 1:1000 @A1

North

Enspire Solutions Pty Ltd
205/275 Alfred Street N, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: NEPEAN BUSINESS PARK PENRITH

Title: EROSION AND SEDIMENTATION CONTROL PLAN SHEET 01

Scale: 1:1000

Date: 17/12/2020

Size: A1

Datum: AHD

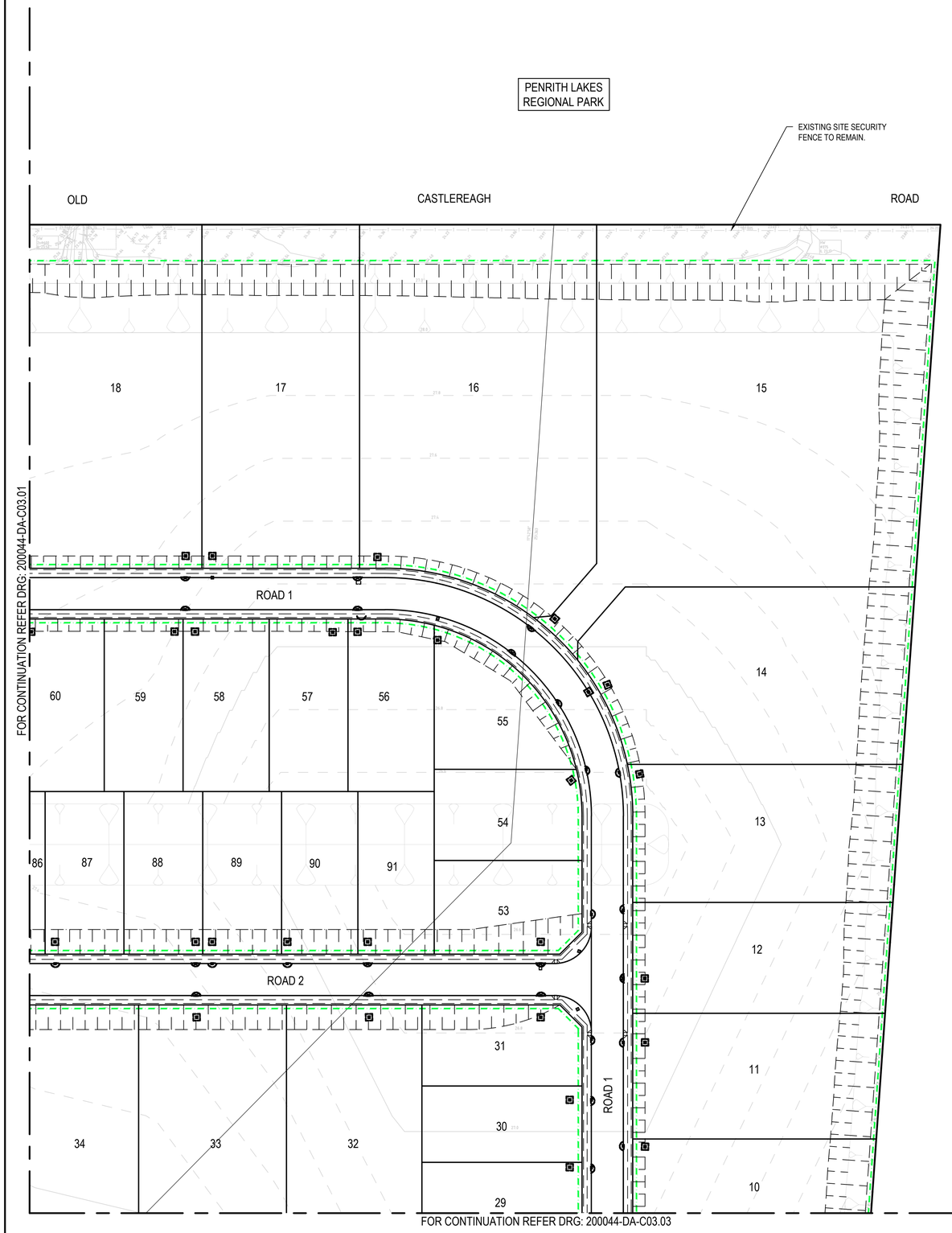
Status: FOR INFORMATION ONLY NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 200044-DA-C03.01

Revision: 2

DATE PLOTTED: 5 November 2021 11:12 AM BY: MARK HENNESSEY

CAD File: P:\200044 NepeanBusinessPark\D-Civil\01-Subdivision\Drawings\6-DACC\3-DA COURT DRAWINGS\200044-DA-C03.01-C03.03 EROSION AND SEDIMENTATION CONTROL PLANS.dwg



EXISTING
DEVELOPMENT

NOTE

REFER DRG: 03.21 FOR SEDIMENT BASIN CALCULATIONS

LEGEND

- TEMPORARY CONSTRUCTION EXIT (WASH DOWN DETAIL)
- SEDIMENT FENCE (SD 6-8)
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- SEDIMENT TRAP FOR KERB INLET (ON GRADE - SANDBAG)
- SEDIMENT TRAP FOR KERB INLET (AT LOW POINT - SANDBAG)
- GEOTEXTILE INLET FILTER (SD 6-12)
- STRAWBALE SEDIMENT FILTER (SD 6-7)
- DISCHARGE FLOW ARROWS

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	17/12/2020	ISSUED FOR DEVELOPMENT APPLICATION	MDH	ML	MKH	MKH

Client: NEPEAN BUSINESS PARK

Scale: 0 20 40 60 80 100m — SCALE 1:1000 @A1

North: N

Enspire Solutions Pty Ltd
205/275 Alfred Street N, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: NEPEAN BUSINESS PARK
PENRITH

Scale: 1:1000
Date: 17/12/2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Title: EROSION AND SEDIMENTATION CONTROL PLAN
SHEET 02

Size: A1
Datum: AHD

Project Number/Drawing Number: 200044-DA-C03.02

Revision: 1

DATE PLOTTED: 5 November 2021 11:12 AM BY : MARK HENNESSEY

CAD File: P:\200044 NepeanBusinessPark\D-Civil\01-Subdivision\Drawings\6-DACC\3-DA COURT DRAWINGS\200044-DA-C03.01-C03.03 EROSION AND SEDIMENTATION CONTROL PLANS.dwg

FOR CONTINUATION REFER DRG: 200044-DA-C03.01

FOR CONTINUATION REFER DRG: 200044-DA-C03.02

JOINS EXISTING SITE SECURITY FENCE.

ROAD 3

ROAD 1

LUGARD STREET

JOINS EXISTING SITE SECURITY FENCE.

JOINS EXISTING SITE SECURITY FENCE.

SEDIMENT BASIN 'A'

EXISTING SITE SECURITY FENCE TO REMAIN.

JOINS EXISTING SITE SECURITY FENCE.

NEPEAN RIVER

EXISTING DEVELOPMENT

NOTE

REFER DRG: 03.21 FOR SEDIMENT BASIN CALCULATIONS

LEGEND

- TEMPORARY CONSTRUCTION EXIT (WASH DOWN DETAIL)
- SEDIMENT FENCE (SD 6-8)
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- SEDIMENT TRAP FOR KERB INLET (ON GRADE - SANDBAG)
- SEDIMENT TRAP FOR KERB INLET (AT LOW POINT - SANDBAG)
- GEOTEXTILE INLET FILTER (SD 6-12)
- STRAWBALE SEDIMENT FILTER (SD 6-7)
- DISCHARGE FLOW ARROWS

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
2	4/11/2021	ISSUED FOR INFORMATION	MDH	ML	MKH	MKH
1	17/12/2020	ISSUED FOR DEVELOPMENT APPLICATION	MDH	ML	MKH	MKH

Client: NEPEAN BUSINESS PARK

Scale: 0 20 40 60 80 100m — SCALE 1:1000 @A1

North

Enspire Solutions Pty Ltd
205/275 Alfred Street N, North Sydney NSW 2060
ABN: 71 624 801 690
Phone: 02 9922 6135

Project: NEPEAN BUSINESS PARK
PENRITH

Title: EROSION AND SEDIMENTATION CONTROL PLAN
SHEET 03

Scale: 1:1000

Date: 17/12/2020

Size: A1

Datum: AHD

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Project Number/Drawing Number: 200044-DA-C03.03

Revision: 2

DATE PLOTTED: 5 November 2021 11:12 AM BY - MARK HENNESSEY

CAD File: P:\200044 NepeanBusinessPark\D-Civil\01-Subdivision\Drawings\6-DACC\3-DA COURT DRAWINGS\200044-DA-C03.01-C03.03 EROSION AND SEDIMENTATION CONTROL PLANS.dwg

SOIL AND WATER MANAGEMENT

OBJECTIVES

1. THE OBJECTIVES OF THE EROSION AND SEDIMENT CONTROL FOR THE DEVELOPMENT SITE ARE TO ENSURE:
   a. ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES ARE APPLIED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND ARE MAINTAINED THROUGHOUT CONSTRUCTION; AND
   b. CONSTRUCTION SITE RUNOFF IS APPROPRIATELY TREATED IN ACCORDANCE WITH PENRITH CITY COUNCIL REQUIREMENTS.
2. AS PART OF THE WORKS, THE EROSION AND SEDIMENTATION CONTROL WILL BE CONSTRUCTED IN ACCORDANCE WITH COUNCIL REQUIREMENTS AND THE NSW DEPARTMENT OF HOUSING MANUAL, "MANAGING URBAN STORMWATER SOIL & CONSTRUCTION" 2004 (BLUE BOOK) PRIOR TO ANY EARTHWORKS COMMENCING ON SITE.

SITE SURVEY

2. A DETAIL SURVEY PLAN WAS PREPARED BY CITISURV PTY LTD (FILE REFERENCE 11233-DET, DATED 18/06/2020) TO PROVIDE A BASIS FOR DESIGN. THE SURVEY PLAN SHOWS EXISTING SITE CONTOURS, VEGETATION AND EASEMENTS.
3. THE EXISTING SITE IS RELATIVELY FLAT AND GENERALLY FALLS FROM SOUTH TO NORTH AT SLOPES BETWEEN 0-1%. THERE IS AN EXISTING LOW LYING SWAMP AREA IN THE NORTHERN SECTION OF THE SITE EXTENDING THE FULL FRONTAGE OF OLD CASTLEREAGH ROAD.
4. THERE IS AN EXISTING MAINTENANCE EASEMENT LOCATED ALONG THE WESTERN BOUNDARY OF THE SITE.

LOCALITY OF SITE

5. THE SITE IS LOCATED AT OLD CASTLEREAGH ROAD, PENRITH AND IS DESCRIBED AS LOTS 1-3 IN DP 1263486.
6. THE SITE BOUNDARIES WERE LOCATED BY THE SURVEY DESCRIBED IN (3) ABOVE.

LOCATION OF ADJOINING ROADS

7. THE SITE IS BOUNDED BY THE NEPEAN RIVER TO THE WEST, EXISTING INDUSTRIAL DEVELOPMENT FRONTING CASSOLA PLACE SOUTH, EXISTING INDUSTRIAL DEVELOPMENT FRONTING LELAND STREET TO THE EAST AND OLD CASTLEREAGH ROAD TO THE NORTH.
8. ACCESS TO THE SITE WILL BE OFF LUGARD STREET.

LOCATION OF SITE WITHIN CATCHMENT

9. THE LOCATION OF THE SITE WITHIN THE OVERALL CATCHMENT IS PRESENTED ON DRAWING 200044-DA-C22.01.
10. THE SUBJECT SITE WILL DRAIN TO THE SOUTHERN WETLANDS 'CELL A' TO THE WEST.

EXISTING VEGETATION AND SITE DRAINAGE

11. THE SITE IS CURRENTLY NON-VEGETATED AND IS FREE FROM EXISTING DEVELOPMENTS.
12. THERE WAS NO FORMAL STORMWATER DRAINAGE NOTED WITHIN THE SITE.

EXTENT OF CLEARING, EXCAVATION AND FILLING

13. GENERALLY, THE EARTHWORKS STRATEGY FOR THE DEVELOPMENT IS TO UNDERTAKE A CUT/FILL EXERCISE TO PROVIDE A SUITABLE PLATFORM FOR THE CONSTRUCTION OF BUILDING STRUCTURES AND PAVEMENTS.
14. GIVEN THE PROPOSED STORMWATER DRAINAGE STRATEGY, CUT AND FILL IS REQUIRED AS PRESENTED ON DRAWING 200044-DA-C04.01 TO FILL THE SITE TO REQUIRED LEVELS ABOVE THE APPROVED '2-YEAR' PLAN LEVELS CURRENTLY BEING CONSTRUCTED ON SITE AS PART OF REMEDIATION WORKS.

DIVERSION OF RUNOFF AROUND DISTURBED AREAS

15. THE PROPOSED SEDIMENT BASIN HAS BEEN SIZED TO ACCOMMODATE THE ENTIRE SITE AREA OF 49ha AS PRESENTED ON DRAWING 200044-DA-C03.01-3.03.
16. ANY EXTERNAL FLOWS WILL BE PREVENTED FROM ENTERING THE SITE AS REQUIRED BY THE CONTRACTOR.

LOCATION AND TYPE OF EROSION AND SEDIMENT CONTROL MEASURES

17. THE LOCATION AND TYPE OF SEDIMENT CONTROL MEASURES ARE PRESENTED ON DRAWING 200044-DA-C03.01. THESE NOTES MUST BE READ IN CONJUNCTION WITH THE EROSION AND SEDIMENTATION CONTROL NOTES.
18. EROSION AND SEDIMENT CONTROL MEASURES INCLUDE:
    a. A SEDIMENT FENCE ALONG ALL LOW SIDE SITE BOUNDARIES AND DOWNSTREAM OF ANY TEMPORARY STOCKPILES;
    b. A STABILISED CONSTRUCTION ACCESS AT THE ULTIMATE LUGARD STREET SITE ACCESS POINT;
    c. THREE TEMPORARY SEDIMENT BASINS A, B AND C WILL BE PROVIDED ON LOTS 1, LOTS 72-74 AND LOTS 24-25 RESPECTIVELY. THE TRUNK STORMWATER CULVERT WILL BE CONSTRUCTED OR A TEMPORARY SWALE DRAIN PROVIDED TO ENSURE FLOWS ARE DIRECTED TO SEDIMENT BASINS;
    d. EARTH BANKS ALONG THE LOW SIDE OF THE SITE, WITH STRAW BALE FILTERS AT 30m SPACINGS ALONG THEIR LENGTH;
    e. GEOTEXTILE FILTER INLET AROUND PROPOSED JUNCTION PITS AND SURFACE INLET PITS;
    f. MESH AND GRAVEL FILTER AROUND PROPOSED KERB INLET, AS WELL AS EXISTING DOWNSTREAM KERB INLET.
22. SPECIFIC CONSTRUCTION NOTES FOR THE VARIOUS EROSION AND SEDIMENT CONTROL MEASURES ARE PRESENTED ON DRAWING 200044-DA-C03.01.
23. DUST CONTROL MEASURES INCLUDING COVERING STOCKPILES, INSTALLING FENCE HESSIAN AND WATERING EXPOSED AREAS WILL BE IMPLEMENTED AS APPROPRIATE.

SITE ACCESS

24. A STABILISED SITE ACCESS INLINE WITH THE LANDCOM "BLUE BOOK" IS PROPOSED AT THE CONSTRUCTION SITE VEHICLE ACCESS ON LUGARD STREET.

MATERIAL STOCKPILES

25. ANY STOCKPILED MATERIAL WILL BE LOCATED AS FAR AWAY AS POSSIBLE FROM ANY ASSOCIATED NATURAL WATERCOURSES OR TEMPORARY OVERLAND FLOW PATHS.
26. ALL STOCKPILES AND EMBANKMENT FORMATIONS WILL BE STABILISED BY HYDROSEEDING OR HYDRO MULCHING ON FORMATION.

SOIL AND WATER MANAGEMENT (CONT)

DUST CONTROL

27. TEMPORARY PROTECTION FROM WIND AND WATER EROSION WILL BE UNDERTAKEN ON LANDS WHERE WORKS ARE UNLIKELY TO PROCEED FOR PERIODS OF AT LEAST TWO MONTHS AND FINAL SHAPING HAS NOT BEEN COMPLETED. THIS MAY BE ACHIEVED WITH A VEGETATIVE COVER. A RECOMMENDED LISTING OF PLANT SPECIES FOR TEMPORARY COVER IS AS FOLLOWS:

-SEPTEMBER - MARCH SOWING	-	JAPANESE MILLET @ 50 KG/HA
-APRIL - AUGUST SOWING	-	OATS/RYECORN @ 50 KG/HA
-TETILA RYE 5KG/HA		

28. FOOT AND VEHICULAR TRAFFIC SHOULD BE KEPT AWAY FROM ANY REHABILITATED AREAS WHERE PRACTICAL.
29. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS ARE TO BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER FOR DUST CONTROL.

SEDIMENT BASIN CALCULATIONS

30. REFER TO SEDIMENT BASIN VOLUME CALCULATIONS ON DRAWING 200044-DA-C03.21.

PROPOSED STORMWATER TREATMENT MEASURES

31. ONCE THE SITE HAS BEEN DEVELOPED AND DISTURBED SURFACES HAVE BEEN STABILISED, EROSION AND SEDIMENT CONTROL MEASURES WILL BE REPLACED WITH WATER QUALITY TREATMENT MEASURES.
32. THE SITE WILL DRAIN TO THE SOUTHERN WETLANDS TO THE WEST OF THE SITE.
33. PROPOSED OPERATIONAL WATER QUALITY TREATMENTS ARE PRESENTED ON DRAWING 200044-DA-C05.01 AND INCLUDE:
    a. A GROSS POLLUTANT TRAP AS THE PRIMARY POLLUTANT REMOVAL MEASURE;
    b. A SECONDARY MEASURES ARE TO BE PROVIDED DOWNSTREAM IN THE SOUTHERN WETLANDS IN LINE WITH THE PENRITH LAKES WATER MANAGEMENT PLAN.
35. ONSITE DETENTION WILL BE PROVIDED BY THE SOUTHERN WETLANDS IN LINE WITH THE PENRITH LAKES WATER MANAGEMENT PLAN.

SITE REHABILITATION AND LANDSCAPING

36. IT IS RECOMMENDED THE SITE IS STABILISED PROGRESSIVELY THROUGHOUT THE BULK EARTHWORKS.
37. ALL FINISHED BULK EARTHWORKS SURFACES SHOULD BE STABILISED WITHIN 20 DAYS OF COMPLETION. REMEDIATION IS CONSIDERED TO HAVE BEEN ACHIEVED WHEN A MINIMUM OF 70% GROUND COVER IS ACHIEVED THROUGH EITHER VEGETATED GROUND COVER OR OVERLAIN WITH PERMANENT, SEALED SURFACINGS.

CONSTRUCTION STAGING

38. THE SEQUENCE OF WORK FOR THE BULK EARTHWORKS WILL GENERALLY INCLUDE:
    a. PROVISION OF SITE ESTABLISHMENT EROSION AND SEDIMENT CONTROL MEASURES TYPICALLY AS OUTLINED ABOVE AND ON THE DRAWINGS;
    b. CLEARING OF THE SITE INCLUDING VEGETATION;
    c. DEMOLITION OF EXISTING STRUCTURES AND PAVEMENTS (AS REQUIRED);
    d. INSPECTION OF EXPOSED NATURAL MATERIAL TO ENSURE CONFORMITY WITH DESIGN ASSUMPTIONS AND REQUIREMENTS;
    e. PLACEMENT AND COMPACTION OF FILL MATERIAL IN LAYERS NOT GREATER THAN 200mm IN THICKNESS;
    f. PROGRESSIVE SURFACE STABILISATION;
    g. DECOMMISSIONING OF EROSION AND SEDIMENT CONTROL MEASURES AS APPROPRIATE.

MAINTENANCE PROGRAM

40. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES ACCORDING TO THE WEATHER AND SITE CONDITIONS AT THE TIME.
41. TO ENSURE THE SEDIMENT BASIN IS WORKING EFFECTIVELY IT MUST BE MAINTAINED THROUGHOUT THE CONSTRUCTION WORKS. MAINTENANCE INCLUDES:
    a. ENSURING ADEQUATE SETTLEMENT TIMES OR FLOCCULATION AS NECESSARY TO MANUFACTURER'S SPECIFICATIONS;
    b. REMOVAL OF SEDIMENTS TO MAINTAIN A MINIMUM STORAGE ZONE;
    c. PUMPING OF CLEAN WATER TO REACH THE MINIMUM STORAGE VOLUME AT THE LOWER LEVEL OF THE SETTLING ZONE.
42. THE SETTLING ZONE WILL BE IDENTIFIED BY PEGS TO CLEARLY SHOW THE LEVEL AT WHICH DESIGN STORAGE CAPACITY IS AVAILABLE.
43. THE PUMPED WATER FROM THE SEDIMENT BASIN CAN BE REUSED FOR DUST CONTROL DURING CONSTRUCTION.
44. THE CONTRACTOR WILL MONITOR THE EFFECTIVENESS OF THE STABILISED SITE ACCESS IN THE AVOIDANCE OF TRACKING OF SITE SEDIMENTS ONTO LUGARD STREET. IF THE DEVICE IS NOT OPERATING ADEQUATELY, THEN THE CONTRACTOR WILL CONSIDER THE ADDITION OF/REPLACEMENT WITH A VEHICLE WASH DOWN BAY OR SHAKER PAD TO IMPROVE EFFECTIVENESS.
45. AFTER EACH RAINFALL EVENT THE CONTRACTOR WILL INSPECT THE EROSION AND SEDIMENT CONTROL MEASURES AND:
    a. REMOVE ACCUMULATED SEDIMENT IN CATCH DRAINS AND BEHIND STRAW BALES, SEDIMENT FENCES, GEOTEXTILE FILTER INLETS, AND MESH AND GRAVE INLET FILTERS;
    b. IF SCOURING IS EVIDENT IN CATCH DRAINS, IMPLEMENT FURTHER STRAW BALES OR ROCK CHECK DAMS;
    c. INSPECT STRAW BALES FOR LOSS OF STRAW MASS AND REPLACE AS APPROPRIATE.
46. ALL MATERIALS REMOVED FROM EROSION AND SEDIMENT CONTROL DEVICES, BOTH LIQUID AND SOLID, SHALL BE DISPOSED OF IN AN APPROPRIATE MANNER, ENSURING DISPOSAL DOES NOT CAUSE ONGOING EROSION OR POLLUTION.

EROSION AND SEDIMENT CONTROL

GENERAL INSTRUCTIONS

1. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF EROSION AND SEDIMENTATION TO THE SATISFACTION OF COUNCIL, NSW OFFICE OF WATER, OFFICE OF ENVIRONMENT AND HERITAGE. THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE DRAWINGS SHALL ONLY BE USED AS A GUIDE BY THE CONTRACTOR, AND SHALL REPRESENT THE MINIMUM REQUIREMENT ONLY.
2. THE CONTRACTOR SHALL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED OR AS OTHERWISE DIRECTED BY THE SUPERINTENDENT.
   ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH:
   a. LOCAL AUTHORITY REQUIREMENTS
   b. EPA REQUIREMENTS
   c. LANDCOM MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.
3. MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
4. WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.
5. CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.

GENERAL SEDIMENT CONTROL

6. STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING.
7. ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
8. WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
9. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.
10. ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
11. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
12. PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
13. ENSURING THAT NOTHING IS NAILED TO THEM
14. PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS.
15. ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS THE GREATER
16. A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH
17. CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

SEDIMENT BASINS - INSTALLATION AND MAINTENANCE

1. SEDIMENT BASINS SHALL BE CONSTRUCTED AND FULLY OPERATIONAL PRIOR TO ANY OTHER SOIL DISTURBANCE IN THEIR CATCHMENT. CONSTRUCTION SHALL INCLUDE PLACEMENT OF A RAIN GAUGE TO ACCURATELY MEASURE AND RECORD DAILY RAINFALL AS WELL AS PLACEMENT OF A VISIBLE MARKER TO DELINEATE THE REQUIRED SEDIMENT STORAGE ZONE AND SETTLING ZONE.
2. PRIOR TO CONTROLLED DISCHARGE (E.G. DE-WATERING ACTIVITIES FROM EXCAVATIONS AND SEDIMENT BASINS) OF ANY WATER (GROUND WATER OR LADEN WATER) FROM THE SITE DURING CONSTRUCTION, THE FOLLOWING WATER QUALITY OBJECTIVES SHALL BE ACHIEVED.
   - TOTAL SUSPENDED SOLIDS (TSS) TO A MAXIMUM 50MG/L
   - TURBIDITY (MEASURED IN NTUS MAXIMUM OF 60 NTU)
3. PRIOR TO ANY FORECAST WEATHER EVENT LIKELY TO RESULT IN SEDIMENT LADEN RUNNOFF ON THE SITE, THE SEDIMENT BASIN SHALL BE DEWATERED TO ACHIEVE THE REQUIRED SETTLING ZONE CAPACITY.
4. NO ALUMINIUM BASED PRODUCTS MAY BE USED, UNLESS APPROVED IN WRITTING BY COUNCILS ENVIRONMENTAL OFFICER.
5. THE PREFERRED CHEMICAL/AGENT TO BE EMPLOYED IS A GYPSUM BASED PRODUCT. AS A GUIDE, THE INITIAL DOSAGE RATES WILL BE APPROXIMATELY 300 KILOGRAMS PER 100 CUBIC METERS OF TREATED WATER. THE DOSAGE RATE SHALL BE CONFIRMED AND REFINED FOLLOWING THE OBSERVATIONS OF THE INITIAL TREATMENTS ATTEMPTS.
6. THE APPLICATION METHOD SHALL ENSURE THAT THE CHEMICAL/AGENT IS SPREAD THROUGHOUT THE ENTIRE SURFACE OF THE SEDIMENT BASIN AND MIXED THROUGH TO AID IN RAPID SETTLEMENT.
7. THE APPLICATION SETTLEMENT AND SUBSEQUENT TESTING (OR OTHER METHOD OF CONFIRMING WATER QUALITY) IS REQUIRED TO BE ACHIEVED WITHIN FOUR DAYS OF THE CONCLUSION OF THE STORM EVENT, ALLOWING ONE DAY TO PUMP IT OUT TO RESTORE SETTLING VOLUMES. THE NOMINATED PUMP SHOULD ENSURE SUFFICIENT CAPACITY TO ACHIEVE THIS PUMP OUT RATE AND A SUITABLE DESIGN TO COMPLY WITH COUNCIL NOISE RESTRICTIONS.
8. ALL MANUFACTURERS INSTRUCTIONS SHALL BE FOLLOWED FOR THE USE OF ANY CHEMICAL/AGENTS USED ONSITE, EXCEPT WHERE APPROVED BY THE RESPONSIBLE PERSON OR AN APPROPRIATE COUNCIL OFFICER.
9. SUFFICIENT QUANTITIES OF CHEMICALS/AGENTS TO TREAT TURBID WATER SHALL BE SECURELY STORED ON-SITE TO PROVIDE AT LEAST THREE COMPLETE TREATMENTS OF ALL BASINS REQUIRING CHEMICAL TREATMENT ONSITE.
10. ALL SEDIMENT BASINS SHALL REMAIN FULLY OPERATIONAL AT ALL TIMES UNTIL THE BASINS DESIGN CATCHMENT ACHIEVES 70% GROUND COVERAGE, OR SURFACE STABILISATION ACCEPTABLE TO COUNCIL.
11. SETTLED SEDIMENT SHALL BE REMOVED AS SOON AS REASONABLE AND PRACTICABLE FROM ANY SEDIMENT BASIN IF:
    - IT IS ANTICIPATED THAT THE NEXT STORM IS LIKELY TO CAUSE SEDIMENT TO SETTLE ABOVE THE BASINS SEDIMENT STORAGE ZONE; OR
    - THE ELEVATION OF SETTLED SEDIMENT IS ABOVE THE TOP OF THE BASINS SEDIMENT STORAGE ZONE; OR
    - THE ELEVATION OF SETTLED SEDIMENT IS ABOVE THE BASINS SEDIMENT MARKER LINE.
12. SCOUR PROTECTION MEASURES PLACED ON SEDIMENT BASIN EMERGENCY SPILLWAYS SHALL APPROPRIATELY PROTECT THE SPILLWAY CHUTE AND ITS SIDE BATTERS FROM SCOUR, AND SHALL EXTEND A MINIMUM OF 3m BEYOND THE DOWNSTREAM TOE OF THE BASINS EMBANKMENT WHERE IN ERODIBLE SOILS.
13. ALL MATERIALS REMOVED FROM EROSION AND SEDIMENT CONTROL DEVICES DURING MAINTENANCE, OR DECOMMISSIONING, WHETHER SOLID OR LIQUID, SHALL BE DISPOSED OF IN A MANNER THAT DOES NOT CAUSE ANY ONGOING EROSION OR POLLUTION HAZARD.
14. SEDIMENT BASIN WATER QUALITY SAMPLES SHALL BE TAKEN AT A DEPTH NO LESS THAN 200mm BELOW THE WATER SURFACE WITHIN THE BASIN.
15. THE VOLUMES AND STORAGE CAPACITIES IDENTIFIED WITHIN THIS SWMP ARE BASED ON A RAINFALL DEPTH ASSOCIATED WITH THE 5 DAY, 75 %ILE RAINFALL EVENT. ANY CHANGE TO THE REQUIRED RAINFALL EVENT WILL REQUIRE AMENDMENT TO THE ASSOCIATED VALUES.

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF	APPD.
1	17/12/2020	ISSUED FOR DEVELOPMENT APPLICATION	MDH	ML	MKH	MKH

Client: NEPEAN BUSINESS PARK

Scale:

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Project: NEPEAN BUSINESS PARK
PENRITH

Scale:

Date: 17/12/2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Title: SOIL AND WATER MANAGEMENT NOTES

Size: A1

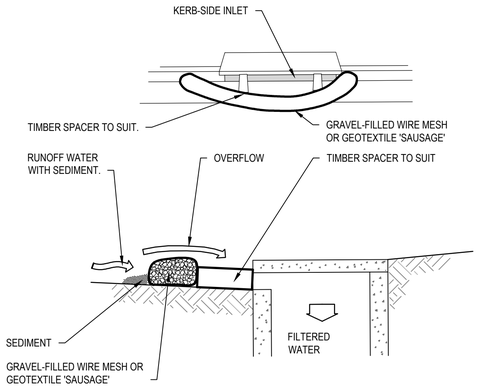
Datum:

Project Number/Drawing Number: 200044-DA-C03.05

Revision: 1

DATE PLOTTED: 5 November 2021 11:12 AM BY - MARK HENNESSEY

CAD File: P:\200044 NepeanBusinessPark\D-Civil\01-Subdivision\Drawings\6-DACC\3-DA COURT DRAWINGS\200044-DA-C03.05 SOIL AND WATER MANAGEMENT NOTES.dwg

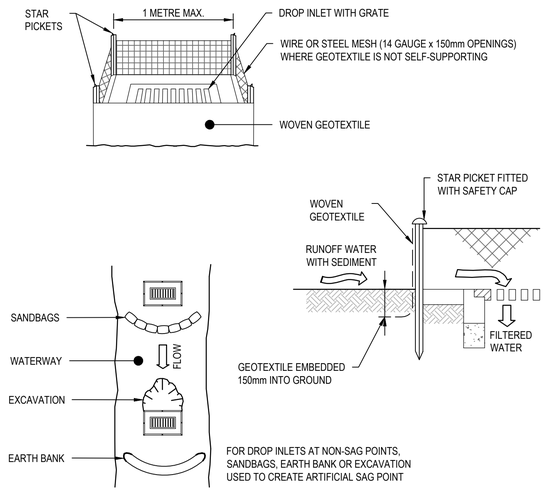


NOTE:THIS PRACTICE ONLY TO BE USED WHERE SPECIFIED IN APPROVED SWMP/ESCP.

CONSTRUCTION NOTES

1. INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.
2. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
3. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
4. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
5. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
6. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY FIRMLY ABUT EACH OTHER AND SEDIMENT-LADEN WATERS CANNOT PASS BETWEEN.

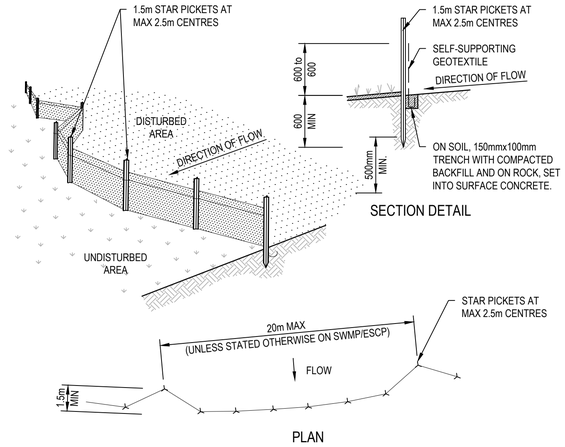
MESH AND GRAVEL INLET FILTER (SD 6-11)



CONSTRUCTION NOTES

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. FOLLOW STANDARD DRAWING 6-7 AND STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
4. DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

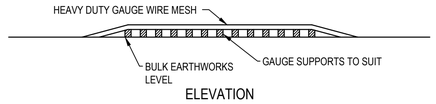
GEOTEXTILE INLET FILTER (SD 6-12)



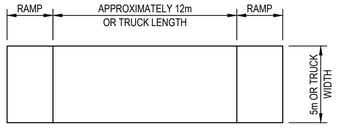
CONSTRUCTION NOTES

1. 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.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. 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.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

SEDIMENT FENCE (SD 6-8)



ELEVATION

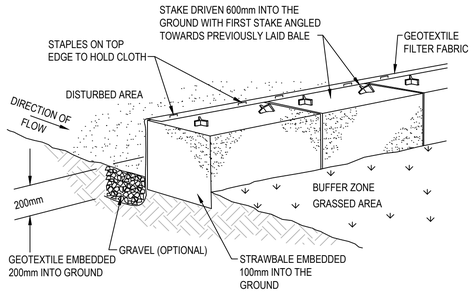


PLAN

CONSTRUCTION NOTES

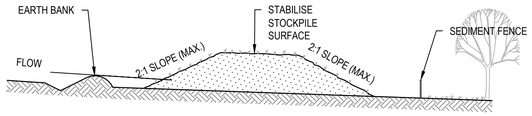
THE EXIT SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. THIS MAY REQUIRE REPAIR AND OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY.

TEMPORARY CONSTRUCTION EXIT (WASH DOWN DETAIL)



STRAWBALE AND GEOTEXTILE SEDIMENT FILTER

NOT TO SCALE



CONSTRUCTION NOTES

1. PLACE STOCKPILES MORE THAN 2m (PREFERABLY 5m) 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, STOCKPILES SHALL BE LESS THAN 2m 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 2m DOWNSLOPE.

STOCKPILES (SD 4-1)

SEDMENT BASIN CALCULATIONS

SETTLEMENT VOLUME
= 10 x Cv x A x Ry

STORAGE VOLUME
= SETTLEMENT VOLUME x 0.5

Cv = 0.50
Ry = 27.40

SEDIMENT BASIN CALCULATIONS

BASIN	A	B	C
CATCHMENT AREA (ha)	0.7	26.52	17.13
SETTLEMENT VOLUME (m^3)	96	3633	2346
STORAGE VOLUME (m^3)	48	1816	1173
TOTAL MINIMUM VOLUME REQUIRED (m^3)	144	5450	3519

REV.	DATE	DESCRIPTION	DRN.	DES.	VERIF.	APPD.
1	17/12/2020	ISSUED FOR DEVELOPMENT APPLICATION	MDH	ML	MKH	MKH

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Project: NEPEAN BUSINESS PARK PENRITH

Scale:

Date: 11/12/2020

Status: FOR INFORMATION ONLY
NOT TO BE USED FOR CONSTRUCTION

Title: EROSION AND SEDIMENTATION CONTROL DETAILS

Size: A1

Datum: AHD

Project Number/Drawing Number: 200044-DA-C03.21

Revision: 1

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