

DEVELOPMENT APPLICATION

CLIENT: REGIONAL CIRCULARITY CO-OPERATIVE
LOCATION: LAGOON STREET BEGA
LOT 1 DP 1264640

DATE: 22/10/2024

CONTENTS

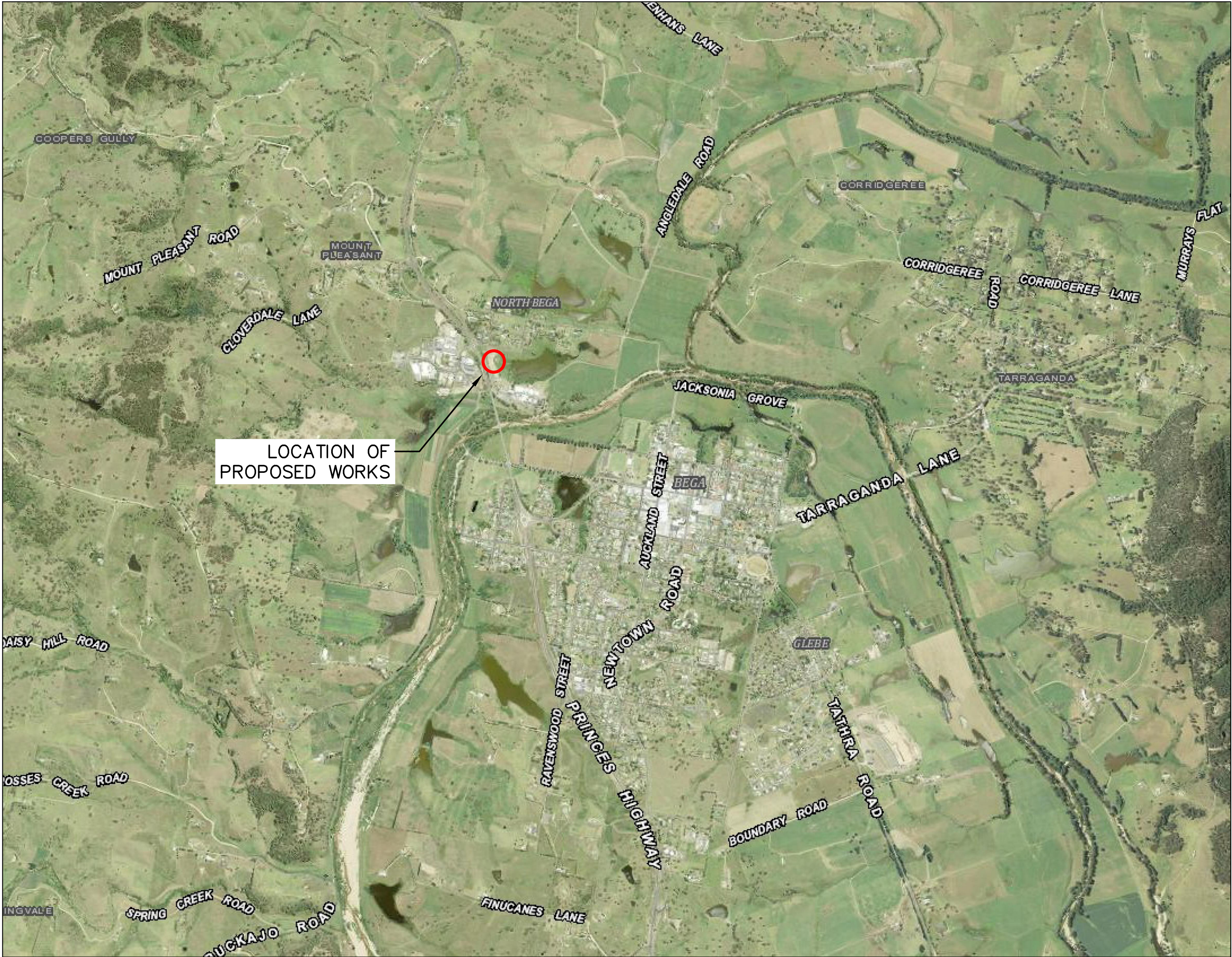
PAGE 1 - TITLE PAGE AND NOTES
PAGE 2 - CATCHMENT PLAN
PAGE 3 - STORMWATER NORTHERN CARPARK
PAGE 4 - STORMWATER SOUTHERN CARPARK
PAGE 5 - SEDIMENT CONTROL PLAN

GENERAL NOTES

- 1) MEASUREMENTS ARE IN MM UNLESS SPECIFIED OTHERWISE
- 2) DO NOT OBTAIN DIMENSIONS BY SCALING THE DRAWINGS.
- 3) NEW BATTERS CREATED SHALL NOT EXCEED A 1 IN 3 GRADE
- 4) SERVICES ARE TO BE LOCATED ONSITE BY A SUITABLY QUALIFIED LOCATOR PRIOR TO ANY WORKS COMMENCING
- 5) PAVEMENT MATERIAL IS TO MEET THE SPECIFICATIONS REQUIRED
- 6) BITUMINOUS SURFACING TO MEET THE SPECIFICATIONS REQUIRED
- 7) MATERIAL WON ONSITE IS TO BE REUSED ON SITE WHERE POSSIBLE
- 8) MIN 100mm OF TOP SOIL MATERIAL REQUIRED FOR THE REVEGETATION AREAS
- 9) VEGETATION TO BE SPECIFIED BY OTHERS
- 10) WHERE NOTES FROM THIS PLAN SET AND THE SPECIFICATIONS CONFLICT, CLARIFICATION IS BE SOUGHT FROM EITHER THE ENGINEER OR PRINCIPAL
- 11) CONSTRUCTION DETAILS TO THE RELEVANT BVSC "DEVELOPMENT CONSTRUCTION STANDARDS"

TYPICAL PAVEMENT NOTES

- 1) PAVEMENT BASE SHALL BE CONSTRUCTED OF FINE CRUSHED ROCK.
- 2) PAVEMENT SUB-BASE SHALL BE CONSTRUCTED OF CRUSHED ROCK OR NATURAL GRAVELS.
- 3) PAVEMENT SELECT MATERIAL LAYER (THE LOWER COURSE OF THE PAVEMENT BELOW THE SUB-BASE) SHALL BE CONSTRUCTED OF CRUSHED ROCK, NATURAL GRAVELS OR SUITABLE SOILS. THE SUBGRADE SURFACE SHALL BE THE SURFACE THAT UNDERLIES EITHER
 - THE SELECT MATERIAL LAYER WHEN PRESENT OR
 - THE SUB-BASE WHEN THE SELECT MATERIAL LAYER IS ABSENT OR
 - THE BASE LAYER WHEN BOTH THE SUB-BASE AND SELECT MATERIAL ARE ABSENT.
- 4) PRIOR TO THE DELIVERY OF ANY MATERIAL TO THE SITE, THE SOURCE OF ALL MATERIALS AND CERTIFICATES THAT THE MATERIAL SATISFIES THE SPECIFIED REQUIREMENTS SHALL BE PROVIDED FOR APPROVAL.
- 5) FOR EACH MATERIAL SOURCE, COMPLIANCE WITH THE APPROVED QUALITY ASSURANCE PROGRAM FOR INDIVIDUAL MATERIALS SHALL BE PROVIDED TO THE SUPERINTENDENT AS REQUIRED IN THE QUALITY SYSTEM.
- 6) TESTING OF PAVEMENT MATERIALS WILL BE TO THE SPECIFICATIONS
- 7) FINAL ACCEPTANCE WILL BE CONDITIONAL ON NO SIGNIFICANT CHANGE IN PROPERTIES DUE TO SEGREGATION OR CONTAMINATION DURING SUBSEQUENT PAVEMENT WORKS
- 8) FINE CRUSHED ROCK SHALL CONFORM TO THE REQUIREMENTS OF CLASS DGB20 MATERIAL AS SPECIFIED IN RMS SPECIFICATION 3051 AND SHALL BE HARD, DURABLE STONE FREE OF CLAY LUMPS, ORGANIC MATTER AND OBJECTIONABLE QUANTITIES OF DELETERIOUS SUBSTANCES.
- 9) ALL THE MATERIAL REQUIREMENTS APPLY BOTH PRIOR AND AFTER PLACEMENT OF THE PAVEMENT
- 10) SUB-BASE MATERIALS SHALL BE CRUSHED ROCK SUB-BASE OR SUITABLE NATURAL GRAVELS AND CONFORM TO THE REQUIREMENTS OF CLASS DGS40 OR DGS20 OF RMS SPECIFICATION 3051. STONE SHALL BE HARD, DURABLE AND THE MATERIALS SHALL BE FREE OF CLAY LUMPS, ORGANIC MATTER AND OBJECTIONABLE QUANTITIES OF DELETERIOUS SUBSTANCES. ALL MATERIAL REQUIREMENTS WILL APPLY BOTH PRIOR AND AFTER PLACEMENT IN THE PAVEMENT.
- 11) NEW BITUMEN SEALED SURFACE TO BE C240 BITUMEN PRIMESEAL (7MM) AND DOUBLE/DOUBLE FINAL SEAL (14mm/7mm AGGREGATE)

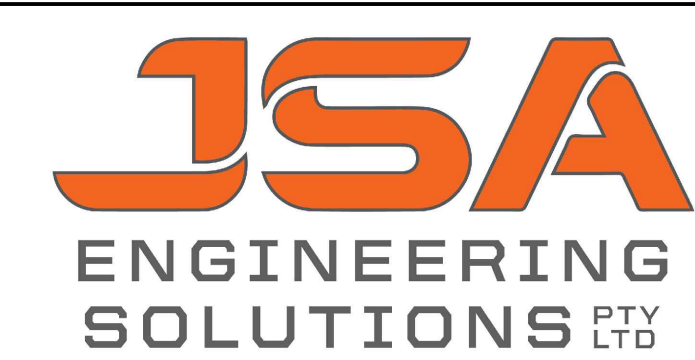


SUBGRADE PREPARATION

- 1) THE EXISTING SURFACE IS TO BE STRIPPED OF ANY PAVEMENTS, TOPSOIL OR OBVIOUS UNSUITABLE MATERIAL
- 2) EXCAVATE TO ACHIEVE SUBGRADE LEVELS WHERE NECESSARY
- 3) THE EXPOSED SUBGRADE AFTER STRIPPING AND/ OR EXCAVATION IS TO PROOF ROLLED NOT FEWER THAN 5 PASSES WITH A MINIMUM 8 TONNE DEAD WEIGHT. A SMOOTH DRUM ROLLER UNDER THE SUPERVISION OF AN EXPERIENCED GEOTECHNICAL ENGINEER OR EXPERIENCED CIVIL ENGINEER.
- 4) ANY AREAS OF THE SUBGRADE SHOWING EXCESSIVE MOVEMENT/DEFLECTION UNDER THE ROLLER ARE TO BE EXCAVATED AND REPLACED WITH SUITABLE MATERIAL GRANULAR MATERIALS.
- 5) ENGINEERED FILL FOR REPLACEMENT OF SOFT OR HEAVING AREAS OR FOR BULK FILLINGS TO COMPRISE ESSENTIALLY OF GRANULAR MATERIALS, WITH PARTICLE SIZE NOT GREATER THAT 75MM DIAMETER. ENGINEERED FILL NOT TO BE PLACED IN LAYERS EXCEEDING 250mm LOOSE THICKNESS AND COMPACTED TO 98% OF STANDARD MAXIMUM DRY DENSITY ±2% OF OPTIMUM MOISTURE CONTENT.
- 6) IMPORTED FILL IS TO BE TO THE APPROVAL OF THE GEOTECHNICAL ENGINEER OR EXPERIENCED CIVIL ENGINEER. THE CONTRACTOR IS TO NOMINATE THE SOURCE AND PROVIDE A SAMPLE FOR APPROVAL PRIOR TO IMPORTATION AND PLACEMENT.
- 7) ALL FILL MATERIAL SHALL BE FROM A SOURCE APPROVED BY THE SUPERINTENDENT AND SHALL COMPLY WITH THE FOLLOWING: FREE FROM ORGANIC AND PERISHABLE MATTER MAX PARTICLE SIZE 75mm, MAX PLASTICITY INDEX 15%

COMPACTION REQUIREMNETS

- 1) PREPARATION FOR PAVEMENT; CLEAR SITE, STRIP TOP-SOIL, CUT AND FILL AND PREPARATIONS OF SUB-GRADE SHALL BE AS DESCRIBED IN 'SUBGRADE PREPARATION
- 2) SUB-GRADE SHALL BE COMPACTED TO 98% STANDARD DRY DENSITY RATIO AT OPTIMUM MOISTURE CONTENT ±2% IN ACCORDANCE WITH AS 12895 5.1.1.
- 3) BASE COURSE SHALL BE CONSTRUCTED FROM FINE CRUSHED ROCK COMPACTED TO 100% STANDARD DRY DENSITY RATIO AT THE OPTIMUM MOISTURE CONTENT ±2% IN ACCORDANCE WITH AS 1289 5.1.1 OF THICKNESS NOTED
- 4) BASE COURSE AND SUBGRADE LAYERS SHALL NOT BE COMPACTED IN LAYERS NO THICKER THAN 150MM



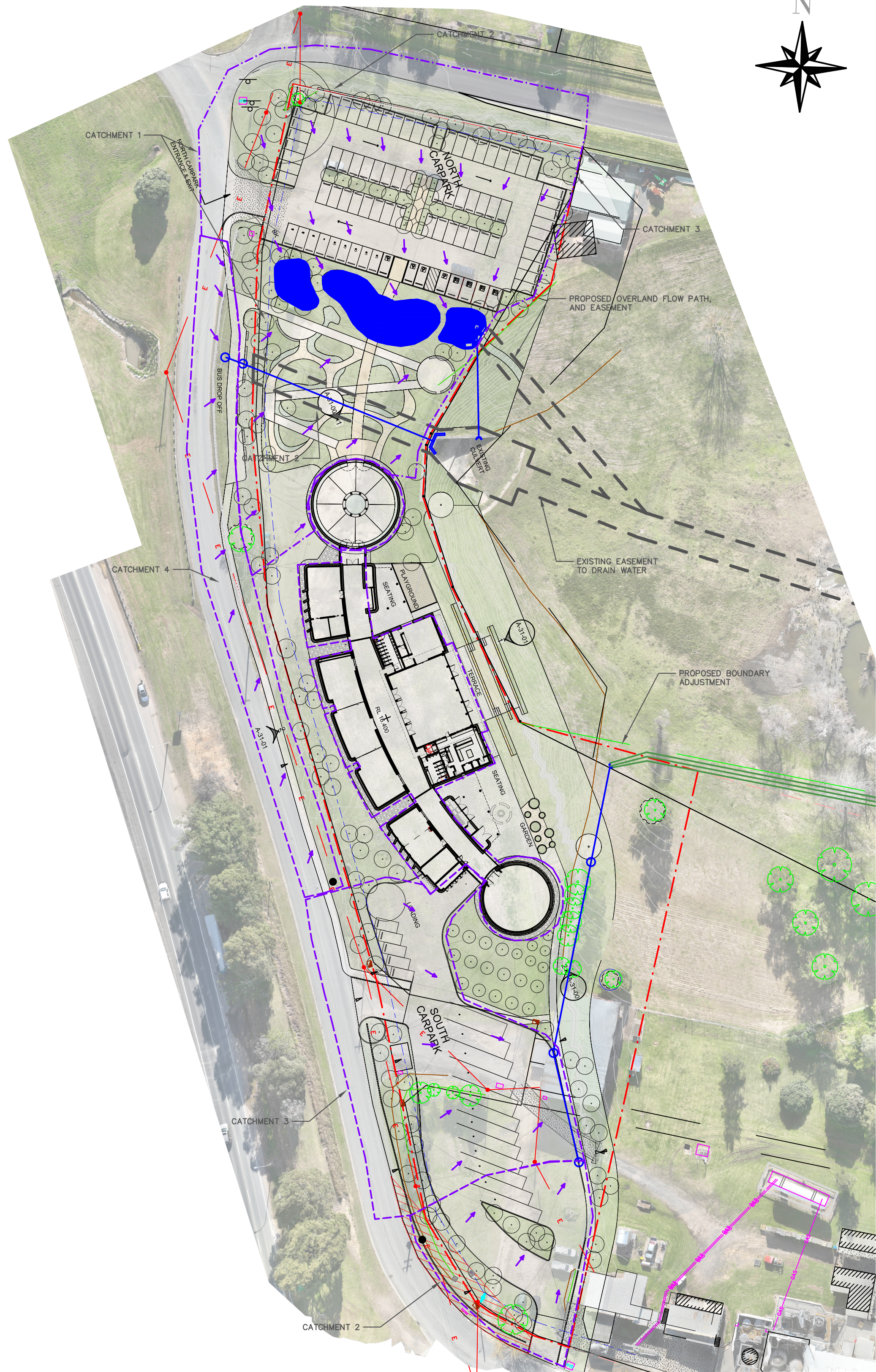
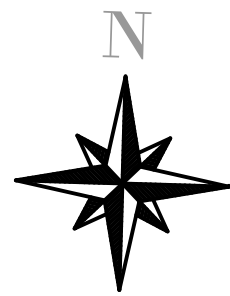
REV	DESCRIPTION	DATE
A	DEVELOPMENT APPLICATION SUBMISSION	13/11/2023
B	DAP MEETING - REVISED FROM FIRA	08/02/2024
C	FOR DEVELOPMENT APPLICATION SUBMISSION	15/04/2024
D	MODIFICATIONS ADOPTING NEIGHBORING LAND CONSTRAINTS	01/07/2024
E	INCLUSION OF DETENTION BASINS	22/10/2024

SCALES	
PLAN	
LONGITUDINAL SECTION	
HORIZONTAL	
VERTICAL	
CROSS SECTION	

SURVEYED	C.S.J	DATUM	AHD
DRAWN	JS	CLIENT	REGIONAL CIRCULARITY COOPERATIVE
DESIGN	JS		
CHECKED	JS		
DATE	13/11/2023		

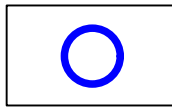
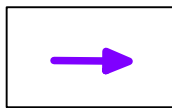
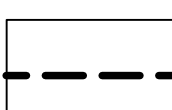

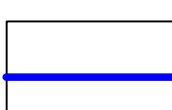
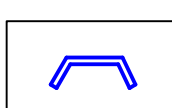
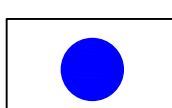
Main Office	
Bega NSW 2550	
Ph : 0409909386	
Email : jake@jsaengineering.com.au	

PROJECT			
NATIONAL CIRCULARITY CENTRE			
DESCRIPTION			
TITLE PAGE			
JOB NAME. NCC-SW	PLAN No. 0009	SHEET No. 1 OF 5	A1



CATCHMENT PLAN
SCALE 1:750

LEGEND





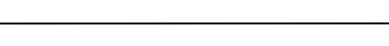
-  - STORMWATER PIT
-  - DIRECTION OF SURFACE WATER
-  - EASEMENT TO DRAIN WATER
-  - CATCHMENT BOUNDARY
-  - STORMWATER LINES
-  - STORMWATER HEADWALL OUTLET
-  - STORMWATER DETENTION

10% AEP - CALCULATIONS

Proposed Regional Circularity Development - Stormwater Catchment Summary							
	Area (ha)	Impervious (%)	Pervious (%)	ToC (min)	Intensity (mm/h)	Controlled Runoff (m³/s)	Uncontrolled Runoff (m³/s)
Undeveloped Side							
Catchment	1.852	10	90	5	147.91	0	0.276
					Total	0	0.276
Post development							
Catchment 1	0.702	5	95	5	147.91	0.095	0
Catchment 2	0.136	0	100	5	147.91	0.017	0
Catchment 3	0.309	15	85	5	147.91	0.049	0
Catchment 4	0.158	100	0	5	147.91	0.058	0
Catchment 5 (landscaping around building)	0.335		100	5	147.91	0	0.041
					Total	0.219	0.041

- STORMWATER NOTES:
- CALCULATIONS ARE BASED ON PROPOSED SURFACE TREATMENTS DETAILED IN PLAN SET 'NATIONAL CIRCULARITY CENTRE BEGA - DEVELOPMENT APPLICATION' BY COX ARCHITECTURE.
 - STORMWATER CALCULATIONS TO BE REVIEWED ONCE DETAILED CIVIL ENGINEERING DESIGN HAS TAKEN PLACE
 - RL'S OF PROPOSED STORMWATER SYSTEMS TO BE REVIEWED IN CONJUNCTION WITH DETAILED CIVIL ENGINEERING DESIGN REQUIREMENTS
 - TO BE READ IN CONJUNCTION WITH DETAILED LANDSCAPING PLANS

REV	DESCRIPTION	DATE
A	DEVELOPMENT APPLICATION SUBMISSION	13/11/2023
B	DAP MEETING - REVISED FROM FIRA	08/02/2024
C	FOR DEVELOPMENT APPLICATION SUBMISSION	15/04/2024
D	MODIFICATIONS ADOPTING NEIGHBORING LAND CONSTRAINTS	01/07/2024
E	INCLUSION OF DETENTION BASINS	22/10/2024

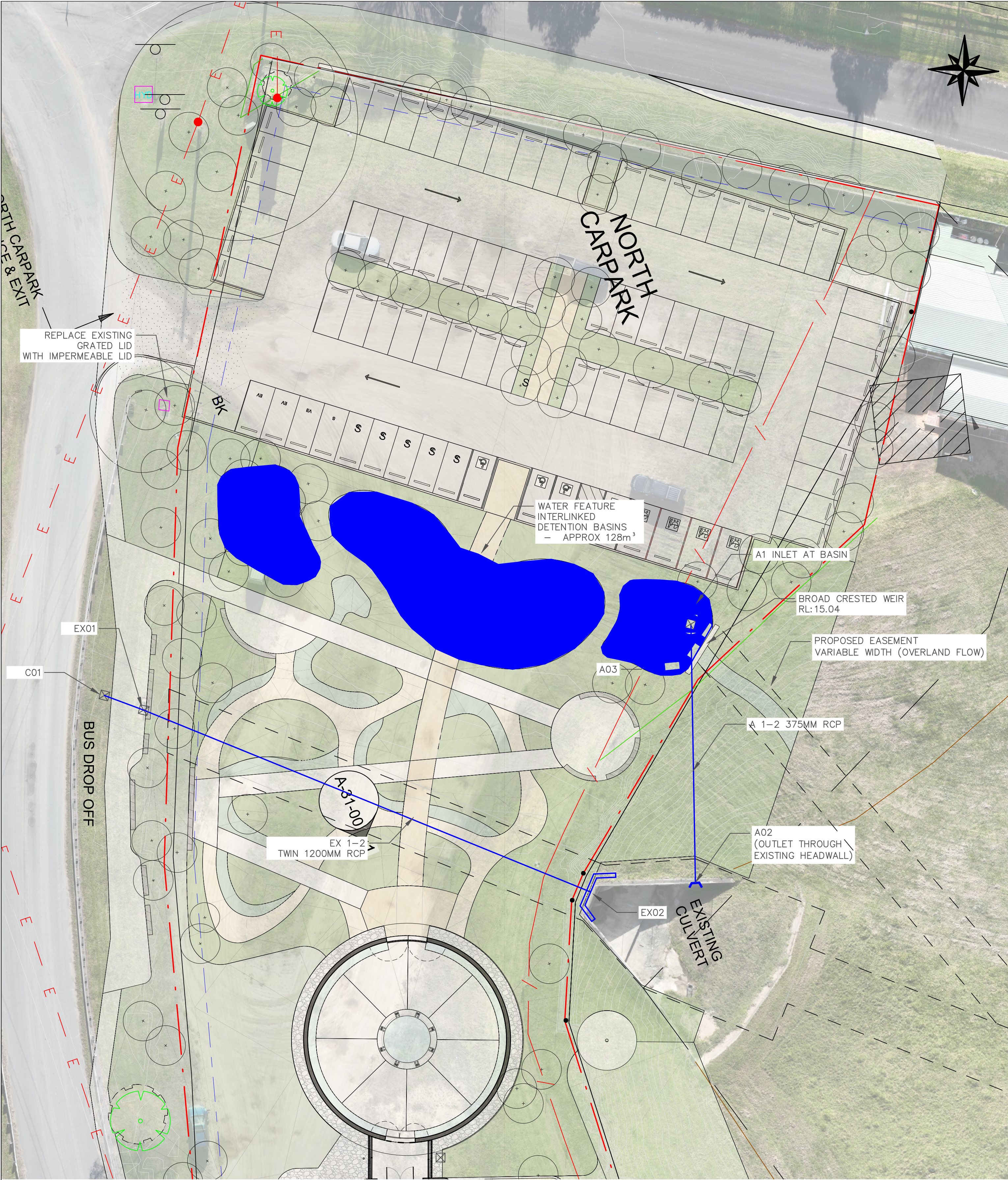
SCALES	
PLAN	
LONGITUDINAL SECTION	
HORIZONTAL	
VERTICAL	
CROSS SECTION	

SURVEYED	C.S.J
DRAWN	JS
DESIGN	JS
CHECKED	JS
DATE	13/11/2023

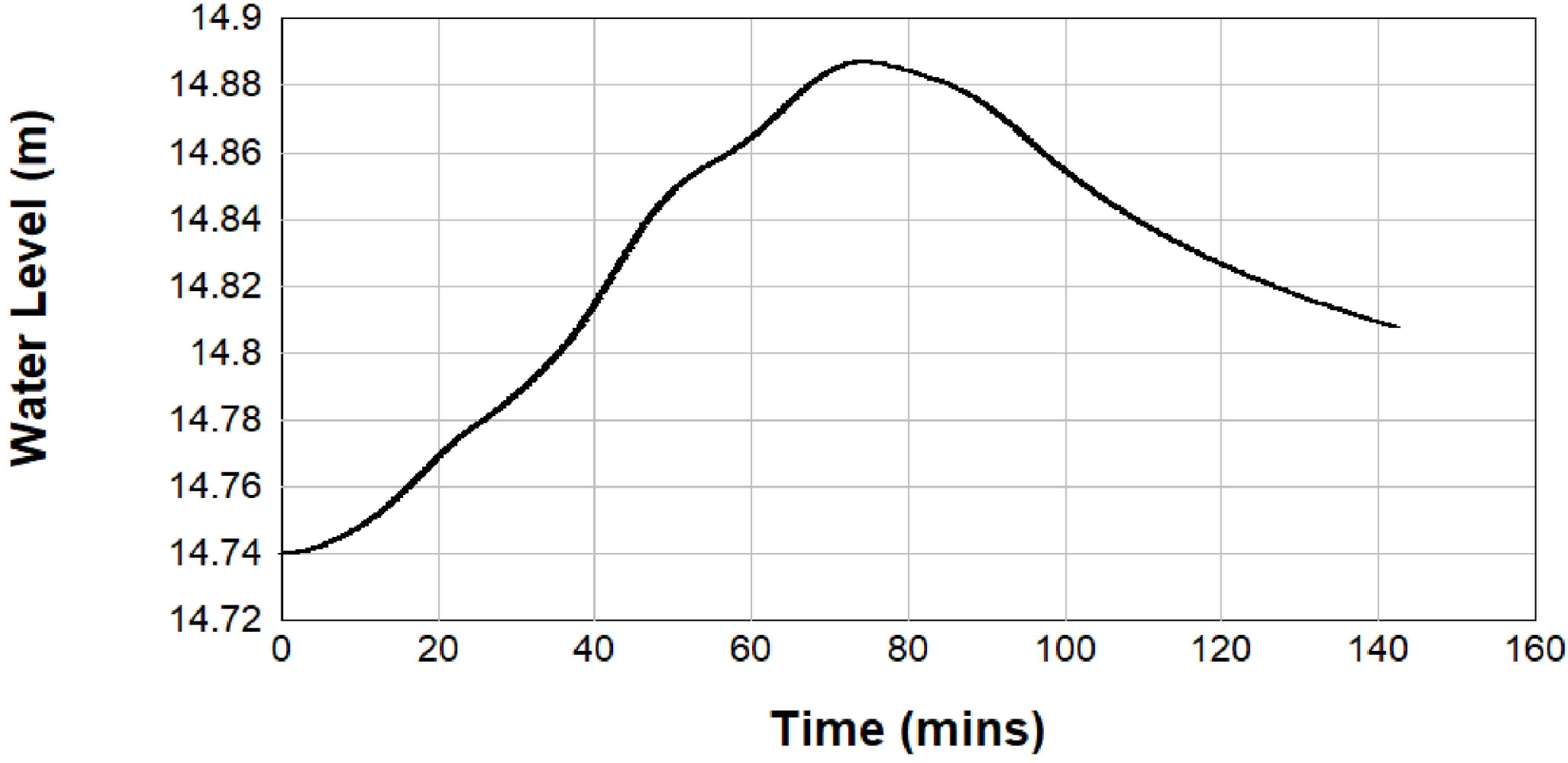
DATUM	AHD
CLIENT	REGIONAL CIRCULARITY COOPERATIVE

Main Office
Bega NSW 2550
Ph : 0409909386
Email : jake@jsaengineering.com.au

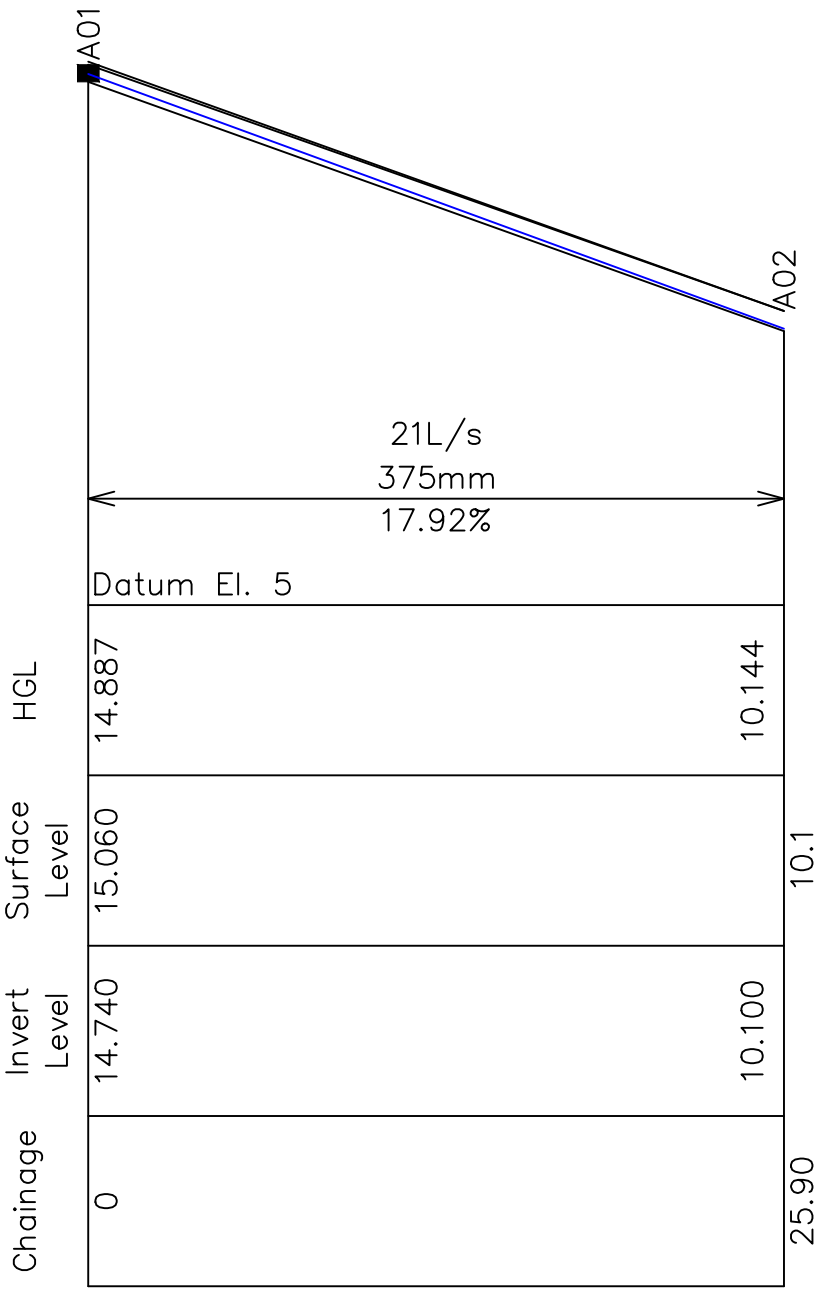
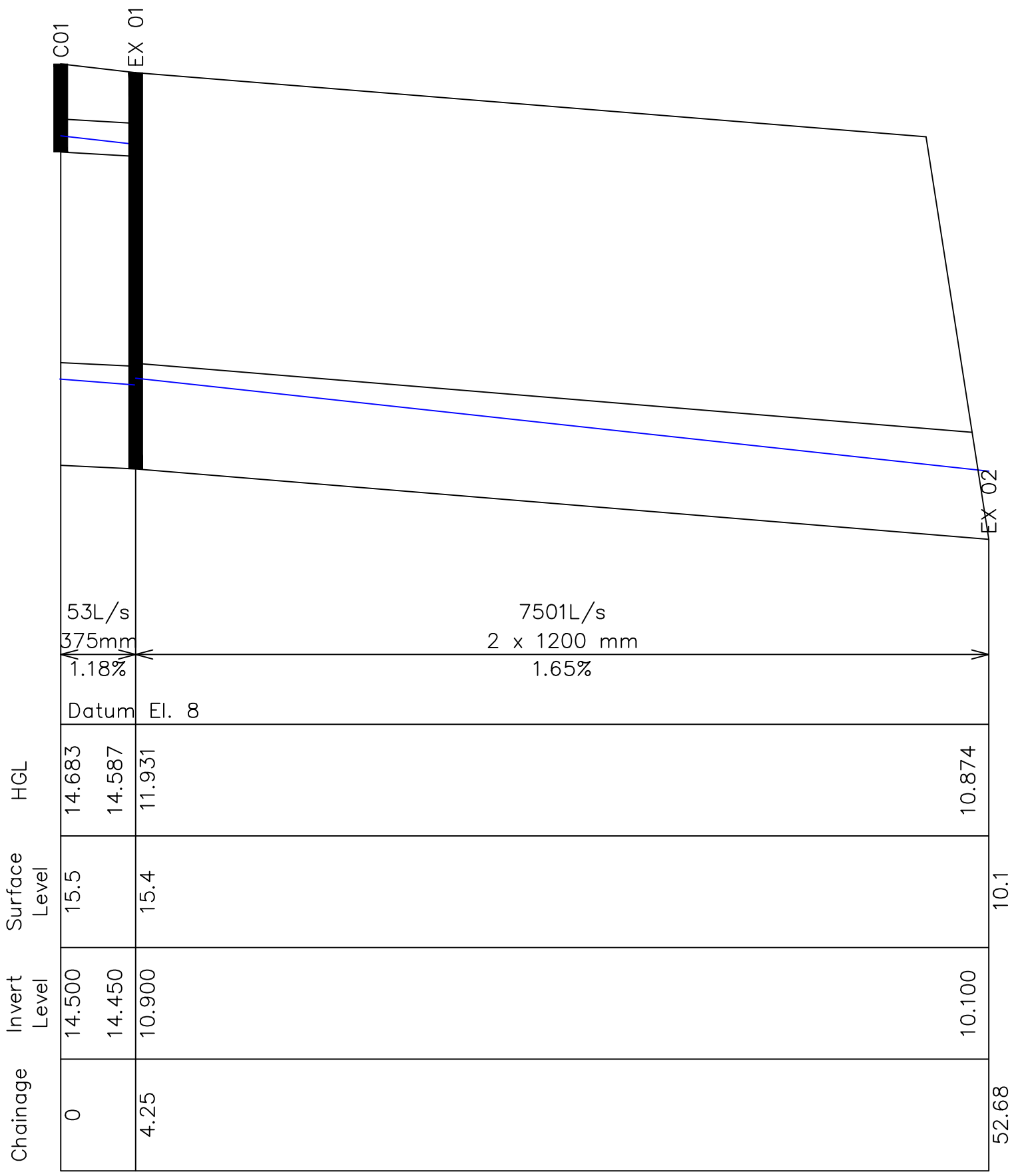
PROJECT			
NATIONAL CIRCULARITY CENTRE			
DESCRIPTION			
CATCHMENT PLAN			
JOB NAME. NCC-SW	PLAN No. 0009	SHEET No. 2 OF 5	A1

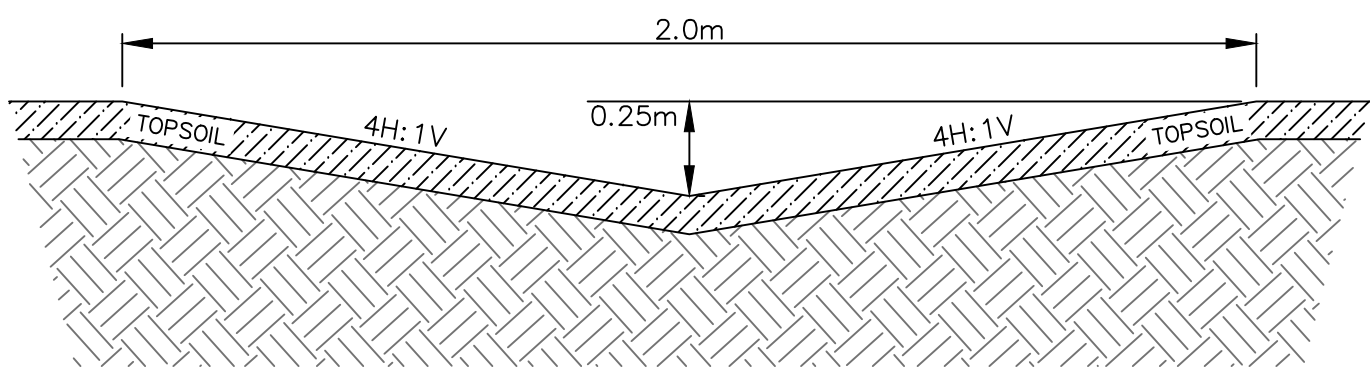
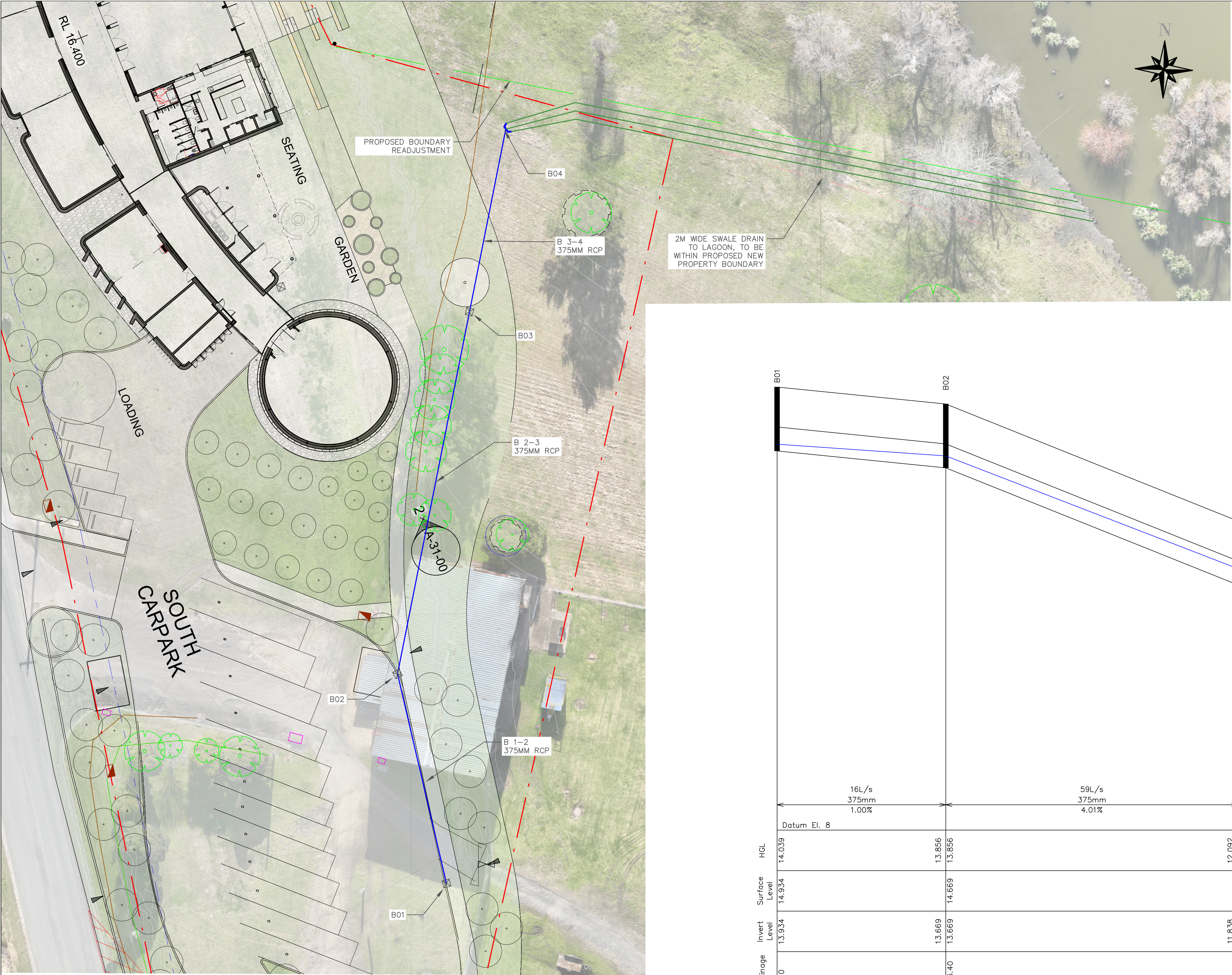


NORTHERN CARPARK STORMWATER LAYOUT
SCALE 1:250

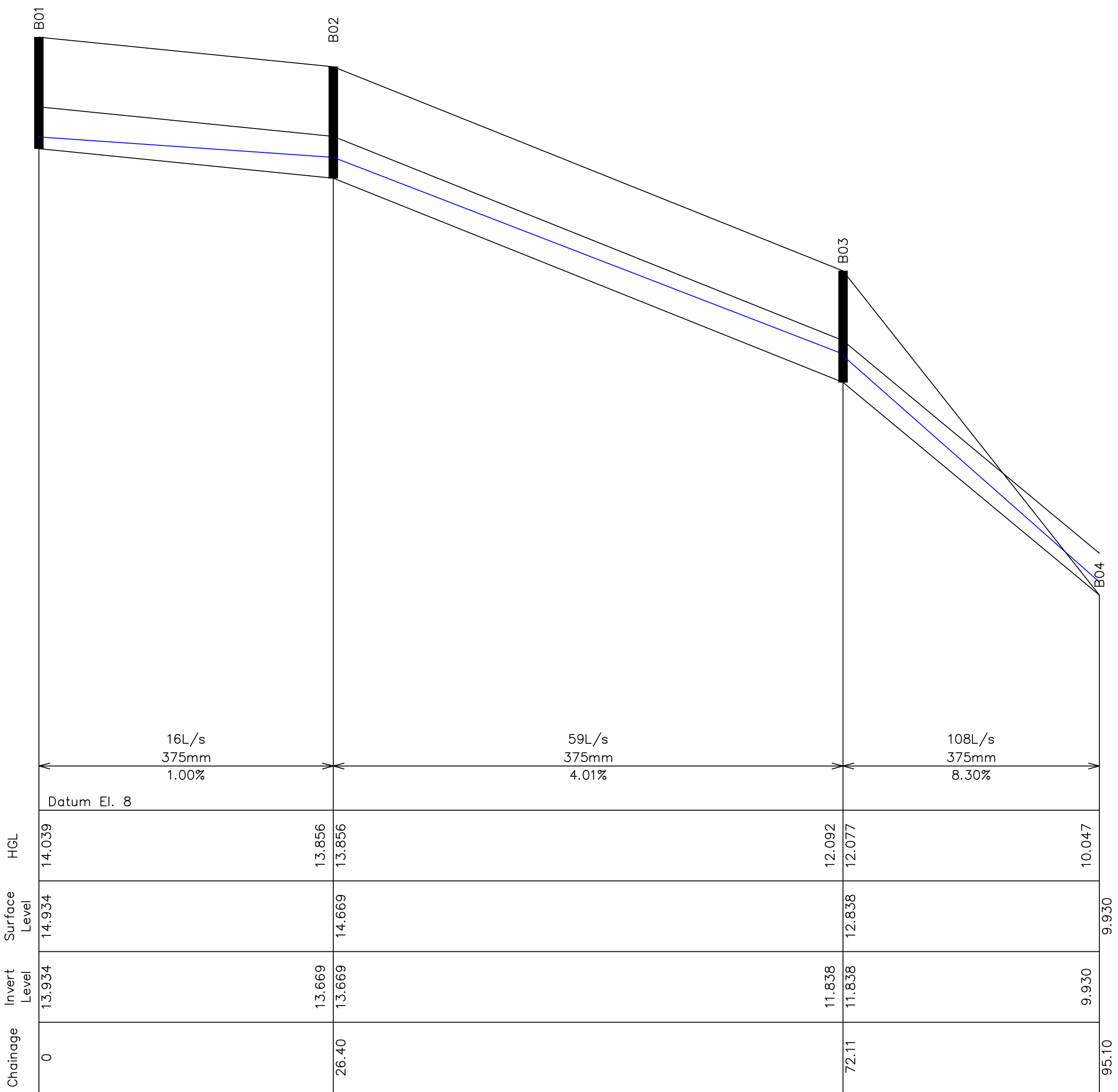


DETENTION BASIN LEVELS - 10% AEP

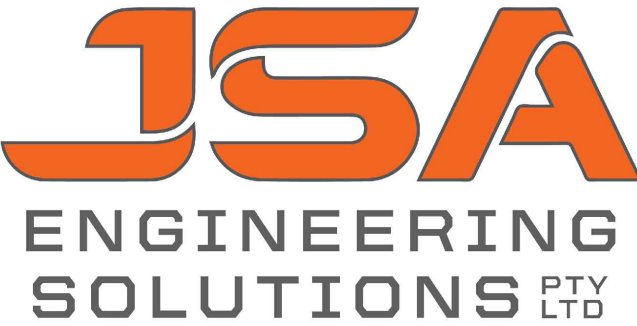




TYPICAL GRASSED SWALE
SCALE - N.T.S



SOUTHERN CARPARK STORMWATER LAYOUT
SCALE 1:250



REV	DESCRIPTION	DATE
A	DEVELOPMENT APPLICATION SUBMISSION	13/11/2023
B	DAP MEETING - REVISED FROM FIRA	08/02/2024
C	FOR DEVELOPMENT APPLICATION SUBMISSION	15/04/2024
D	MODIFICATIONS ADOPTING NEIGHBORING LAND CONSTRAINTS	01/07/2024
E	INCLUSION OF DETENTION BASINS	22/10/2024

LONGITUDINAL SECTION

PLAN

VERTICAL

CROSS SECTION

SCALES

PLAN

VERTICAL

CROSS SECTION

SURVEYED C.S.J

DRAWN JS

DESIGN JS

CHECKED JS

DATE 13/11/2023

DATUM AHD

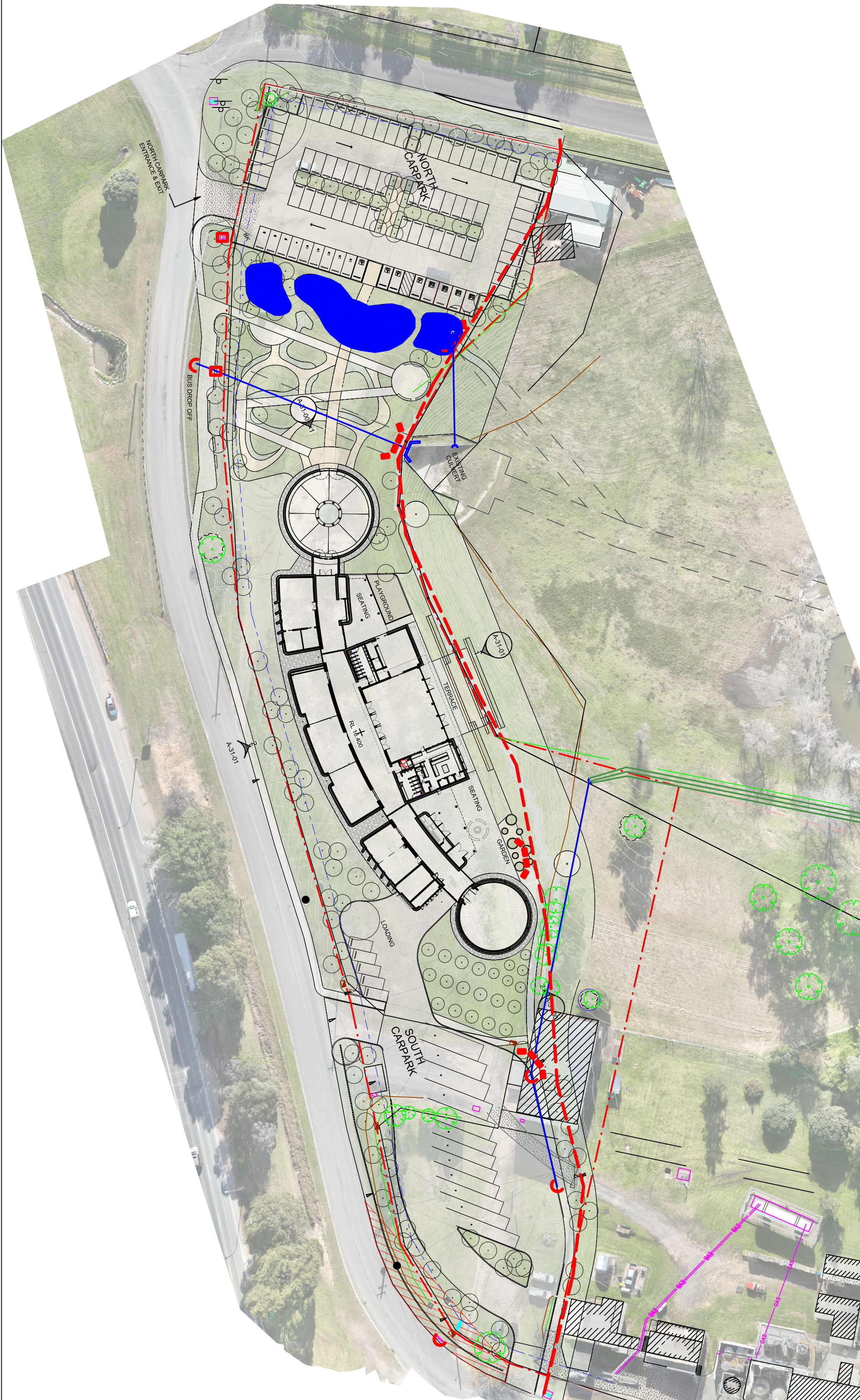
CLIENT REGIONAL CIRCULARITY COOPERATIVE

Main Office
Bega NSW 2550
Ph : 0409909386
Email : jake@jsaengineering.com.au

PROJECT
NATIONAL CIRCULARITY CENTRE

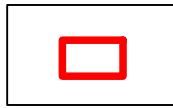
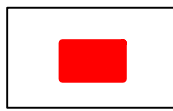
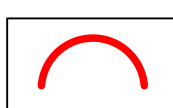
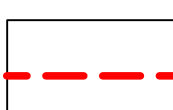
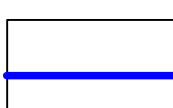
DESCRIPTION
SW SOUTHERN CARPARK

JOB NAME. NCC-SW	PLAN No. 0009	SHEET No. 4 OF 5	A1
---------------------	------------------	---------------------	----



SEDIMENT CONTROL PLAN
SCALE 1:750

LEGEND

-  - GEOTEXTILE INLET FILTER
-  - STRAW BALE FILTER
-  - MESH AND GRAVEL INLET FILTER
-  - SEDIMENT FENCING
-  - STORMWATER LINES

SEDIMENT NOTES:

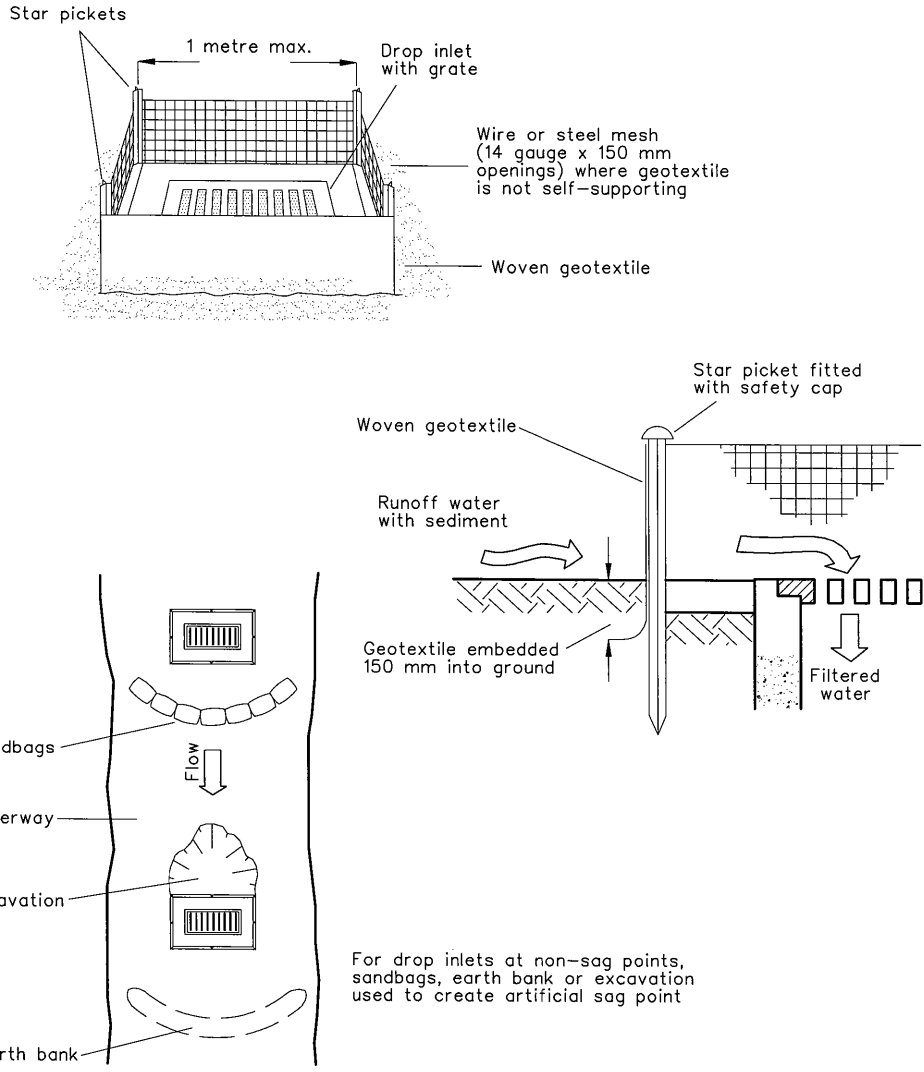
- 1) ALL WORKS TO BE IN ACCORDANCE WITH THE CURRENT VERSION OF BVSC SUBDIVISION STANDARDS AND THE LANDCOM 'MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION' MANUAL
- 2) ELEMENTS IDENTIFIED ARE TO BE INSTALLED AS PER DETAILS
- 3) INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS ARE THE RESPONSIBILITY OF THE CONTRACTOR
- 4) DURING PERIODS OF RAINFALL, THE WORKS ARE TO BE CHECK REGULARLY TO ENSURE THAT RUN-OFF DOES NOT BYPASS CONTROL MEASURES.
- 5) STRAW BALE FILTERS OR EQUIVALENT ARE TO BE PLACED WHERE EVER OVERLAND FLOW IS CONCENTRATED TO SWALES OR ALIKE.
- 6) PLANS SHOW PROPOSED LOCATIONS WHERE OVERLAND FLOW PATHS ARE PROPOSED, EXISTING STORMWATER PITS AND NEW STORMWATER PITS ARE PROPOSED.
- 7) THE CONTRACTOR SHALL CARRY OUT WORKS NECESSARY TO ENSURE ALL CONTROL MEASURES ARE INTACT, FREE OF SEDIMENT BUILD UP AND FUNCTIONING CORRECTLY.
- 8) PRIOR TO ANY WORKS STARTING THE CONTRACTOR SHALL SUBMIT A REVISED SEDIMENT CONTROL PLAN IDENTIFYING ANY STAGING WORKS OR ALTERATIONS FOR APPROVAL.

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

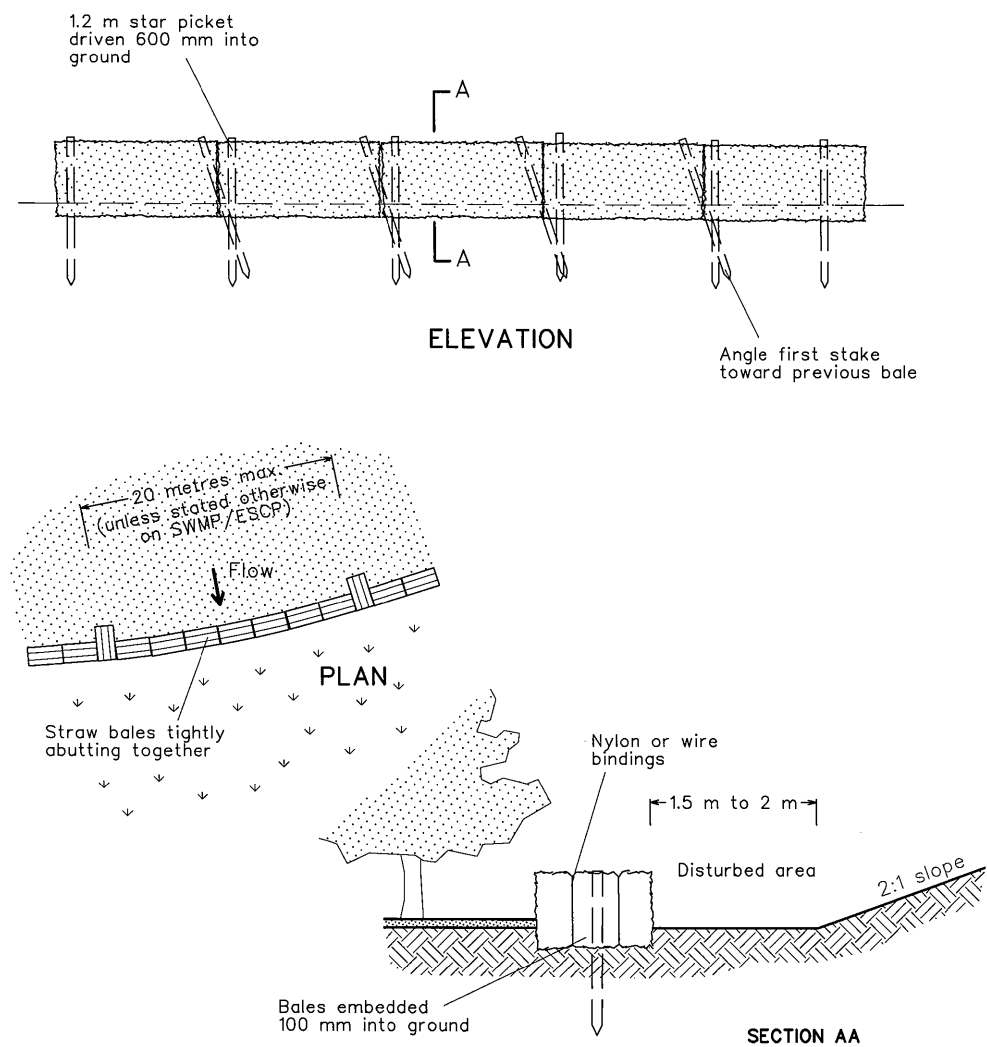


Construction Notes

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

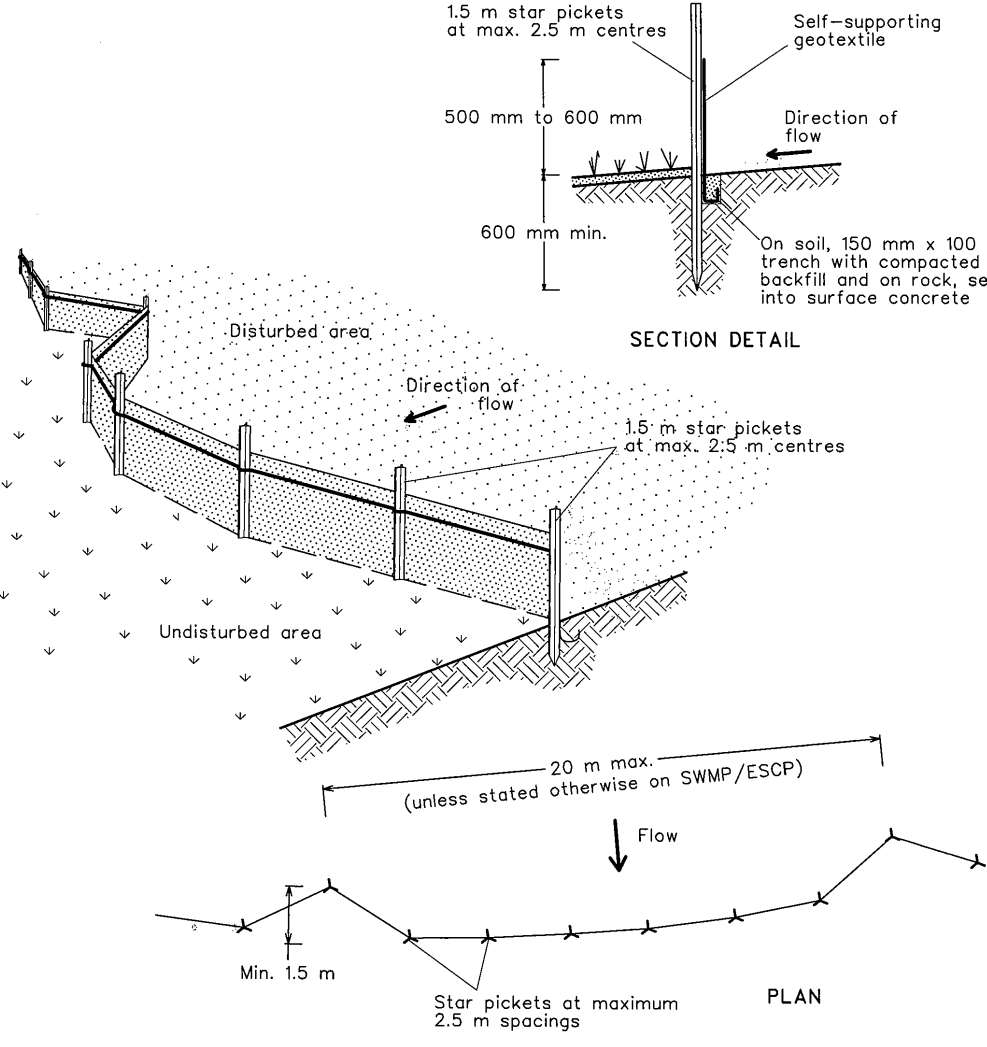


Construction Notes

1. Construct the straw bale filter as close as possible to being parallel to the contours of the site.
2. Place bales lengthwise in a row with ends tightly abutting. Use straw to fill any gaps between bales. Straws are to be placed parallel to ground.
3. Ensure that the maximum height of the filter is one bale.
4. Embed each bale in the ground 75 mm to 100 mm and anchor with two 1.2 metre star pickets or stakes. Angle the first star picket or stake in each bale towards the previously laid bale. Drive them 600 mm into the ground and, if possible, flush with the top of the bales. Where star pickets are used and they protrude above the bales, ensure they are fitted with safety caps.
5. Where a straw bale filter is constructed downslope from a disturbed batter, ensure the bales are placed 1 to 2 metres downslope from the toe.
6. Establish a maintenance program that ensures the integrity of the bales is retained - they could require replacement each two to four months.

STRAW BALE FILTER

SD 6-7

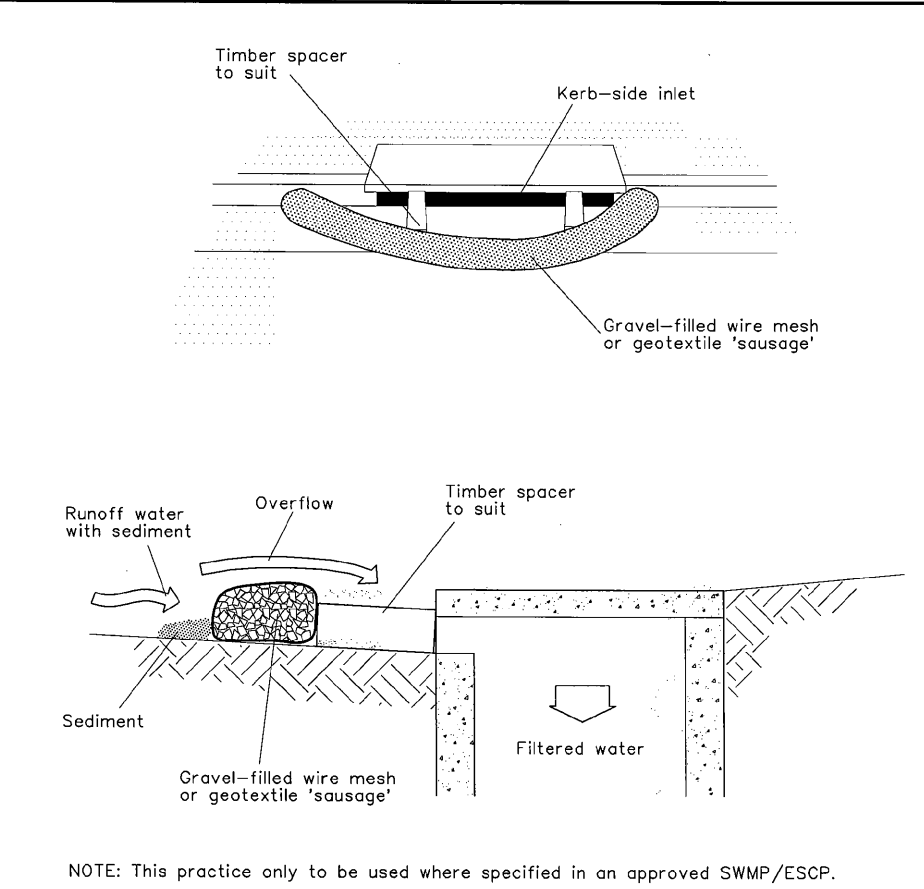


Construction Notes

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 150-mm 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 150-mm overlap.
6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

SEDIMENT FENCE

SD 6-8



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 25 mm to 50 mm gravel.
3. Form an elliptical cross-section about 150 mm high x 400 mm wide.
4. Place the filter at the opening leaving at least a 100-mm 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

REV	DESCRIPTION	DATE
A	DEVELOPMENT APPLICATION SUBMISSION	13/11/2023
B	DAP MEETING - REVISED FROM FIRA	08/02/2024
C	FOR DEVELOPMENT APPLICATION SUBMISSION	15/04/2024
D	MODIFICATIONS ADOPTING NEIGHBORING LAND CONSTRAINTS	01/07/2024
E	INCLUSION OF DETENTION BASINS	22/10/2024

SCALES
PLAN
LONGITUDINAL SECTION
HORIZONTAL
VERTICAL
CROSS SECTION

SURVEYED	C.S.J
DRAWN	JS
DESIGN	JS
CHECKED	JS
DATE	13/11/2023

DATUM	AHD
CLIENT	REGIONAL CIRCULARITY COOPERATIVE

Main Office
Bega NSW 2550
Ph : 0409909386
Email : jake@jsaengineering.com.au

PROJECT			
NATIONAL CIRCULARITY CENTRE			
DESCRIPTION			
SEDIMENT CONTROL PLAN			
JOB NAME. NCC-SW	PLAN No. 0009	SHEET No. 5 OF 5	A1