

# THE NEXT GENERATION

## CIVIL INFRASTRUCTURE WORKS PACKAGE

### TENDER ISSUE

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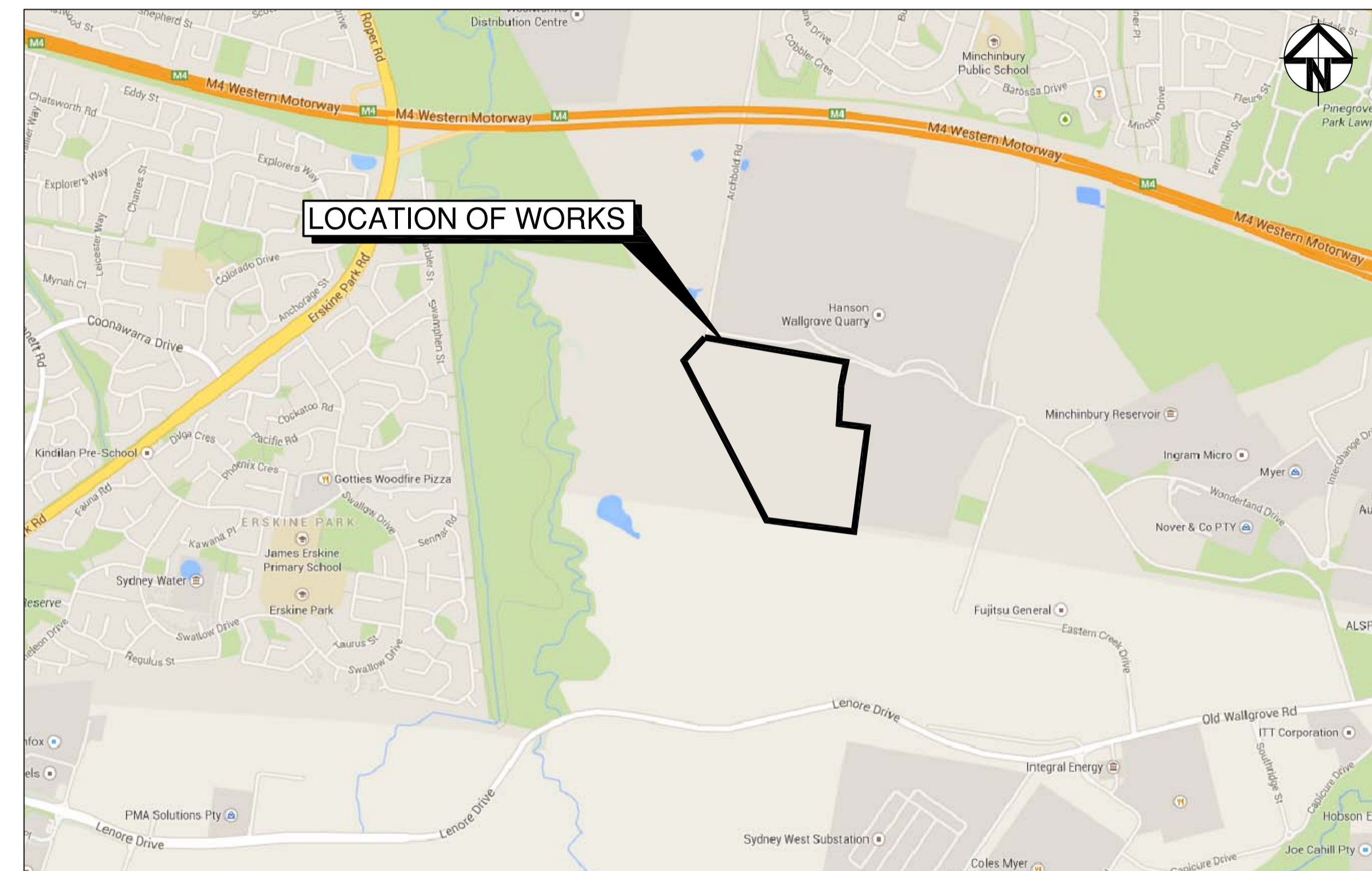
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LOCALITY PLAN

N.T.S

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C	RE-ISSUED FOR SSSA 20-02-15																											
B	ISSUED FOR SSSA 18-06-14																											
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Issue	Description	Date																										



### SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY LAND PARTNERS, BEING REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. AT & L DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.

SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT AT & L.

### EXISTING UNDERGROUND SERVICES NOTES

THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE.

AT & L CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.

CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.

CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.

CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

### BULK EARTHWORKS NOTES

- ORIGIN OF LEVELS: REFER SURVEY NOTES
- STRIP ALL TOPSOIL/ORGANIC MATERIAL FROM CONSTRUCTION AREA AND REMOVE FROM SITE OR STOCK PILE AS DIRECTED BY SUPERINTENDENT.
- EXCAVATED MATERIAL TO BE USED AS STRUCTURAL FILL PROVIDED THE PLACEMENT MOISTURE CONTENT OF THE MATERIAL IS +/- 2% OF THE OPTIMUM MOISTURE CONTENT.
- COMPACT FILL AREAS AND SUBGRADE TO NOT LESS THAN:
 

LOCATION	STANDARD DRY DENSITY (AS 1289 E 5.1.1)
UNDER BUILDING SLABS ON GROUND	98%
UNDER ROADS AND CARPARKS	98%
LANDSCAPED AREAS UNLESS NOTED OTHERWISE	98%
LAYDOWN AREAS	98%
- FOR NON COHESIVE MATERIAL, COMPACT TO 75% DENSITY INDEX.
- BEFORE PLACING FILL, PROOF ROLL EXPOSED SUBGRADE WITH AN 8 TONNE (MIN) DEADWEIGHT SMOOTH DRUM VIBRATORY ROLLER TO DETECT THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 2mm MOVEMENT UNDER ROLLER).
- FREQUENCY OF COMPACTION TESTING SHALL BE NOT LESS THAN -
  - 1 TEST PER 200m<sup>2</sup> OF FILL PLACED PER 300 LAYER OF FILL.
  - 3 TESTS PER VISIT
  - 1 TEST PER 1000m<sup>2</sup> OF EXPOSED SUBGRADE
 TESTING SHALL BE "LEVEL 1" TESTING IN ACCORDANCE WITH AS 3798 (1996).
- FILLING TO BE PLACED AND COMPACTED IN MAXIMUM 150mm LAYERS
- NO FILLING SHALL TAKE PLACE TO EXPOSE SUBGRADE UNTIL THE AREA HAS BEEN PROOF ROLLED IN THE PRESENCE OF GEOTECHNICAL ENGINEER AND APPROVAL GIVEN IN WRITING THAT FILLING CAN PROCEED.
- ALLOW FOR ALL TEMPORARY BATTERS TO BE BACKFILLED AND COMPACTED AS REQUIRED
- ALLOW TO MAKE SAFE ALL TEMPORARY BATTERS
- MAKE SAFE ALL EXCAVATION AREAS, FOOTINGS, WITH TEMPORARY FENCES ON HAND OVER TO NEXT/FOLLOWING TRADES

### STORMWATER DRAINAGE NOTES

- STORMWATER DESIGN CRITERIA:
  - AVERAGE RECURRENCE INTERVAL: 100 YEARS - ROOFED AREAS TO SURCHARGE PIT
  - 120 YEARS - EXTERNAL PAVEMENTS
- RAINFALL INTENSITIES:
  - TIME OF CONCENTRATION: 5 MINUTES
  - 100 YEARS = 218 mm/hr
  - 120 YEARS = 167 mm/hr
- RUNOFF COEFFICIENTS:
 

ROOF AREAS:	C <sub>100</sub>	=10
EXTERNAL PAVEMENTS:	C <sub>20</sub>	=10
- PIPES 300 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '3' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.
- PIPES UP TO 300 DIA SHALL BE SEWER GRADE uPVC WITH SOLVENT WELDED JOINTS.
- EQUIVALENT STRENGTH VCP OR FRC PIPES MAY BE USED.
- ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE uPVC PRESSURE PIPE GRADE 6. ENSURE ALL VERTICALS AND DOWNPIPPES ARE uPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT.
- PIPES TO BE INSTALLED TO TYPE HS3 (ROAD) HS2 (LOTS) SUPPORT IN ACCORDANCE WITH AS 3725 (2007) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
- ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 (1998) AND AS/NZS 3500 3.2 (1998).
- PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY AT & L.
- ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
- WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
- CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
- GRATES AND COVERS SHALL CONFORM TO AS 3996.
- ALL INTERNAL PIT DIMENSIONS TO CONFORM TO AS3500 3 TABLE 8.2.
- AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
- ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.
- WHERE GEOTECHNICAL SUBSURFACE UNITS BEDROCK A & BEDROCK B ARE SHOWN ON THESE DRAWINGS, THESE HAVE BEEN TAKEN FROM PELL'S SULLIVAN MOUNTAIN GEOTECHNICAL REPORT PSM2407-005R REV 2.

### SITWORKS NOTES

- ORIGIN OF LEVELS: REFER SURVEY NOTES.
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO AT & L.
- MAKE SMOOTH CONNECTION WITH EXISTING WORKS.
- ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
- ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
- PROVIDE 10mm WIDE EXPANSION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVEMENTS.
- ASPHALTIC CONCRETE SHALL CONFORM TO RMS. SPECIFICATION R116.
- ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH RMS. FORM 3051 (UNBOUND), RMS. FORM 3052 (BOUND) COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m<sup>2</sup> OF BASECOURSE MATERIAL PLACED.
- ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH RMS. FORM 3051 AND 3051.1 AND COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH A.S 1289 5.2.1. FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m<sup>2</sup> OF SUB-BASE COURSE MATERIAL PLACED.
- AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (9) A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH RMS. FORM 3051 AND 3051.1 WILL BE CONSIDERED. SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF AT & L.
- SHOULD THE CONTRACTOR WISH TO USE A RECYCLED PRODUCT THIS SHALL BE CLEARLY INDICATED IN THEIR TENDER AND THE PRICE DIFFERENCE BETWEEN AN IGNEOUS PRODUCT AND A RECYCLED PRODUCT SHALL BE CLEARLY INDICATED.
- WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED BY OTHERS, (eg. ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS.
- WHERE GEOTECHNICAL SUBSURFACE UNITS BEDROCK A & BEDROCK B ARE SHOWN ON THESE DRAWINGS, THESE HAVE BEEN TAKEN FROM PELL'S SULLIVAN MOUNTAIN GEOTECHNICAL REPORT PSM2407-005R REV 2.

### EROSION AND SEDIMENT CONTROL NOTES

#### GENERAL INSTRUCTIONS

- THE SITE SUPERINTENDENT/ENGINEER WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED.
- ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
  - LOCAL AUTHORITY REQUIREMENTS
  - EPA REQUIREMENTS
  - NSW DEPARTMENT OF HOUSING MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.
- INSTALL & MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
- WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.
- 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.

#### LAND DISTURBANCE

- WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:
  - INSTALL A SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
  - CONSTRUCT STABILISED CONSTRUCTION ENTRANCE TO LOCATION AS DETERMINED BY SUPERINTENDENT/ENGINEER. REFER DETAIL.
  - INSTALL SEDIMENT BASIN AS SHOWN ON PLAN
  - INSTALL SEDIMENT TRAPS AS SHOWN ON PLAN.
  - UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.

#### EROSION CONTROL

- DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.
- FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

### SEDIMENT CONTROL

- 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.
- 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.
- 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.
- TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.
- ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
- ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:
  - PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
  - ENSURING THAT NOTHING IS NAILED TO THEM
  - PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS:
    - 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
    - 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
    - CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

### WORKS LEGEND

#### EXISTING

- +213.00--- SURFACE LEVEL
- 213.0----- CONTOUR
- /---/--- FENCE
- (O) TREE
- EXISTING BOUNDARY

#### PROPOSED

- PROPOSED BOUNDARY
- 213.0--- PROPOSED CONTOUR
- RL 62.75 PROPOSED SURFACE LEVEL

- ==== K&G==== KERB AND GUTTER
- ==== IK==== INTEGRAL KERB
- ==== KO==== KERB ONLY
- ==== DD==== DISH DRAIN
- ==== VC==== VEHICLE CROSSING

- ==== PR==== PRAM RAMP
- ==== 675ø==== STORMWATER PIT WITH GRATE AND LINE
- ==== A11==== uPVC STORMWATER PIPE
- ==== A11==== STORMWATER PIT REFERENCE NUMBER

- ==== KERB INLET PIT
- ==== KERB INLET PIT (SAG)
- ==== JUNCTION PIT WITH INFILL
- ==== SURFACE INLET PIT WITH INFILL

- ==== GRATED DRAIN
- ==== HEADWALL
- ==== RIPARIAN ZONE

- ==== OPEN SWALE DRAIN
- ==== SAFETY BARRIER
- ==== RETAINING WALL

- ==== DIRECTION OF TRAFFIC
- ==== BATTER
- ==== TREE

- ==== 1/4==== BATTER SLOPE

#### EXISTING SERVICES

- ==== G==== EXISTING GAS
- ==== W==== EXISTING WATER
- ==== SW==== EXISTING STORMWATER
- ==== HV==== EXISTING ELECTRICAL HIGH VOLTAGE
- ==== X . . X==== EXISTING SERVICE DISUSED

#### SERVICES PROPOSED

- ==== S==== PROPOSED SEWER
- ==== HV==== HIGH VOLTAGE ELECTRICITY
- PROPOSED POWER POLE

Issue	Description	Date
C	RE-ISSUED FOR SSSA	20-02-15
B	ISSUED FOR SSSA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14

Bar Scales

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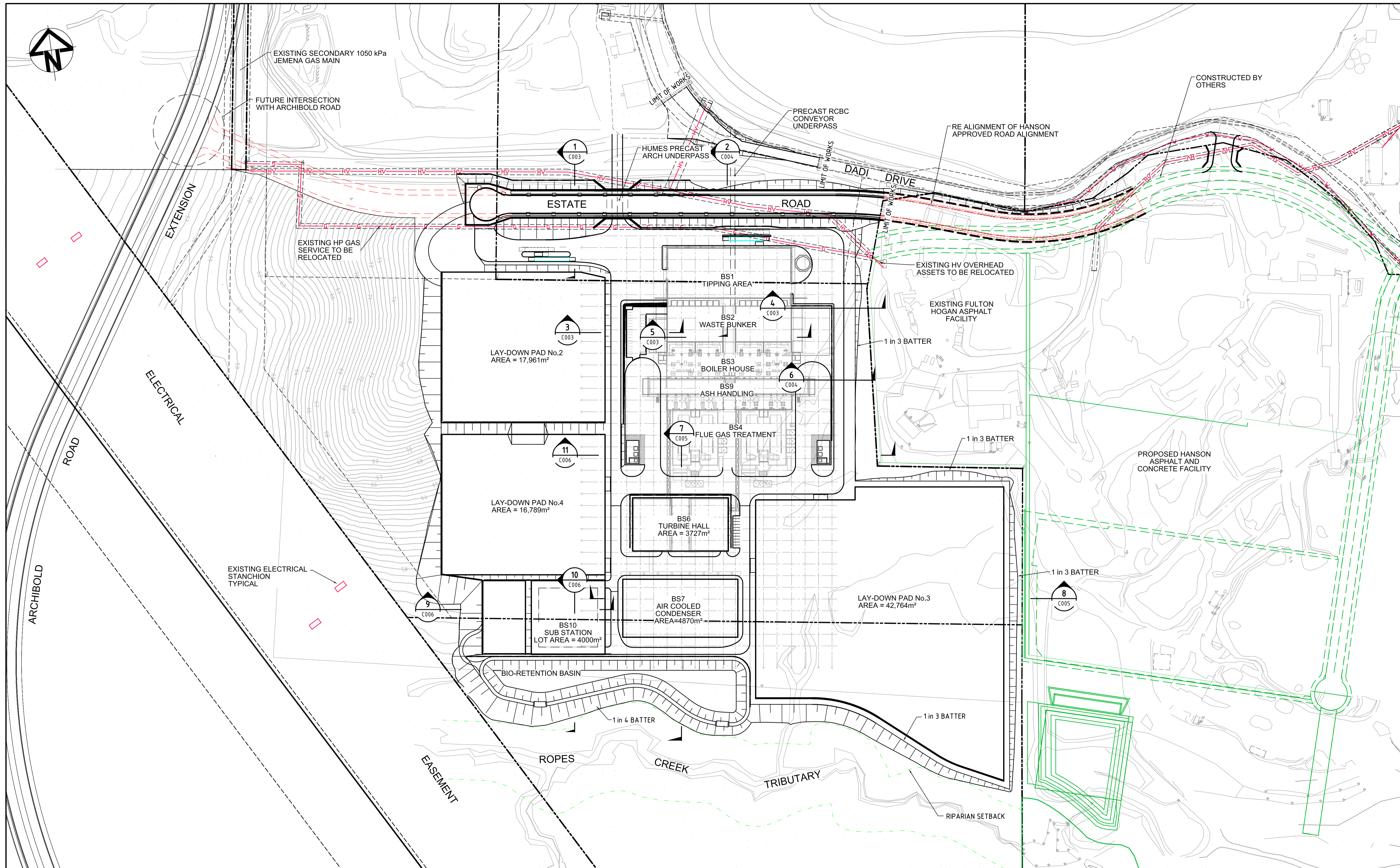


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		Checked	MM
		Approved	

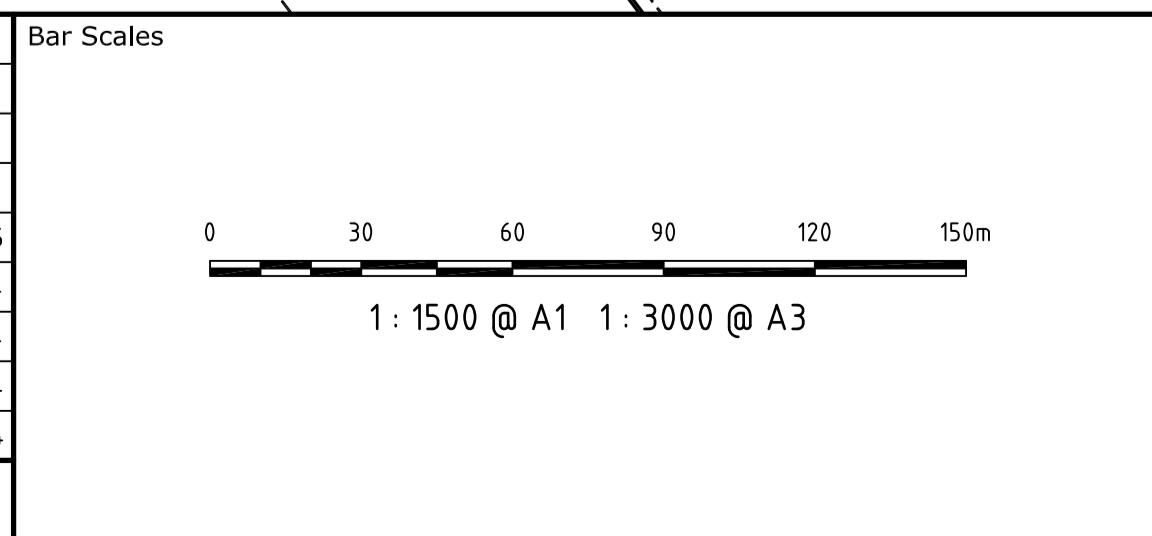
Project	Title
ENERGY FROM WASTE ELECTRICITY GENERATION PLANT, EASTERN CREEK	NOTES AND LEGENDS

Civil Engineers and Project Managers	
<p>Suite 702, 154 Pacific Hwy St Leonards NSW 2065 ABN 96 130 882 405 Tel: 02 9439 1777 Fax: 02 9460 8413 www.atl.net.au info@atl.net.au</p>	
Status	FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION	
Drawing No.	Project No.
C001	14-187
Issue	C





Issue	Description	Date
F	RE-ISSUED FOR SSDA	12-03-15
E	RE-ISSUED FOR SSDA	20-02-15
D	ISSUED FOR SSDA	18-06-14
C	ISSUED FOR INFORMATION	16-06-14
B	ISSUED FOR CLIENT REVIEW	14-05-14
A	ISSUED FOR COORDINATION	06-05-14



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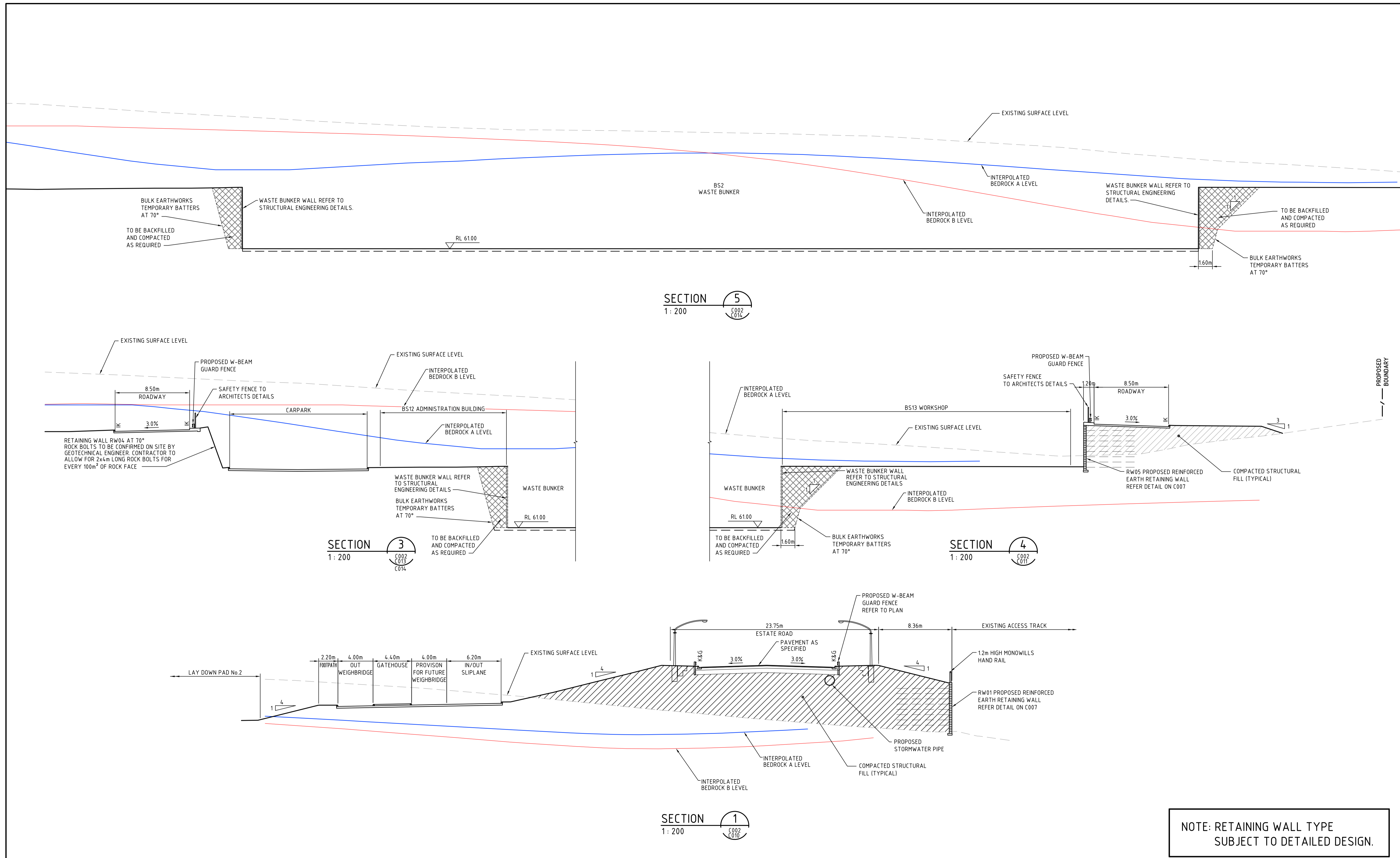


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	Approved	
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Project	ENERGY FROM WASTE ELECTRICITY GENERATION PLANT, EASTERN CREEK	
Title	GENERAL ARRANGEMENT PLAN	

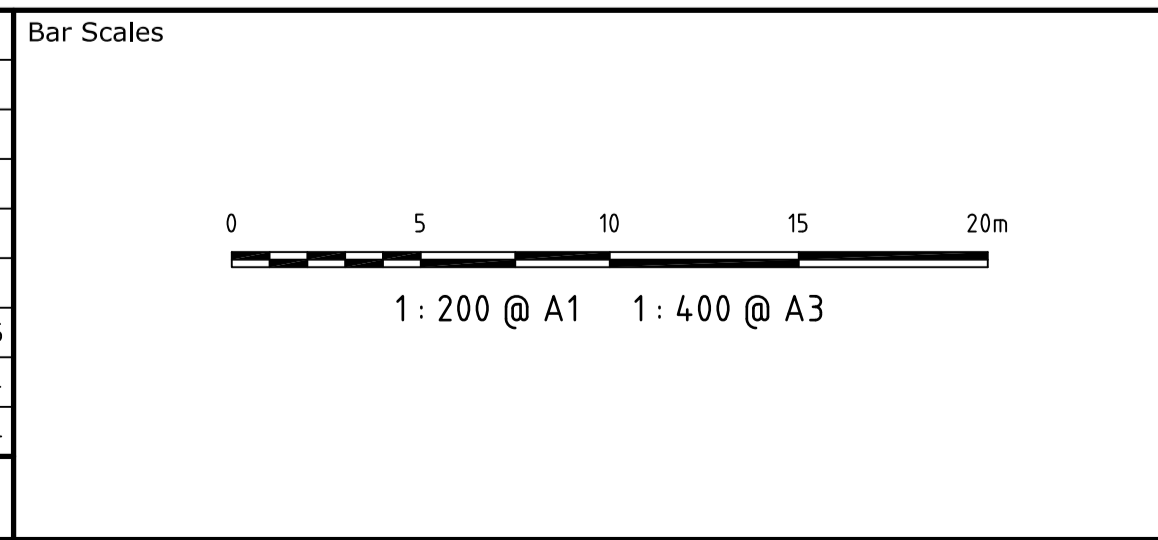
Civil Engineers and Project Managers		
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Status	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION	A1
Drawing No.	C002	Issue
Project No.	14-187	F





NOTE: RETAINING WALL TYPE SUBJECT TO DETAILED DESIGN.

Issue	Description	Date
C	RE-ISSUED FOR SSSA	20-02-15
B	ISSUED FOR SSSA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14



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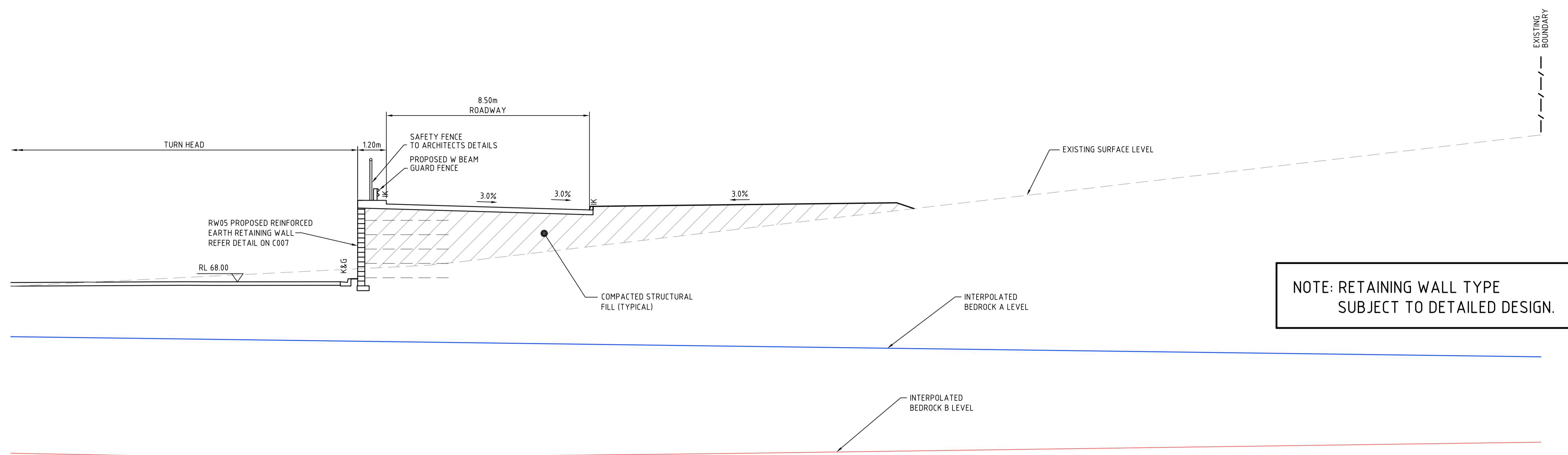
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	Approved	
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Height Datum	AHD	

Project  
**ENERGY FROM WASTE  
ELECTRICITY GENERATION  
PLANT, EASTERN CREEK**

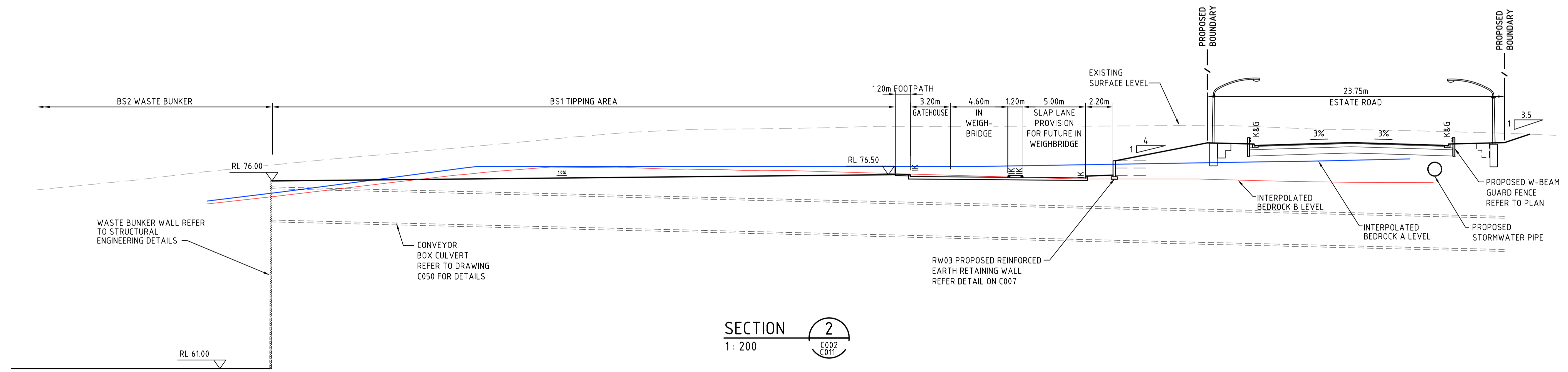
Title  
**TYPICAL SECTIONS  
SHEET 1**

Civil Engineers and Project Managers		
<b>at&amp;l</b>		
Suite 702, 154 Pacific Hwy St Leonards NSW 2065 ABN 96 130 882 405 Tel: 02 9439 1777 Fax: 02 9460 8413 www.atl.net.au info@atl.net.au		
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Drawing No.	C003	Issue
Project No.	14-187	C



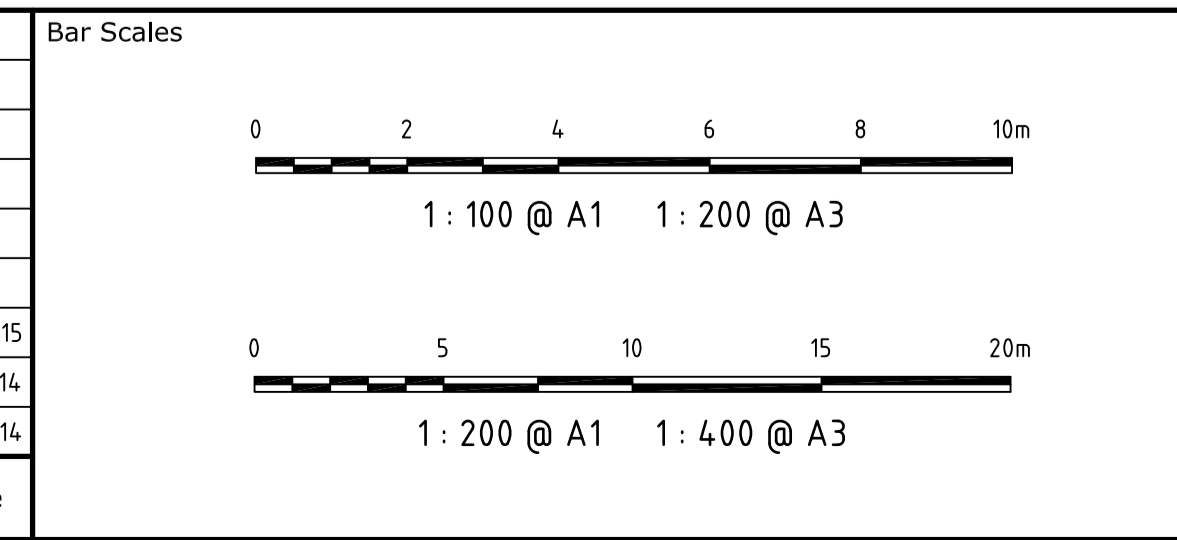


SECTION 6  
1: 100



SECTION 2  
1: 200

Issue	Description	Date
C	RE-ISSUED FOR SSDA	20-02-15
B	ISSUED FOR SSDA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14



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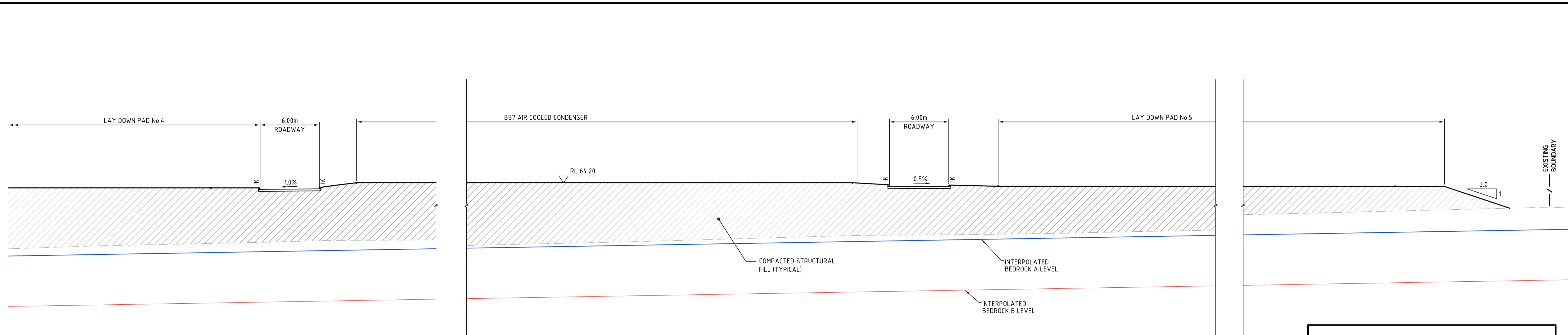


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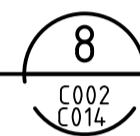
Project	ENERGY FROM WASTE ELECTRICITY GENERATION PLANT, EASTERN CREEK	
Title	TYPICAL SECTIONS SHEET 2	

Civil Engineers and Project Managers		
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Status	FOR APPROVAL	A1
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C004	14-187	C

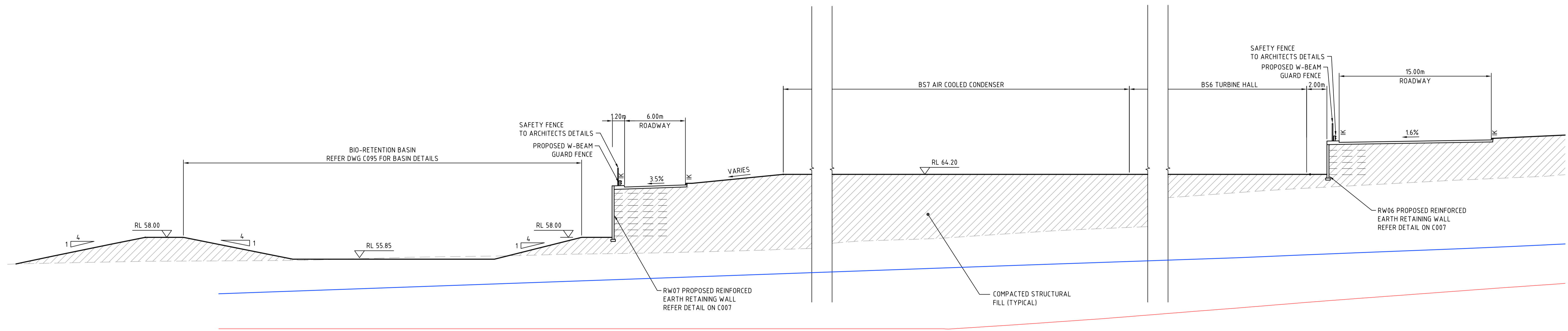




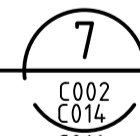
SECTION 8  
1: 200



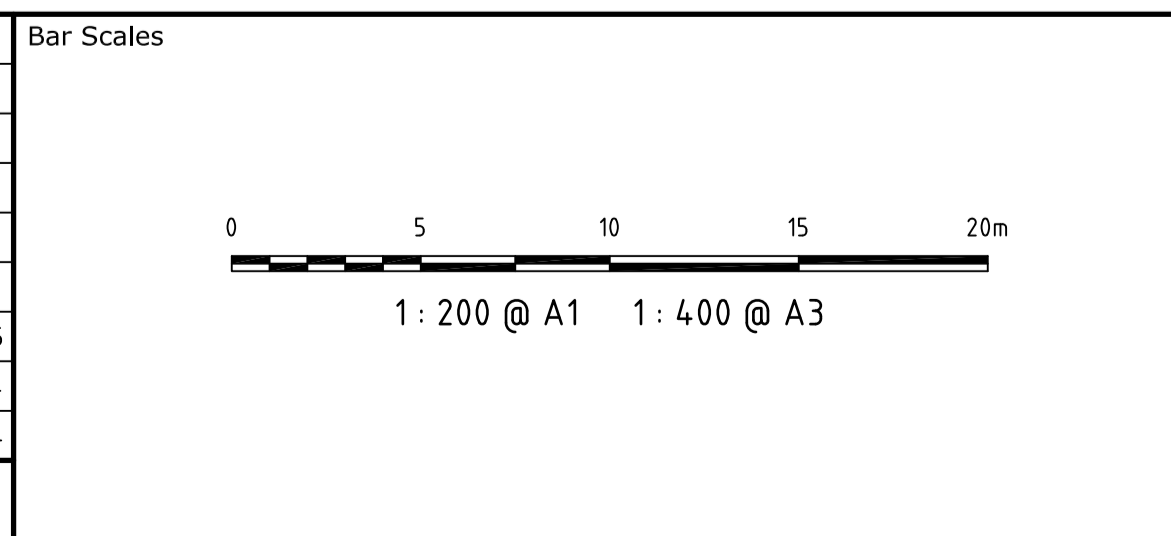
NOTE: RETAINING WALL TYPE  
SUBJECT TO DETAILED DESIGN.



SECTION 7  
1: 200



Issue	Description	Date
C	RE-ISSUED FOR SSDA	20-02-15
B	ISSUED FOR SSDA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14



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Scales 1: 200 @ A1	Drawn	TS
	Designed	TS
	Checked	MM
Grid	AHD	
Height Datum	AHD	

Project  
**ENERGY FROM WASTE  
ELECTRICITY GENERATION  
PLANT, EASTERN CREEK**

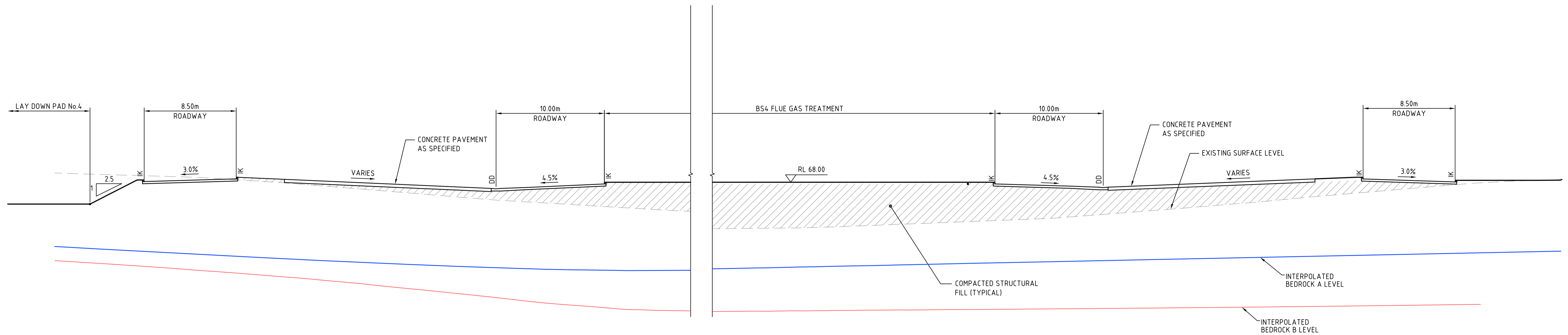
Title  
**TYPICAL SECTIONS  
SHEET 3**

Civil Engineers and Project Managers

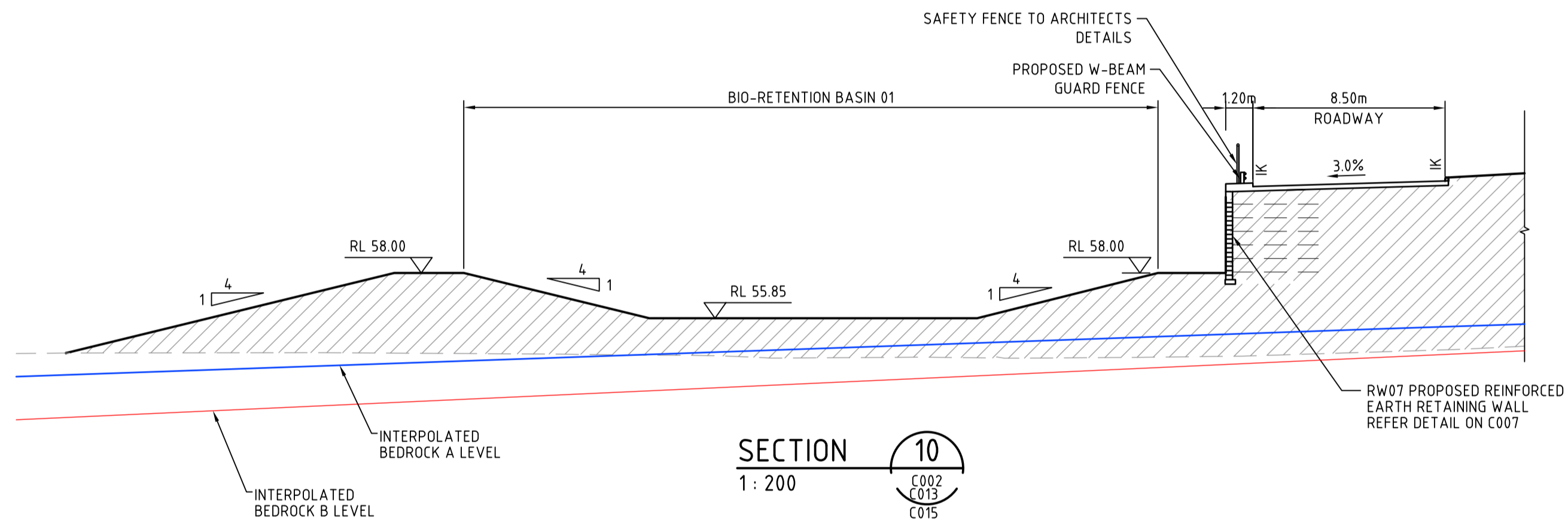
Suite 702, 154 Pacific Hwy  
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Status <b>FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION</b>	A1
Drawing No. <b>C005</b>	Issue <b>C</b>
Project No. <b>14-187</b>	

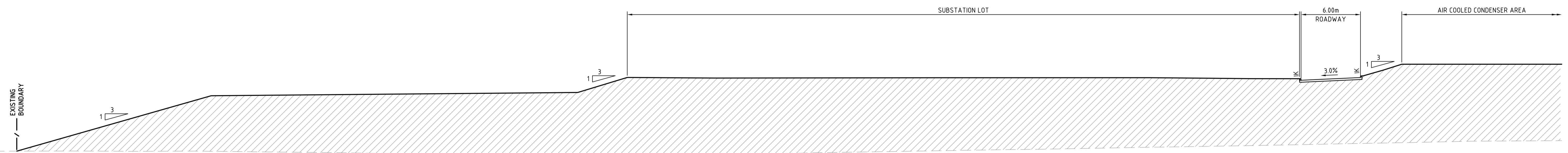




SECTION 11  
1:200

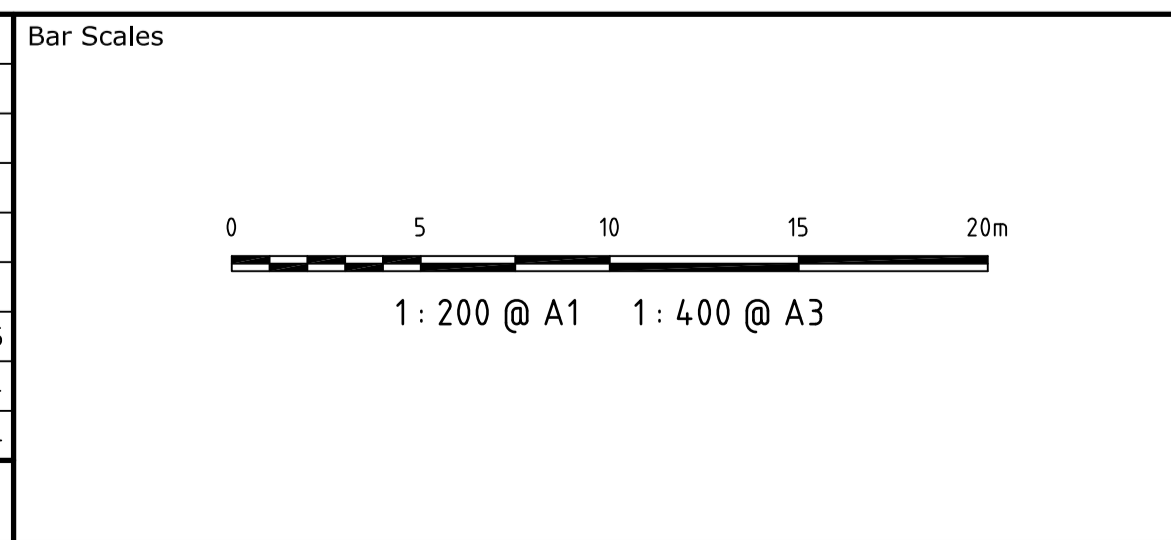


SECTION 10  
1:200



SECTION 9  
1:200

Issue	Description	Date
C	RE-ISSUED FOR SSDA	20-02-15
B	ISSUED FOR SSDA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14



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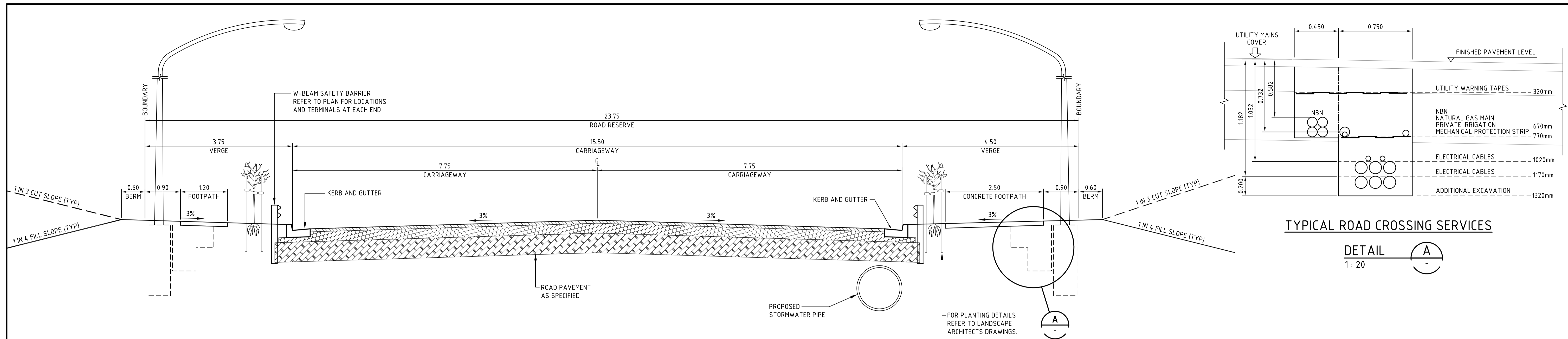


Scales 1:200 @ A1	Drawn	TS
	Designed	TS
	Checked	MM
Grid	AHD	
Height Datum	AHD	

Project <b>ENERGY FROM WASTE ELECTRICITY GENERATION PLANT, EASTERN CREEK</b>	
Title <b>TYPICAL SECTIONS SHEET 4</b>	

Civil Engineers and Project Managers <b>at&amp;i</b> Suite 702, 154 Pacific Hwy St Leonards NSW 2065 ABN 96 130 882 405 Tel: 02 9439 1777 Fax: 02 9460 8413 www.atl.net.au Info@atl.net.au		
Status <b>FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION</b>	Project No. <b>14-187</b>	Issue <b>C</b>
Drawing No. <b>C006</b>	Date <b>20 Feb 2015 - 05:09PM</b>	



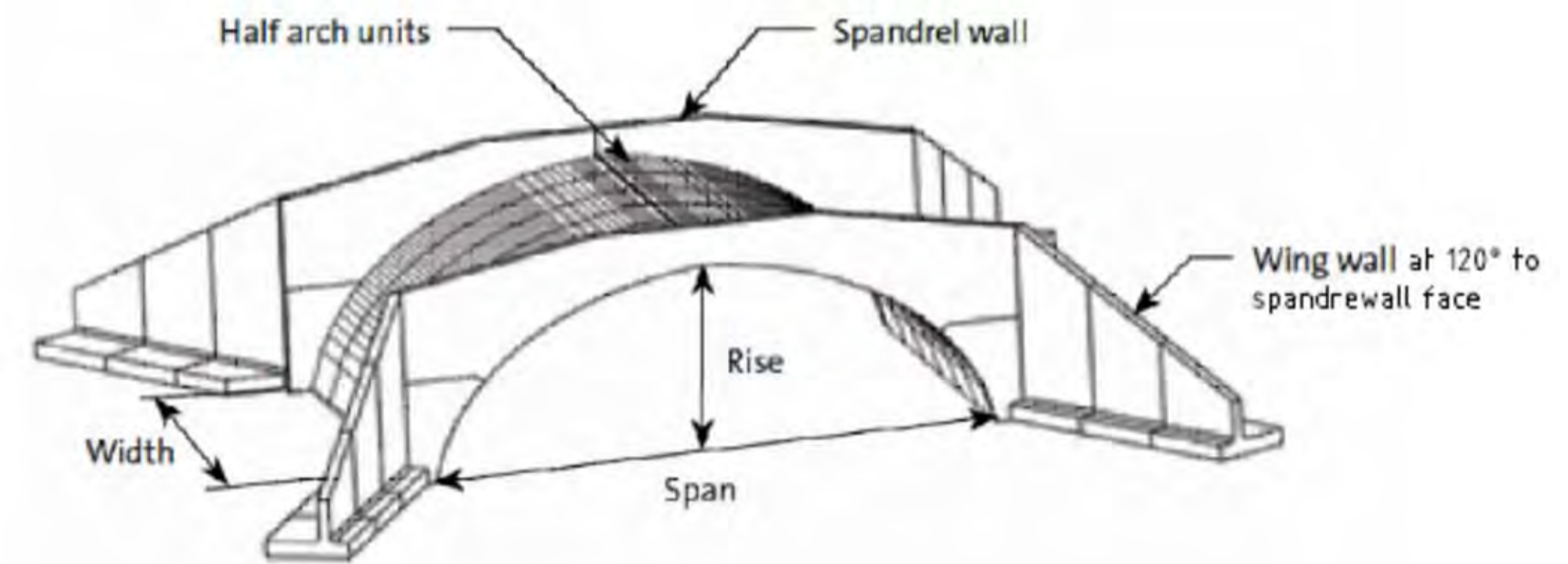


**TYPICAL SECTION - ESTATE ROAD**  
SCALE 1:50

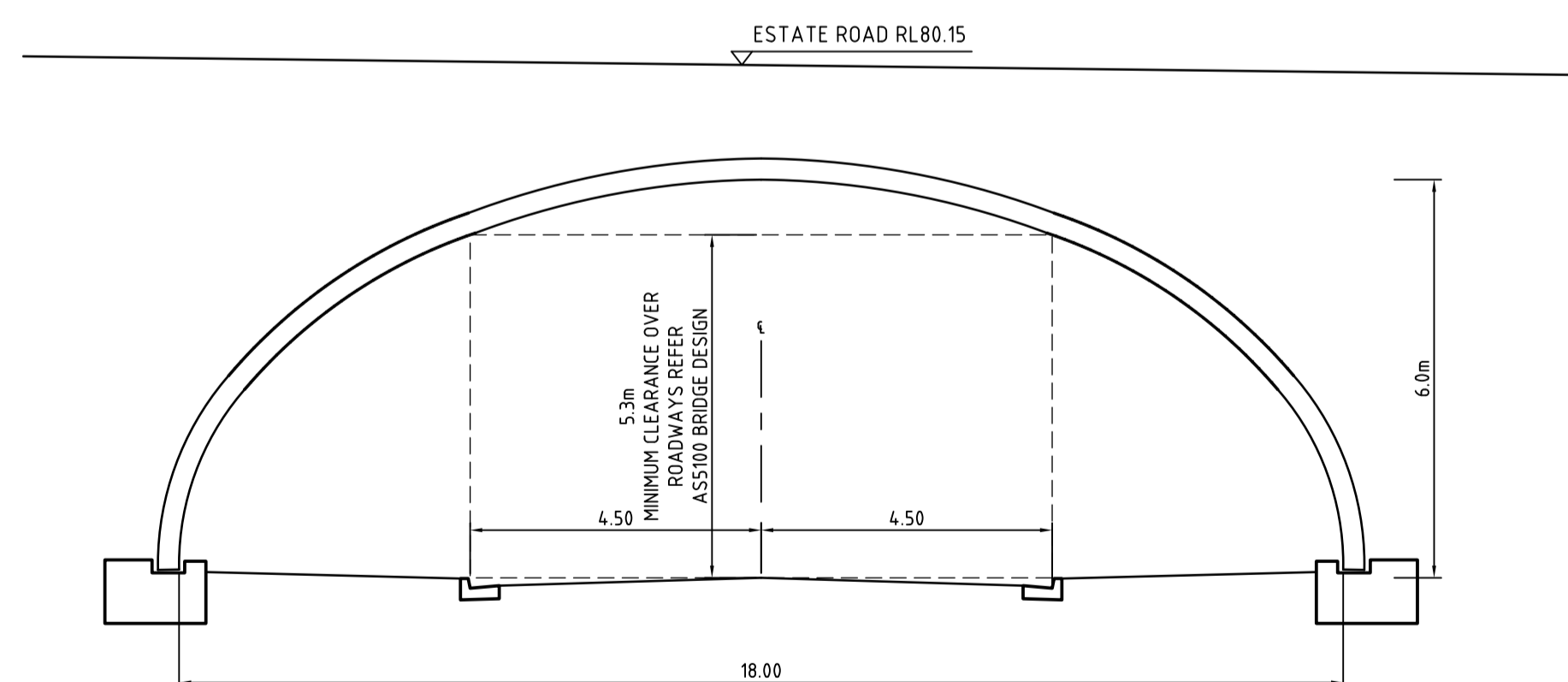
**Figure 2 – General assembly, two piece arches**



**TYPICAL LONGITUDINAL SECTION - ARCH CROSSING**  
SCALE 1:100

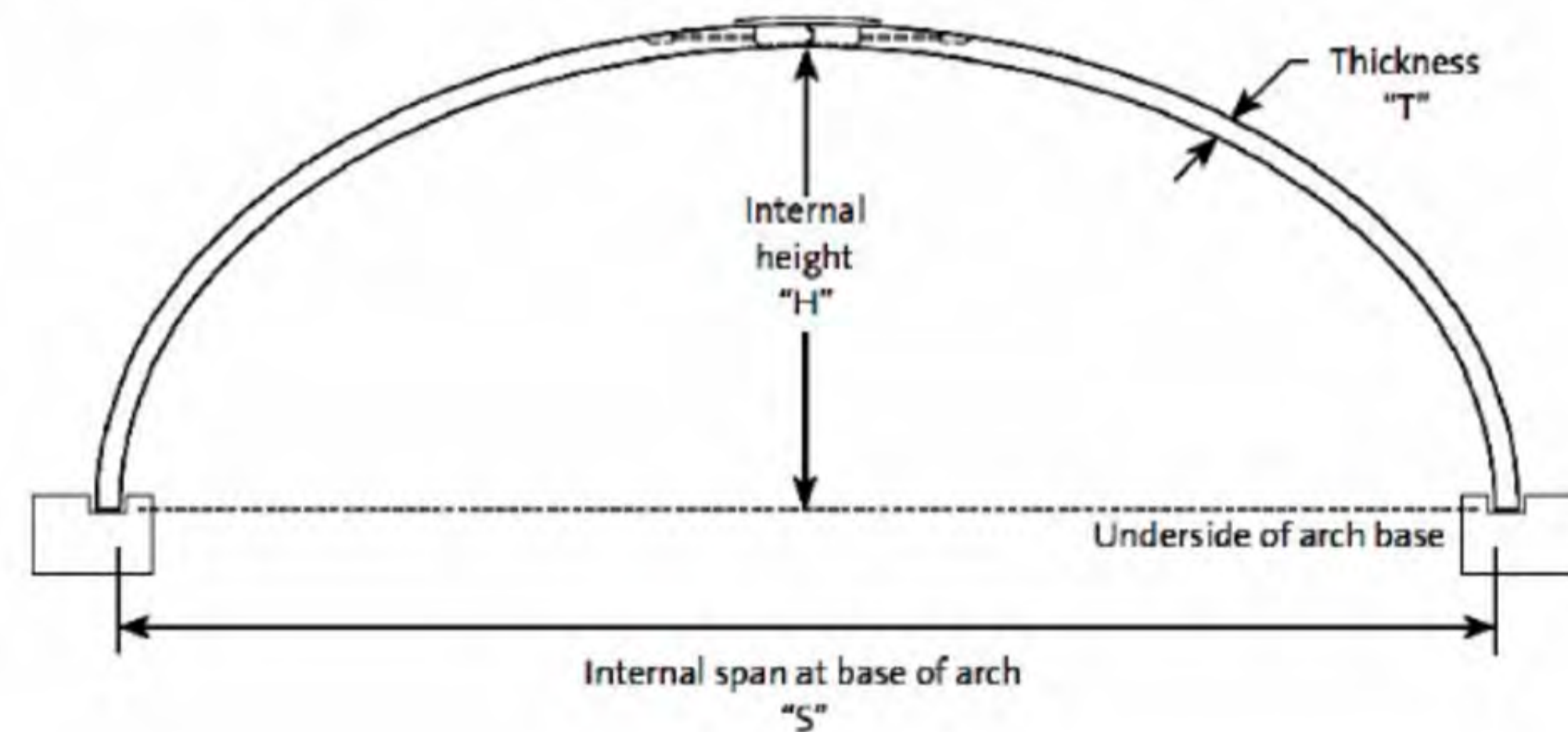


**Figure 5 – Arch profiles 15500T, 18600T, 21700T and 25900T**



**TYPICAL SECTION - HUMES PRECAST ARCH**  
**18600T**  
SCALE 1:100

NOTE: TYPE OF BRIDGE STRUCTURE AND FOOTING DETAILS SUBJECT TO DETAILED DESIGN.



Issue	Description	Date
C	RE-ISSUED FOR SSSA	20-02-15
B	ISSUED FOR SSSA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14

Bar Scales	
0 2 4 6 8 10m	1: 100 @ A1 1: 200 @ A3
0 1 2 3 4 5m	1: 50 @ A1 1: 100 @ A3

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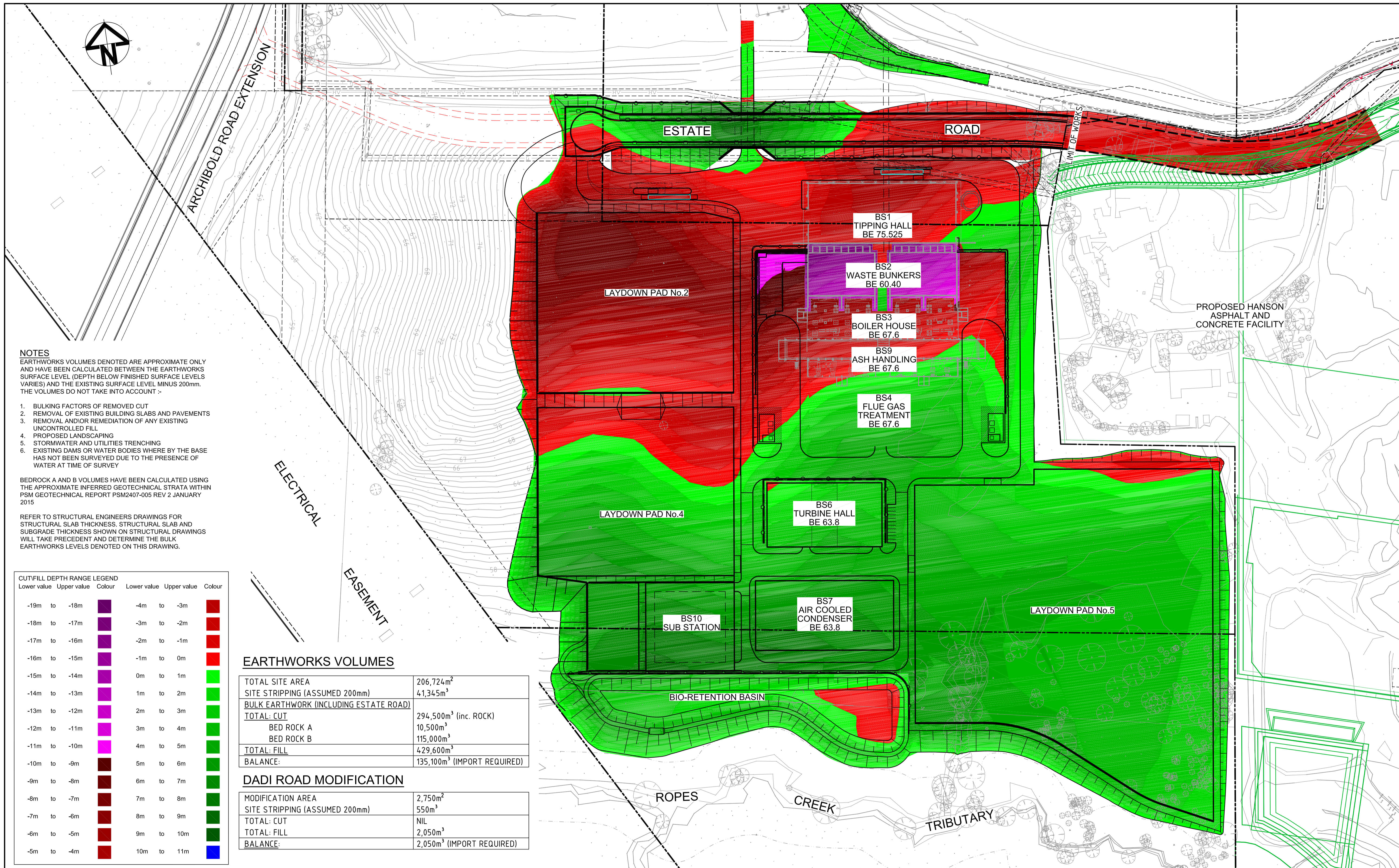


Client	Drawn	TS
AS SHOWN	Designed	TS
	Checked	MM
	Approved	
Grid	AHD	
Height Datum	AHD	

Project	Title
ENERGY FROM WASTE ELECTRICITY GENERATION PLANT, EASTERN CREEK	ESTATE ROAD TYPICAL SECTIONS AND DETAILS

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Suite 702, 154 Pacific Hwy St Leonards NSW 2065 ABN 96 130 882 405 Tel: 02 9439 1777 Fax: 02 9460 8413 www.atl.net.au info@atl.net.au	
Status	A1
FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION	
Drawing No.	Issue
C007	C
Project No.	
14-187	





**NOTES**  
 EARTHWORKS VOLUMES DENOTED ARE APPROXIMATE ONLY AND HAVE BEEN CALCULATED BETWEEN THE EARTHWORKS SURFACE LEVEL (DEPTH BELOW FINISHED SURFACE LEVELS VARIES) AND THE EXISTING SURFACE LEVEL MINUS 200mm. THE VOLUMES DO NOT TAKE INTO ACCOUNT :-

1. BULKING FACTORS OF REMOVED CUT
2. REMOVAL OF EXISTING BUILDING SLABS AND PAVEMENTS
3. REMOVAL AND/OR REMEDIATION OF ANY EXISTING UNCONTROLLED FILL
4. PROPOSED LANDSCAPING
5. STORMWATER AND UTILITIES TRENCHING
6. EXISTING DAMS OR WATER BODIES WHERE BY THE BASE HAS NOT BEEN SURVEYED DUE TO THE PRESENCE OF WATER AT TIME OF SURVEY

BEDROCK A AND B VOLUMES HAVE BEEN CALCULATED USING THE APPROXIMATE INFERRED GEOTECHNICAL STRATA WITHIN PSM GEOTECHNICAL REPORT PSM2407-005 REV 2 JANUARY 2015

REFER TO STRUCTURAL ENGINEERS DRAWINGS FOR STRUCTURAL SLAB THICKNESS, STRUCTURAL SLAB AND SUBGRADE THICKNESS SHOWN ON STRUCTURAL DRAWINGS WILL TAKE PRECEDENT AND DETERMINE THE BULK EARTHWORKS LEVELS DENOTED ON THIS DRAWING.

CUT/FILL DEPTH RANGE LEGEND			CUT/FILL DEPTH RANGE LEGEND		
Lower value	Upper value	Colour	Lower value	Upper value	Colour
-19m to	-18m	[Purple]	-4m to	-3m	[Red]
-18m to	-17m	[Dark Purple]	-3m to	-2m	[Red]
-17m to	-16m	[Purple]	-2m to	-1m	[Red]
-16m to	-15m	[Purple]	-1m to	0m	[Red]
-15m to	-14m	[Purple]	0m to	1m	[Green]
-14m to	-13m	[Purple]	1m to	2m	[Green]
-13m to	-12m	[Purple]	2m to	3m	[Green]
-12m to	-11m	[Purple]	3m to	4m	[Green]
-11m to	-10m	[Purple]	4m to	5m	[Green]
-10m to	-9m	[Dark Purple]	5m to	6m	[Green]
-9m to	-8m	[Dark Purple]	6m to	7m	[Green]
-8m to	-7m	[Dark Purple]	7m to	8m	[Green]
-7m to	-6m	[Dark Purple]	8m to	9m	[Green]
-6m to	-5m	[Dark Purple]	9m to	10m	[Green]
-5m to	-4m	[Dark Purple]	10m to	11m	[Blue]

**EARTHWORKS VOLUMES**

TOTAL SITE AREA	206,724m <sup>2</sup>
SITE STRIPPING (ASSUMED 200mm)	41,345m <sup>3</sup>
<b>BULK EARTHWORK (INCLUDING ESTATE ROAD)</b>	
TOTAL: CUT	294,500m <sup>3</sup> (inc. ROCK)
BED ROCK A	10,500m <sup>3</sup>
BED ROCK B	115,000m <sup>3</sup>
TOTAL: FILL	429,600m <sup>3</sup>
BALANCE:	135,100m <sup>3</sup> (IMPORT REQUIRED)

**DADI ROAD MODIFICATION**

MODIFICATION AREA	2,750m <sup>2</sup>
SITE STRIPPING (ASSUMED 200mm)	550m <sup>3</sup>
TOTAL: CUT	NIL
TOTAL: FILL	2,050m <sup>3</sup>
BALANCE:	2,050m <sup>3</sup> (IMPORT REQUIRED)

ELECTRICAL

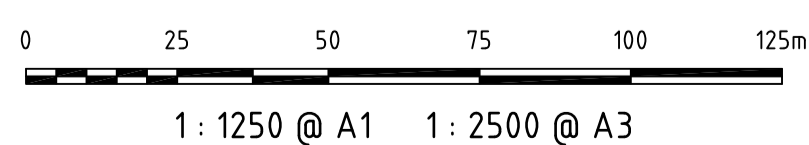
EASEMENT

ROPES

CREEK

TRIBUTARY

Bar Scales



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Client



Scales

1 : 1250 @ A1

Grid MGA

Height Datum AHD

Drawn TS

Designed TS

Checked MM

Approved

Project

ENERGY FROM WASTE  
ELECTRICITY GENERATION  
PLANT, EASTERN CREEK

Title

BULK EARTHWORKS  
CUT AND FILL  
PLAN

Civil Engineers and Project Managers

**at&i**  
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Status

FOR APPROVAL  
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Project No. C009

14-187

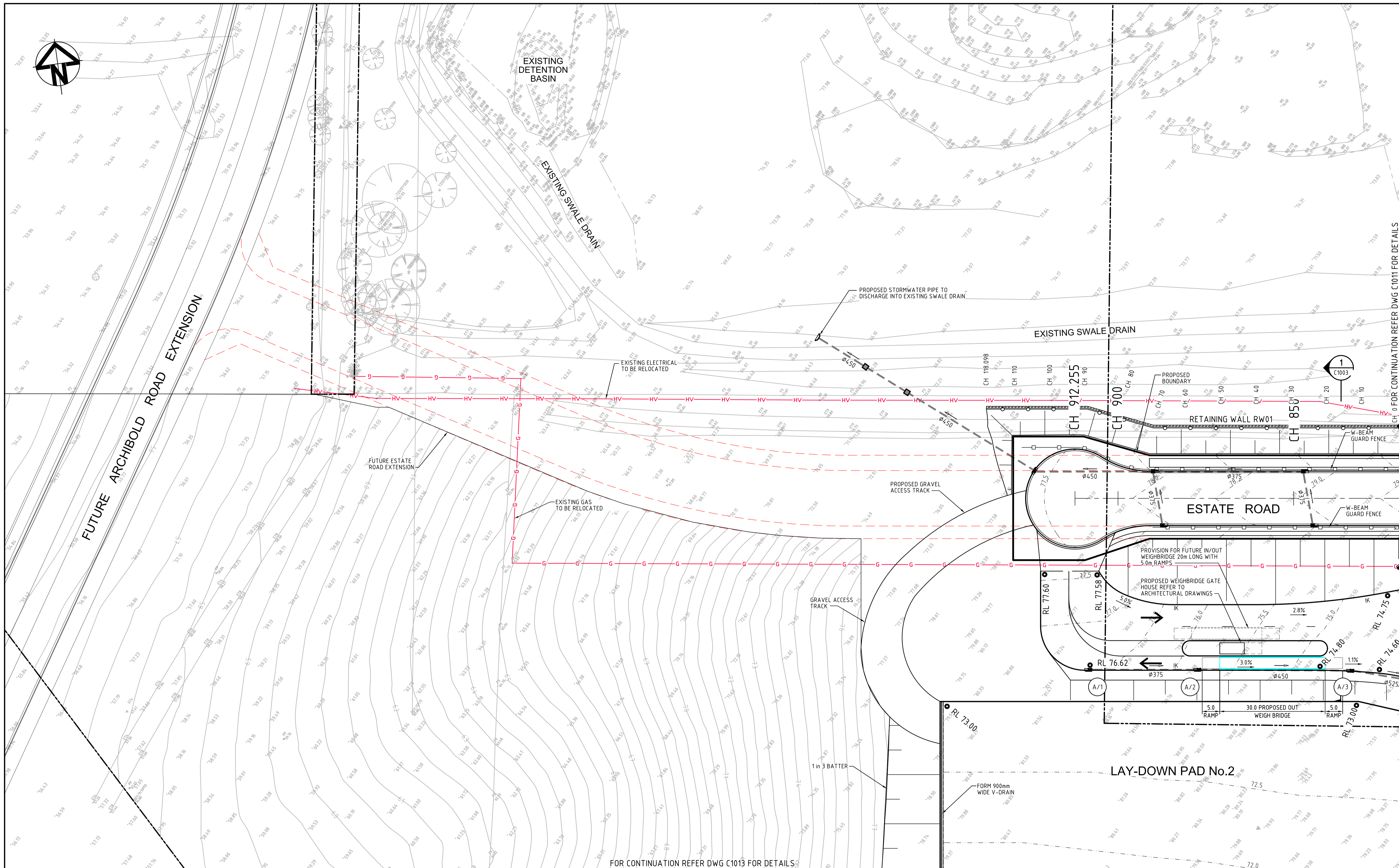
A1

Issue

C

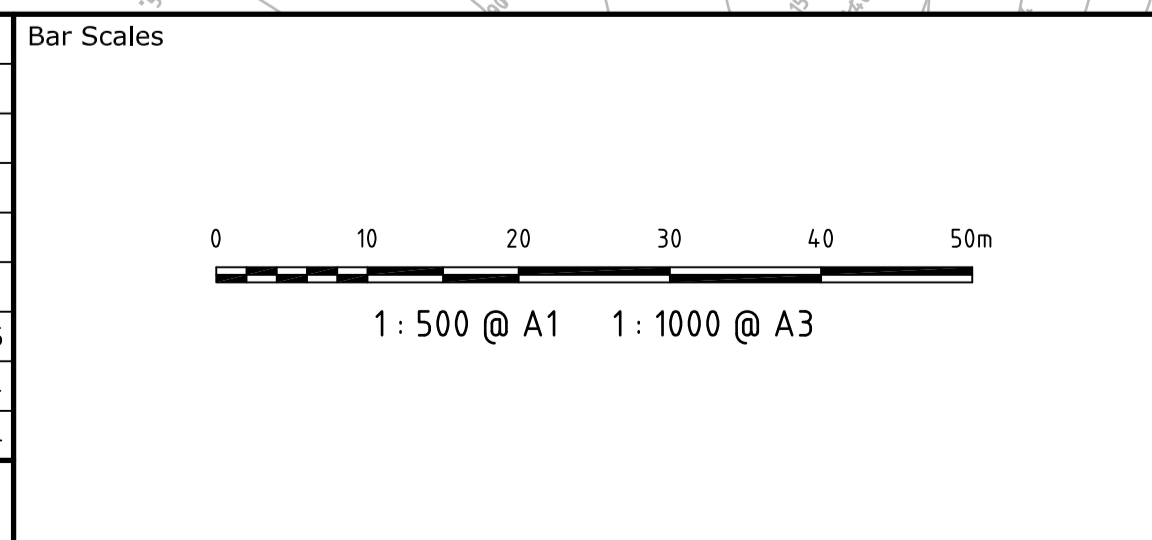
Issue	Description	Date
C	RE-ISSUED FOR SSSA	20-02-15
B	ISSUED FOR SSSA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14





FOR CONTINUATION REFER DWG C1013 FOR DETAILS

Issue	Description	Date
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A	ISSUED FOR CLIENT REVIEW	14-05-14



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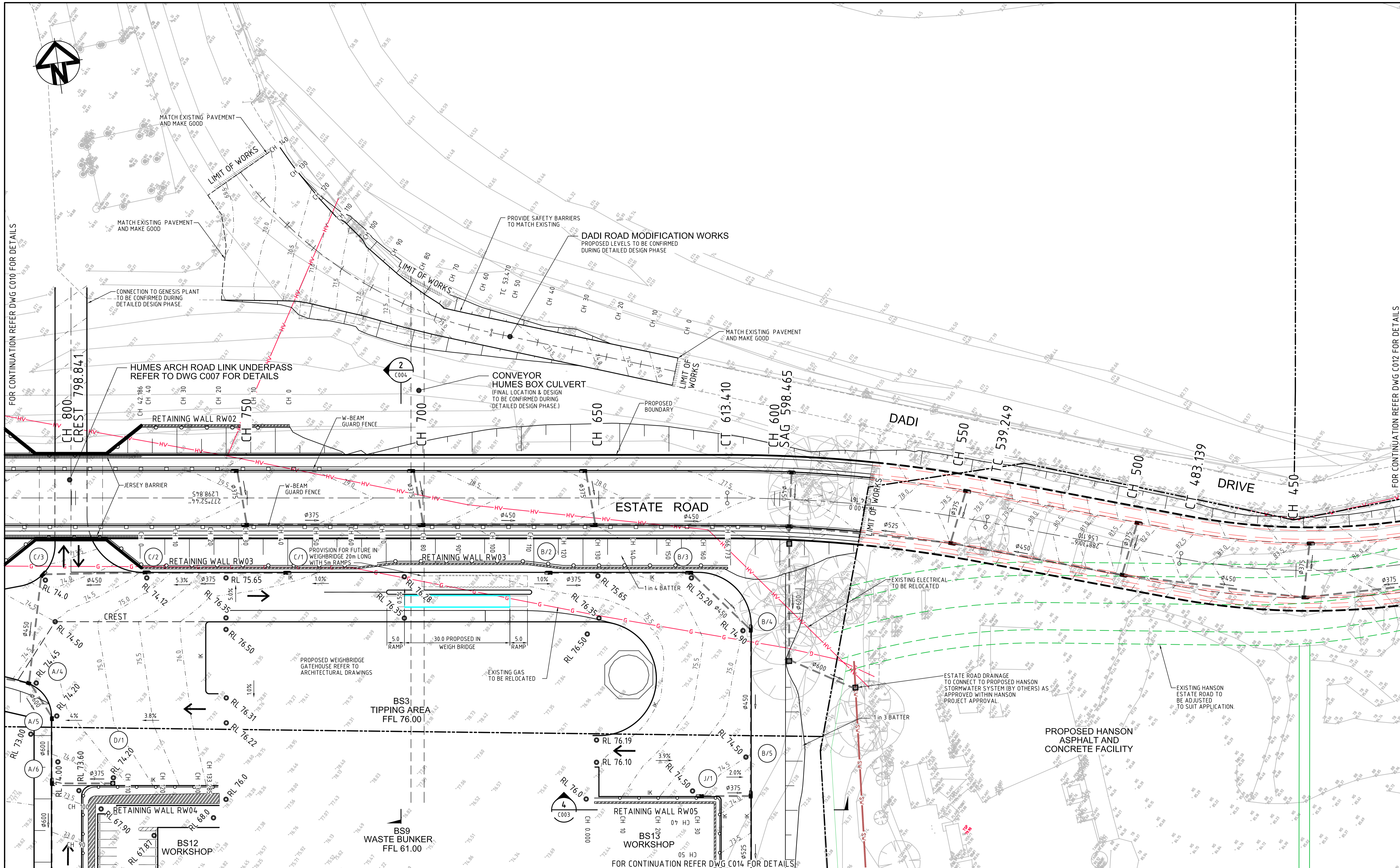
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Scales	1 : 500 @ A1	
Grid	MGA	
Height Datum	AHD	
Drawn	TS	
Designed	TS	
Checked	MM	
Approved		

Project  
**ENERGY FROM WASTE ELECTRICITY GENERATION PLANT, EASTERN CREEK**

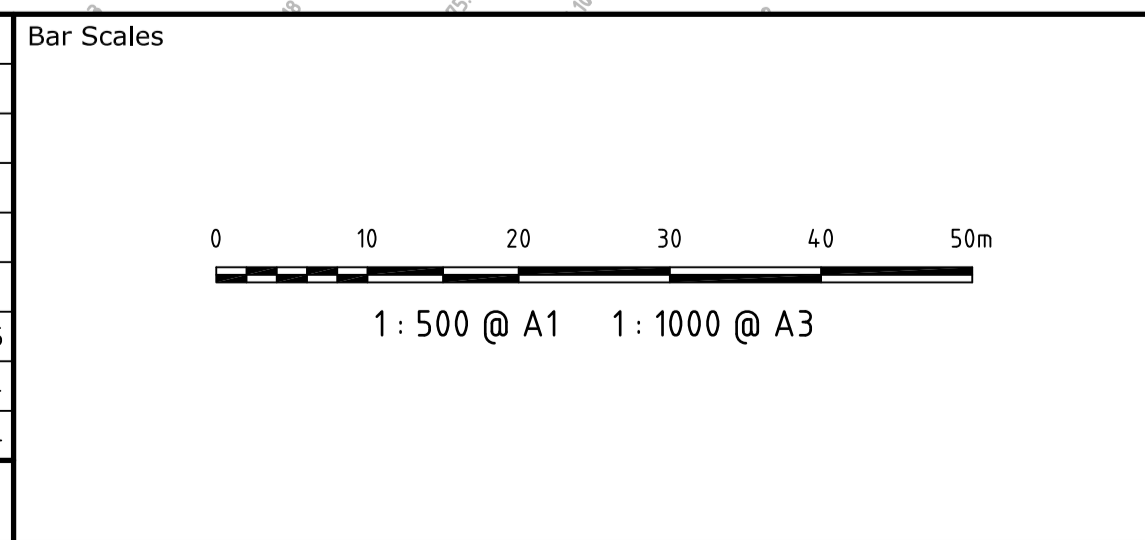
Title  
**SITWORKS AND STORMWATER DRAINAGE PLAN SHEET 1 OF 7**

Civil Engineers and Project Managers		
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Status	<b>FOR APPROVAL</b>	A1
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Drawing No.	C010	Issue
Project No.	14-187	C





Issue	Description	Date
C	RE-ISSUED FOR SSSA	20-02-15
B	ISSUED FOR SSSA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14



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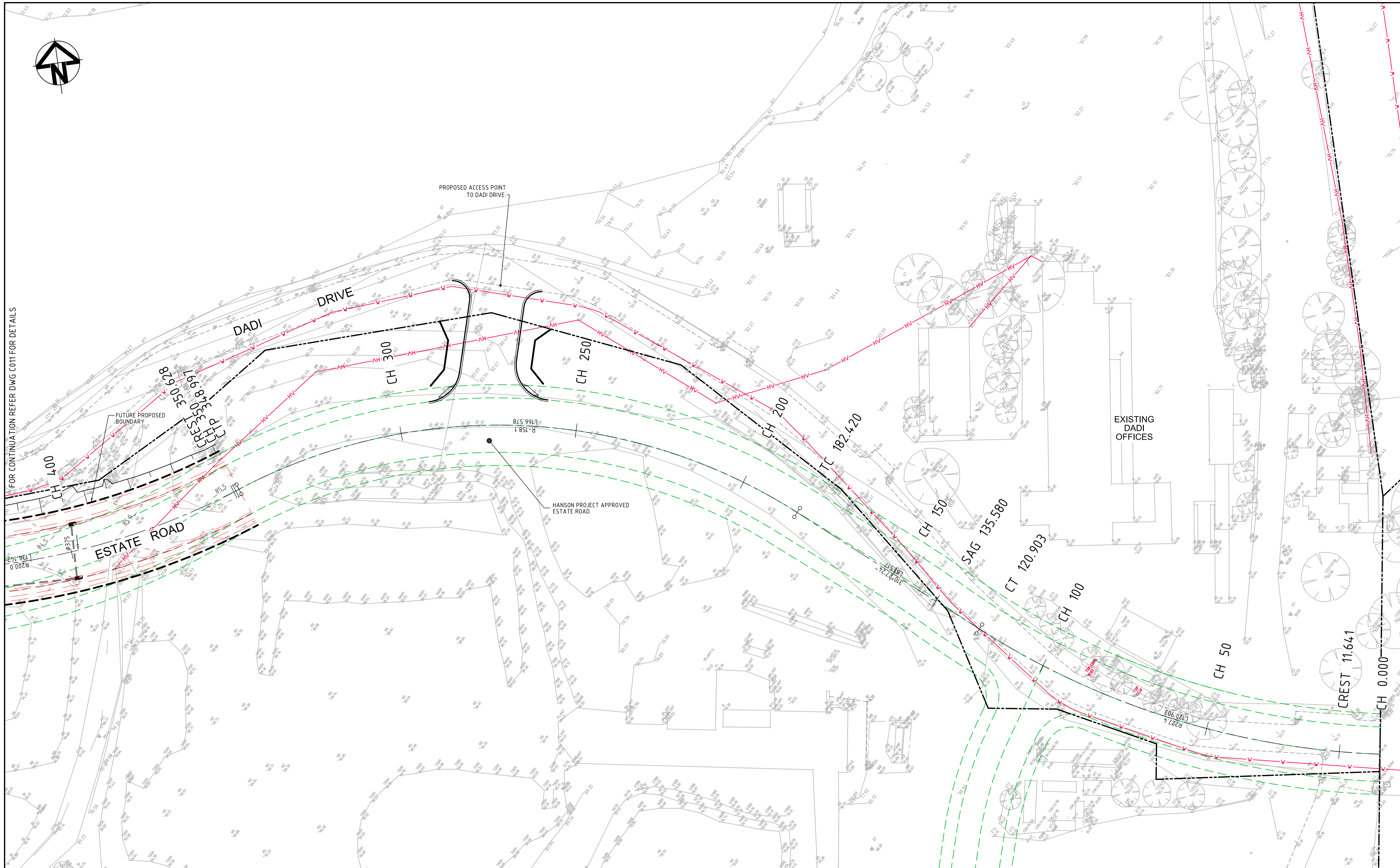


Client	Drawn	TS
	Designed	TS
	Checked	MM
	Approved	
Scales	1 : 500 @ A1	
Grid	MGA	
Height Datum	AHD	

Project	ENERGY FROM WASTE ELECTRICITY GENERATION PLANT, EASTERN CREEK	
Title	SITWORKS AND STORMWATER DRAINAGE PLAN SHEET 2 OF 7	

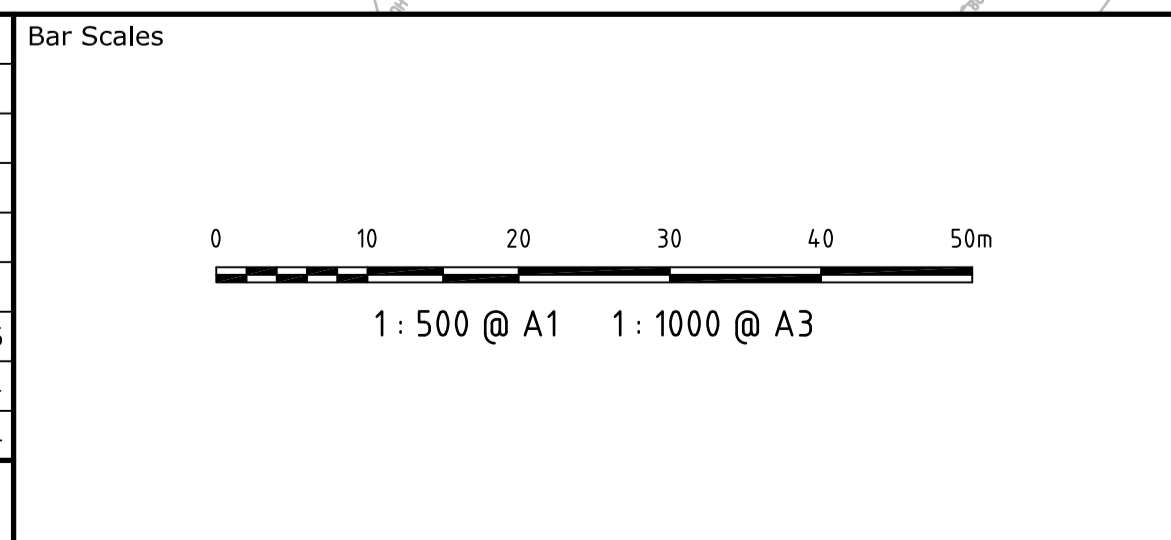
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Status	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION	A1
Drawing No.	C011	Issue
Project No.	14-187	C





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Issue	Description	Date
C	RE-ISSUED FOR SSSA	20-02-15
B	ISSUED FOR SSSA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14



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	Designed	TS
	Checked	MM
	Approved	
Scales	1 : 500 @ A1	
Grid	MGA	
Height Datum	AHD	

Project  
**ENERGY FROM WASTE  
ELECTRICITY GENERATION  
PLANT, EASTERN CREEK**

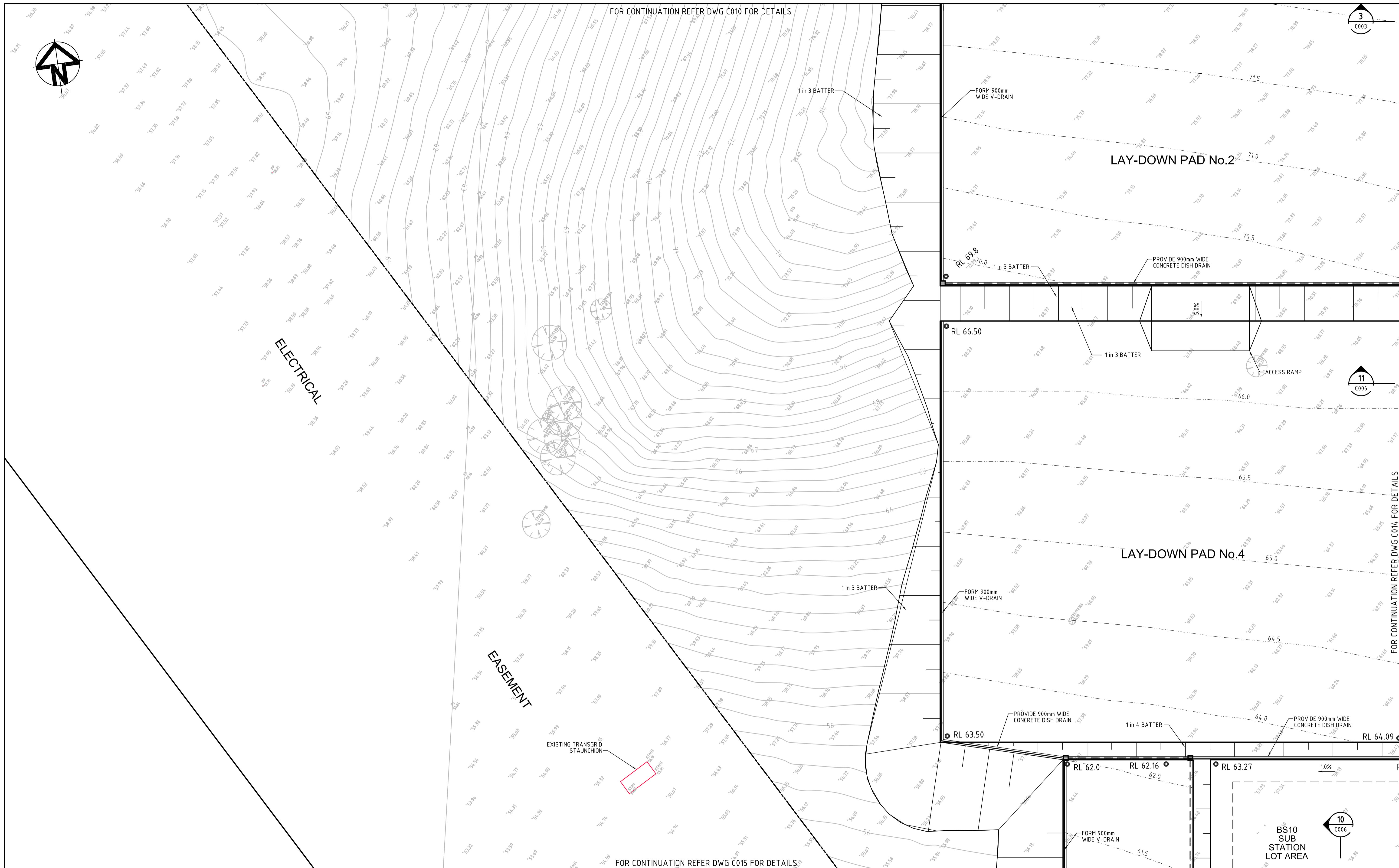
Title  
**SITWORKS AND  
STORMWATER DRAINAGE  
PLAN  
SHEET 3 OF 7**

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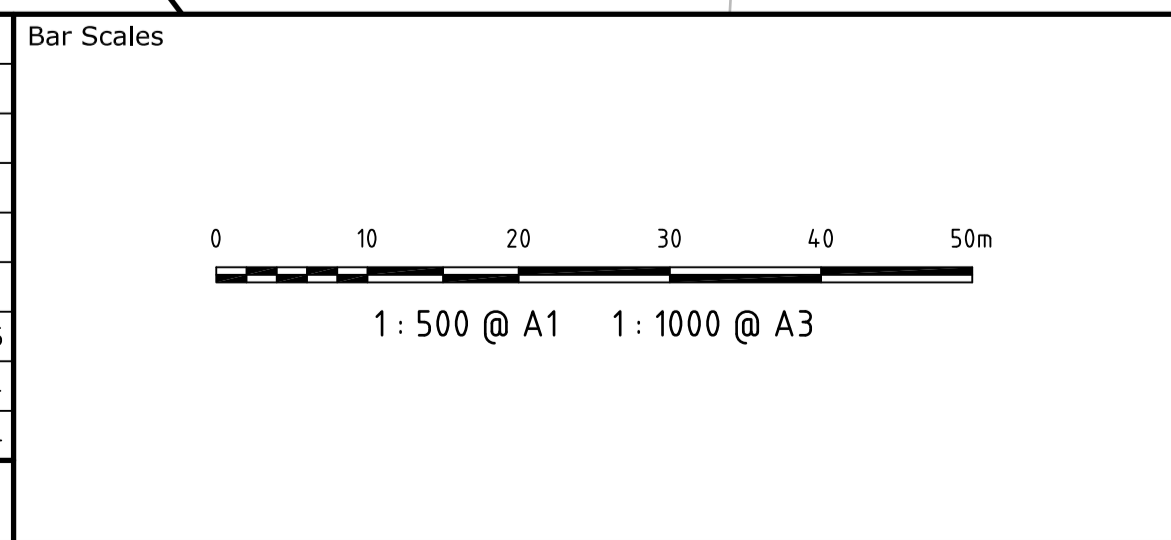
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Status	<b>FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION</b>	A1
Drawing No.	C012	Issue
Project No.	14-187	C





Issue	Description	Date
C	RE-ISSUED FOR SSSA	20-02-15
B	ISSUED FOR SSSA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14



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Grid	MGA	Designed	TS
Height Datum	AHD	Checked	MM
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Project  
**ENERGY FROM WASTE ELECTRICITY GENERATION PLANT, EASTERN CREEK**

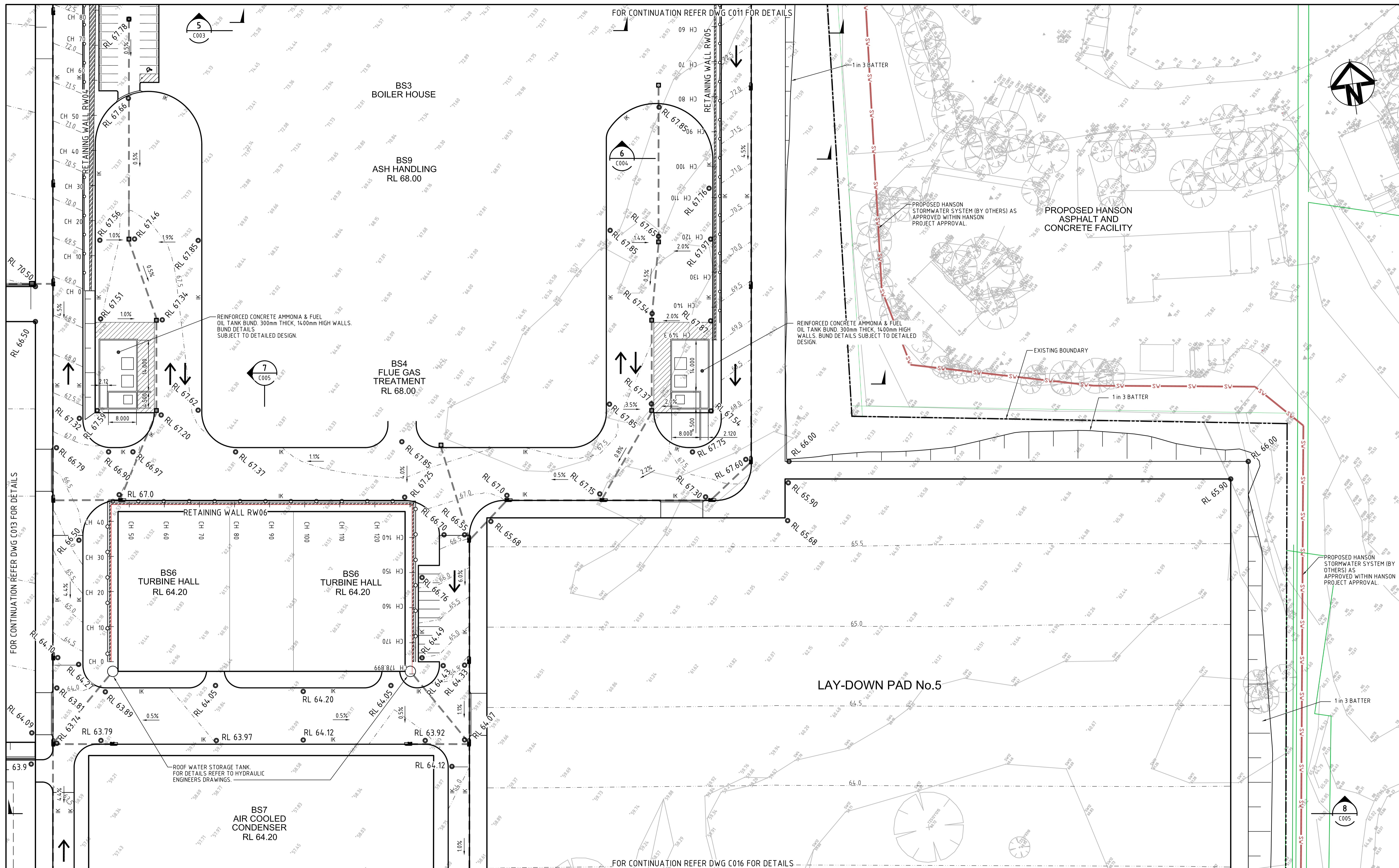
Title  
**SITWORKS AND STORMWATER DRAINAGE PLAN SHEET 4 OF 7**

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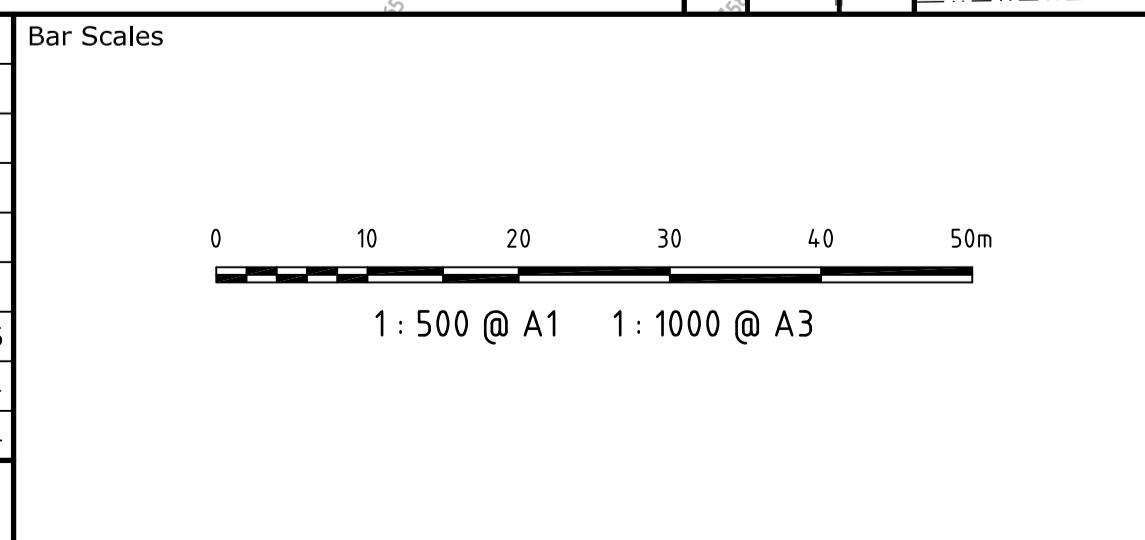
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Status	<b>FOR APPROVAL</b>	A1
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Drawing No.	C013	Issue
Project No.	14-187	C





Issue	Description	Date
C	RE-ISSUED FOR SSDA	20-02-15
B	ISSUED FOR SSDA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14



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	Approved	
Scales	1 : 500 @ A1	
Grid	MGA	
Height Datum	AHD	

Project  
**ENERGY FROM WASTE ELECTRICITY GENERATION PLANT, EASTERN CREEK**

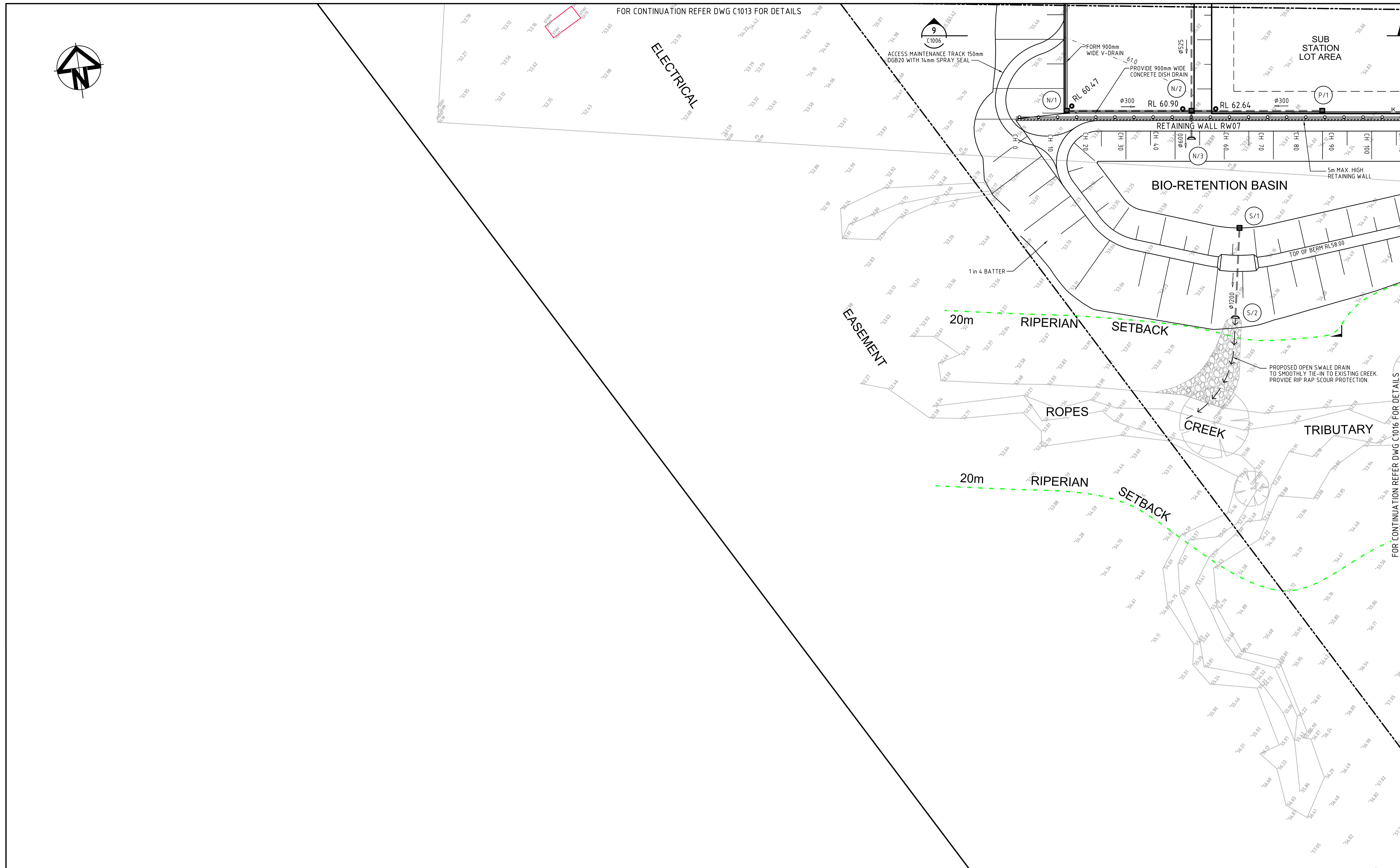
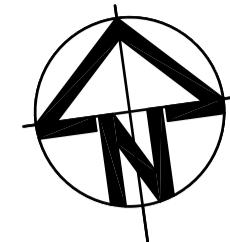
Title  
**SITWORKS AND STORMWATER DRAINAGE PLAN SHEET 5 OF 7**

Civil Engineers and Project Managers

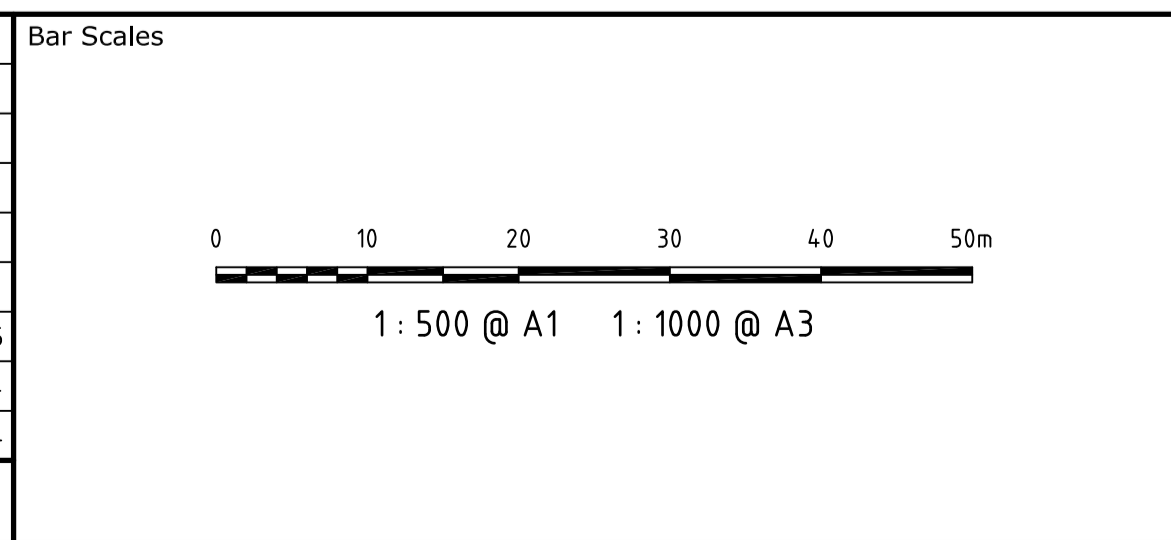
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Status	<b>FOR APPROVAL</b>	A1
NOT TO BE USED FOR CONSTRUCTION		
Drawing No.	Project No.	Issue
C014	14-187	C





Issue	Description	Date
C	RE-ISSUED FOR SSSDA	20-02-15
B	ISSUED FOR SSSDA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14



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Scales	1 : 500 @ A1	Drawn	TS
Grid	MGA	Checked	MM
Height Datum	AHD	Approved	

Project  
**ENERGY FROM WASTE  
ELECTRICITY GENERATION  
PLANT, EASTERN CREEK**

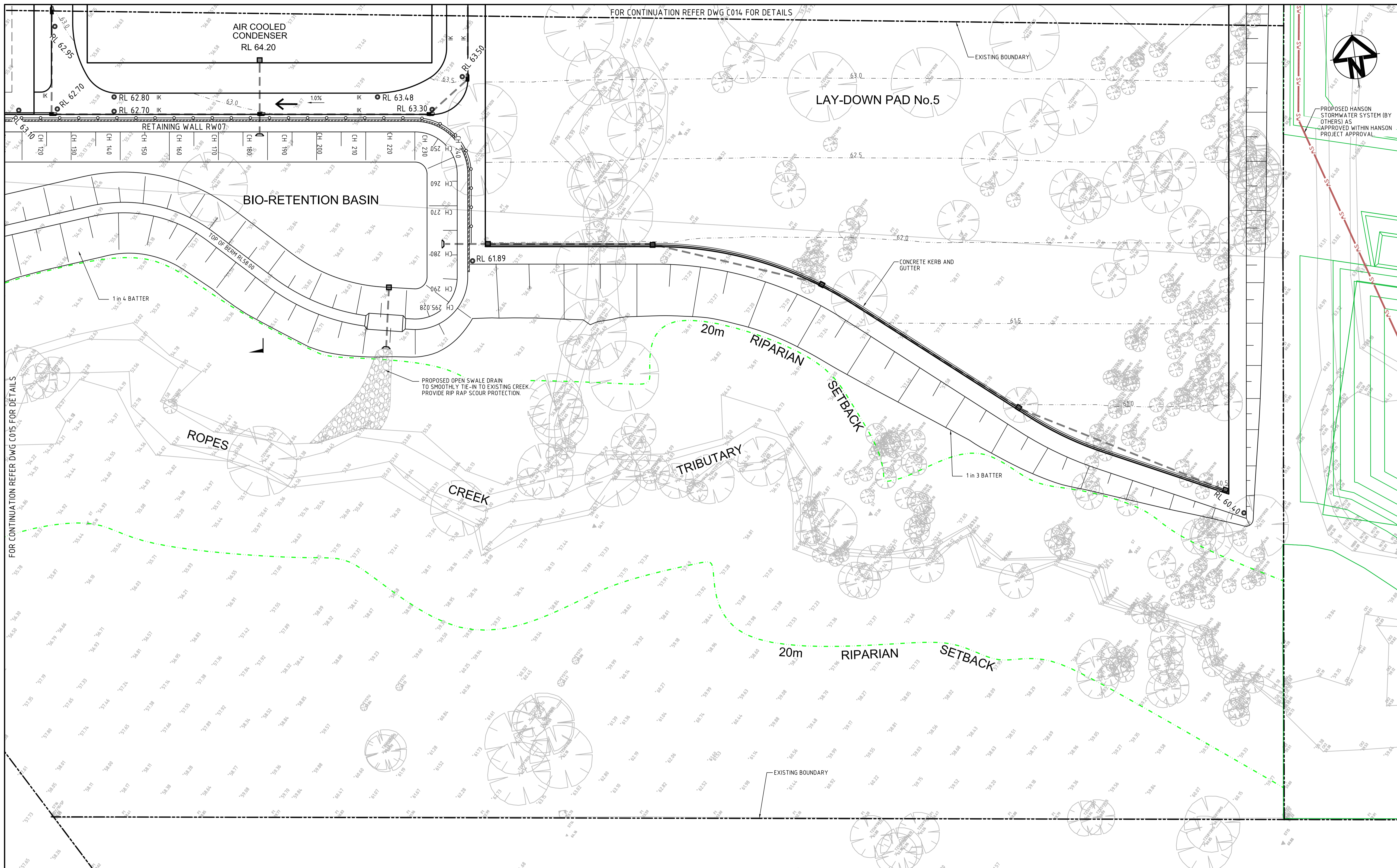
Title  
**SITWORKS AND  
STORMWATER DRAINAGE  
PLAN  
SHEET 6 OF 7**

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Status	<b>FOR APPROVAL</b>	A1
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Drawing No.	Project No.	Issue
C015	14-187	C



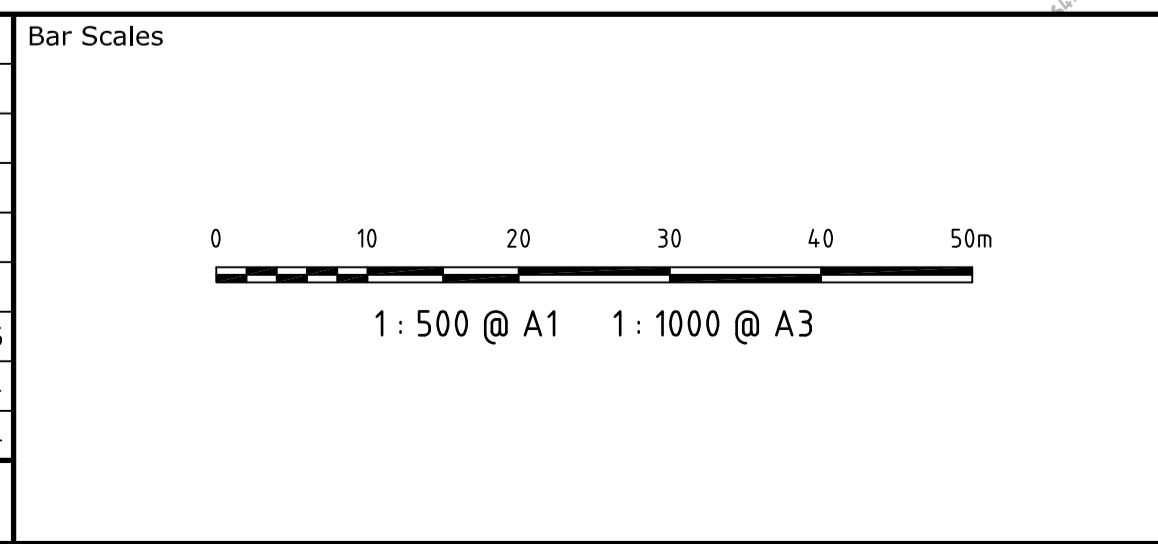


FOR CONTINUATION REFER DWG C015 FOR DETAILS

FOR CONTINUATION REFER DWG C014 FOR DETAILS

PROPOSED HANSON STORMWATER SYSTEM (BY OTHERS) AS APPROVED WITHIN HANSON PROJECT APPROVAL

Issue	Description	Date
D	RE-ISSUED FOR SSDA	12-03-15
C	RE-ISSUED FOR SSDA	20-02-15
B	ISSUED FOR SSDA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14



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Client

Scales	1 : 500 @ A1	Drawn	TS
Grid	MGA	Designed	TS
Height Datum	AHD	Checked	MM
		Approved	

Project  
**ENERGY FROM WASTE ELECTRICITY GENERATION PLANT, EASTERN CREEK**

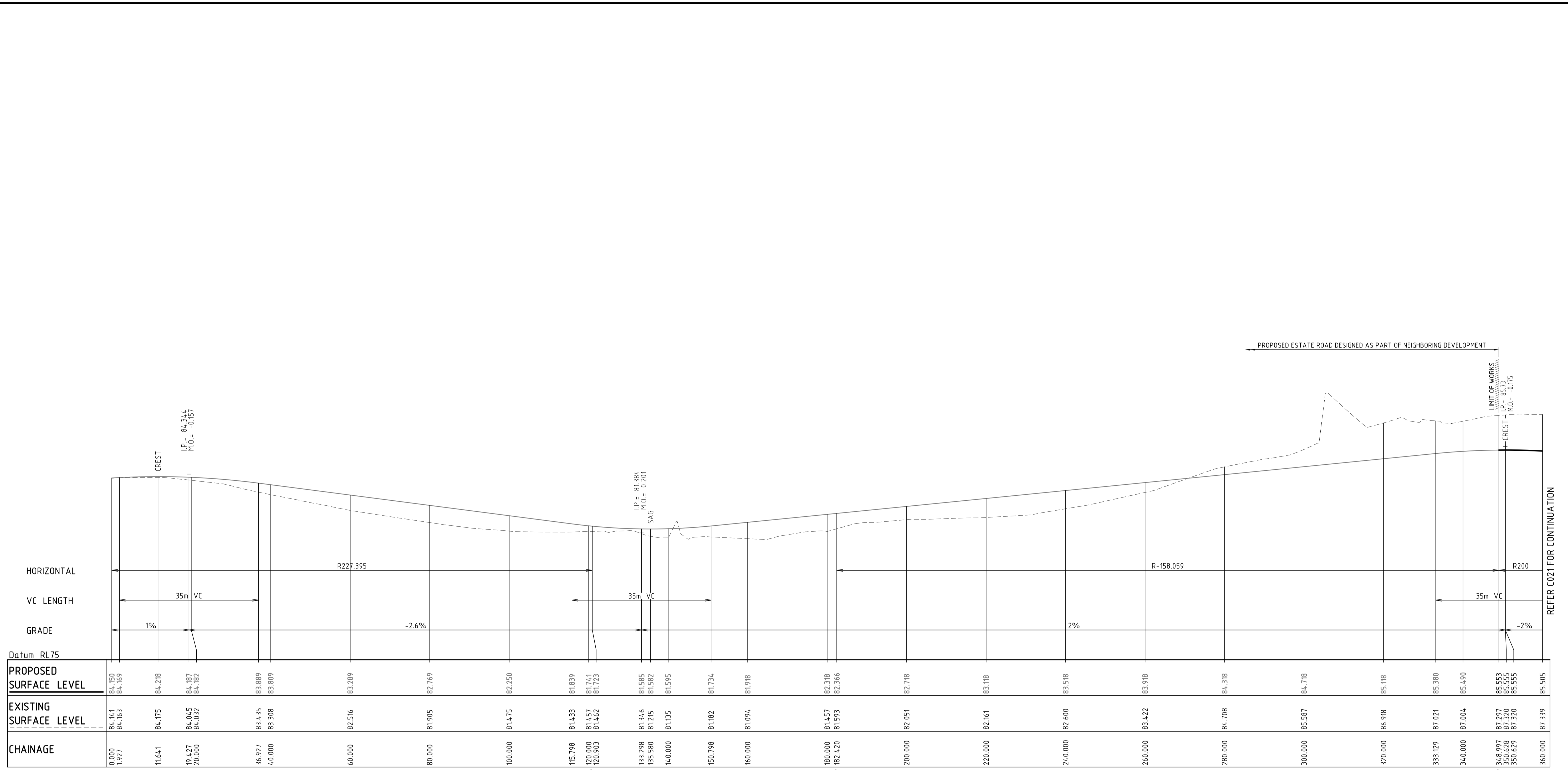
Title  
**SITWORKS AND STORMWATER DRAINAGE PLAN SHEET 7 OF 7**

Civil Engineers and Project Managers

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Status	<b>FOR APPROVAL</b>	A1
NOT TO BE USED FOR CONSTRUCTION		
Drawing No.	Project No.	Issue
C016	14-187	D

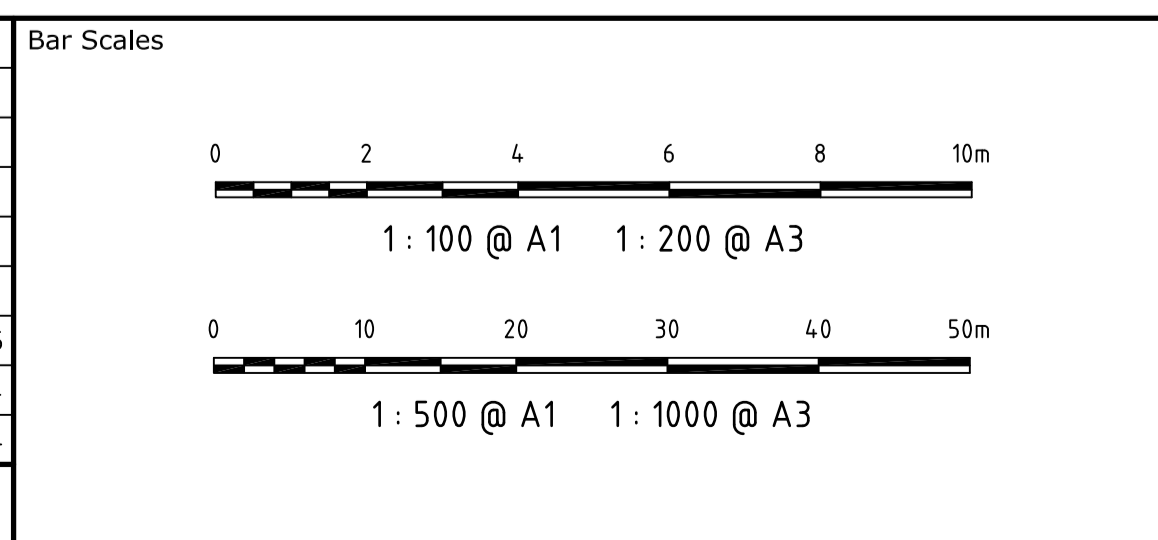




ESTATE ROAD (CONTROL CLO1) LONGITUDINAL SECTION

SCALE 1:500 HORI.  
1:100 VERT.

Issue	Description	Date
C	RE-ISSUED FOR SSDA	20-02-15
B	ISSUED FOR SSDA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14



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Scales AS SHOWN	Drawn	TS
	Designed	TS
	Checked	MM
Grid	Approved	
Height Datum		

Project  
**ENERGY FROM WASTE  
ELECTRICITY GENERATION  
PLANT, EASTERN CREEK**

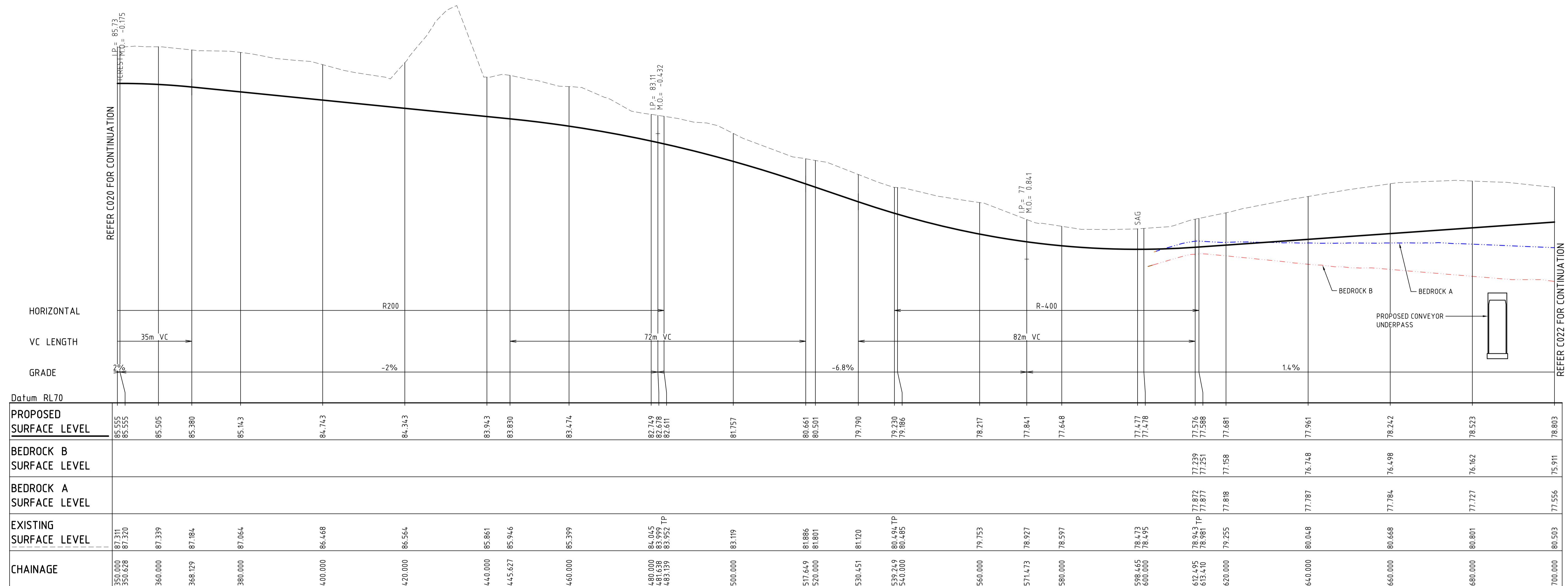
Title  
**ESTATE ROAD  
LONGITUDINAL SECTION  
SHEET 1 OF 3**

Civil Engineers and Project Managers

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Status <b>FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION</b>	A1
Drawing No. <b>C020</b>	Project No. <b>14-187</b>
	Issue <b>C</b>

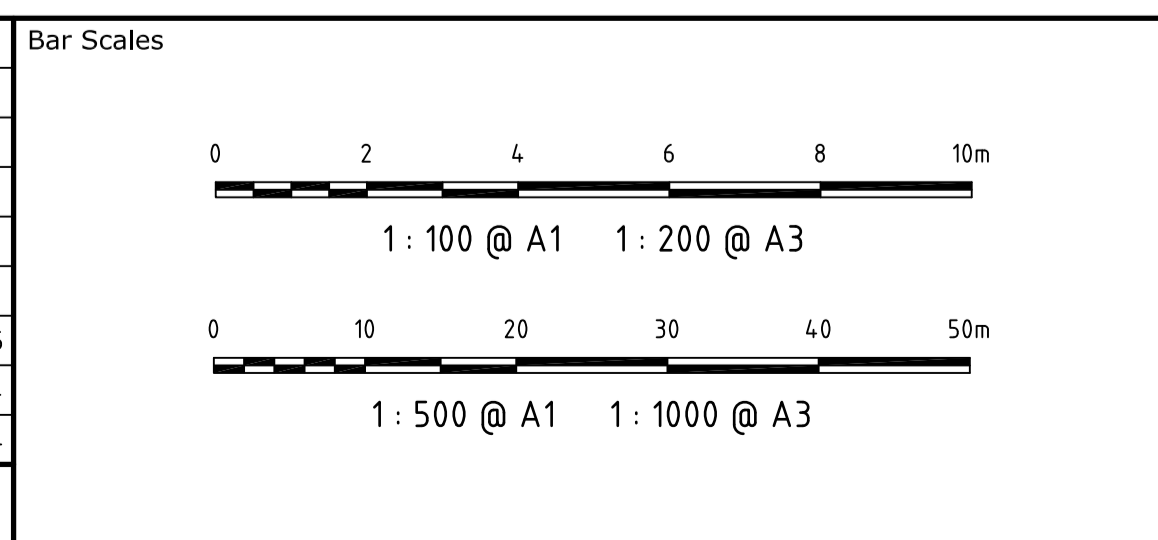




ESTATE ROAD (CONTROL CL01) LONGITUDINAL SECTION

SCALE 1:500 HORI.  
1:100 VERT.

Issue	Description	Date
C	RE-ISSUED FOR SSSA	20-02-15
B	ISSUED FOR SSSA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14



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Scales	AS SHOWN	
	Drawn	TS
Grid	Designed	TS
	Checked	MM
Height Datum	Approved	

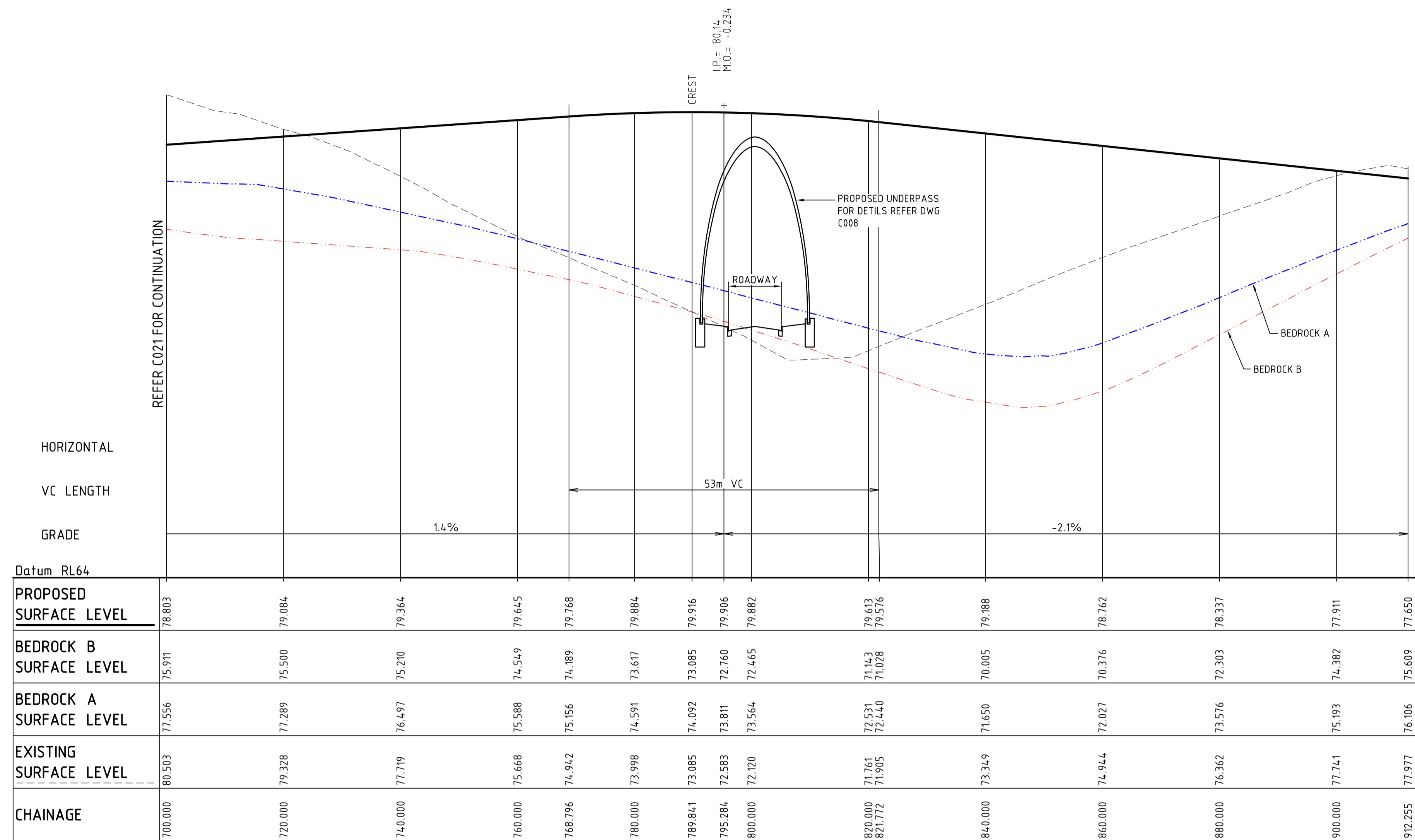
Project	
ENERGY FROM WASTE ELECTRICITY GENERATION PLANT, EASTERN CREEK	
Title	
ESTATE ROAD LONGITUDINAL SECTION SHEET 2 OF 3	

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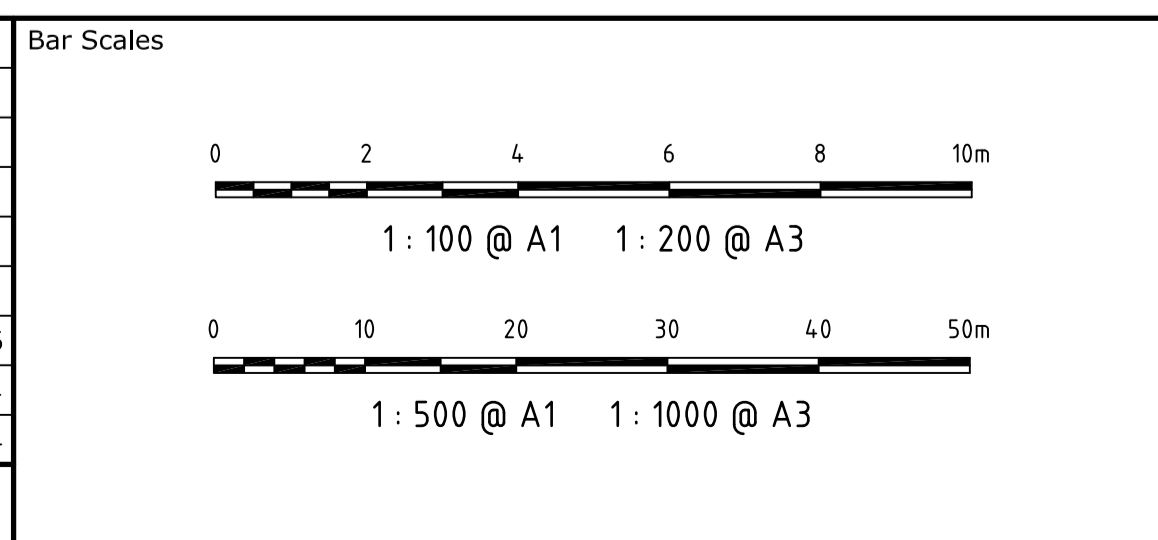
Status	FOR APPROVAL	A1
NOT TO BE USED FOR CONSTRUCTION		
Drawing No.	Project No.	Issue
C021	14-187	C





**CL01 LONGITUDINAL SECTION**  
 SCALE 1:500 HORI.  
 1:100 VERT.

Issue	Description	Date
C	RE-ISSUED FOR SSSA	20-02-15
B	ISSUED FOR SSSA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14



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Scales AS SHOWN	Drawn	TS
	Designed	TS
	Checked	MM
Grid	Approved	
Height Datum		

Project  
**ENERGY FROM WASTE  
 ELECTRICITY GENERATION  
 PLANT, EASTERN CREEK**

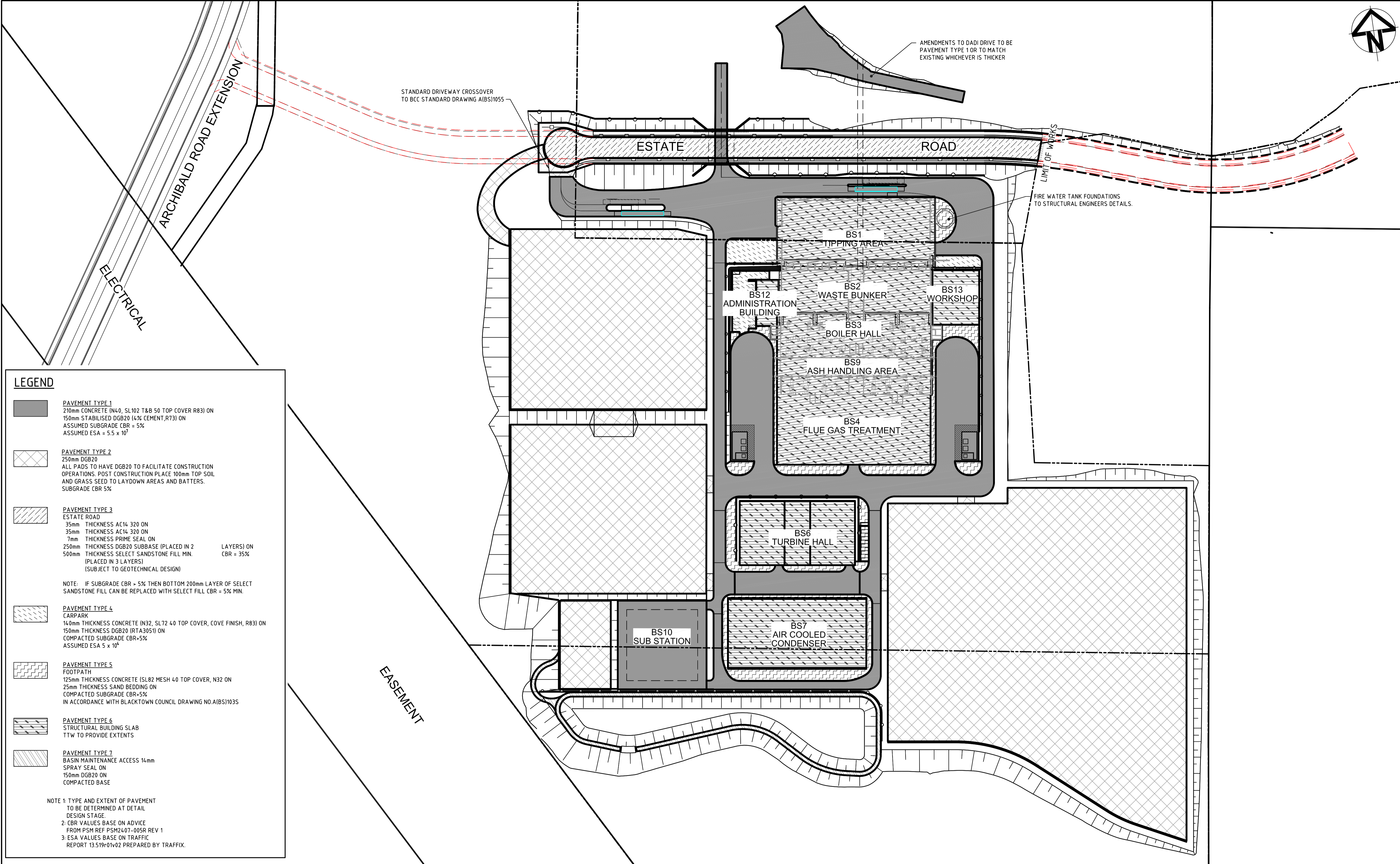
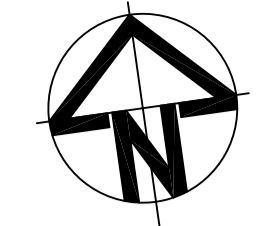
Title  
**ESTATE ROAD  
 LONGITUDINAL SECTION  
 SHEET 3 OF 3**

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Status <b>FOR APPROVAL</b>	A1
<b>NOT TO BE USED FOR CONSTRUCTION</b>	
Drawing No. <b>C022</b>	Issue <b>C</b>
Project No. <b>14-187</b>	





**LEGEND**

**PAVEMENT TYPE 1**  
 210mm CONCRETE (N40, SL102 T&B 50 TOP COVER R83) ON  
 150mm STABILISED DGB20 (4% CEMENT, R73) ON  
 ASSUMED SUBGRADE CBR = 5%  
 ASSUMED ESA = 5.5 x 10<sup>7</sup>

**PAVEMENT TYPE 2**  
 250mm DGB20  
 ALL PADS TO HAVE DGB20 TO FACILITATE CONSTRUCTION  
 OPERATIONS. POST CONSTRUCTION PLACE 100mm TOP SOIL  
 AND GRASS SEED TO LAYDOWN AREAS AND BATTERS.  
 SUBGRADE CBR 5%

**PAVEMENT TYPE 3**  
 ESTATE ROAD  
 35mm THICKNESS AC14 320 ON  
 35mm THICKNESS AC14 320 ON  
 7mm THICKNESS PRIME SEAL ON  
 250mm THICKNESS DGB20 SUBBASE (PLACED IN 2 LAYERS) ON  
 500mm THICKNESS SELECT SANDSTONE FILL MIN. CBR = 35%  
 (PLACED IN 3 LAYERS)  
 (SUBJECT TO GEOTECHNICAL DESIGN)

NOTE: IF SUBGRADE CBR > 5% THEN BOTTOM 200mm LAYER OF SELECT SANDSTONE FILL CAN BE REPLACED WITH SELECT FILL CBR = 5% MIN.

**PAVEMENT TYPE 4**  
 CARPARK  
 140mm THICKNESS CONCRETE (N32, SL72 40 TOP COVER, COVE FINISH, R83) ON  
 150mm THICKNESS DGB20 (RTA3051) ON  
 COMPACTED SUBGRADE CBR-5%  
 ASSUMED ESA 5 x 10<sup>4</sup>

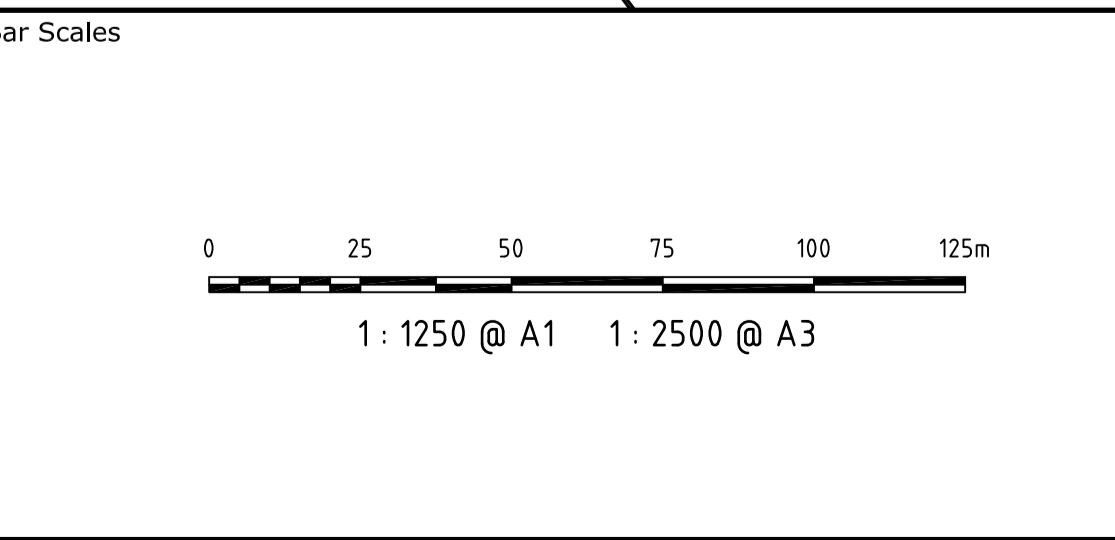
**PAVEMENT TYPE 5**  
 FOOTPATH  
 125mm THICKNESS CONCRETE (SL82 MESH 40 TOP COVER, N32 ON  
 25mm THICKNESS SAND BEDDING ON  
 COMPACTED SUBGRADE CBR-5%  
 IN ACCORDANCE WITH BLACKTOWN COUNCIL DRAWING NO.AIBS1035

**PAVEMENT TYPE 6**  
 STRUCTURAL BUILDING SLAB  
 TTW TO PROVIDE EXTENTS

**PAVEMENT TYPE 7**  
 BASIN MAINTENANCE ACCESS 14mm  
 SPRAY SEAL ON  
 150mm DGB20 ON  
 COMPACTED BASE

NOTE 1: TYPE AND EXTENT OF PAVEMENT TO BE DETERMINED AT DETAIL DESIGN STAGE.  
 2: CBR VALUES BASE ON ADVICE FROM PSM REF PSM2407-005R REV 1  
 3: ESA VALUES BASE ON TRAFFIC REPORT 13.519-r01v02 PREPARED BY TRAFFIX.

Issue	Description	Date
C	RE-ISSUED FOR SSDA	20-02-15
B	ISSUED FOR SSDA	18-06-14
A	ISSUED FOR CLIENT REVIEW	14-05-14



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Client

Scale	1:1250 @ A1	Drawn	TS
		Designed	TS
Grid	MGA	Checked	MM
Height Datum	AHD	Approved	

Project

**ENERGY FROM WASTE  
ELECTRICITY GENERATION  
PLANT, EASTERN CREEK**

Title

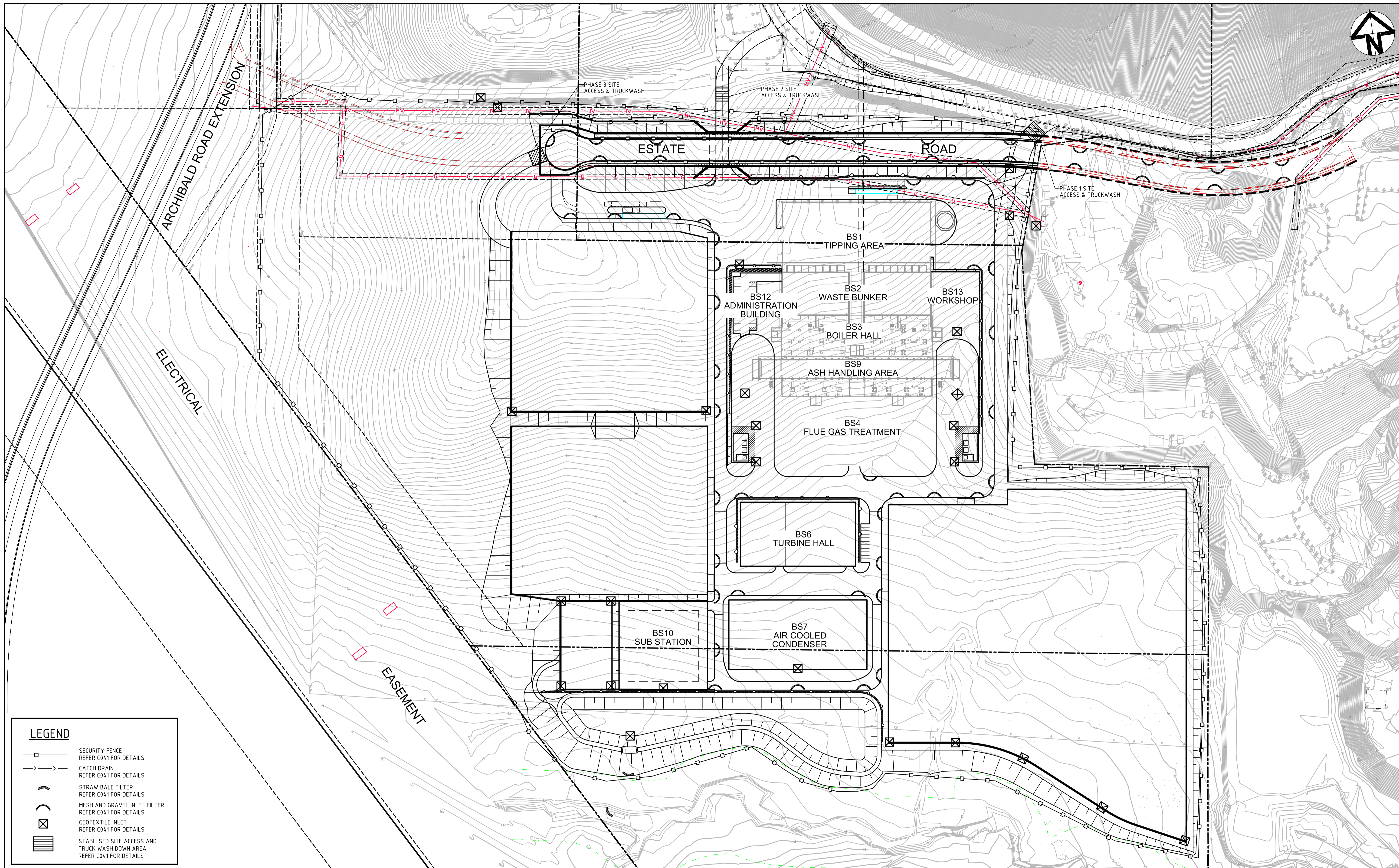
**PAVEMENT PLAN**

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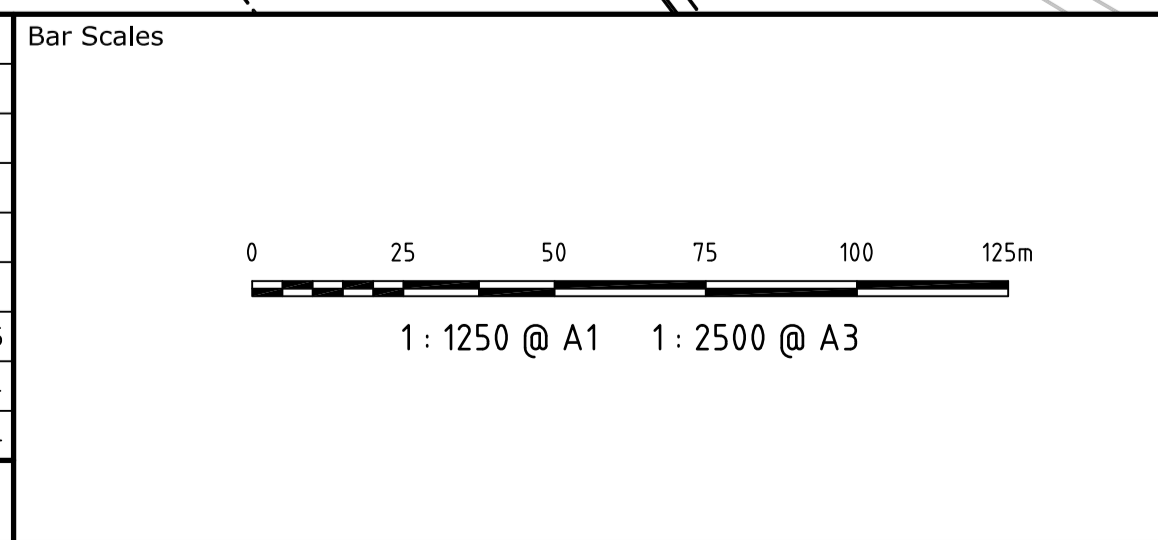
Status	<b>FOR APPROVAL</b>	A1
NOT TO BE USED FOR CONSTRUCTION		
Drawing No.	Project No.	Issue
C030	14-187	C





LEGEND	
	SECURITY FENCE REFER C041 FOR DETAILS
	CATCH DRAIN REFER C041 FOR DETAILS
	STRAW BALE FILTER REFER C041 FOR DETAILS
	MESH AND GRAVEL INLET FILTER REFER C041 FOR DETAILS
	GEOTEXTILE INLET REFER C041 FOR DETAILS
	STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA REFER C041 FOR DETAILS

Issue	Description	Date
C	RE-ISSUED FOR SSSA	20-02-15
B	ISSUED FOR SSSA	18-06-14
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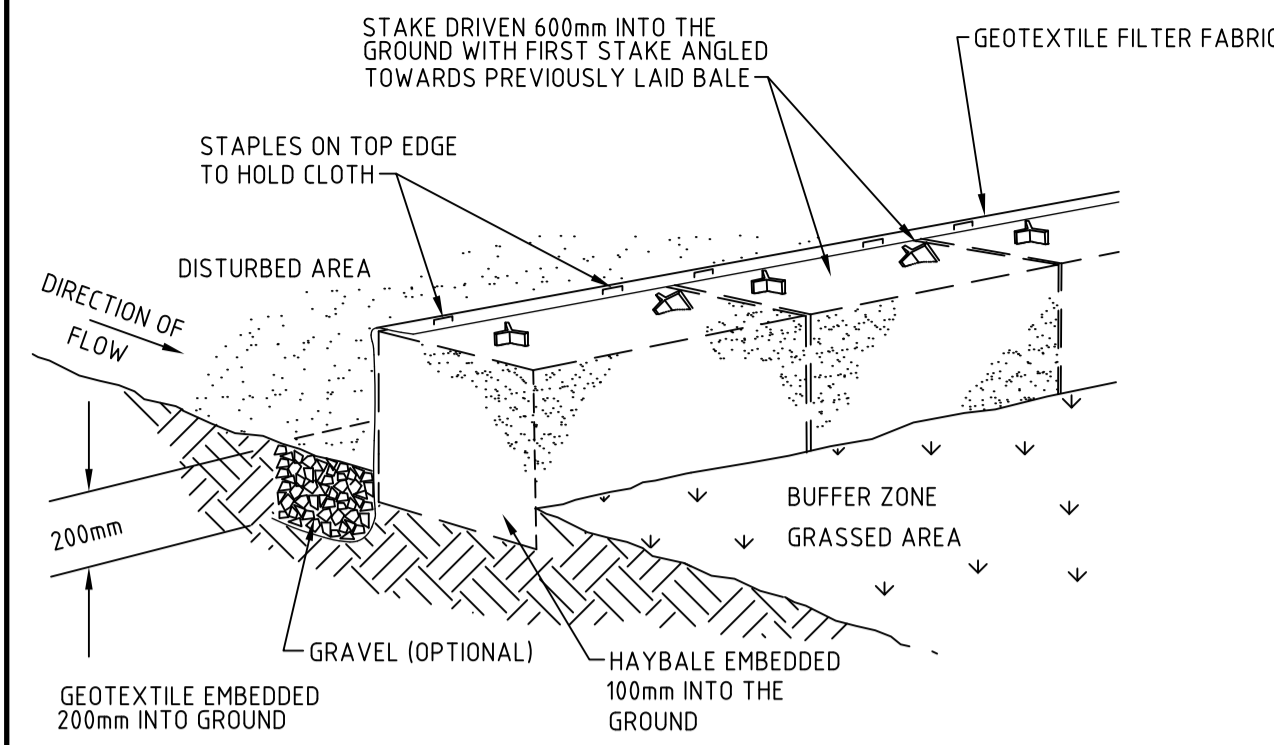


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	Height Datum	AHD	Approved	

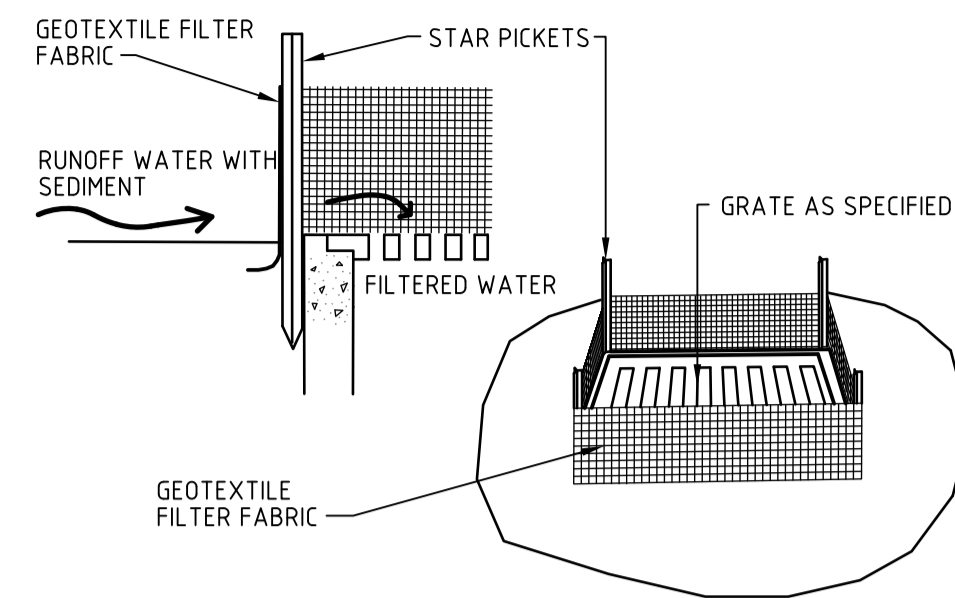
Project	ENERGY FROM WASTE ELECTRICITY GENERATION PLANT, EASTERN CREEK
Title	EROSION AND SEDIMENTATION CONTROL PLAN

Civil Engineers and Project Managers	
<b>at&amp;l</b>	
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Status	FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION	
Drawing No.	C040
Project No.	14-187
Issue	C

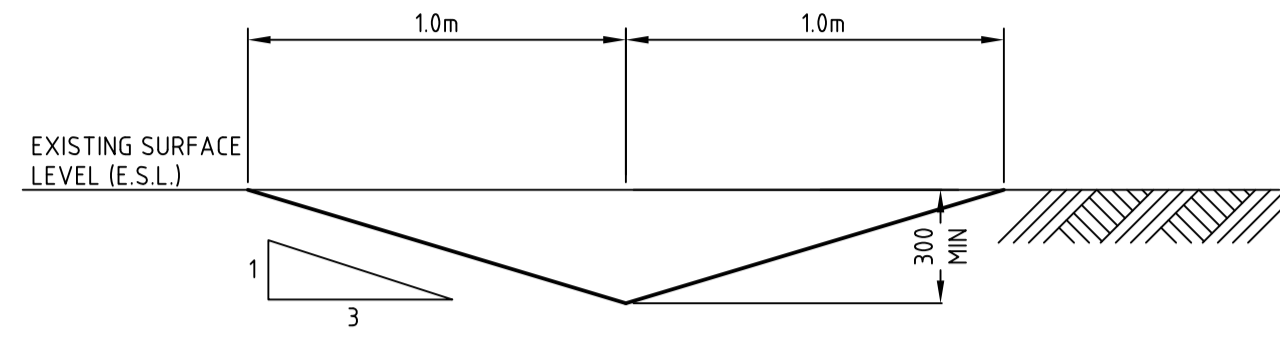




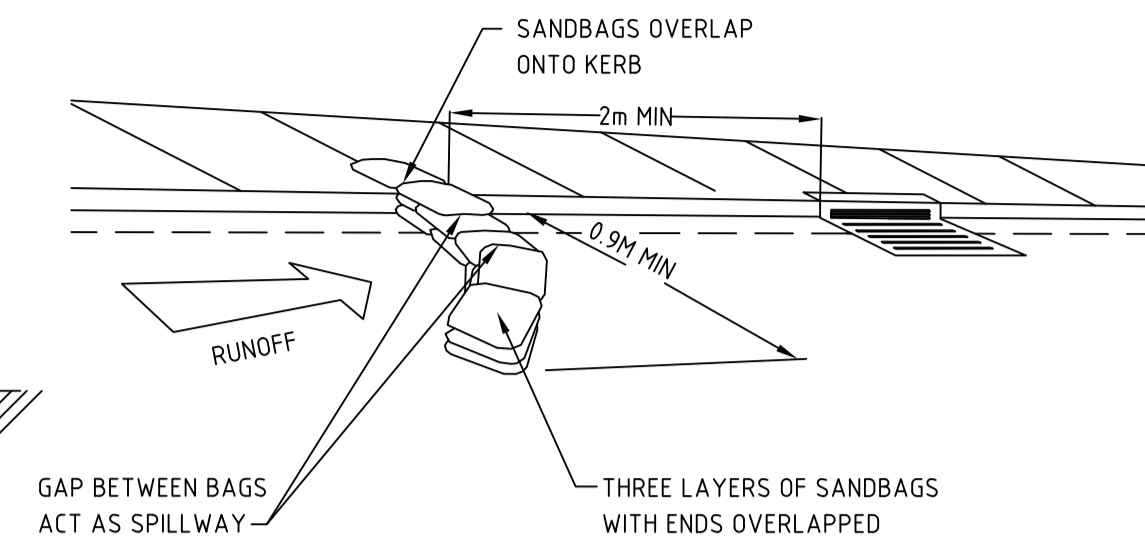
**STRAW BALE FILTER**  
NTS



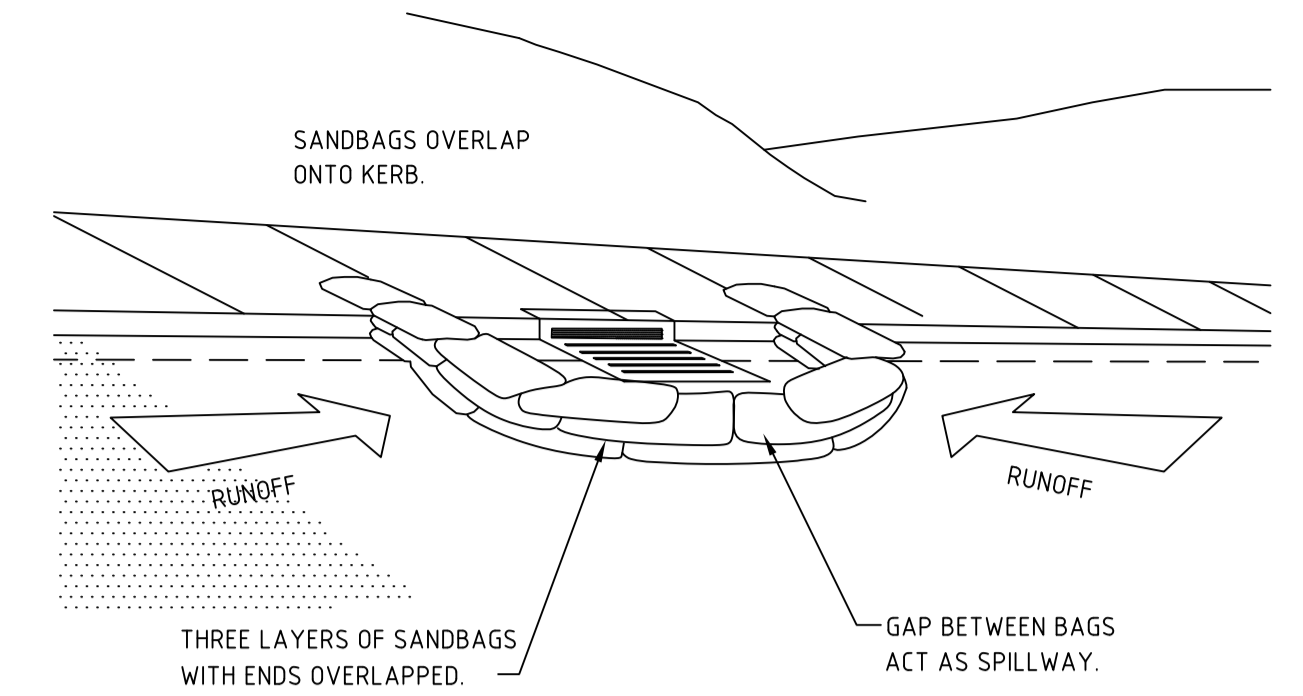
**GEOTEXTILE FILTER PIT SURROUND**  
NTS



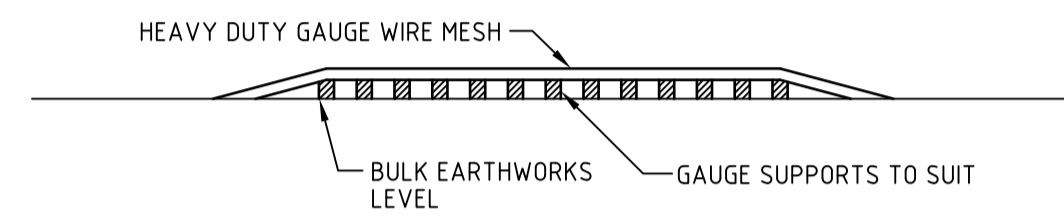
**TEMPORARY CATCH DRAIN**  
(MIN FALL 1%)  
SCALE 1:10



**SANDBAG SEDIMENT TRAP FOR KERB INLET ON GRADE**  
NTS

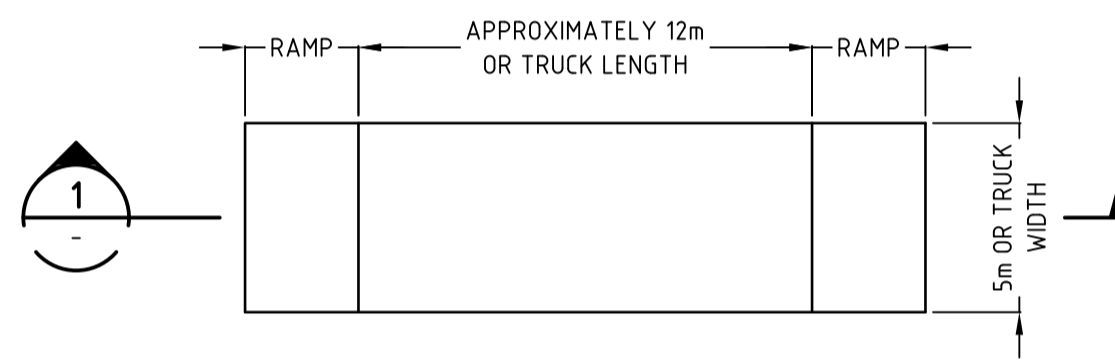


**SANDBAG SEDIMENT TRAP FOR KERB INLET AT LOWPOINT**  
NTS



**ELEVATION**

**SECTION 1**  
1:200

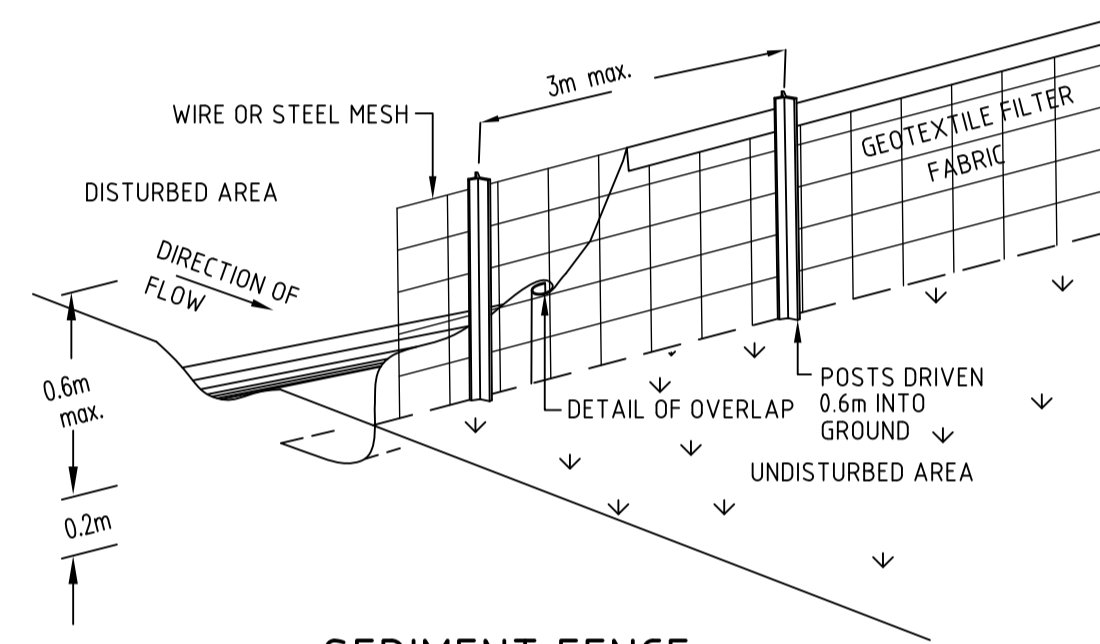


**PLAN**

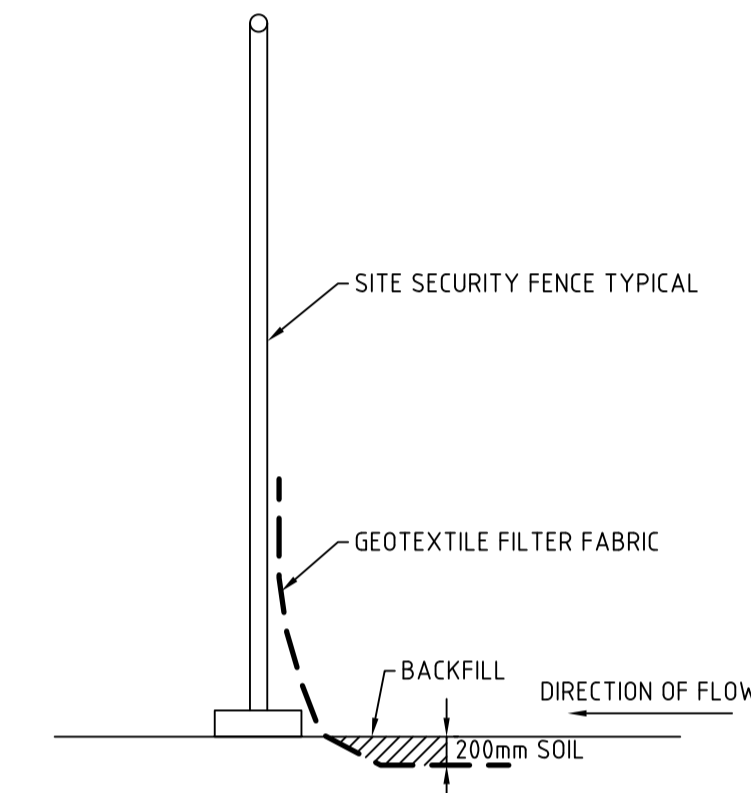
**TEMPORARY CONSTRUCTION EXIT**

SCALE 1:200

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.

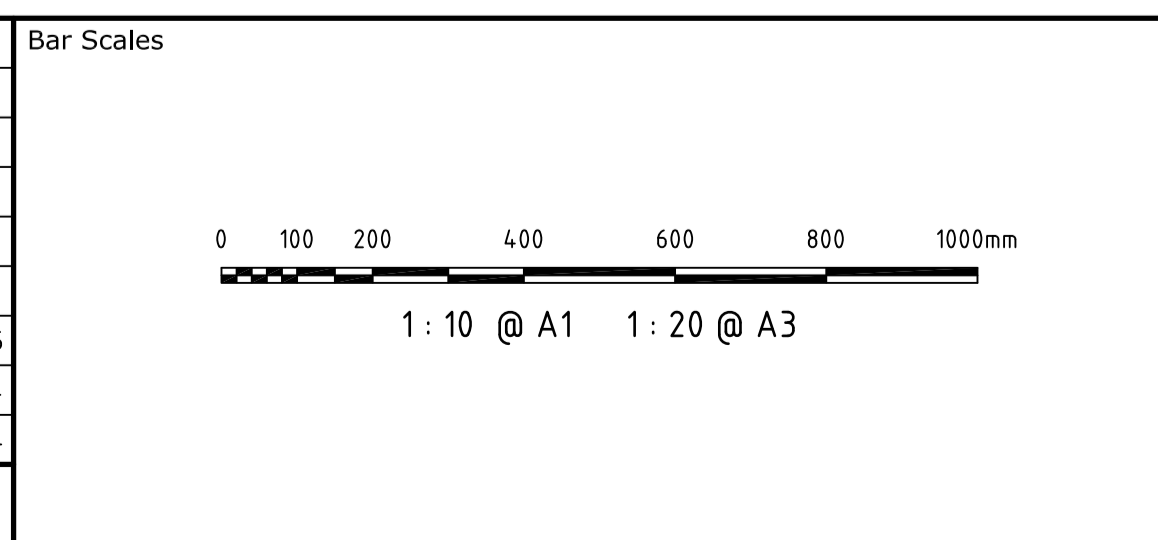


**SEDIMENT FENCE**  
NTS



**SECURITY FENCE WITH SEDIMENT FENCE DETAIL**  
NTS

Issue	Description	Date
C	RE-ISSUED FOR SSDA	20-02-15
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Client	Drawn	TS
AS SHOWN	Designed	TS
	Checked	MM
	Approved	

Project	Title
ENERGY FROM WASTE ELECTRICITY GENERATION PLANT, EASTERN CREEK	EROSION AND SEDIMENTATION CONTROL DETAILS

Civil Engineers and Project Managers	
Suite 702, 154 Pacific Hwy St Leonards NSW 2065 ABN 96 130 882 405 Tel: 02 9439 1777 Fax: 02 9460 8413 www.atl.net.au info@atl.net.au	
Status	A1
FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION	
Drawing No.	Issue
C041	C
Project No.	
14-187	