



REDBANK, NORTH RICHMOND  
 SANDSTONE ARCH  
 SUBDIVISION WORKS  
 PROPOSED LOT, ROAD AND DRAINAGE WORKS  
 COUNCIL REFERENCE: DA 0430/19



LOCALITY SKETCH

WORK AS EXECUTED SHOWN IN RED  
 SIGNATURE.....  
PETER ROBERT WARWICK  
 REGISTERED LAND SURVEYOR  
**VINCE MORGAN SURVEYORS PTY LTD**  
 DATE: 20/12/20 REF: 16800-16

- a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.
- b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

**SUBDIVISION WORKS CERTIFICATE**  
 Certificate No. 20130299SW51  
 Date of Issue 28/08/2020  
 Issuing Officer *D. Restin*  
 Accreditation No. BDC3367  
 These plans/specifications form part of the certificate issued 28th of August 2020

Prepared By:  
**J. WYNDHAM PRINCE**  
 CONSULTING CIVIL INFRASTRUCTURE ENGINEERS  
 & PROJECT MANAGERS  
 PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300  
 W [www.jwprince.com.au](http://www.jwprince.com.au)  
 E [jwp@jwprince.com.au](mailto:jwp@jwprince.com.au)

ISSUED FOR CONSTRUCTION APPROVAL  
 PLAN No. 11018512/CC200 2  
 FILE No. 11018512CC200



**GENERAL NOTES**

- ALL WORKS ARE TO BE IN ACCORDANCE WITH HAWKESBURY CITY COUNCIL'S DEVELOPMENT CONTROL PLAN 2009, APPENDIX E "CIVIL WORKS SPECIFICATIONS" PART I, II & III.
- EXISTING SURVEY MARKS SHALL BE RETAINED AT ALL TIMES. WHERE RETENTION IS NOT POSSIBLE THE SUPERINTENDENT MUST BE NOTIFIED AND CONSENT RECEIVED PRIOR TO THEIR REMOVAL.
- THE CONTRACTOR MUST OBTAIN CURRENT DIAL BEFORE YOU DIG UTILITIES PLAN BY DIALING PH 1100. LOCATE AND LEVEL ALL EXISTING SERVICES PRIOR TO COMMENCING CONSTRUCTION, AND MAKE ARRANGEMENTS WITH THE RELEVANT AUTHORITY TO RELOCATE OR ADJUST IF NECESSARY.
- THE CONTRACTOR SHALL NOT ENTER UPON NOR DO ANY WORK WITHIN ADJACENT LANDS WITHOUT THE WRITTEN PERMISSION OF THE OWNERS, PROVIDED BY PRINCIPAL.
- THE CONTRACTOR SHALL MAINTAIN SERVICES AND ALL WEATHER ACCESS AT ALL TIMES TO ADJOINING PROPERTIES.
- FILLING IS TO BE FROM A NOMINATED SOURCE, OF SOUND CLEAN MATERIAL, FREE FROM LARGE ROCK, STUMPS, CONTAMINATED MATTER, INDUSTRIAL AND BUILDING WASTE, ORGANIC MATTER AND OTHER DEBRIS. PLACING OF FILLING ON THE PREPARED AREAS SHALL NOT COMMENCE UNTIL THE APPROVAL TO DO SO HAS BEEN OBTAINED FROM THE COUNCIL.
- SITE FILL AREAS: - THE CONTRACTOR SHALL TAKE LEVELS OF EXISTING SURFACE AFTER STRIPPING TOPSOIL AND PRIOR TO COMMENCING FILL OPERATIONS.
- ALL SITE FILLING TO BE COMPACTED TO 98% STANDARD COMPACTION AND SHALL BE CONTROLLED BY A REGISTERED SOIL LABORATORY IN ACCORDANCE WITH COUNCIL'S DEVELOPMENT CONTROL PLAN 2009, APPENDIX E "CIVIL WORKS SPECIFICATIONS" PART II
- ALL SITE REGRADING AREAS SHALL BE GRADED AT A MINIMUM 1% TO THE ENGINEERS' REQUIREMENTS.
- SURPLUS EXCAVATED MATERIAL SHALL BE PLACED WHERE DIRECTED BY THE SUPERINTENDENT.
- VEHICULAR CROSSINGS SHALL BE CONSTRUCTED IN KERB AND GUTTER WHERE SHOWN.
- PRAM CROSSINGS SHALL BE CONSTRUCTED IN KERB AND GUTTER IN ACCORDANCE WITH COUNCIL'S STANDARD DRAWING.
- ALL NEW WORKS SHALL MAKE A SMOOTH JUNCTION WITH EXISTING CONDITIONS.
- DIMENSIONS OF ANY DETAIL SHALL NOT BE SCALED - DIMENSIONS, IF IN DOUBT, SHALL BE VERIFIED BY THE SUPERINTENDENT.
- ALL CONSTRUCTION AND RESTORATION WORK ON COUNCIL'S ROAD AND FOOTPATH AREA ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE APPROVED DRAWINGS AND COUNCIL'S STANDARD SPECIFICATIONS.
- NO FILL MATERIAL IS TO BE IMPORTED TO THE SITE. EXISTING STOCKPILES AND MATERIAL WITHIN THE REDBANK SITE ARE TO BE USED FOR THE EARTHWORKS.

Survey By:  
**VINCE MORGAN (SURVEYORS) PTY. LTD.**  
 CONSULTING SURVEYORS  
 P.O. Box 227, Penrith. 2751  
 Ph. (02) 4721 5293  
 REF: NORTH RICHMOND - DETAIL SURVEY  
 UPDATE 15 MARCH 2017, 5 MAY 2017, 11 DECEMBER 2019  
 AND 27 MARCH 2020

**PAVEMENT NOTES**

- PAVEMENT TO BE SUPPLIED AND LAID IN ACCORDANCE WITH COUNCIL SPECIFICATIONS.
- PROVIDE 100mm MINIMUM TOPSOIL & SEED TO EMBANKMENTS.
- SUBGRADE & PAVEMENT MATERIALS TO BE COMPACTED TO FOLLOWING MINIMUM DRY DENSITY RATIOS (AS 1289-5.4.1-1993):
  - BASECOURSE 98% MODIFIED
  - SUB-BASE 98% MODIFIED
  - SUBGRADE 100% STANDARD

**a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.**

**b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.**

**COMPACTION SPECIFICATION**

- WITHIN FULL WIDTH OF ROAD CARRIAGEWAY PLUS 1.0M EITHER SIDE -
  - ALL SUBGRADE SHALL BE CARRIED UP IN HORIZONTAL LAYERS, OF NOT MORE THAN 300MM THICK LOOSE MEASUREMENT, IF REQUIRED, AND SHALL HAVE EACH LAYER COMPACTED TO A 100% STANDARD DRY DENSITY RATIO DETERMINED IN ACCORDANCE WITH AS 1289 5.4.1-2007 "COMPACTION CONTROL TEST - DRY DENSITY RATIO, MOISTURE VARIATION AND MOISTURE RATIO".
  - ALL SUB-BASE COURSE SHALL BE PLACED AND COMPACTED TO AT LEAST 98% MODIFIED DRY DENSITY RATIO DETERMINED IN ACCORDANCE WITH AS 1289 5.4.1-2007 "COMPACTION CONTROL TEST - DRY DENSITY RATIO, MOISTURE VARIATION AND MOISTURE RATIO".
  - ALL BASE COURSE SHALL BE PLACED AND COMPACTED TO AT LEAST 98% MODIFIED DRY DENSITY RATIO DETERMINED IN ACCORDANCE WITH AS 1289 5.4.1-2007 "COMPACTION CONTROL TEST - DRY DENSITY RATIO, MOISTURE VARIATION AND MOISTURE RATIO".
  - ALL ROAD CROSSINGS TO BE PROVIDED IN EXISTING ROADS, THE TRENCHES SHALL BE BACKFILLED AND COMPACTED WITH A SAND/CEMENT BLEND 20:1 MIX TO SUBGRADE LEVEL, THEN DGB20 TO WITHIN 50MM OF THE ROAD SURFACE, OR IF REQUIRED TO A HIGHER SPECIFICATION BY A SPECIFIC UTILITY AUTHORITY, TO THAT SPECIFICATION AS INSTRUCTED BY THE PROJECT SUPERINTENDENT.
  - ALL TESTS TO BE TAKEN EVERY 50 METRE LENGTH OF PAVEMENT, TAKEN 1.0M FROM ALTERNATE SIDES OF PAVEMENT, BY A NATA REGISTERED LABORATORY.
  - THESE AND ALL OTHER REQUIREMENTS TO BE COMPLIED WITH, TO BE READ IN CONJUNCTION WITH HAWKESBURY CITY COUNCIL DCP PART II - CONSTRUCTION SPECIFICATION.
  - ANY ERRORS, OMISSIONS OR QUERIES TO BE SUBMITTED TO THE PROJECT SUPERINTENDENT FOR INSTRUCTION.
- WITHIN FULL WIDTH OF ROAD FOOTPATH / VERGE EXCLUDING 1.0M BESIDE ROAD CARRIAGEWAY EITHER SIDE -
  - ALL FILL INCLUDING STABILISED SAND, SHALL BE CARRIED OUT IN HORIZONTAL LAYERS, EXTENDING THE FULL WIDTH OF THE AREA BEING FILLED, OF NOT MORE THAN 300MM CONSOLIDATED THICKNESS. EACH LAYER SHALL BE COMPACTED TO AT LEAST 98% STANDARD DRY DENSITY RATIO DETERMINED IN ACCORDANCE WITH AS 1289 5.4.1-2007 "COMPACTION CONTROL TEST - DRY DENSITY RATIO, MOISTURE VARIATION AND MOISTURE RATIO". THE DEPTHS OF FILL AND THE COMPACTION THEREOF ARE TO BE VERIFIED BY THE SUBMISSION OF COMPACTION CERTIFICATES AND A PLAN SHOWING CONTOURED DEPTHS OF FILL IN RELATION TO LOT BOUNDARIES.
  - ALL TESTS TO BE TAKEN EVERY 50 METRE LENGTH OF ROAD FOOTPATH / VERGE ON CENTRELINE, BY A NATA REGISTERED LABORATORY.
  - ALL TRENCHES TO BE BACKFILLED TO HAVE EQUAL COMPACTION (+2%/-0% VARIATION) AS THE SURROUNDING ROAD FOOTPATH / VERGE.
  - ALL TRENCH TESTS TO BE TAKEN IN EACH 300MM LAYER AND EVERY 50 METRES OF TRENCH, BY A NATA REGISTERED LABORATORY.
  - THESE AND ALL OTHER REQUIREMENTS TO BE COMPLIED WITH, TO BE READ IN CONJUNCTION WITH HAWKESBURY CITY COUNCIL DCP PART II - CONSTRUCTION SPECIFICATION.
  - ANY ERRORS, OMISSIONS OR QUERIES TO BE SUBMITTED TO THE PROJECT SUPERINTENDENT FOR INSTRUCTION.
- WITHIN LOTS -
  - ALL FILL SHALL BE CARRIED OUT IN HORIZONTAL LAYERS, EXTENDING THE FULL WIDTH OF THE AREA BEING FILLED, OF NOT MORE THAN 300MM CONSOLIDATED THICKNESS. EACH LAYER SHALL BE COMPACTED TO A DENSITY OF AT LEAST 98% STANDARD DRY DENSITY RATIO DETERMINED IN ACCORDANCE WITH AS 1289 5.4.1-2007 "COMPACTION CONTROL TEST - DRY DENSITY RATIO, MOISTURE VARIATION AND MOISTURE RATIO". THE DEPTHS OF FILL AND THE COMPACTION THEREOF ARE TO BE VERIFIED BY THE SUBMISSION OF COMPACTION CERTIFICATES AND A PLAN SHOWING CONTOURED DEPTHS OF FILL IN RELATION TO LOT BOUNDARIES.
  - ALL TESTS TO BE A MINIMUM OF TWO COMPACTION TESTS PER LOT PER LAYER ARE TO BE CARRIED OUT, BY A NATA REGISTERED LABORATORY.
  - ALL TRENCHES TO BE BACKFILLED TO HAVE EQUAL COMPACTION (+2%/-0% VARIATION) AS THE SURROUNDING LOTS.
  - ALL TRENCH TESTS TO BE TAKEN IN EACH 300MM LAYER AND EVERY 50 METRES OF TRENCH, BY A NATA REGISTERED LABORATORY.
  - THESE AND ALL OTHER REQUIREMENTS TO BE COMPLIED WITH, TO BE READ IN CONJUNCTION WITH HAWKESBURY CITY COUNCIL DCP PART II - CONSTRUCTION SPECIFICATION.
  - ANY ERRORS, OMISSIONS OR QUERIES TO BE SUBMITTED TO THE PROJECT SUPERINTENDENT FOR INSTRUCTION.
- EARTHWORKS AND SITE PREPARATION TO BE UNDERTAKEN IN ACCORDANCE WITH GEOTECHNICAL INVESTIGATION REPORT PREPARED BY GEOTECHNIQUE, REFERENCE 12261/22-AA DATED 11 DECEMBER 2018.
- EARTHWORKS - CUT, FILL AND GRADING
  - ALL EARTHWORKS AND FILLING ON THE SITE MUST COMPLY WITH THE FOLLOWING:
    - TOPSOIL SHALL ONLY BE STRIPPED FROM APPROVED AREAS AND SHALL BE STOCKPILED FOR RE-USE DURING SITE REHABILITATION AND LANDSCAPING.
    - ALL DISTURBED AREAS ARE TO BE STABILISED/REVEGETATED AS SOON AS PRACTICABLE AFTER THE COMPLETION OF FILLING WORKS. TOPSOIL SHALL BE USED IN DISTURBED AREAS AS FOLLOWS:
      - A MINIMUM 300MM SURFACE LAYER OF TOPSOIL IN OPEN SPACE AREAS,
      - A MINIMUM 100MM SURFACE LAYER OF TOPSOIL ACROSS URBAN LOTS, AND
      - A MINIMUM 100MM SURFACE LAYER OF TOPSOIL ACROSS ROAD VERGES.
    - WHERE THE MAXIMUM GRADE OF THE FILL BATTER EXCEEDS A RATIO OF THREE HORIZONTAL TO ONE VERTICAL (3:1), RETAINING WALLS, STONE FLAGGING OR TERRACING SHALL BE CONSTRUCTED.
    - ALL FILL WITHIN THE SITE SHALL BE PLACED IN LAYERS NOT EXCEEDING 300MM THICKNESS AND COMPACTED TO ACHIEVE A MINIMUM DRY DENSITY RATIO OF 98% WHEN TESTED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS 1289 'METHODS OF TESTING SOILS FOR ENGINEERING PURPOSES' UNLESS OTHERWISE SPECIFIED.
    - ANY FILL MATERIAL SHALL COMPRISE UNCONTAMINATED VIRGIN EXCAVATED NATURAL MATERIAL (VENM) OR EXCAVATED NATURAL MATERIAL (ENM).
- EARTHWORKS IS TO BE CARRIED OUT IN STAGES, TO MINIMISE THE DISTURBED AREA AT ANY TIME. A POSSIBLE EARTHWORKS STAGING SHOWN ON SOIL AND WATER PLANS.

CIVIL PLAN INDEX		
PLAN NO.	PLAN NAME	REV
11018512/CC200	COVER SHEET	2
11018512/CC201	GENERAL NOTES, INDEX & LEGEND	2
11018512/CC202	SITE LAYOUT PLAN	2
11018512/CC203	ENGINEERING PLAN	2
11018512/CC204	CUT & FILL PLAN	2
11018512/CC205	SITE SECTIONS	2
11018512/CC206	ROAD 43 LONGITUDINAL SECTION	2
11018512/CC207	ROAD 44 & 401 LONGITUDINAL SECTION	2
11018512/CC208	ROAD 43 & 401 CROSS SECTION	2
11018512/CC209	ROAD 44 CROSS SECTION	2
11018512/CC210	KERB RETURNS	2
11018512/CC211	CATCHMENT PLAN & PIT SCHEDULE	2
11018512/CC212	DRAINAGE LONGITUDINAL SECTIONS	2
11018512/CC213	DRAINAGE LONGITUDINAL SECTIONS	2
11018512/CC214	DRAINAGE CALCULATIONS	2
11018512/CC215	DRAINAGE CALCULATIONS	2
11018512/CC216	RETAINING WALL PLAN & DETAIL	2
11018512/CC217	RETAINING WALL LONGITUDINAL SECTION	2
11018512/CC218	SOIL & WATER MANAGEMENT PLAN	2
11018512/CC219	SOIL & WATER MANAGEMENT DETAILS	2
11018512/CC220	SOIL & WATER MANAGEMENT NOTES	2
11018512/CC221	SEDIMENT BASIN CALCULATIONS	1
11018512/CC222	SIGNAGE AND LINEMARKING PLAN	1
11018512/CC223	TURNING PATHS	1

**STORMWATER NOTES**

- STORMWATER DESIGN CRITERIA:  
 AVERAGE RECURRENCE INTERVAL:  
 1:100 MAJOR SYSTEM  
 1:5 MINOR SYSTEM
- 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).
- 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.
- 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 DRAINAGE LINES THROUGH LOTS SHALL BE CONTAINED WITHIN THE FOLLOWING EASEMENTS: -
  - 1.2m WIDE FOR PIPELINE < 225Ø TO BE CREATED.
  - 2.5m WIDE FOR PIPELINE ≥ 300Ø TO BE CREATED
  - STREET DRAINS - REFER TO COUNCIL'S DESIGN GUIDELINES SUBDIVISION/ DEVELOPMENTS.
- DRAINAGE LINES UNDER ROADS SHALL BE BACKFILLED WITH NON-COHESIVE SAND AND HAVE 3m OF SUBSOIL DRAIN WRAPPED IN APPROVED FILTER SOCK, DISCHARGING INTO DOWN STREAM PITS. FOR PIPELINES GREATER THAN 525Ø, SUBSOIL DRAIN SHALL BE PROVIDED ON BOTH SIDES OF THE TRENCH.
- ALL STORMWATER PIPES WITHIN ROADS TO BE REINFORCED CONCRETE PIPE (RRJ) CLASS 2 UNLESS OTHERWISE INDICATED.
- ALL INTERALLOTMENT DRAINAGE LINES SHALL BE LAID AT A MINIMUM GRADE OF 1% UNLESS OTHERWISE INDICATED.
- DRAINAGE LINES ON PLANS ARE DIAGRAMMATIC ONLY AND PIPE CENTRELINES SHALL ENTER AND EXIT PITS AT THE CENTRE OF THE RESPECTIVE PIT WALLS.
- STEP IRONS REQUIRED WHERE THE PIT EXCEEDS 1200 IN DEPTH. REFER TO COUNCIL DRAWING SD41
- WHERE GRADES EXCEED 14.0%, BULKHEADS TO BE PROVIDED IN ACCORDANCE WITH SECTION 5.12 OF COUNCIL'S CIVIL WORKS SPECIFICATION PART 2 CONSTRUCTION.
- SUBSOIL DRAIN TO BE RUN BOTH SIDE OF ROAD WITH CAPPED FLUSH POINTS AND CONNECTED TO NEAREST STORMWATER PIT.
- ALL PIT GRATES TO HAVE LOCKING CLIP.
- ALL STORMWATER PIPES WITHIN THE ROAD RESERVE AND OPEN SPACE TO BE INSTALLED TO H33 STANDARD IN ACCORDANCE WITH AS3725 - DESIGN FOR INSTALLATION OF BURIED CONCRETE PIPES.
- BACKFILL OF ALL TRENCHES INCLUDING SEWER THAT IS WITHIN THE ZONE OF INFLUENCE OF THE PAVEMENT SHALL BE STABILISED SAND OR SUITABLE BACKFILL COMPACTED 98% STANDARD.
- THE STORMWATER DESIGN IS IN ACCORDANCE WITH THE 'STORMWATER MANAGEMENT STRATEGY: YEOMANS PRECINCT' PREPARED BY J WYNDHAM PRINCE AND DATED APRIL 2017.
- ALL DRAINAGE PITS TO BE BENCHED WITH CONCRETE TO PREVENT PON.DING OF WATER

**LEGEND**

DESCRIPTION	PROPOSED	EXISTING	FUTURE
EXTENT OF WORKS			
KERB & GUTTER			
KERB AND TOE			
GUIDE POSTS			
EXTENT OF FILL			
EXTENT OF CUT			
CONTOURS			
CATCH DRAIN			
ELECTRICITY, POWER POLE			
STORMWATER DRAINAGE LINE AND PIT			
PROPOSED EASEMENT			
1:100YR ARI FLOW PATH			
TREES TO BE PROTECTED			
TREES TO BE REMOVED			
RETAINING WALLS			
STREET NAME SIGN			
ABOVE GROUND ELECTRICITY			
UNDERGROUND ELECTRICITY			
SUBSOIL DRAINAGE LINE			
NBN, NBN BOX			
WATER, STOP VALVE, HYDRANT			
SEWER, MANHOLE			
STREET SIGN POLE			

**SUBDIVISION WORKS CERTIFICATE**

Certificate No. **20130299SW51**  
 Date of Issue **28/08/2020**  
 Issuing Officer *D. Restu*  
 Accreditation No. **BDC3367**  
 These plans/specifications form part of the certificate issued **28th of August 2020**



**NOTE: UTILITIES SHOWN MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS**

Plotfile: 21 August, 2020 12:27:45 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\12 - Stage 1 DA\DCO\SANDSTONE ARCH\11018512CC201.dwg

NO	DESCRIPTION	CC	NDW	MS	DF	DATE
2	CERTIFIERS COMMENTS ADDRESSED	CC	NDW	MS	DF	21/08/20
1	ISSUE 80% CLIENT COMMENTS	MP	NDW	RO	MS	20/07/20
	AMENDMENT	DES	DRN	CKD	APR	DATE

**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS  
 P O Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

CLIENT:   
 AZIMUTH:  
 DATUM:  
 ORIGIN: THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

**ISSUED FOR CONSTRUCTION APPROVAL**

SANDSTONE ARCH  
 REDBANK, NORTH RICHMOND  
 GENERAL NOTES, INDEX & LEGEND

PLAN No: **11018512/CC201** 2  
 FILE No: 11018512CC201  
 SHEET SIZE: A1 ORIGINAL





WORK AS EXECUTED SHOWN IN RED  
 SIGNATURE: *Peter Robert Warwick*  
 PETER ROBERT WARWICK  
 REGISTERED LAND SURVEYOR  
 VINCE MORGAN SURVEYORS PTY LTD  
 DATE: 20/12/20 REF: 16800-16

- a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.
- b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

**SUBDIVISION WORKS CERTIFICATE**  
 Certificate No. 20130299SW51  
 Date of Issue 28/08/2020  
 Issuing Officer *D. Restar*  
 Accreditation No. BDC3367  
 These plans/specifications form part of the certificate issued 28th of August 2020

ROAD 43					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A. LENGTH
0	286573.26	6281798.76	225°00'40.08"		
38.46	286546.06	6281771.56		1130.58	76.91
76.91	286517.06	6281746.27	228°54'32.58"		
106.58	286494.72	6281726.79	228°54'32.58"		
119.86	286484.69	6281718.04		540	26.61
133.16	286474.24	6281709.8	231°43'55.08"		

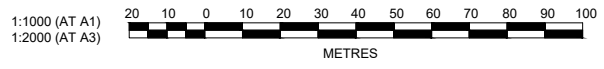
ROAD 44					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A. LENGTH
0	286506.93	6281737.44	318°54'32.58"		
37.73	286482.14	6281765.88	318°54'32.58"		
65.26	286464	6281786.67		-340	55.06
92.79	286442.75	6281804.27	309°37'50.11"		
225.48	286340.56	6281888.9	309°37'50.11"		

ROAD 401			
CHAINAGE	EASTING	NORTHING	BEARING
0	286331.43	6281876.45	45°45'07.27"
29	286352.2	6281896.68	45°45'07.27"

UTILITIES SHOWN ARE DIAGRAMMATIC ONLY. CONTRACTORS ARE RESPONSIBLE TO LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES & STANDARDS. NOTE: UTILITIES SHOWN MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS



UNDERGROUND SERVICE CABLES IN VICINITY. EXERCISE EXTREME CAUTION DURING EXCAVATION. CONTACT "DIAL BEFORE YOU DIG" PRIOR TO ANY CONSTRUCTION WORK



**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

CLIENT:  
  
 SANDSTONE ARCH  
 REDBANK, NORTH RICHMOND  
 SITE LAYOUT PLAN

ISSUED FOR CONSTRUCTION APPROVAL

PLAN No: 11018512/CC202 2  
 FILE No: 11018512CC202  
 SHEET SIZE: A1 ORIGINAL

Plotted: 26 August, 2020 2:25:47 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\12 - Stage 1 DA\DC\CC\SANDSTONE ARCH\11018512CC202.dwg

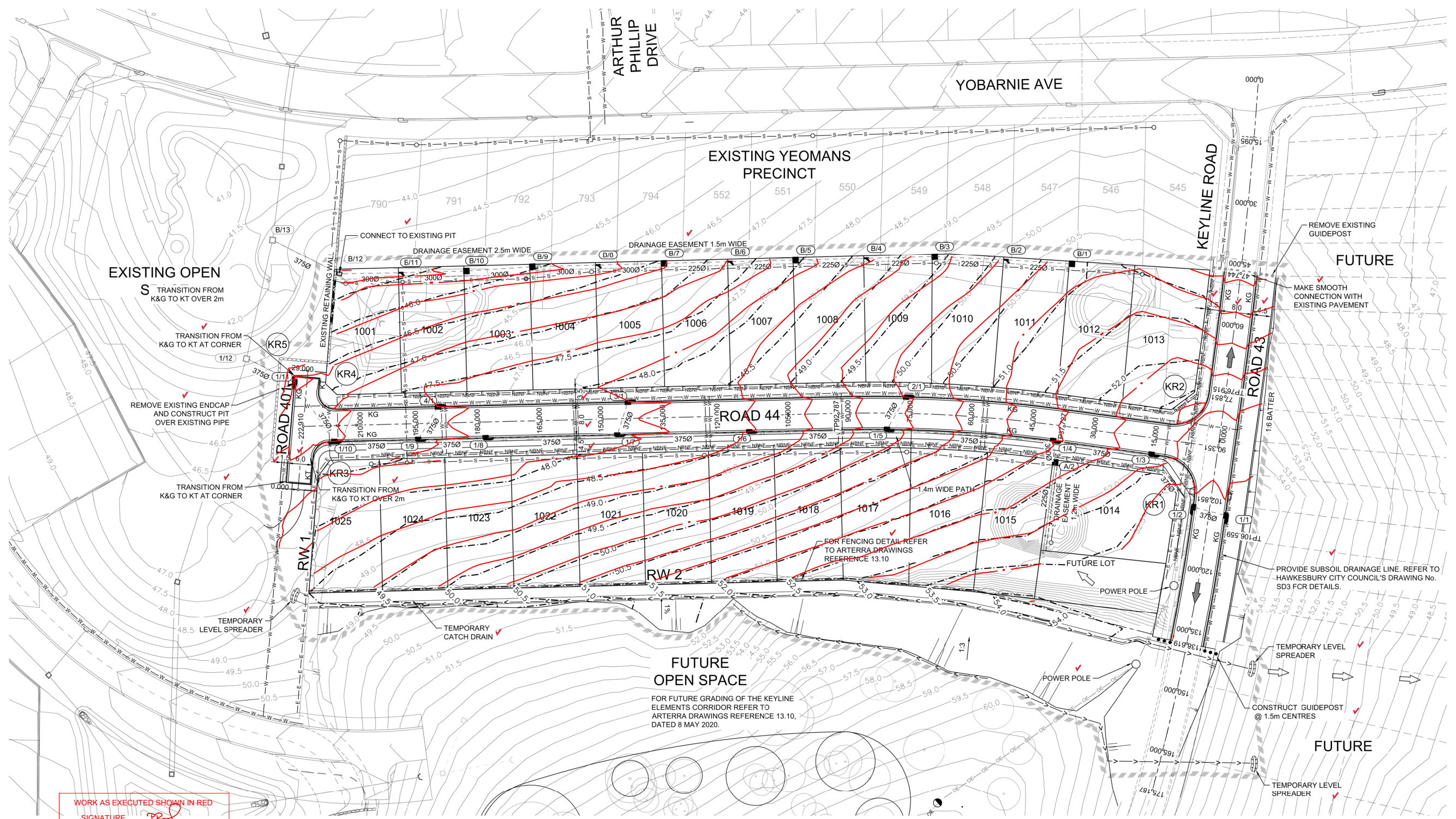
NO	DESCRIPTION	CC	NDW	MS	DF	DATE
2	CERTIFIERS COMMENTS ADDRESSED	CC	NDW	MS	DF	21/08/20
1	ISSUE 80% CLIENT COMMENTS	MP	NDW	RO	MS	20/07/20
	AMENDMENT	DES	DRN	CKD	APR	DATE

PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH:  
 DATUM:  
 ORIGIN:

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.





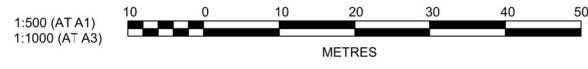
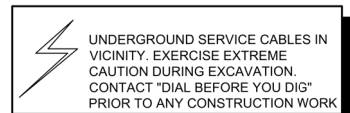
WORK AS EXECUTED SHOWN IN RED  
 SIGNATURE: *[Signature]*  
 VINCE MORGAN SURVEYORS PTY LTD  
 DATE: 20/12/20 REF: 16800-16

**SUBDIVISION WORKS CERTIFICATE**  
 Certificate No. 20130299SW51  
 Date of Issue 28/08/2020  
 Issuing Officer *[Signature]*  
 Accreditation No. BDC3367  
 These plans/specifications form part of the certificate issued 28th of August 2020

a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.  
 b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

WORK AS EXECUTED SHOWN IN RED  
 SIGNATURE: *[Signature]*  
 VINCE MORGAN SURVEYORS PTY LTD  
 DATE: 20/12/20 REF: 16800-16

UTILITIES SHOWN ARE DIAGRAMMATIC ONLY. CONTRACTORS ARE RESPONSIBLE TO LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES & STANDARDS. NOTE: UTILITIES SHOWN MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS



CLIENT:  
  
 THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

ISSUED FOR CONSTRUCTION APPROVAL  
 SANDSTONE ARCH  
 REDBANK, NORTH RICHMOND  
 ENGINEERING PLAN  
 PLAN No: 11018512/CC203 2  
 FILE No: 11018512CC203  
 SHEET SIZE: A1 ORIGINAL

**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS  
 PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jpwinprice.com.au E jwp@jwprince.com.au

Plotfile: 27 August, 2020 10:55:28 AM File Name: J:\110185 - Redbank North Richmond Residential Precincts\12 - Stage 1 DA\DC\CC\SANDSTONE ARCH\11018512CC203.dwg

NO	DESCRIPTION	DES	DRN	CKD	APR	DATE
2	CERTIFIERS COMMENTS ADDRESSED	CC	NDW	MS	DF	21/08/20
1	ISSUE 80% CLIENT COMMENTS	MP	NDW	RO	MS	20/07/20
	AMENDMENT	DES	DRN	CKD	APR	DATE



**SUBDIVISION WORKS CERTIFICATE**  
 Certificate No. 20130299SW51  
 Date of Issue 28/08/2020  
 Issuing Officer D. Resta  
 Accreditation No. BDC3367  
 These plans/specifications form part of the certificate issued 28th of August 2020

a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.  
 b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

**LEGEND**

VOLUME OF CUT = 6,876m<sup>3</sup>

VOLUME OF FILL = 6,153m<sup>3</sup>

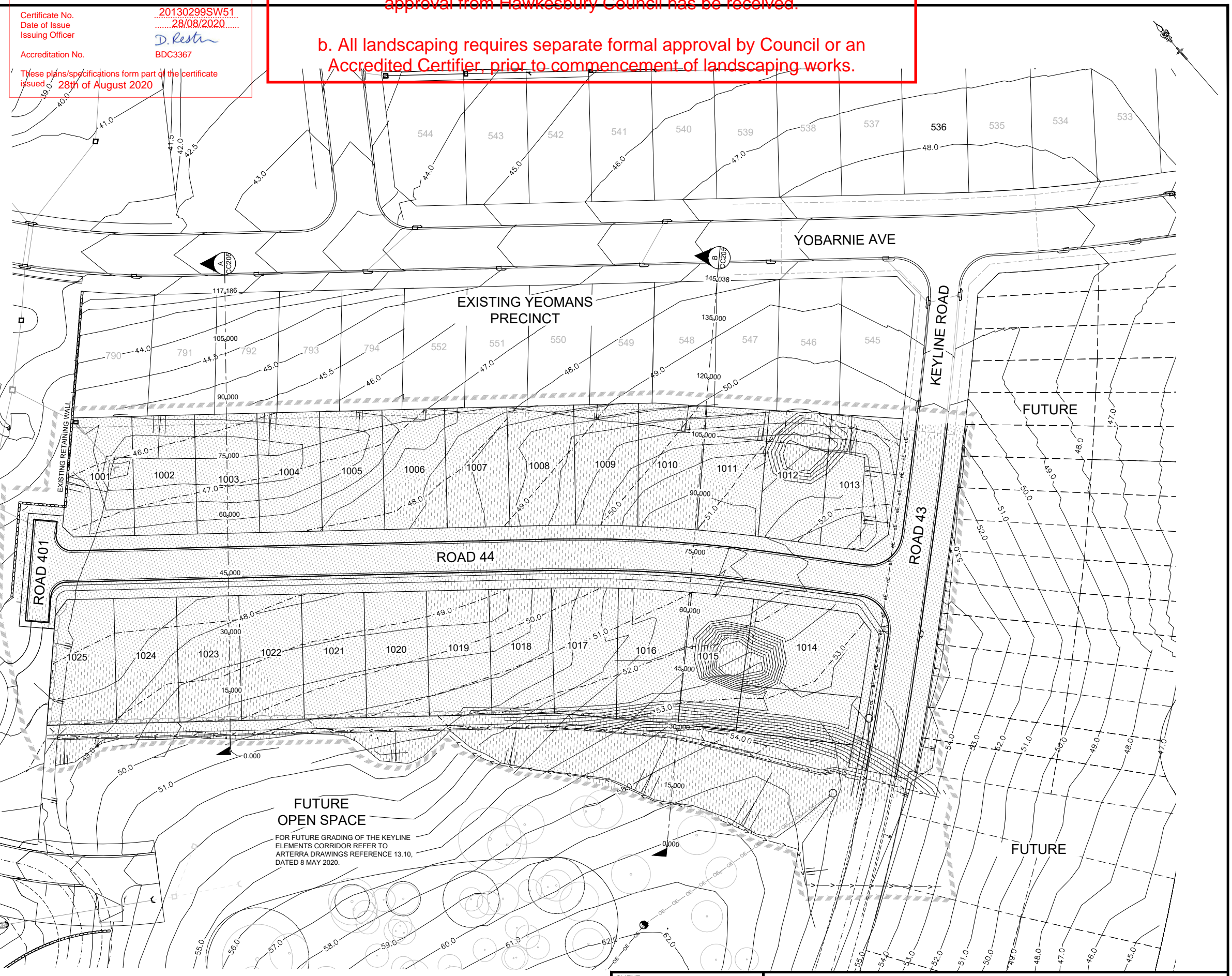
BALANCE 723m<sup>3</sup> EXCESS TO STOCKPILE FOR FUTURE STAGES

**BULK EARTHWORKS CALCULATIONS ASSUMPTIONS:**

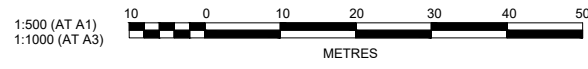
VOLUME ESTIMATED BETWEEN EXISTING SURFACE AND DESIGN SURFACE.

- NO ALLOWANCE HAS BEEN MADE FOR:
  - ROAD BOXING;
  - TOPSOIL;
  - RETAINING WALL
  - STORMWATER AND UTILITY TRENCHING.
- NO BULKING OR COMPACTION FACTORS HAVE BEEN APPLIED.

WORK AS EXECUTED SHOWN IN RED  
 SIGNATURE: [Signature]  
 PETER ROBERT WARWICK  
 REGISTERED LAND SURVEYOR  
 VINCE MORGAN SURVEYORS PTY LTD  
 DATE: 20/12/20 REF: 16800-16



Plotted: 27 August, 2020 10:54:39 AM File Name: J:\110185 - Redbank North Richmond Residential Precincts\12 - Stage 1 DA\CC\SANDSTONE ARCH\11018512CC204.dwg



CLIENT:

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

**ISSUED FOR CONSTRUCTION APPROVAL**

SANDSTONE ARCH  
 REDBANK, NORTH RICHMOND  
 CUT & FILL PLAN

PLAN No: 11018512/CC204 2  
 FILE No: 11018512CC204  
 SHEET SIZE: A1 ORIGINAL

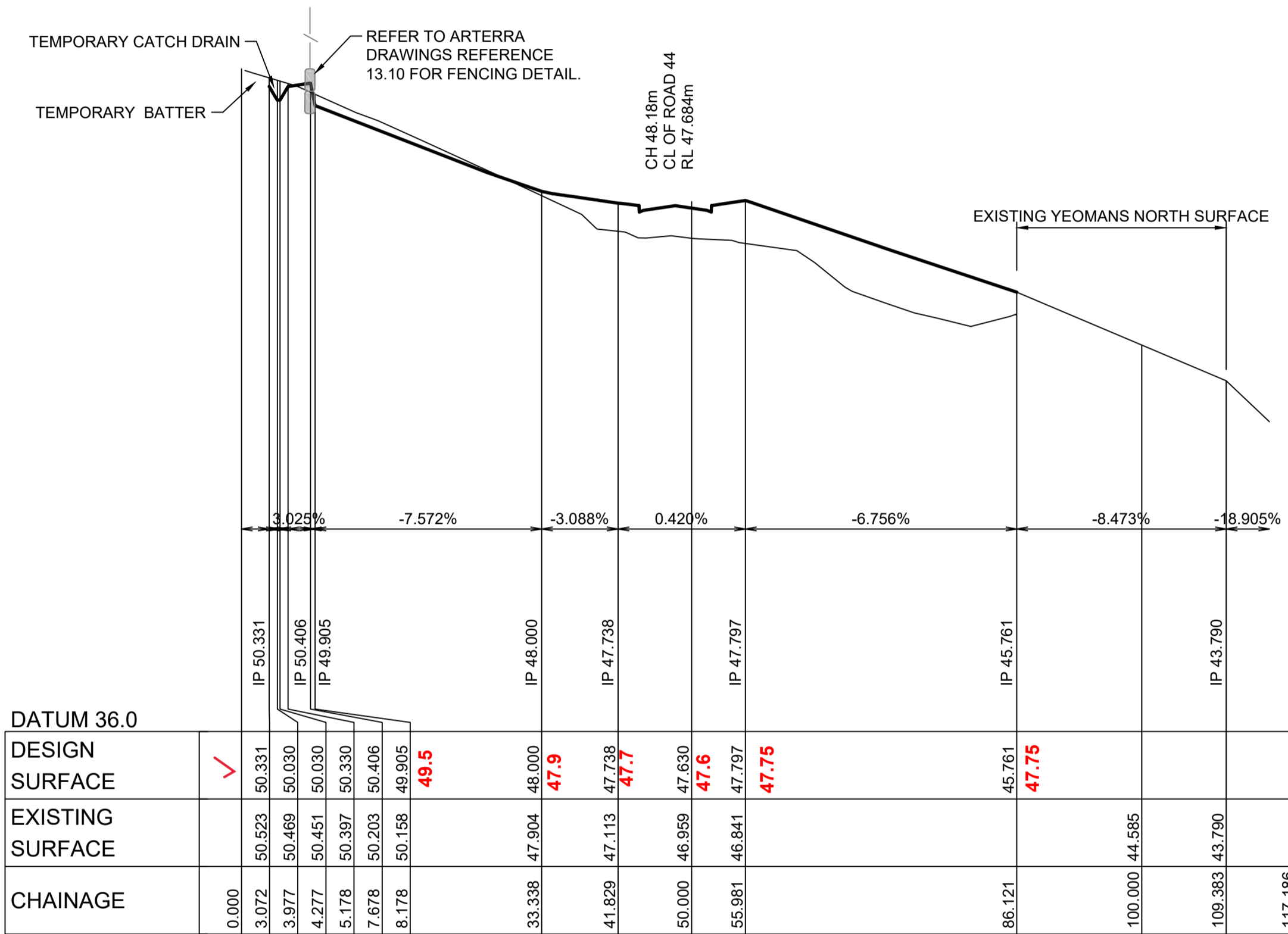
**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

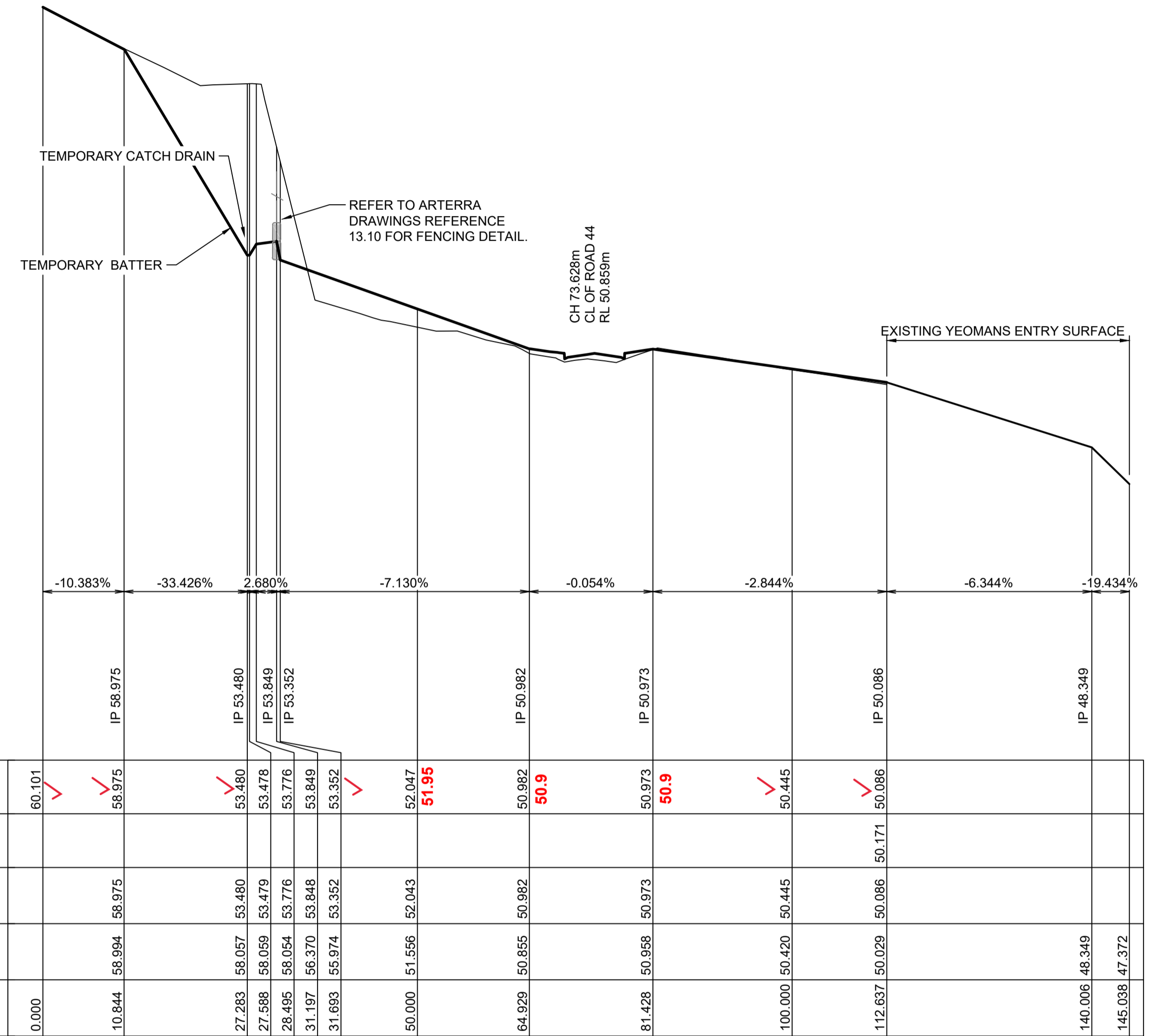
AMENDMENT	DES	DRN	CKD	APR	DATE
2	CC	NDW	MS	DF	21/08/20
1	MP	NDW	RO	MS	20/07/20



Plotted: 21 August, 2020 12:30:13 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\12 - Stage 1 DA\CC204\SANDSTONE ARCH\11018512CC205.dwg



**SECTION A**  
SCALE H 1:500  
V 1:100  
CC204



**SECTION B**  
SCALE H 1:500  
V 1:100  
CC204

**WORK AS EXECUTED SHOWN IN RED**

SIGNATURE: *[Signature]*  
PETER ROBERT WARWICK  
REGISTERED LAND SURVEYOR

**VINCE MORGAN SURVEYORS PTY LTD**  
DATE: 20/12/20 REF: 16800-16

a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.

b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

**SUBDIVISION WORKS CERTIFICATE**

Certificate No. 20130299SW51  
Date of Issue 28/08/2020  
Issuing Officer *[Signature]*  
Accreditation No. BDC3367

These plans/specifications form part of the certificate issued 28th of August 2020



AMENDMENT	DES	DRN	CKD	APR	DATE
2	CC	NDW	MS	DF	21/08/20
1	MP	NDW	RO	MS	20/07/20

**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH:  
DATUM:  
ORIGIN:

CLIENT:

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

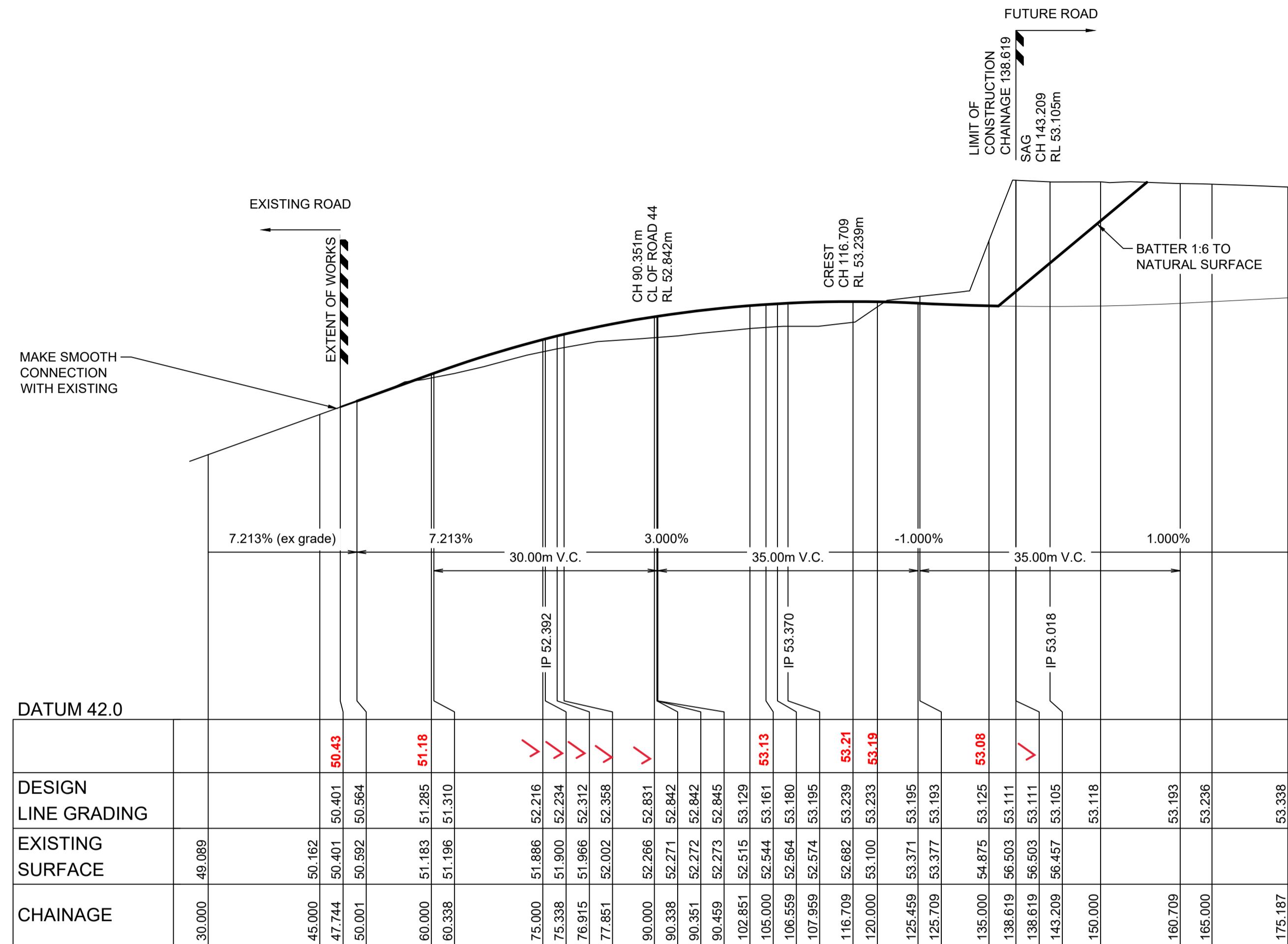
**ISSUED FOR CONSTRUCTION APPROVAL**

SANDSTONE ARCH  
REDBANK, NORTH RICHMOND  
SITE SECTIONS

PLAN No: 11018512/CC205 **2**  
FILE No: 11018512CC205  
SHEET SIZE: A1 ORIGINAL

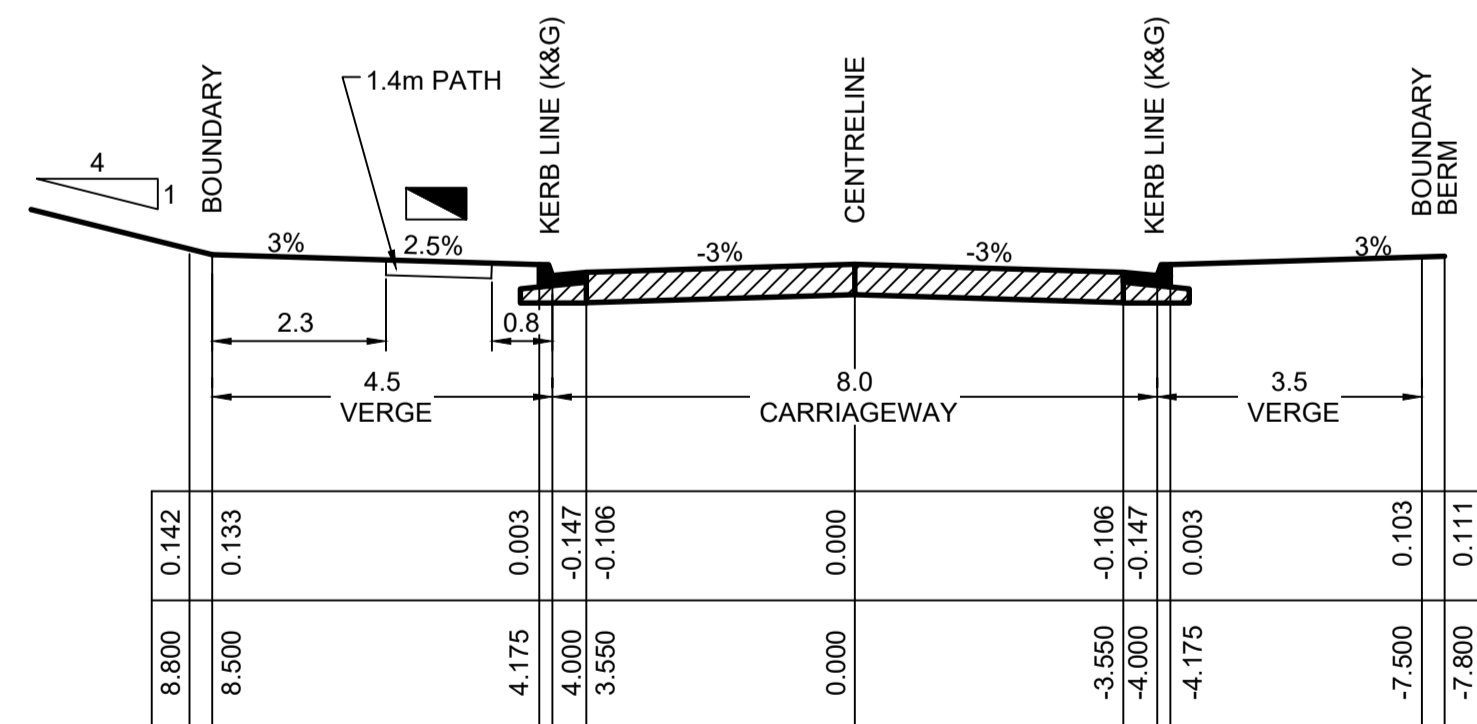


Plotted: 21 August, 2020 12:30:37 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\12 - Stage 1 DA\CD\CC\SANDSTONE ARCH\11018512CC206.dwg

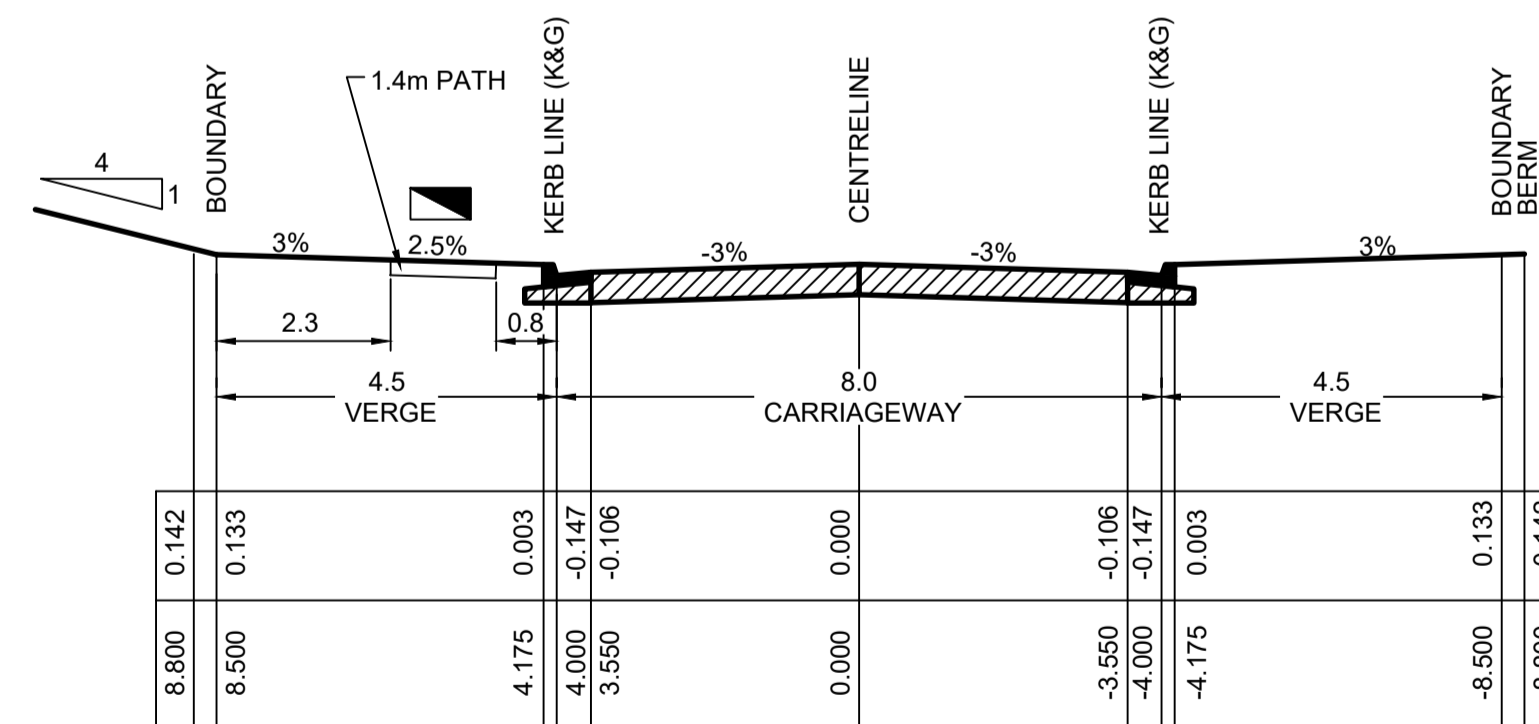


LONGITUDINAL SECTION ROAD 43  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

REFER TO LANDSCAPE ARCHITECT PLANS FOR FOOTPATH DETAILS.



TYPICAL CROSS SECTION  
ROAD No.43 (CH47.744 - 77.851)  
SCALE 1:100 NATURAL



TYPICAL CROSS SECTION  
ROAD No.43  
(CH102.851 - LIMIT OF WORKS)  
SCALE 1:100 NATURAL

**PAVEMENT NOTES**

ROAD No. 43 (1x10<sup>5</sup>E.S.A.'s)

- 25mm MINIMUM THICKNESS ASPHALTIC CONCRETE WEARING COURSE (AC10)
- 25mm MINIMUM THICKNESS ASPHALTIC CONCRETE FIRST COURSE (AC10)
- ONE COAT HOT BITUMEN FLUSH SEAL
- 130mm COMPACTED THICKNESS DGB 20 BASE COURSE
- 230mm COMPACTED THICKNESS CRUSHED SANDSTONE SUB-BASE

GEOTECHNICAL REPORT BY GEOTECHNIQUE Pty Ltd.

REF: 12261/27 - AB  
DATED: 04/06/2020

WORK AS EXECUTED SHOWN IN RED

SIGNATURE.....  
PETER ROBERT WARWICK  
REGISTERED LAND SURVEYOR

VINCE MORGAN SURVEYORS PTY LTD  
DATE: 20/12/20 REF: 16800-16

a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.

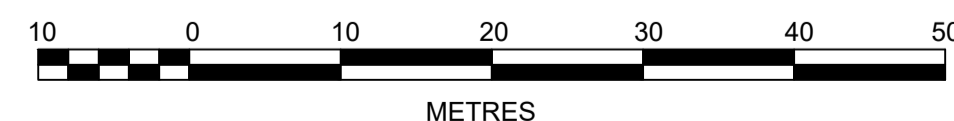
b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

**SUBDIVISION WORKS CERTIFICATE**

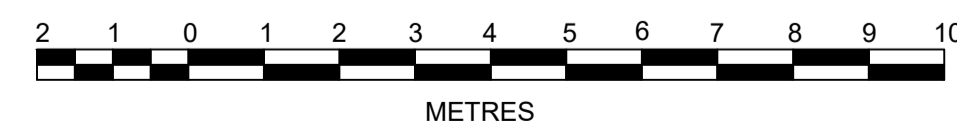
Certificate No. 20130299SW/51  
Date of Issue 28/08/2020  
Issuing Officer D. Restar  
Accreditation No. BDC3367

These plans/specifications form part of the certificate issued 28th of August 2020

1:500 (AT A1)  
1:1000 (AT A3)



1:100 (AT A1)  
1:200 (AT A3)



AZIMUTH:

DATUM:

ORIGIN:

CLIENT:



ISSUED FOR CONSTRUCTION APPROVAL

SANDSTONE ARCH  
REDBANK, NORTH RICHMOND  
ROAD 43 LONGITUDINAL SECTION

PLAN No: 11018512/CC206 2

FILE No: 11018512CC206

SHEET SIZE: A1 ORIGINAL

**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

NO	DESCRIPTION	CC	NDW	MS	DF	DATE
2	CERTIFIERS COMMENTS ADDRESSED	CC	NDW	MS	DF	21/08/20
1	ISSUE 80% CLIENT COMMENTS	MP	NDW	RO	MS	20/07/20
	AMENDMENT	DES	DRN	CKD	APR	DATE



**PAVEMENT NOTES**

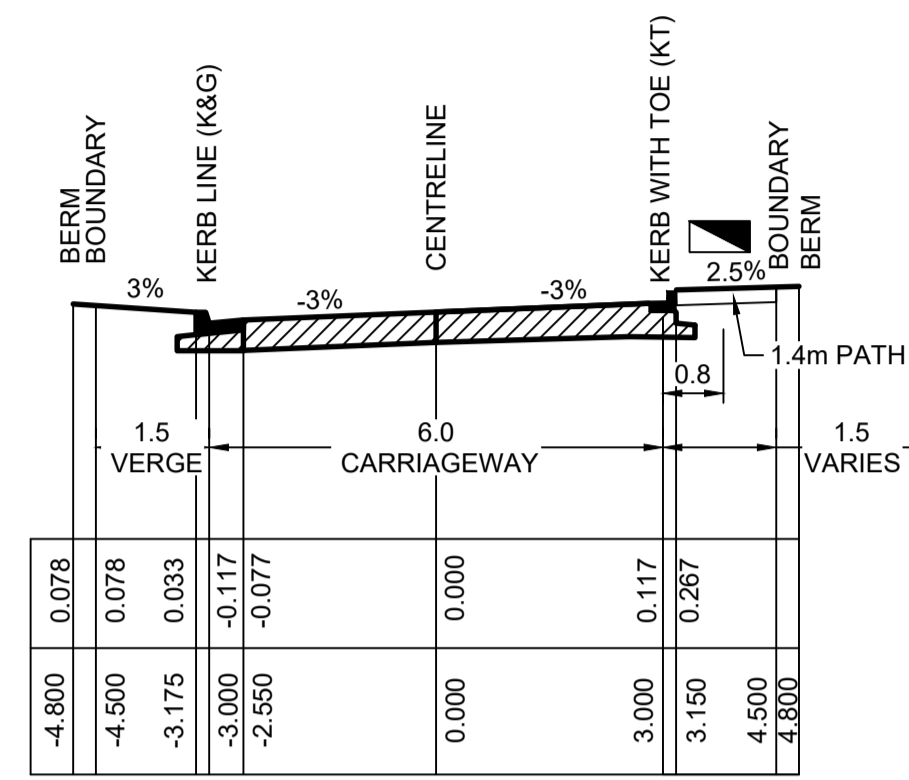
ROAD No. 44 & 401 (1x10<sup>5</sup>E.S.A.'s)

- 25mm MINIMUM THICKNESS ASPHALTIC CONCRETE WEARING COURSE (AC10)
- 25mm MINIMUM THICKNESS ASPHALTIC CONCRETE FIRST COURSE (AC10)
- ONE COAT HOT BITUMEN FLUSH SEAL
- 130mm COMPACTED THICKNESS DGB 20 BASE COURSE
- 230mm COMPACTED THICKNESS CRUSHED SANDSTONE SUB-BASE

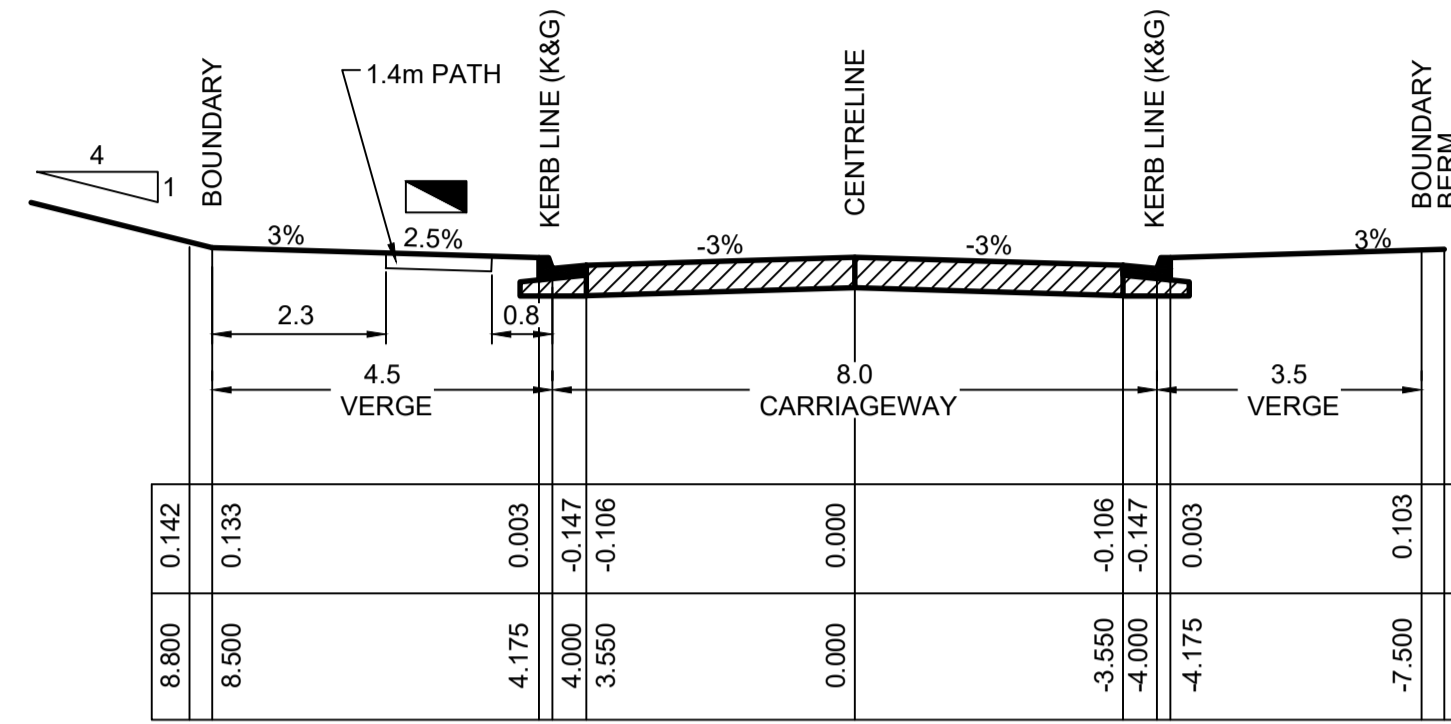
GEOTECHNICAL REPORT BY GEOTECHNIQUE Pty Ltd.

REF: 12261/27 - AB  
DATED: 04/06/2020

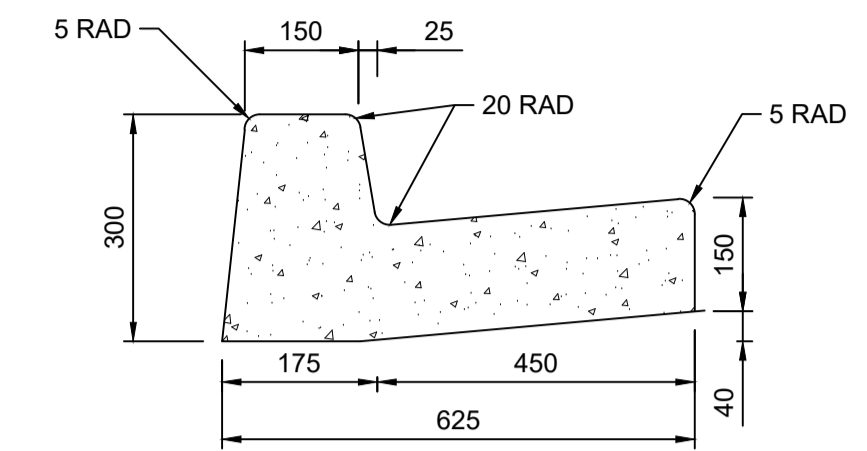
REFER TO LANDSCAPE ARCHITECT PLANS FOR FOOTPATH DETAILS.



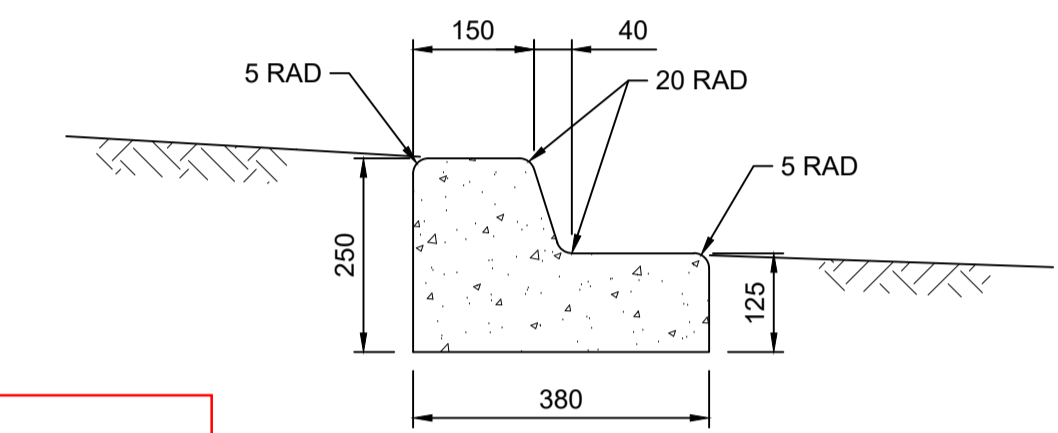
TYPICAL CROSS SECTION  
ROAD No.401  
SCALE 1:100 NATURAL



TYPICAL CROSS SECTION  
ROAD No.44  
SCALE 1:100 NATURAL



KERB AND GUTTER  
N.T.S.



KERB WITH TOE  
N.T.S.

a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.  
b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

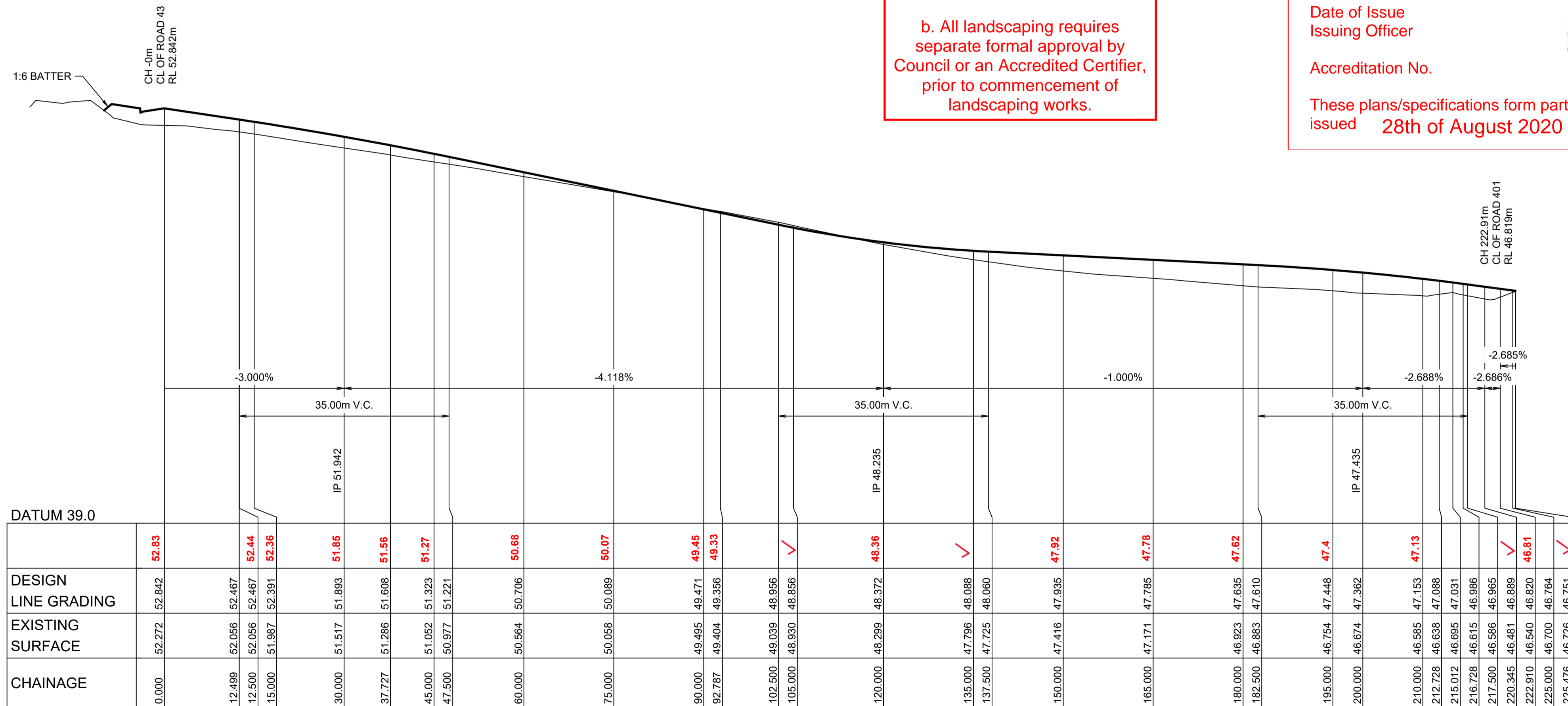
**SUBDIVISION WORKS CERTIFICATE**

Certificate No. **20130299SW51**  
Date of Issue **28/08/2020**  
Issuing Officer *D. Restin*  
Accreditation No. **BDC3367**

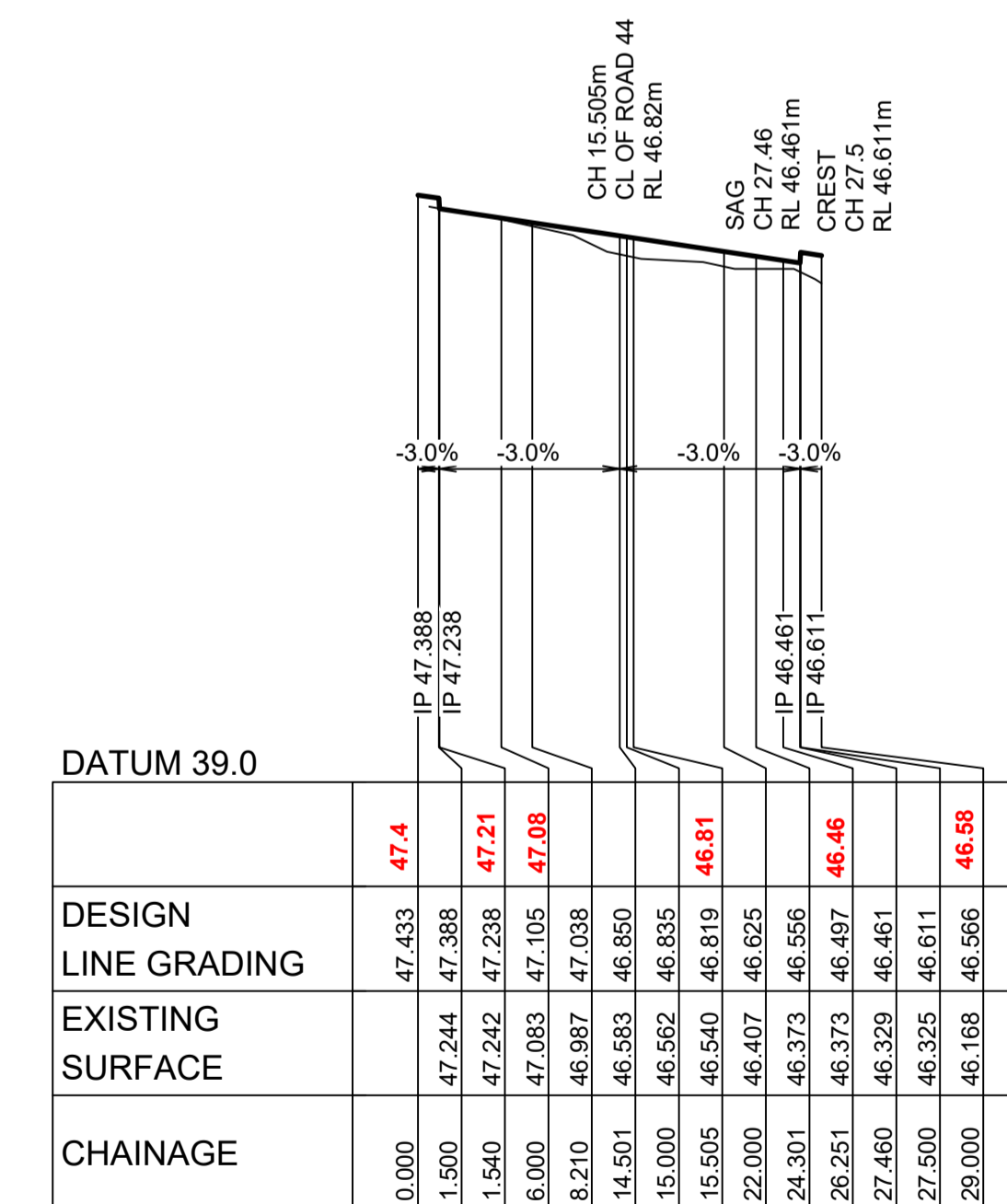
These plans/specifications form part of the certificate issued **28th of August 2020**

WORK AS EXECUTED SHOWN IN RED

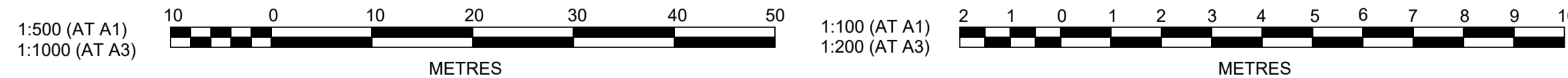
SIGNATURE *Peter Morgan*  
REGISTERED LAND SURVEYOR  
**VINCE MORGAN SURVEYORS PTY LTD**  
DATE: 20/12/20 REF: 16800-16



LONGITUDINAL SECTION ROAD 44  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100



LONGITUDINAL SECTION ROAD 401  
HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100



**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH:  
DATUM:  
ORIGIN:

CLIENT:  
**REDBANK**  
NORTH RICHMOND  
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

ISSUED FOR CONSTRUCTION APPROVAL

SANDSTONE ARCH  
REDBANK, NORTH RICHMOND  
ROAD 44 & 401 LONGITUDINAL SECTION

PLAN No:  
**11018512/CC207 2**  
FILE No: 11018512CC207  
SHEET SIZE: A1 ORIGINAL

NO	DESCRIPTION	CC	NDW	MS	DF	DATE
2	CERTIFIERS COMMENTS ADDRESSED	CC	NDW	MS	DF	21/08/20
1	ISSUE 80% CLIENT COMMENTS	MP	NDW	RO	MS	20/07/20
	AMENDMENT	DES	DRN	CKD	APR	DATE



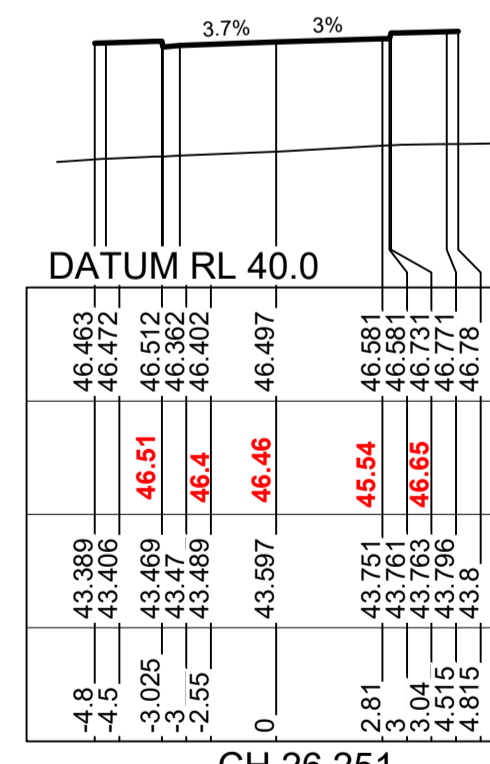
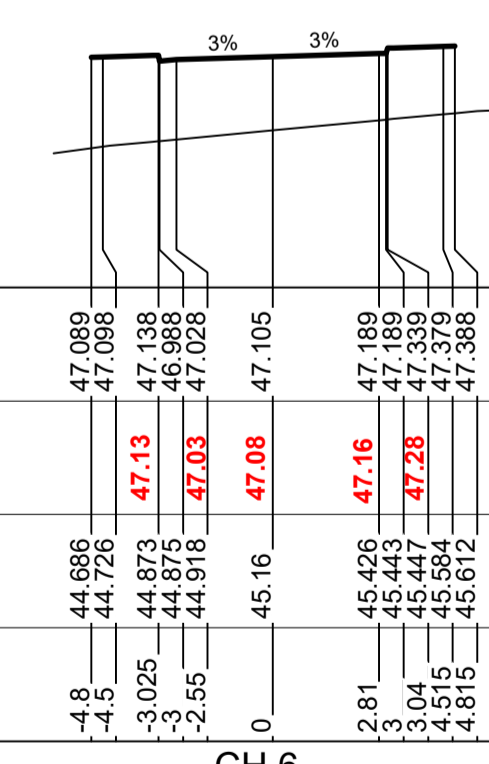
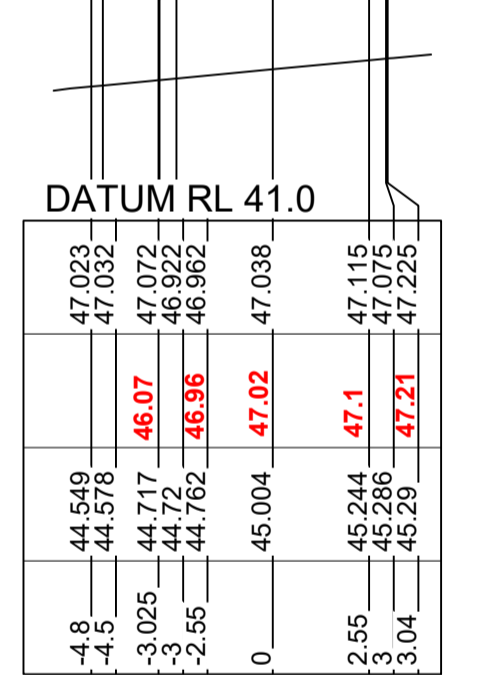
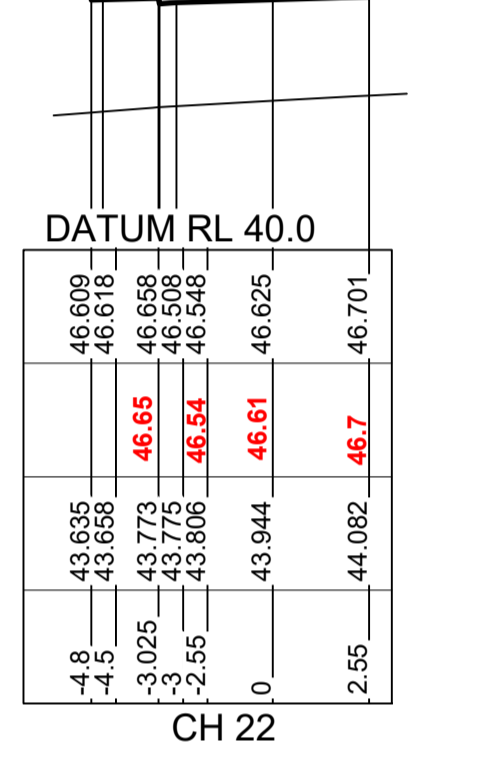
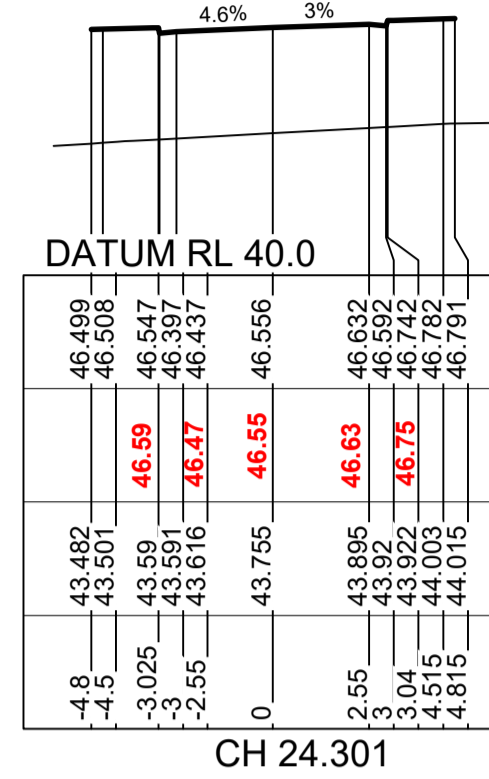
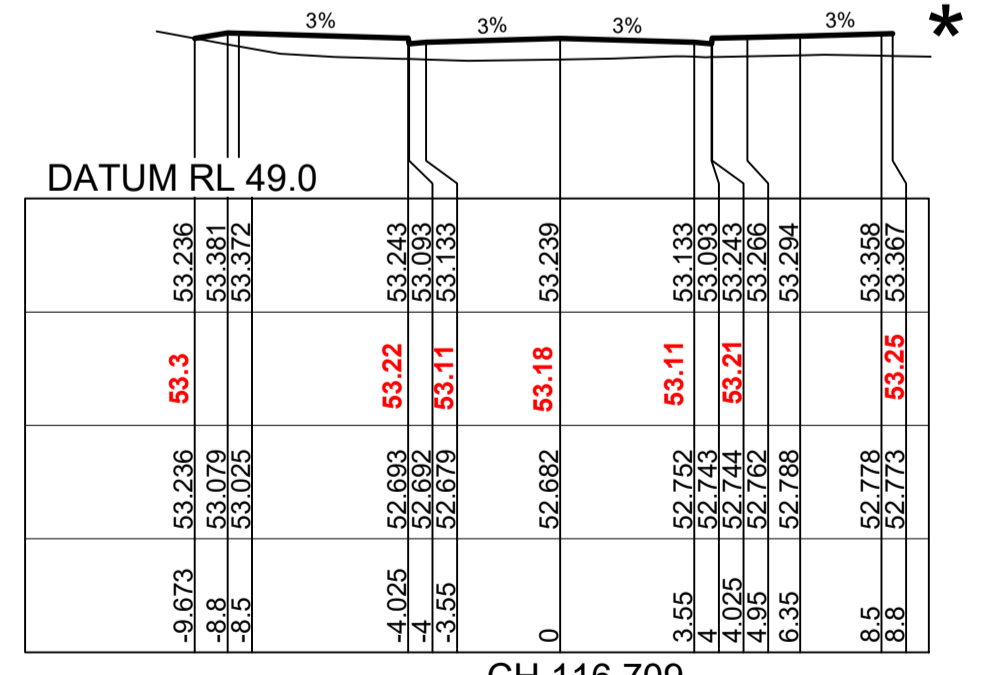
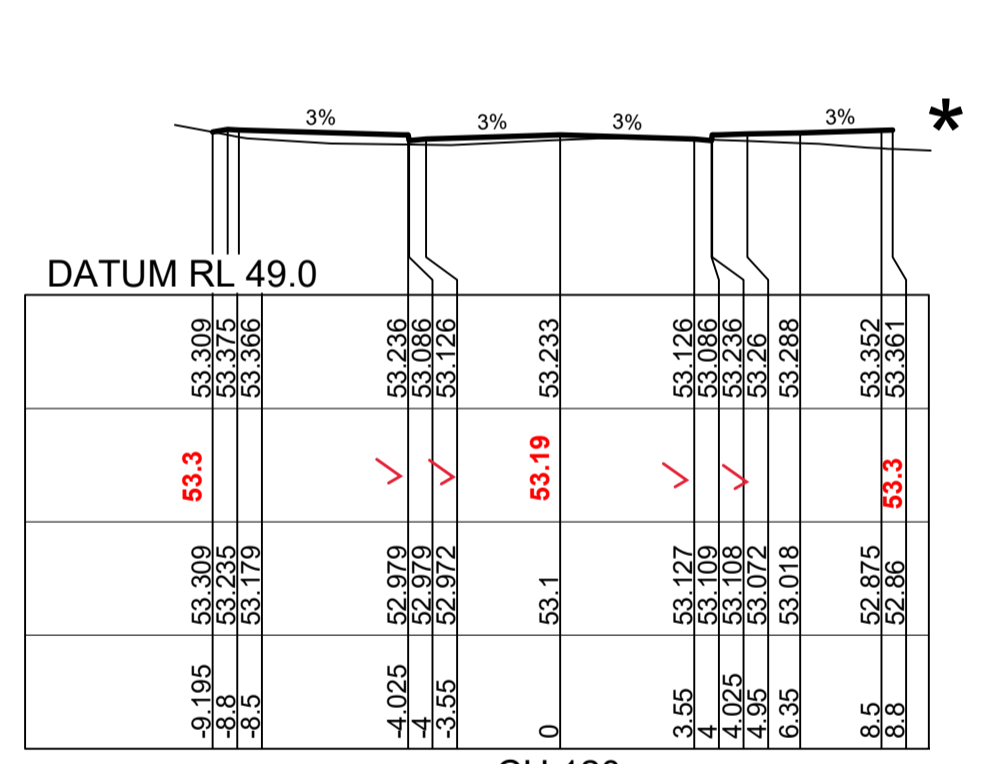
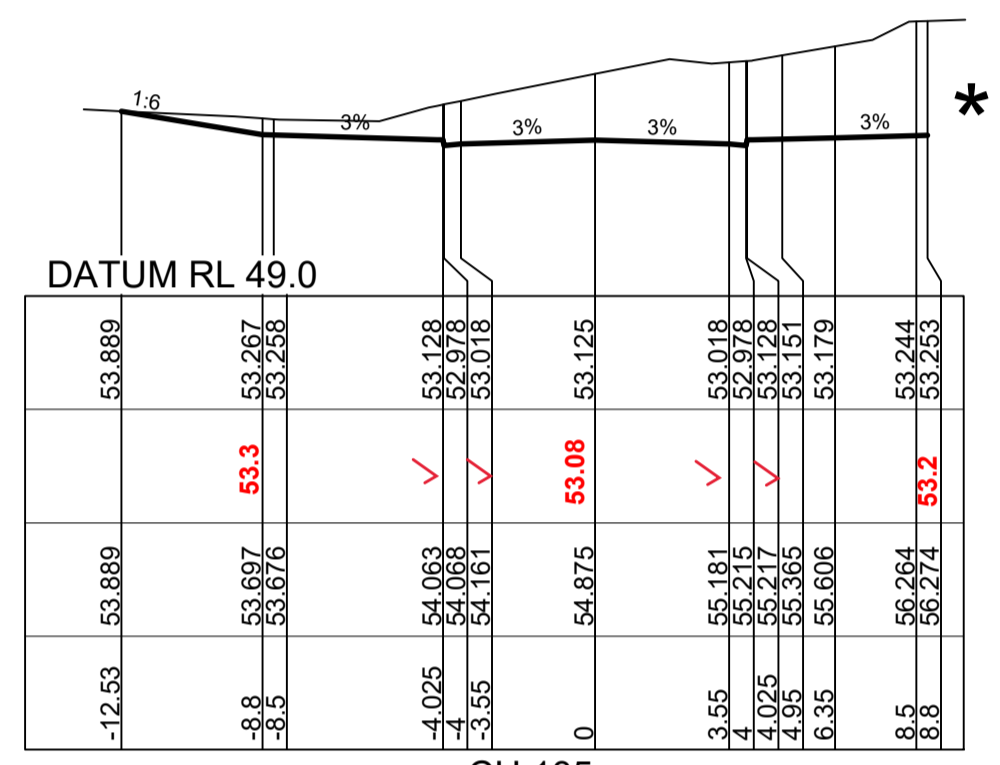
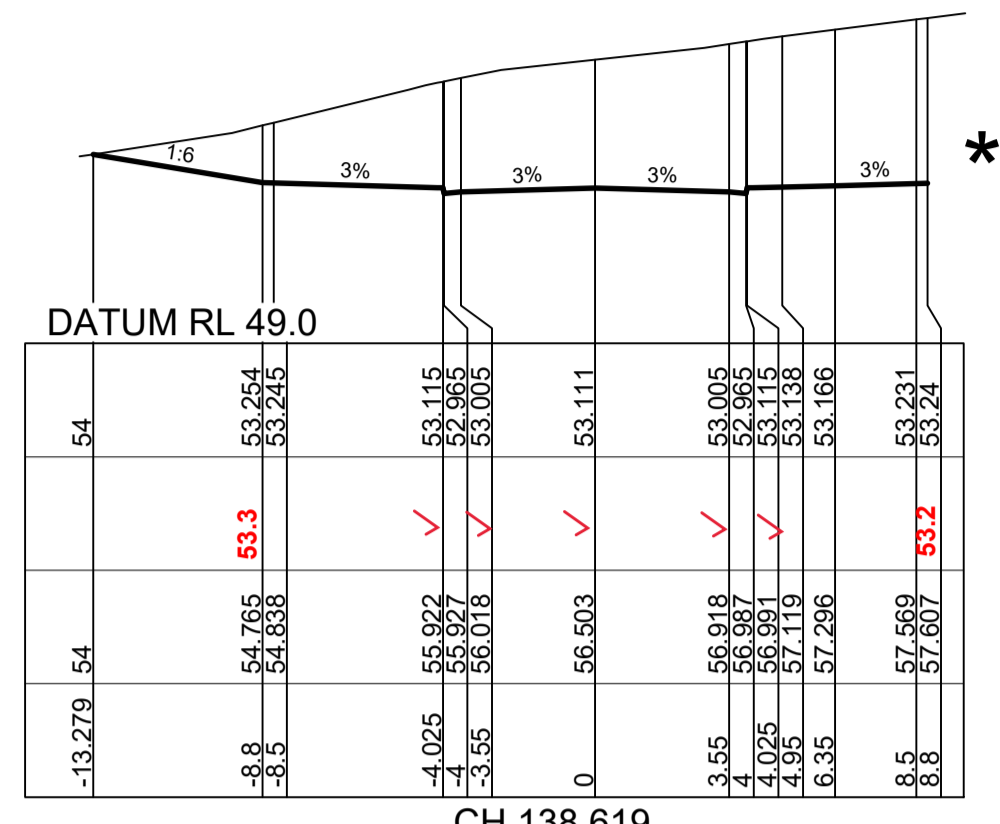
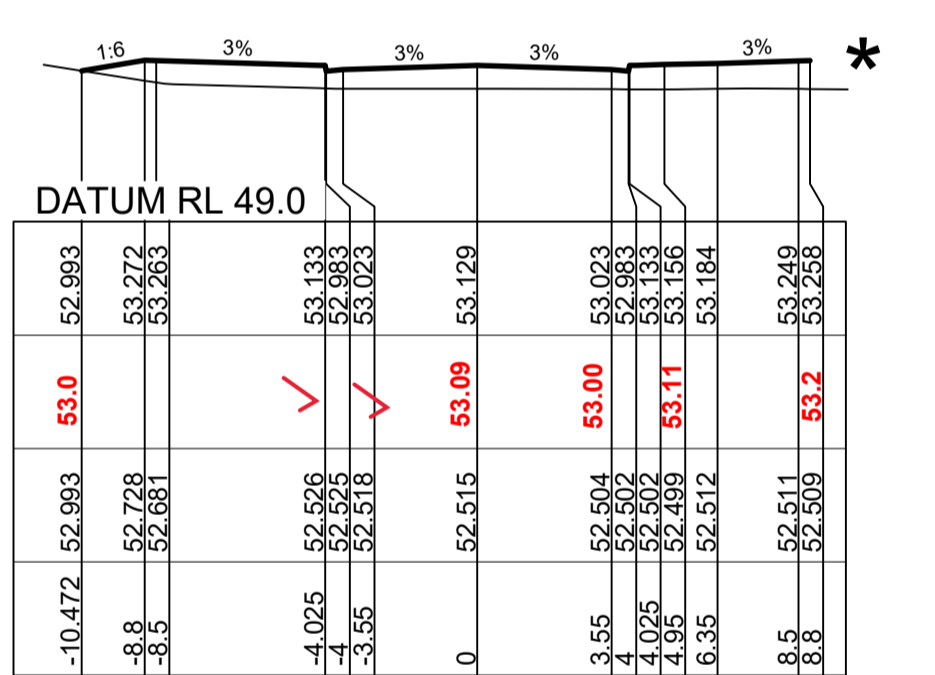
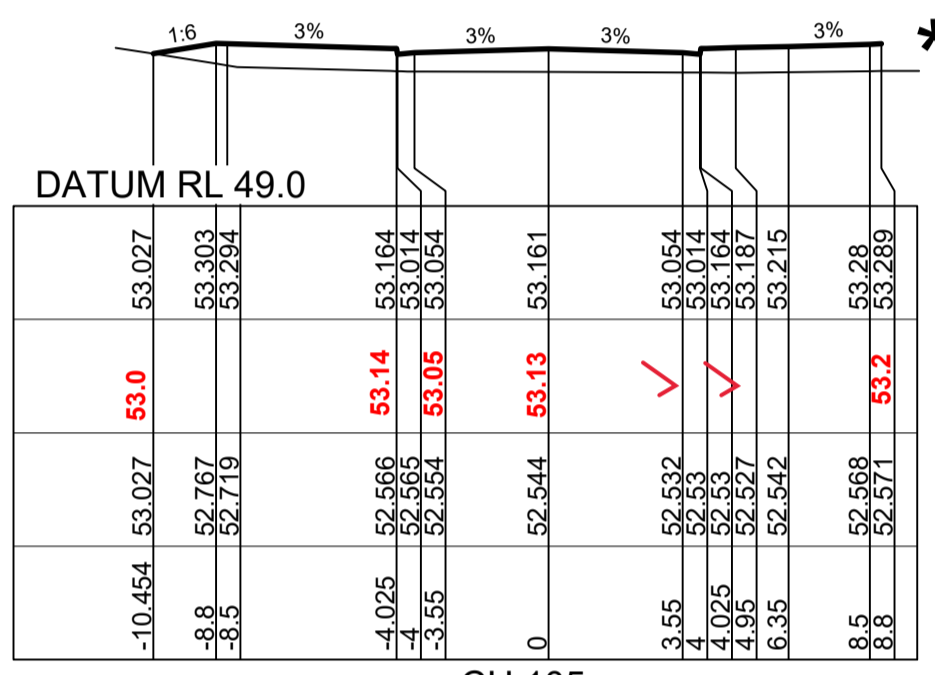
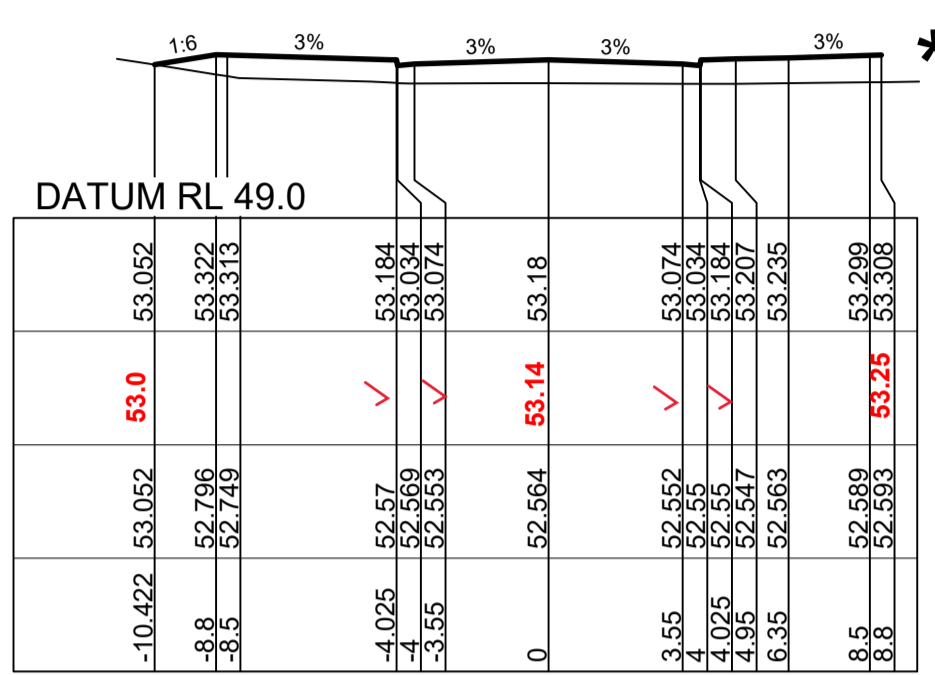
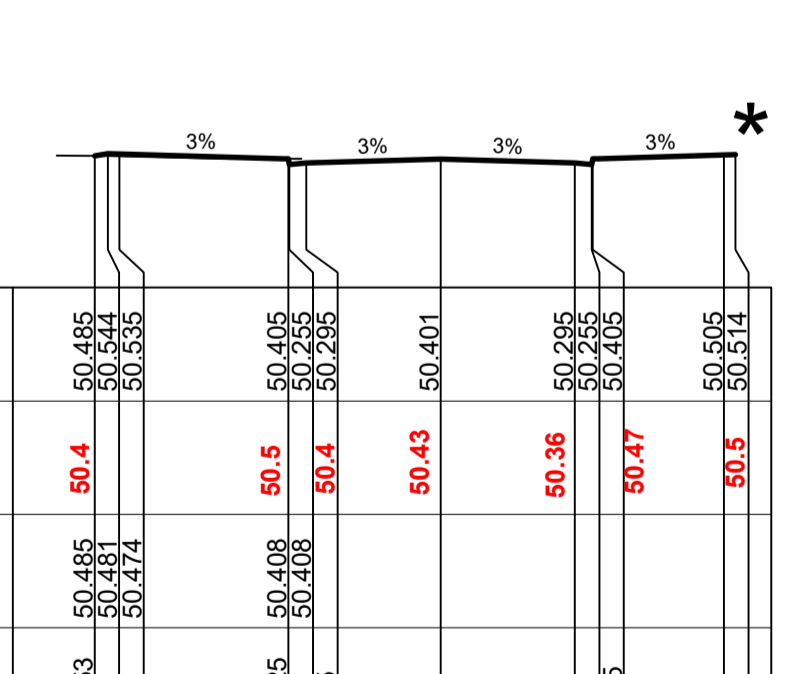
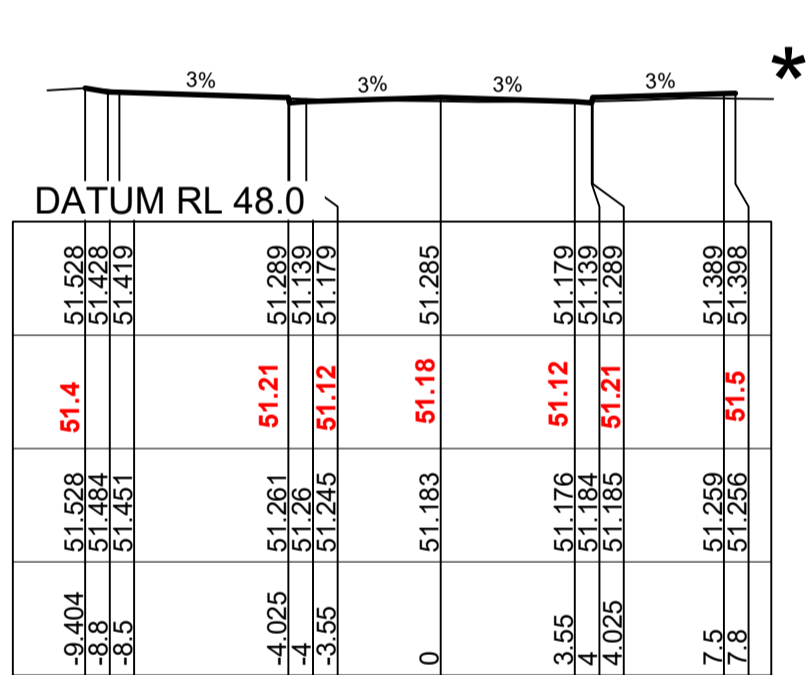
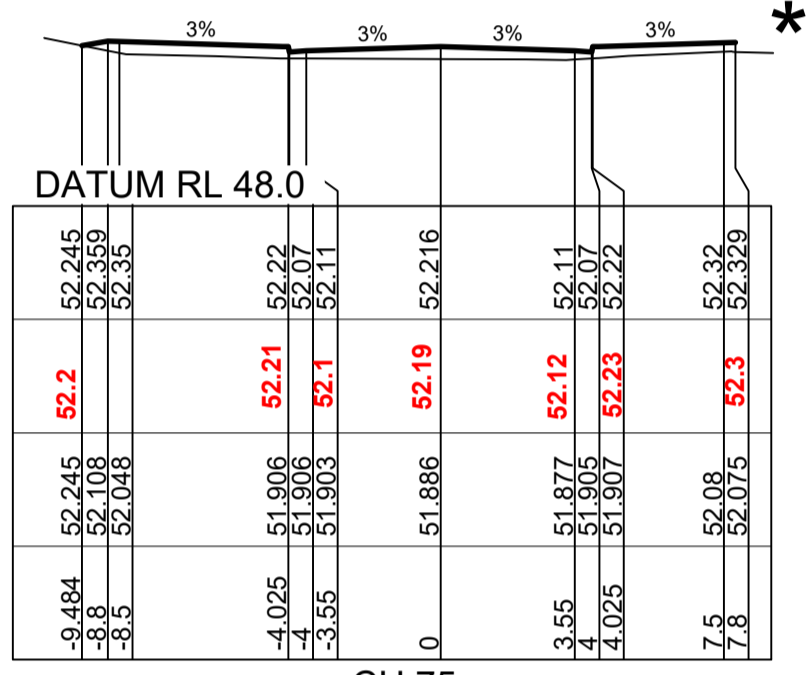
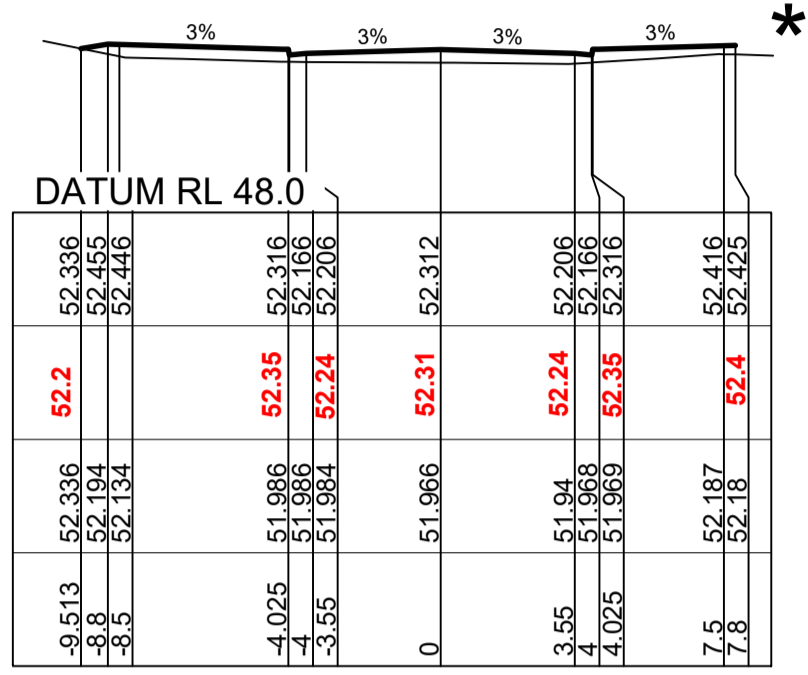
WORK AS EXECUTED SHOWN IN RED

SIGNATURE.....

PETER ROBERT WARWICK  
REGISTERED LAND SURVEYOR

VINCE MORGAN SURVEYORS PTY LTD  
DATE: 20/12/20 REF: 16800-16

\* NOTE  
FOR LOT GRADING  
REFER TO PLANS CC203



**SUBDIVISION WORKS CERTIFICATE**  
Certificate No. 20130299SW51.....  
Date of Issue 28/08/2020.....  
Issuing Officer *D. Rest*  
Accreditation No. BDC3367  
These plans/specifications form part of the certificate issued 28th of August 2020

a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.  
b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

ISSUED FOR CONSTRUCTION APPROVAL

SANDSTONE ARCH  
REDBANK, NORTH RICHMOND  
ROAD 43 & 401 CROSS SECTION

PLAN No: 11018512/CC208 2  
FILE No: 11018512CC208  
SHEET SIZE: A1 ORIGINAL

**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au



THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

AMENDMENT	DES	DRN	CKD	APR	DATE
2	CC	NDW	MS	DF	21/08/20
1	MP	NDW	RO	MS	20/07/20



Plotfile: 21 August, 2020 12:31:50 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\12 - Stage 1 DA\CCSANDSTONE ARCH\11018512CC209.dwg

DESIGN SURFACE LEVEL	WAE	EXISTING SURFACE LEVEL	OFFSET
-8.8 52.939	52.55	52.334	-8.8 52.334
-8.5 52.215		52.215	-8.5 52.215
-6.35 52.139		52.139	-6.35 52.139
-4.95 51.987		52.445	-4.95 51.987
-4.025 51.948		52.394	-4.025 51.948
-4 51.946		52.244	-4 51.946
-3.55 51.954		52.284	-3.55 51.954
0 51.987		52.391	0 51.987
3.55 51.972		52.284	3.55 51.972
4.025 51.988		52.244	4.025 51.988
7.5 52.138		52.484	7.5 52.138
7.8 52.159		52.503	7.8 52.159

DATUM RL 48.0	CH 37.727
-8.8 51.737	51.8
-8.5 51.391	
-6.35 51.248	
-4.95 51.269	
-4.025 51.205	
-4 51.206	
-3.55 51.221	
0 51.286	
3.55 51.258	
4.025 51.284	
7.5 51.494	
7.8 51.513	

DATUM RL 46.0	CH 75
-8.8 50.217	50.25
-8.5 50.273	
-6.35 50.17	
-4.95 50.115	
-4.025 50.005	
-4 50.003	
-3.55 49.995	
0 50.058	
3.55 50.044	
4.025 50.072	
7.5 50.282	
7.8 50.302	

DATUM RL 45.0	CH 105
-8.8 49.155	48.95
-8.5 49.23	
-6.35 49.017	
-4.95 48.948	
-4.025 48.939	
-4 48.939	
-3.55 48.943	
0 48.93	
3.55 48.894	
4.025 48.903	
7.5 49.038	
7.8 49.054	

DATUM RL 44.0	CH 150
-8.8 47.61	47.95
-8.5 47.385	
-6.35 47.471	
-4.95 47.409	
-4.025 47.356	
-4 47.356	
-3.55 47.385	
0 47.416	
3.55 47.399	
4.025 47.417	
7.5 47.573	
7.8 47.594	

DATUM RL 43.0	CH 195
-8.8 47.004	47.5
-8.5 47.004	
-6.35 46.986	
-4.95 46.938	
-4.025 46.855	
-4 46.852	
-3.55 46.807	
0 46.754	
3.55 46.719	
4.025 46.708	
7.5 46.577	
7.8 46.501	

DATUM RL 43.0	CH 216.728
-8.8 46.895	47.2
-8.5 46.889	
-6.35 46.756	
-4.95 46.686	
-4.025 46.65	
-4 46.649	
-3.55 46.652	
0 46.615	
3.55 46.577	
4.025 46.581	
7.5 46.577	
7.8 46.501	

DATUM RL 48.0	CH 30
-8.8 52.021	52.05
-8.5 51.636	
-6.35 51.593	
-4.95 51.49	
-4.025 51.443	
-4 51.444	
-3.55 51.458	
0 51.517	
3.55 51.493	
4.025 51.507	
7.5 51.703	
7.8 51.723	

DATUM RL 47.0	CH 60
-8.8 50.757	50.85
-8.5 50.735	
-6.35 50.684	
-4.95 50.61	
-4.025 50.534	
-4 50.532	
-3.55 50.528	
0 50.564	
3.55 50.537	
4.025 50.57	
7.5 50.812	
7.8 50.833	

DATUM RL 45.0	CH 102.5
-8.8 49.244	49.0
-8.5 49.213	
-6.35 49.117	
-4.95 49.045	
-4.025 48.939	
-4 48.939	
-3.55 48.938	
0 49.039	
3.55 49.009	
4.025 49.024	
7.5 49.157	
7.8 49.173	

DATUM RL 44.0	CH 137.5
-8.8 47.941	48.15
-8.5 47.883	
-6.35 47.806	
-4.95 47.733	
-4.025 47.611	
-4 47.612	
-3.55 47.622	
0 47.725	
3.55 47.685	
4.025 47.708	
7.5 47.914	
7.8 47.934	

DATUM RL 43.0	CH 182.5
-8.8 47.096	47.65
-8.5 47.09	
-6.35 47.047	
-4.95 46.987	
-4.025 46.916	
-4 46.914	
-3.55 46.908	
0 46.883	
3.55 46.817	
4.025 46.813	
7.5 46.703	
7.8 46.684	

DATUM RL 43.0	CH 215.012
-8.8 46.852	47.1
-8.5 46.832	
-6.35 46.785	
-4.95 46.754	
-4.025 46.734	
-4 46.733	
-3.55 46.722	
0 46.695	
3.55 46.641	
4.025 46.601	
7.5 46.385	
7.8 46.382	

DATUM RL 48.0	CH 15
-8.8 52.225	52.55
-8.5 52.215	
-6.35 52.139	
-4.95 51.987	
-4.025 51.948	
-4 51.946	
-3.55 51.954	
0 51.987	
3.55 51.972	
4.025 51.988	
7.5 52.138	
7.8 52.159	

DATUM RL 47.0	CH 47.5
-8.8 51.128	51.4
-8.5 51.102	
-6.35 51.049	
-4.95 50.974	
-4.025 50.887	
-4 50.885	
-3.55 50.906	
0 50.977	
3.55 50.934	
4.025 50.97	
7.5 51.218	
7.8 51.238	

DATUM RL 46.0	CH 92.787
-8.8 49.641	49.55
-8.5 49.614	
-6.35 49.51	
-4.95 49.43	
-4.025 49.344	
-4 49.341	
-3.55 49.355	
0 49.404	
3.55 49.407	
4.025 49.431	
7.5 49.548	
7.8 49.565	

DATUM RL 44.0	CH 135
-8.8 48.016	48.15
-8.5 47.988	
-6.35 47.888	
-4.95 47.815	
-4.025 47.673	
-4 47.674	
-3.55 47.683	
0 47.796	
3.55 47.752	
4.025 47.778	
7.5 47.991	
7.8 48.021	

DATUM RL 43.0	CH 180
-8.8 47.124	47.7
-8.5 47.113	
-6.35 47.07	
-4.95 47.009	
-4.025 46.931	
-4 46.931	
-3.55 46.927	
0 46.923	
3.55 46.857	
4.025 46.853	
7.5 46.748	
7.8 46.729	

DATUM RL 43.0	CH 212.728
-8.8 46.847	47.2
-8.5 46.842	
-6.35 46.804	
-4.95 46.777	
-4.025 46.76	
-4 46.759	
-3.55 46.747	
0 46.638	
3.55 46.572	
4.025 46.561	
7.5 46.411	
7.8 46.408	

DATUM RL 49.0	CH 12.5
-8.8 52.939	52.55
-8.5 52.334	
-6.35 52.247	
-4.95 52.031	
-4.025 52.046	
-4 52.046	
-3.55 52.052	
0 52.056	
3.55 52.062	
4.025 52.069	
7.5 52.207	
7.8 52.217	

DATUM RL 47.0	CH 45
-8.8 51.198	51.35
-8.5 51.176	
-6.35 51.123	
-4.95 51.047	
-4.025 50.969	
-4 50.97	
-3.55 50.984	
0 51.052	
3.55 51.012	
4.025 51.052	
7.5 51.291	
7.8 51.309	

DATUM RL 46.0	CH 90
-8.8 49.758	49.6
-8.5 49.731	
-6.35 49.609	
-4.95 49.529	
-4.025 49.456	
-4 49.456	
-3.55 49.468	
0 49.495	
3.55 49.501	
4.025 49.524	
7.5 49.669	
7.8 49.677	

DATUM RL 45.0	CH 120
-8.8 48.53	48.4
-8.5 48.526	
-6.35 48.423	
-4.95 48.328	
-4.025 48.193	
-4 48.193	
-3.55 48.21	
0 48.299	
3.55 48.23	
4.025 48.254	
7.5 48.496	
7.8 48.516	

DATUM RL 44.0	CH 165
-8.8 47.367	47.9
-8.5 47.316	
-6.35 47.242	
-4.95 47.164	
-4.025 47.112	
-4 47.112	
-3.55 47.122	
0 47.171	
3.55 47.162	
4.025 47.174	
7.5 47.237	
7.8 47.249	

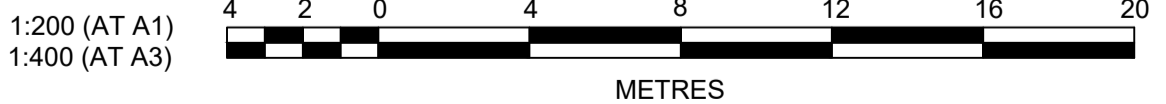
DATUM RL 43.0	CH 210
-8.8 46.877	47.4
-8.5 46.872	
-6.35 46.835	
-4.95 46.811	
-4.025 46.795	
-4 46.794	
-3.55 46.789	
0 46.585	
3.55 46.513	
4.025 46.503	
7.5 46.375	
7.8 46.385	

WORK AS EXECUTED SHOWN IN RED  
SIGNATURE.....  
VINCE MORGAN SURVEYORS PTY LTD  
DATE: 20/12/20 REF: 16800-16

a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.  
b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

SUBDIVISION WORKS CERTIFICATE  
Certificate No. 20130299SW51  
Date of Issue 28/08/2020  
Issuing Officer D. Resti  
Accreditation No. BDC3367  
These plans/specifications form part of the certificate issued 28th of August 2020

\* NOTE  
FOR LOT GRADING  
REFER TO PLANS CC203



J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au



ISSUED FOR CONSTRUCTION APPROVAL

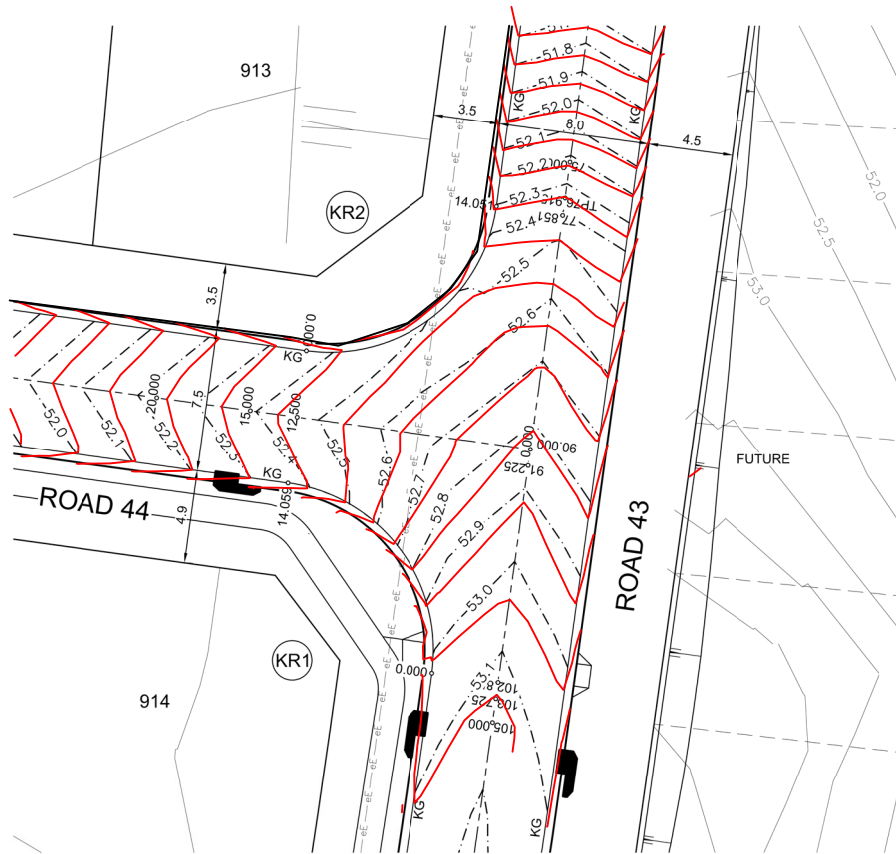
SANDSTONE ARCH  
REDBANK, NORTH RICHMOND  
ROAD 44 CROSS SECTION

PLAN No: 11018512/CC209 2  
FILE No: 11018512CC209  
SHEET SIZE: A1 ORIGINAL

NO	DESCRIPTION	DATE	BY	CHKD
2	CERTIFIERS COMMENTS ADDRESSED	21/08/20	CC	NDW
1	ISSUE 80% CLIENT COMMENTS	20/07/20	MP	NDW
	AMENDMENT		DES	DRN



Plotfile: 21 August, 2020 12:32:58 PM File Name: J:\110185 - Redbank North Richmond Residential Precinct\12 - Stage 1 DA\DC\CC\SANDSTONE ARCH\11018512CC210.dwg



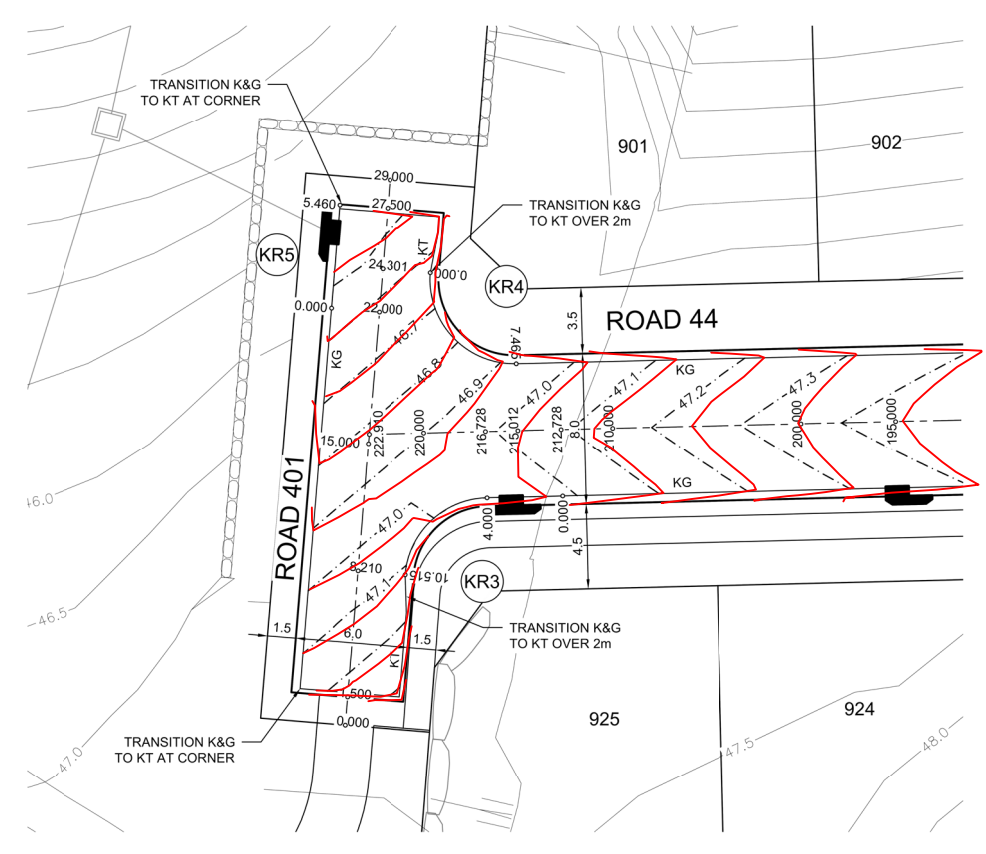
PLAN  
SCALE 1:200

NOTE:  
KERB RETURN LEVELS  
ARE LIP OF GUTTER

DESIGN GRADELINE	-3.0%	-6.33%	0.815%
VERTICAL GEOMETRY	2.00m V.C.	2.00m V.C.	
DATUM 41.0			
DESIGN			
LIP GRADING	46.549	46.455	46.409
ROAD CHAINAGE	22.00	3	4
CHAINAGE	0	5.27	5.46

KR5  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

CHAINAGE	EASTING	NORTHING	BEARING
0	286345.41	6281893.62	45°45'07.27"
5.5	286349.35	6281897.46	45°45'07.27"



PLAN  
SCALE 1:200

- a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.
- b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

DESIGN GRADELINE  
VERTICAL GEOMETRY

	-1.747%	-7.032%	-3.040%
DATUM 47.0			
DESIGN			
LIP GRADING	52.915	52.714	52.502
ROAD CHAINAGE	102.851	7.029	10.544
CHAINAGE	0	3.515	14.059

KR1  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286495.18	6281731.9	48°54'32.58"		14.06
7.03	286501.93	6281737.78		-8.95	
14.06	286496.04	6281744.53	318°54'32.58"		

DESIGN GRADELINE  
VERTICAL GEOMETRY

	3.000%	1.047%	-6.637%
DATUM 47.0			
DESIGN			
LIP GRADING	52.35	52.449	52.502
ROAD CHAINAGE	12.5	7.029	7.987
CHAINAGE	0	3.515	14.059

KR2  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286501.39	6281749.2	138°54'32.58"		14.06
7.03	286507.28	6281742.45		-8.95	
14.06	286514.02	6281748.33	48°54'32.58"		

DESIGN GRADELINE  
VERTICAL GEOMETRY

	-2.448%	1.004%	1.006%	3.329%	3.330%
DATUM 42.0					
DESIGN					
LIP GRADING	47.01	46.94	46.914	46.915	46.947
ROAD CHAINAGE	212.728	3.043	4.735	4.735	5.471
CHAINAGE	0	2.087	7.26	10.51	10.515

KR3  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286348.11	6281878.04	309°37'50.11"		6.51
4	286345.03	6281880.59	309°37'50.11"		
7.26	286341.95	6281883.14		-4.45	
10.51	286339.09	6281880.35	225°45'07.27"		

DESIGN GRADELINE  
VERTICAL GEOMETRY

	3.0%	5.038%	2.567%
DATUM 42.0			
DESIGN			
LIP GRADING	46.632	46.688	46.782
ROAD CHAINAGE	24.301	3.733	5.599
CHAINAGE	0	1.866	7.465

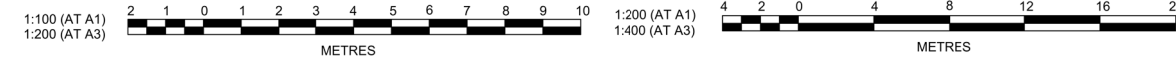
KR4  
HORIZONTAL SCALE 1:200  
VERTICAL SCALE 1:100

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286350.62	6281891.58	225°45'07.27"		7.47
3.73	286347.07	6281888.12		-4.45	
7.47	286350.88	6281884.96	129°37'50.11"		

**SUBDIVISION WORKS CERTIFICATE**

Certificate No. 20130299SW51  
 Date of Issue 28/08/2020  
 Issuing Officer D. Resta  
 Accreditation No. BDC3367

These plans/specifications form part of the certificate issued 28th of August 2020



WORK AS EXECUTED SHOWN IN RED

SIGNATURE.....  
 PETER ROBERT WARWICK  
 REGISTERED LAND SURVEYOR

VINCE MORGAN SURVEYORS PTY LTD  
 DATE: 20/12/20 REF: 16800-16

2	CERTIFIERS COMMENTS ADDRESSED	CC	NDW	MS	DF	21/08/20
1	ISSUE 80% CLIENT COMMENTS	MP	NDW	RO	MS	20/07/20
	AMENDMENT	DES	DRN	CKD	APR	DATE

**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

CLIENT: **REDBANK**

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

**ISSUED FOR CONSTRUCTION APPROVAL**

SANDSTONE ARCH  
 REDBANK, NORTH RICHMOND  
 KERB RETURNS

PLAN No: **11018512/CC210** 2  
 FILE No: 11018512CC210  
 SHEET SIZE: A1 ORIGINAL



Plotted: 27 August, 2020 10:55:52 AM File Name: J:\110185 - Redbank North Richmond Residential Precincts\12 - Stage 1\DA\CD\CC\SANDSTONE ARCH\11018512CC211.dwg



LEGEND	
	DESIGN CATCHMENTS

PIT SCHEDULE					
PIT NAME	SURFACE FITTING TYPE AND SIZE	PIT EASTING (m)	PIT NORTHING (m)	PIT DEPTH (m)	COMMENTS
1/1	1.8 m lintel	286405.96	6281839.93	1.45	
1/2	1.8 m lintel	286492.83	6281730.45	1.55	
1/3	1.8 m lintel	286493.56	6281746.69	1.55	
1/4	1.8 m lintel	286477.64	6281764.93	1.46	
1/5	1.8 m lintel	286448.99	6281793.65	1.46	
1/6	1.8 m lintel	286423.37	6281815.13	1.63	
1/7	1.8 m lintel	286398.72	6281835.54	1.61	
1/8	1.8 m lintel	286374.07	6281855.95	1.64	
1/9	1.8 m lintel	286361.48	6281866.38	1.64	
1/10	2.4 m lintel sag	286345.73	6281879.43	1.51	
1/11	2.4 m lintel sag	286347.96	6281896.74	2.93	EXISTING ENDCAP
1/12	JP GRATED 900 x 900	286343.04	6281908.89	2.37	EXISTING PIT (4/3 YEOMANS)
2/1	1.8 m lintel	286457.70	6281796.57	1.48	
3/1	1.8 m lintel	286406.73	6281839.29	1.46	
4/1	1.8 m lintel	286370.44	6281869.35	1.46	
A/1	SLOPE JUNCTION	286461.14	6281748.84	0.68	
A/2	IAD 900x900	286474.64	6281760.62	1.72	
B/1	IAD 450x450	286509.36	6281794.44	0.69	
B/2	SLOPE JUNCTION	286497.96	6281805.66	0.70	
B/3	IAD 450x450	286485.31	6281817.74	0.69	
B/4	SLOPE JUNCTION	286472.51	6281828.32	0.71	
B/5	IAD 450x450	286459.33	6281839.21	0.70	
B/6	SLOPE JUNCTION	286447.00	6281849.40	0.71	
B/7	IAD 450x450	286434.66	6281859.59	0.78	
B/8	SLOPE JUNCTION	286422.33	6281869.78	0.80	
B/9	IAD 600x900	286410.00	6281879.98	0.77	
B/10	IAD 600x900	286397.25	6281889.67	0.78	
B/11	SLOPE JUNCTION	286384.92	6281899.86	0.78	
B/12	IAD 900x900	286373.49	6281909.45	1.67	EXISTING PIT
B/13	JP GRATED 900 x 900	286366.69	6281926.38	1.63	EXISTING PIT

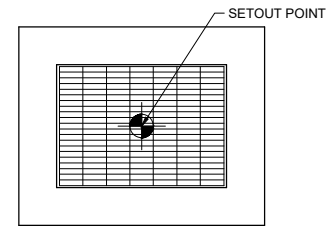
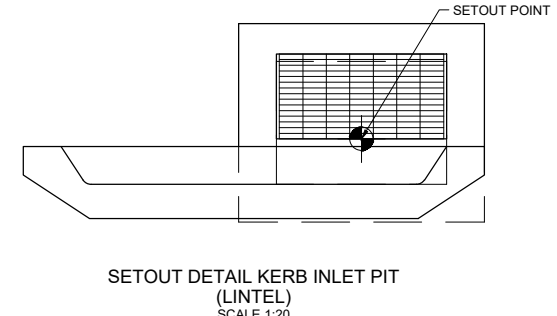
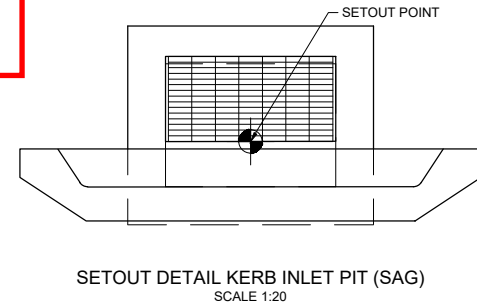
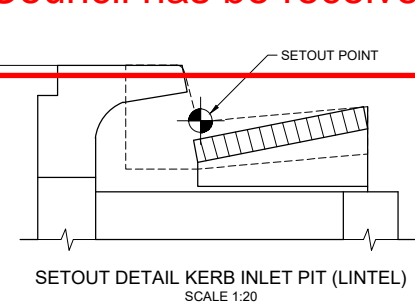
PLAN  
SCALE 1:500

a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.

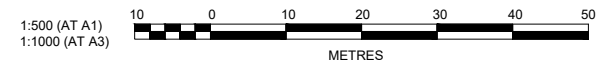
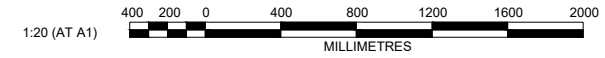
**SUBDIVISION WORKS CERTIFICATE**  
 Certificate No. 20130299SW51  
 Date of Issue 28/08/2020  
 Issuing Officer *D. Restar*  
 Accreditation No. BDC3367  
 These plans/specifications form part of the certificate issued 28th of August 2020

b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

WORK AS EXECUTED SHOWN IN RED  
 SIGNATURE: *[Signature]*  
 PETER ROBERT WARWICK  
 REGISTERED LAND SURVEYOR  
 VINCE MORGAN SURVEYORS PTY LTD  
 DATE: 20/12/20 REF: 16800-16



GRATED SURFACE INLET PIT (GSIP)  
SCALE 1:20



**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS  
 PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

CLIENT:   
 DATUM:  
 ORIGIN:

ISSUED FOR CONSTRUCTION APPROVAL

SANDSTONE ARCH  
 REDBANK, NORTH RICHMOND  
 CATCHMENT PLAN & PIT SCHEDULE

PLAN No: 11018512/CC211 2  
 FILE No: 11018512CC211  
 SHEET SIZE: A1 ORIGINAL

NO	DESCRIPTION	CC	NDW	MS	DF	DATE
2	CERTIFIERS COMMENTS ADDRESSED					21/08/20
1	ISSUE 80% CLIENT COMMENTS	MP	NDW	RO	MS	20/07/20
	AMENDMENT	DES	DRN	CKD	APR	DATE







**SUBDIVISION WORKS CERTIFICATE**

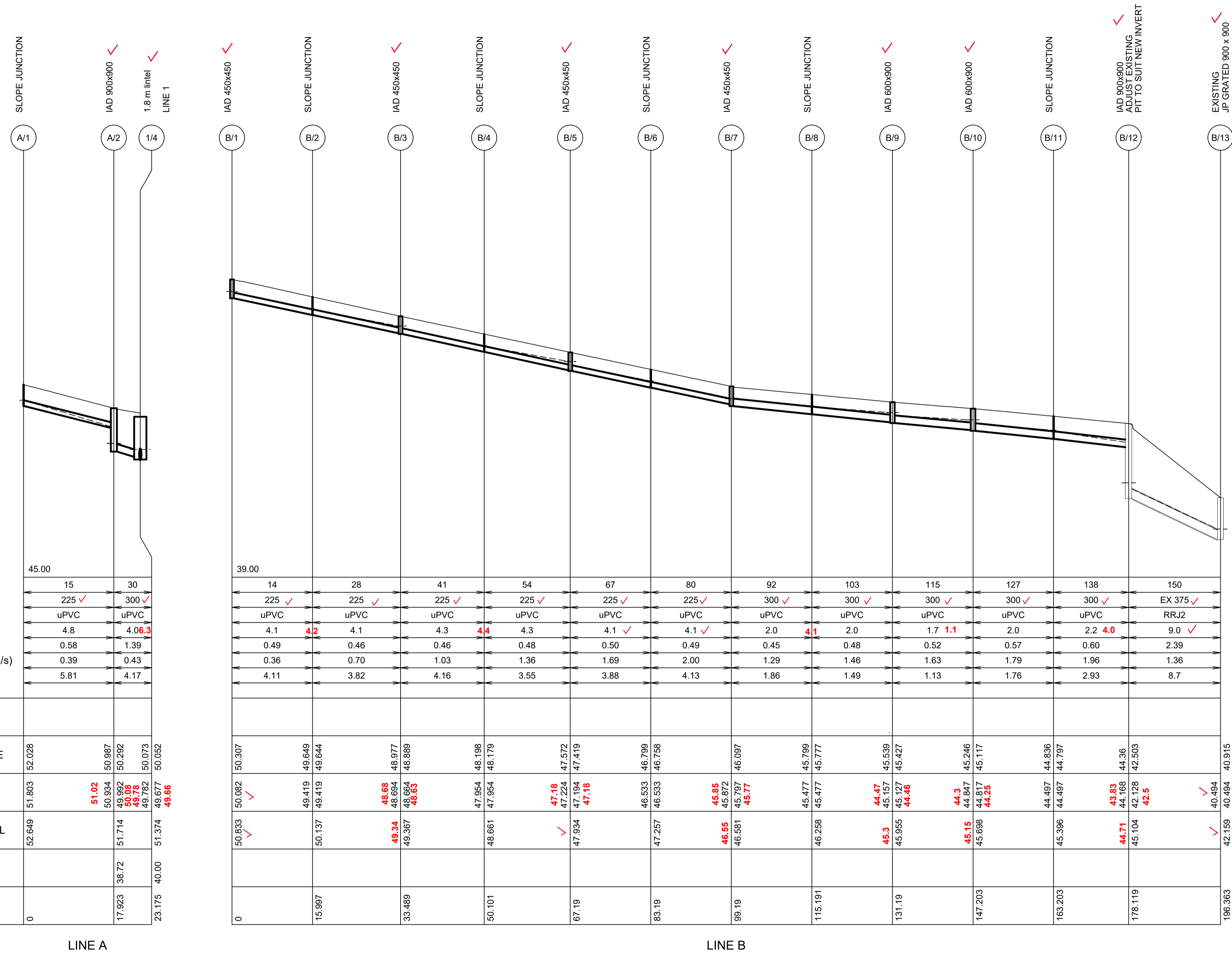
Certificate No. 20130299SW51  
 Date of Issue 28/08/2020  
 Issuing Officer *D. Restu*  
 Accreditation No. BDC3367

These plans/specifications form part of the certificate issued **28th of August 2020**

- a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.
- b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

**WORK AS EXECUTED SHOWN IN RED**

SIGNATURE *P.R.*  
 PETER ROBERT WARWICK  
 REGISTERED LAND SURVEYOR  
**VINCE MORGAN SURVEYORS PTY LTD**  
 DATE: 20/12/20 REF: 16800-16

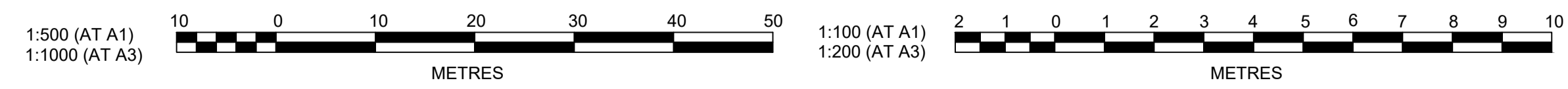


DATUM (m)	45.00
PEAK FLOW (L/s)	15
PIPE SIZE (mm)	225 ✓
PIPE CLASS	uPVC
PIPE GRADE (%)	4.8
PIPE COVER MINIMUM	0.58
FULL PIPE VELOCITY (m/s)	0.39
HGL GRADE (%)	5.81

WAE	
HYDRAULIC GRADE LINE	52.649 52.028
INVERT LEVEL	51.803 51.02
DESIGN SURFACE LEVEL	52.649 51.714
ROAD CHAINAGE	38.72
PIPE CHAINAGE	17.923

DATUM (m)	39.00
PEAK FLOW (L/s)	14
PIPE SIZE (mm)	225 ✓
PIPE CLASS	uPVC
PIPE GRADE (%)	4.1
PIPE COVER MINIMUM	0.49
FULL PIPE VELOCITY (m/s)	0.36
HGL GRADE (%)	4.11

WAE	
HYDRAULIC GRADE LINE	50.062 50.307
INVERT LEVEL	50.062 ✓
DESIGN SURFACE LEVEL	50.833 ✓
ROAD CHAINAGE	15.997
PIPE CHAINAGE	0



**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH:  
 DATUM:  
 ORIGIN:

CLIENT:  
  
 THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

**ISSUED FOR CONSTRUCTION APPROVAL**

**SANDSTONE ARCH**  
**REDBANK, NORTH RICHMOND**  
 DRAINAGE LONGITUDINAL SECTIONS

PLAN No:	11018512/CC213
FILE No:	11018512CC213
SHEET SIZE:	A1 ORIGINAL

2	CERTIFIERS COMMENTS ADDRESSED	CC	NDW	MS	DF	21/08/20
1	ISSUE 80% CLIENT COMMENTS	MP	NDW	RO	MS	20/07/20
	AMENDMENT	DES	DRN	CKD	APR	DATE







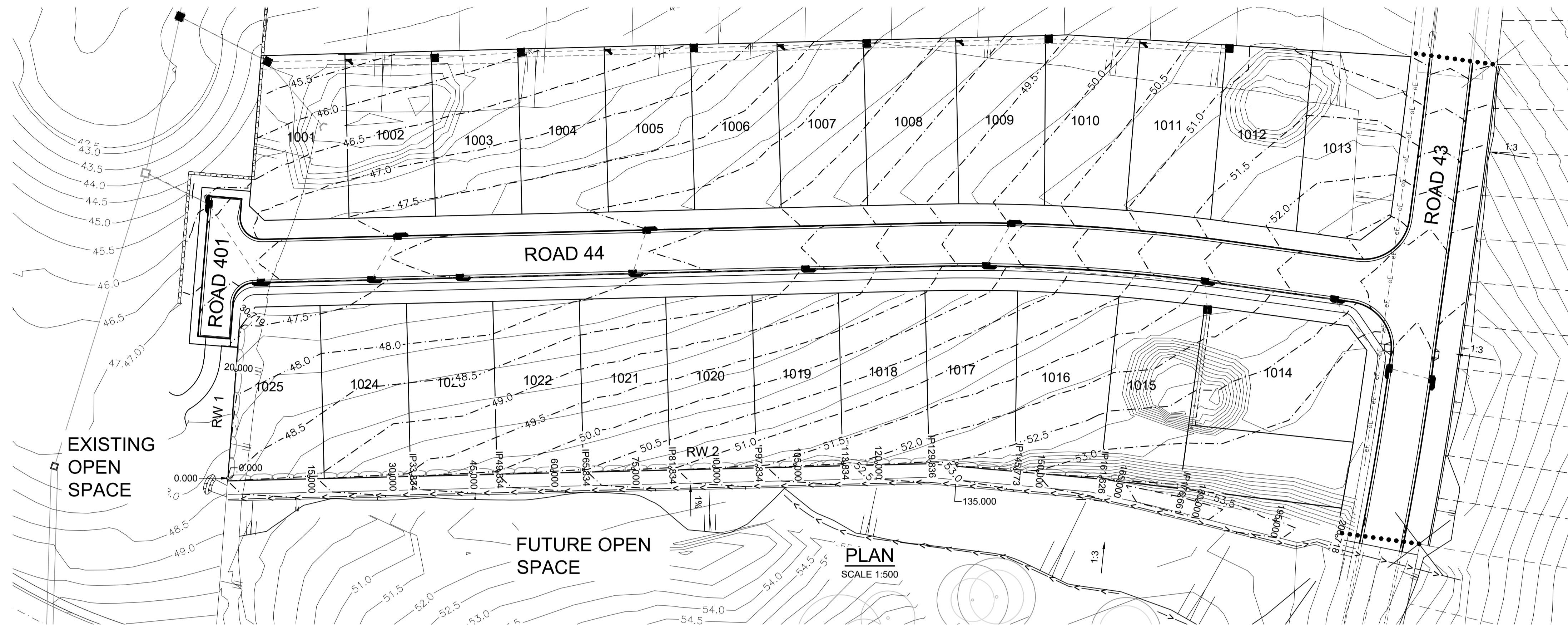
DESIGN STORM 1:100yr ARI HYDROLOGIC RESULTS

PIT	PIT	CATCHMENT	IMPERVIOUS	RUNOFF	IMPERVIOUS	IMPERVIOUS	PERVIOUS	PERVIOUS	FULL AREA	FULL AREA	FULL AREA	PARTIAL AREA	PARTIAL AREA	PARTIAL AREA	TOTAL	DIRECT	APPROACH	FLOODED	FLOODED	FLOODED	ROAD	ROAD	CHOKER	INLET	BYPASS	BYPASS	COMMENTS	
NAME	TYPE	AREA	PERCENTAGE	C	TIME Tc	INTENSITY I	TIME Tc	INTENSITY I	TIME Tc	INTENSITY I	CATCHMENT FLOW Qc	TIME Tc	INTENSITY I	CATCHMENT FLOW Qc	CATCHMENT FLOW Qc	FLOW Qd	FLOW Qa	DEPTH d	WIDTH w	(vx/d)	GRADE	XFALL	FACTOR (-)	FLOW Qg	FLOW Qb	PIT		
(-)	(-)	(ha)	(%)	(-)	(min)	(mm/hr)	(min)	(mm/hr)	(min)	(mm/hr)	(L/s)	(min)	(mm/hr)	(L/s)	(L/s)	(L/s)	(L/s)	(m)	(m)	(sq.m/s)	(%)	(%)	(-)	(L/s)	(L/s)	(-)		
1/1	1.8 m lintel	0.01	70	0.93	5	167.3	10	167.3	10	167.3	4	5	219.1	5	5	0	5	0.04	0.51	0.02	1	3	0.8	4	1	LOST		
1/2	1.8 m lintel	0.009	85	0.915	5	219.1	10	167.3	10	167.3	4	5	219.1	5	5	0	5	0.04	0.46	0.02	1	3	0.8	4	1	1/3		
1/3	1.8 m lintel	0.019	85	0.915	5	219.1	10	167.3	10	167.3	8	5	219.1	10	10	0	11	0.05	0.72	0.04	3.1	4.2	0.8	9	2	1/4		
1/4	1.8 m lintel	0.021	85	0.915	5	219.1	10	167.3	10	167.3	9	5	219.1	11	11	0	13	0.05	0.76	0.04	3.9	3	0.8	10	3	1/5		
1/5	1.8 m lintel	0.141	85	0.915	5	219.1	10	167.3	10	167.3	60	5	219.1	72	72	0	75	0.08	1.87	0.11	4.2	3	0.8	46	29	1/6		
1/6	1.8 m lintel	0.126	85	0.915	5	219.1	10	167.3	10	167.3	53	5	219.1	64	64	0	93	0.09	2.14	0.11	3.1	3	0.8	57	36	1/7		
1/7	1.8 m lintel	0.122	85	0.915	5	219.1	10	167.3	10	167.3	52	5	219.1	62	62	0	99	0.11	2.79	0.09	1	3	0	-54	152	1/8		
1/8	1.8 m lintel	0.123	85	0.915	5	219.1	10	167.3	10	167.3	52	5	219.1	63	63	0	215	0.14	3.79	0.14	1	3	0.011632	1	214	1/9		
1/9	1.8 m lintel	0.063	85	0.915	5	219.1	10	167.3	10	167.3	27	5	219.1	32	32	0	246	0.13	3.68	0.16	1.5	3	0.592637	83	164	1/10		
1/10	2.4 m lintel sag	0.118	85	0.915	5	219.1	10	167.3	10	167.3	50	5	219.1	60	60	0	224	0.05			2.4	3	0.5	25	199	1/11		
1/11	2.4 m lintel sag	0.05	85	0.915	5	219.1	10	167.3	10	167.3	21	5	219.1	26	26	0	230	0.15			4	4.9	0.5	140	90	LOST		
1/12	JP GRATED 900 x 900																										EXISTING ENDCAP	
2/1	1.8 m lintel	0.053	85	0.915	5	219.1	10	167.3	10	167.3	23	5	219.1	27	27	0	27	0.06	1.11	0.07	4.1	3	0.8	21	6	3/1		
3/1	1.8 m lintel	0.052	85	0.915	5	219.1	10	167.3	10	167.3	22	5	219.1	27	27	0	33	0.08	1.77	0.05	1	3	0.8	25	8	4/1		
4/1	1.8 m lintel	0.036	85	0.915	5	219.1	10	167.3	10	167.3	15	5	219.1	18	18	0	26	0.07	1.5	0.05	1.3	3	0.8	20	6	1/11		
A/1	SLOPE JUNCTION	0.055	85	0.915	5	219.1	10	167.3	10	167.3	23	5	219.1	28	28	0	28											
A/2	IAD 900x900	0.054	85	0.915	5	219.1	10	167.3	10	167.3	23	5	219.1	28	28	0	28				3.8							
B/1	IAD 450x450	0.053	85	0.915	5	219.1	10	167.3	10	167.3	22	5	219.1	27	27	0	27											
B/2	SLOPE JUNCTION	0.051	85	0.915	5	219.1	10	167.3	10	167.3	22	5	219.1	26	26	0	26											
B/3	IAD 450x450	0.052	85	0.915	5	219.1	10	167.3	10	167.3	22	5	219.1	26	26	0	26											
B/4	SLOPE JUNCTION	0.05	85	0.915	5	219.1	10	167.3	10	167.3	21	5	219.1	26	26	0	26											
B/5	IAD 450x450	0.052	85	0.915	5	219.1	10	167.3	10	167.3	22	5	219.1	27	27	0	27											
B/6	SLOPE JUNCTION	0.049	85	0.915	5	219.1	10	167.3	10	167.3	21	5	219.1	25	25	0	25											
B/7	IAD 450x450	0.049	85	0.915	5	219.1	10	167.3	10	167.3	21	5	219.1	25	25	0	25											
B/8	SLOPE JUNCTION	0.049	85	0.915	5	219.1	10	167.3	10	167.3	21	5	219.1	25	25	0	25											
B/9	IAD 600x900	0.049	85	0.915	5	219.1	10	167.3	10	167.3	21	5	219.1	25	25	0	25											
B/10	IAD 600x900	0.049	85	0.915	5	219.1	10	167.3	10	167.3	21	5	219.1	25	25	0	25											
B/11	SLOPE JUNCTION	0.049	85	0.915	5	219.1	10	167.3	10	167.3	21	5	219.1	25	25	0	25											
B/12	IAD 900x900	0.05	85	0.915	5	219.1	10	167.3	10	167.3	21	5	219.1	26	26	0	26											
B/13	JP GRATED 900 x 900																										EXISTING PIT	

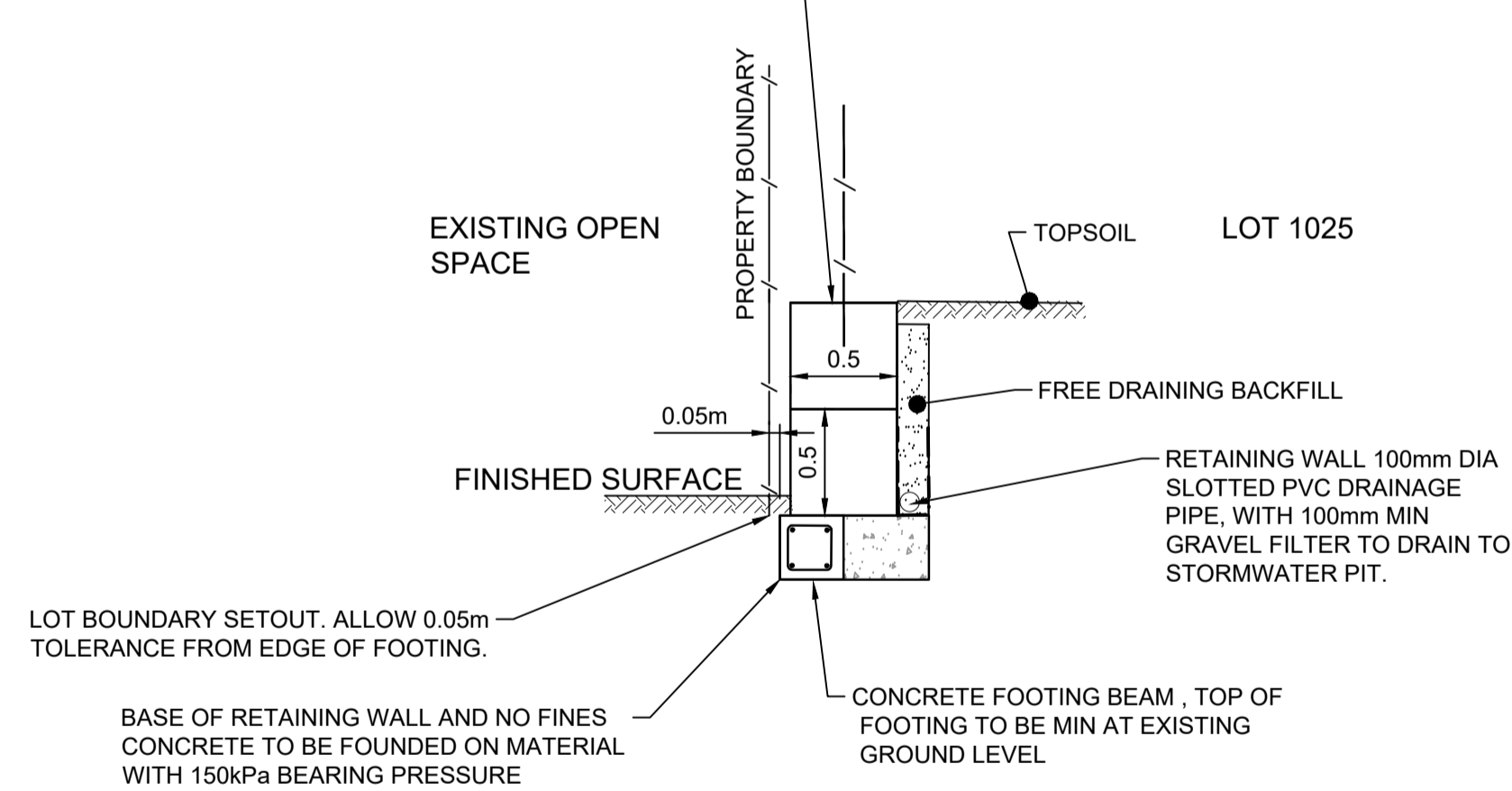
DESIGN STORM 1:100yr ARI HYDRAULIC RESULTS

PIPE	PIPE	PIPE	PIPE	PIPE	PIPE	FULL AREA	FULL AREA	FULL AREA	FULL AREA	PART-ARE	PART-ARE	PART-ARE	PART-ARE	DIRECT	PEAK	NET	PIPE	FLOW	Q/Ccap	FULL PIPE	NORM.	CRIT.	U/S PIT	PIPE	PIPE	PIPE	U/S PIT	U/S PIT	PIPE	PIT LOSS	WSE LOSS	TOTAL	U/S PIT	U/S PIPE	D/S PIPE	HGL	MIN.	U/S	COMMENTS
NAME	TYPE	DIAMETER	LENGTH	SLOPE	AREA AF	TIME Tc	INTENSITY I	SUM CA	FLOW Qc	TIME Tc	INTENSITY I	SUM CA	FLOW Qc	FLOW Qp	FLOW Qrat	FLOW Qb	FLOW Qc	CAP. Qcap	RATIO	VELOCITY	VELOCITY	VELOCITY	GRATE RL	U/S IL	D/S IL	D/S DROP	Ku	Kw	V HEAD	(Kw.Vhead)	(Kw.Vhead)	PIPE LOSS	HGL	HGL	HGL	GRADE	COVER	FREEBOARD	
1/1 to 1/2	RRJ2	375	8.06	1.01	0.11	10	167.3	0.009	4.3	5	219.1	0.01	4.8	0	4.8	-1	3.8	190.5	0.02	0.03	0.68	0.54	53.033	51.584	51.503	0.031	4.5	0	0	0	0	0.11	51.959	51.959	51.848	1.37	1.1	1.07	
1/2 to 1/3	RRJ2	375	16.26	3.82	0.11	10.07	166.9	0.018	8.3	5.07	218.1	0.02	9.5	0	9.5	-1.9	7.6	371.4	0.02	0.07	1.34	0.64	53.021	51.473	50.852	0.178	1.82	2.46	0	0	0.8	51.849	51.848	51.051	4.9	1.13	1.17		
1/3 to 1/4	RRJ2	375	24.21	3.02	0.11	10.2	166	0.035	16.3	5.14	217.2	0.03	19.1	0	19.1	-3.1	16	330.2	0.05	0.14	1.54	0.79	52.22	50.674	49.943	0.031	2.16	2.78	0	0	0.69	51.052	51.049	50.356	2.86	1.1	1.17		
1/4 to 1/5	RRJ2	375	40.56	3.77	0.11	10.4	164.7	0.154	70.6	5.19	216.4	0.14	84.4	0	84.4	-3.5	80.9	369.2	0.22	0.73	2.68	1.29	51.374	49.913	48.382	0.147	2.49	2.77	0.03	0.07	0.08	1.53	50.364	50.288	48.756	3.78	1.1	1.01	
1/5 to 1/6	RRJ2	375	33.44	3.85	0.11	10.74	162.6	0.332	149.8	5.38	213.7	0.3	179.3	0	179.3	-35.7	143.6	373.1	0.38	1.3	3.16	1.63	49.692	48.235	46.946	0.202	1.7	2.07	0.09	0.15	0.18	0.31	48.788	48.61	48.299	0.93	1.1	0.9	
1/6 to 1/7	RRJ2	375	32	1.57	0.11	11.02	160.8	0.447	199.6	5.66	209.8	0.41	238.3	0	238.3	-43.3	195	238.5	0.82	1.77	2.41	1.94	48.375	46.744	46.24	0.031	0.88	0.16	0.14	0.14	0.34	48.299	48.159	47.822	1.05	1.1	0.08		
1/7 to 1/8	RRJ2	375	32	1	0.11	11.29	159.1	0.606	268	5.62	210.4	0.55	319.7	0	319.7	-161.2	158.5	190.3	0.83	1.43	1.93	1.71	47.822	46.21	45.889	0.031	0.5	0.58	0.11	0.05	0.06	0.22	47.337	47.276	47.053	0.7	1.19	0.49	
1/8 to 1/9	RRJ2	375	16.35	1	0.11	11.55	157.4	0.719	314.4	6.19	203.3	0.66	374.6	0	374.6	-222.7	151.9	190.3	0.8	1.38	1.91	1.67	47.502	45.859	45.695	0.031	0.23	0.1	0.02	0.02	0.1	47.053	47.031	46.927	0.64	1.22	0.45		
1/9 to 1/10	RRJ2	375	20.45	1.3	0.11	11.69	156.5	0.81	352	6.33	202	0.75	420	0	420	-170.2	249.7	216.3	1.15	2.26	2.26	2.33	47.301	45.665	45.4	0.031	1.1	1.15	0.26	0.29	0.3	0.35	46.939	46.64	46.287	1.73	1.1	0.36	
1/10 to 1/11	RRJ2	375	17.45	2.52	0.11	11.86	155.4	0.917	396.1	6.46	200.8	0.85	473.2	0	473.2																								



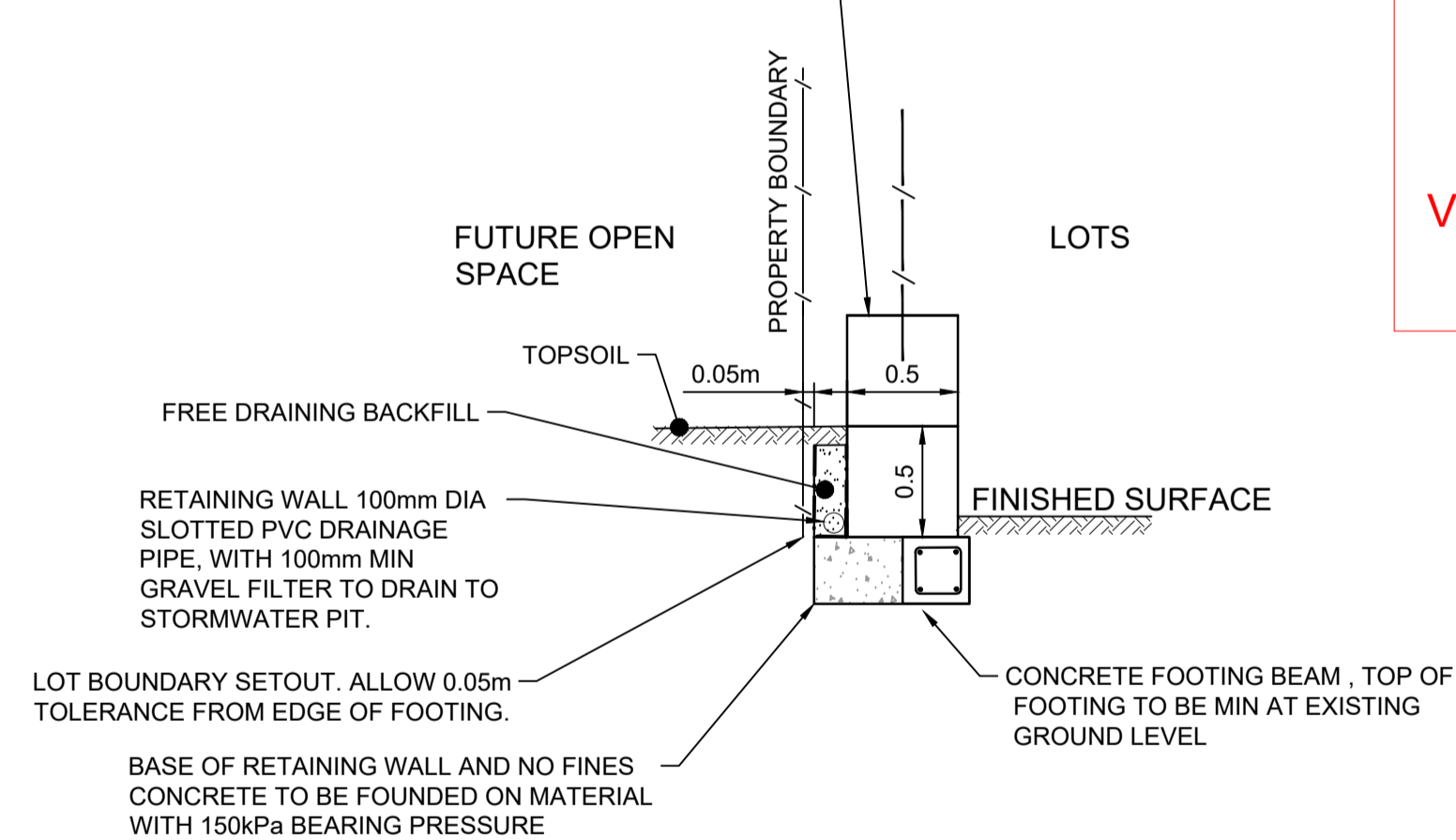


ROUGH SAWN STONE BLOCKS. FACE TO HAVE SPLIT FINISH. SIZE OF BLOCKS TO BE CONFIRMED. DRY PACK, REFER LANDSCAPING PLANS FOR SPECIFICATIONS



**RETAINING WALL 1**  
**SANDSTONE LOGS RETAINING WALL DETAIL**  
 2 BLOCK ARRANGEMENT (1.0m MAX HEIGHT)  
 N.T.S.

ROUGH SAWN STONE BLOCKS. FACE TO HAVE SPLIT FINISH. SIZE OF BLOCKS TO BE CONFIRMED. DRY PACK, REFER LANDSCAPING PLANS FOR SPECIFICATIONS



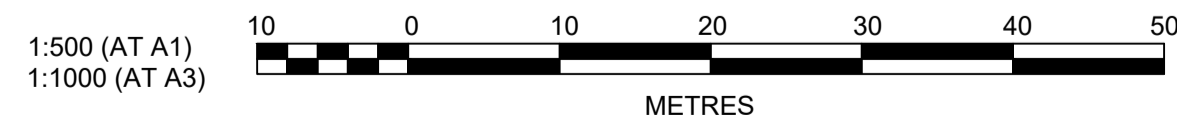
**RETAINING WALL 2**  
**SANDSTONE LOGS RETAINING WALL DETAIL**  
 2 BLOCK ARRANGEMENT (1.0m MAX HEIGHT)  
 N.T.S.

**WORK AS EXECUTED SHOWN IN RED**  
 SIGNATURE: *[Signature]*  
 PETER ROBERT WARWICK  
 REGISTERED LAND SURVEYOR  
**VINCE MORGAN SURVEYORS PTY LTD**  
 DATE: 20/12/20 REF: 16800-16

- a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.
- b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

**SUBDIVISION WORKS CERTIFICATE**  
 Certificate No. 20130299SW51  
 Date of Issue 28/08/2020  
 Issuing Officer *[Signature]*  
 Accreditation No. BDC3367  
 These plans/specifications form part of the certificate issued 28th of August 2020

RETAINING WALLS ARE SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION



**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH:  
 DATUM:  
 ORIGIN:

CLIENT:  
  
 THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

**ISSUED FOR CONSTRUCTION APPROVAL**

**SANDSTONE ARCH**  
 REDBANK, NORTH RICHMOND  
 RETAINING WALL PLAN & DETAIL


PLAN No: 11018512/CC216 **2**  
 FILE No: 11018512CC216  
 SHEET SIZE: A1 ORIGINAL

Plotted: 27 August, 2020 10:52:49 AM File Name: J:\110185 - Redbank North Richmond Residential Precincts\12 - Stage 1 DA\DC\CC\SANDSTONE ARCH\11018512CC216.dwg

AMENDMENT	DES	DRN	CKD	APR	DATE
2	CC	NDW	MS	DF	21/08/20
1	MP	NDW	RO	MS	20/07/20



WORK AS EXECUTED SHOWN IN RED

SIGNATURE   
 PETER ROBERT WARWICK  
 REGISTERED LAND SURVEYOR  
 VINCE MORGAN SURVEYORS PTY LTD  
 DATE: 20/12/20 REF: 16800-16

a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.

b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

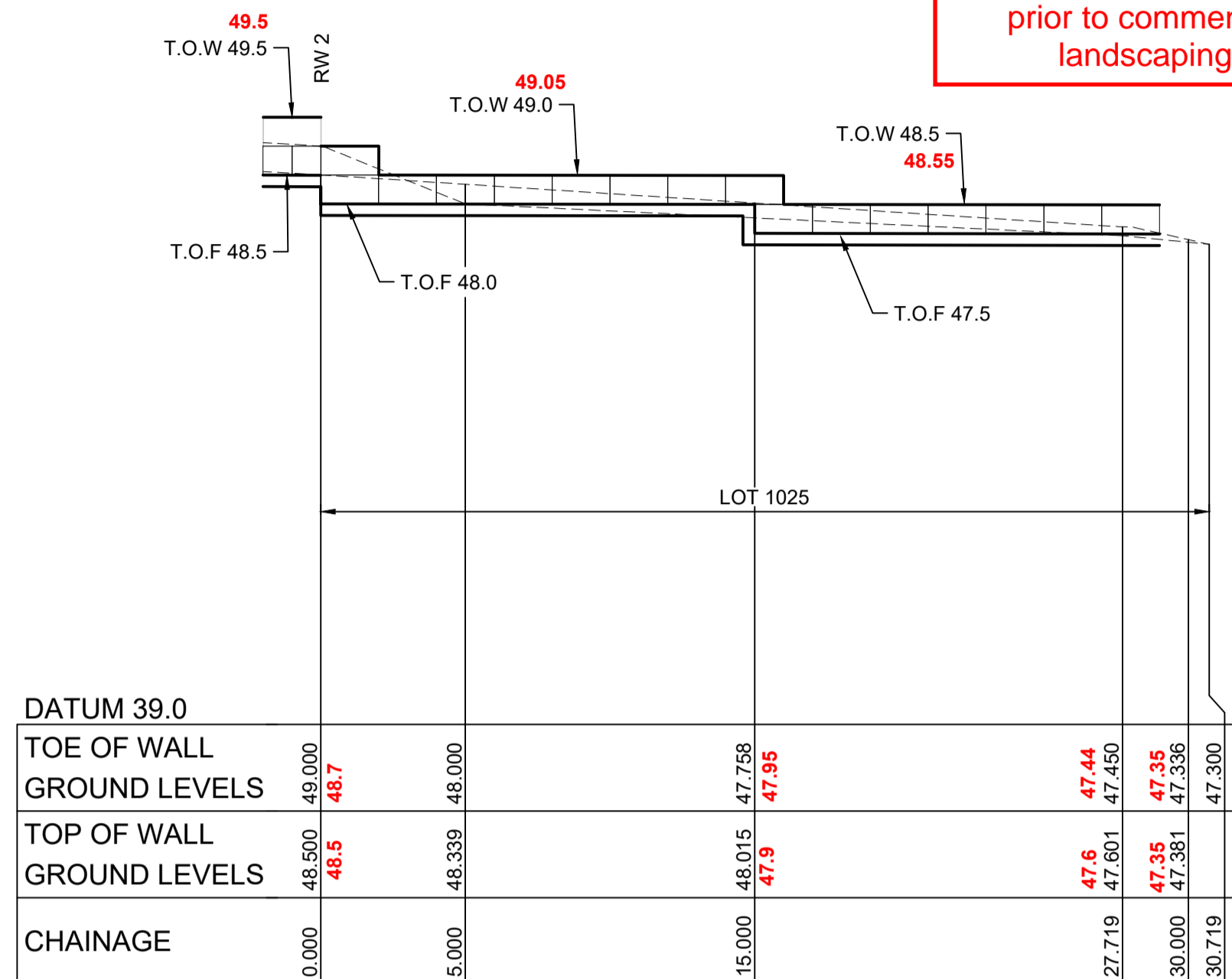
SUBDIVISION WORKS CERTIFICATE

Certificate No. 20130299SW51  
 Date of Issue 28/08/2020  
 Issuing Officer   
 Accreditation No. BDC3367

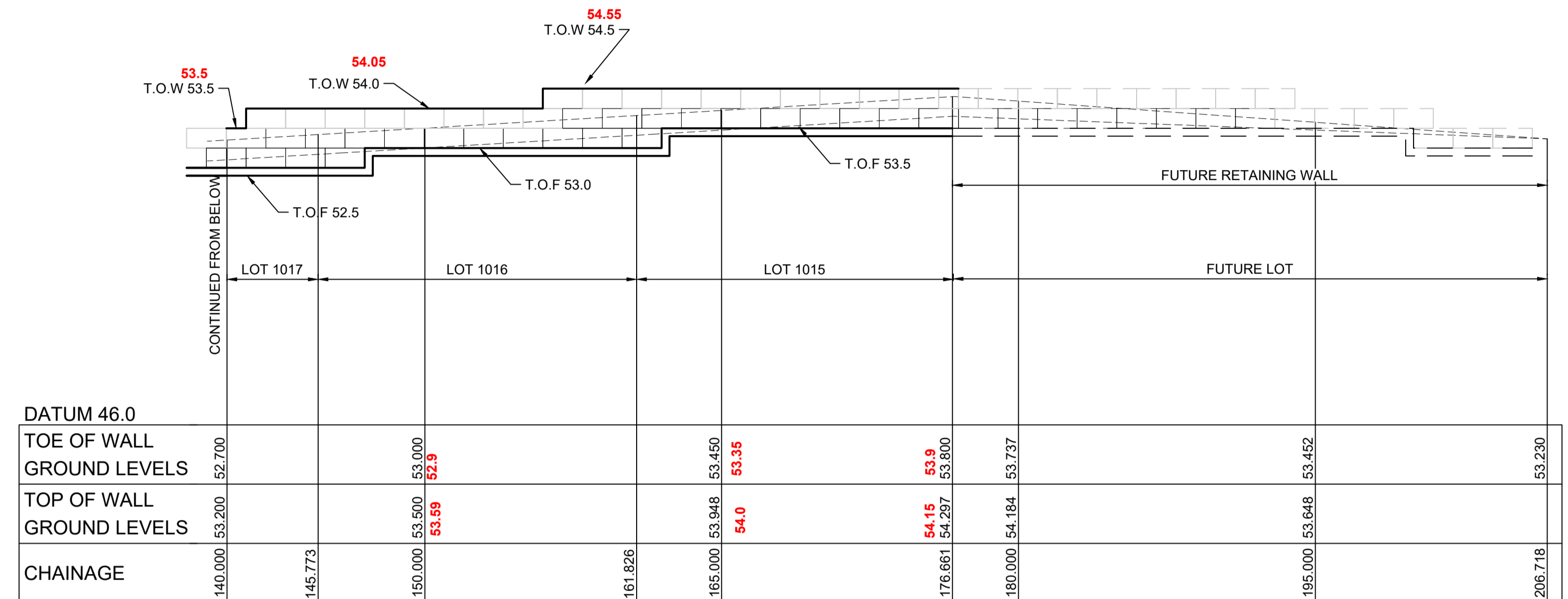
These plans/specifications form part of the certificate issued 28th of August 2020

RETAINING WALL PROFILES SHOWN ARE INDICATIVE ONLY. REFER TO DESIGN & CONSTRUCT CONTRACT BY OTHERS. SUBJECT TO SEPARATE STRUCTURAL PLANS & CERTIFICATIONS

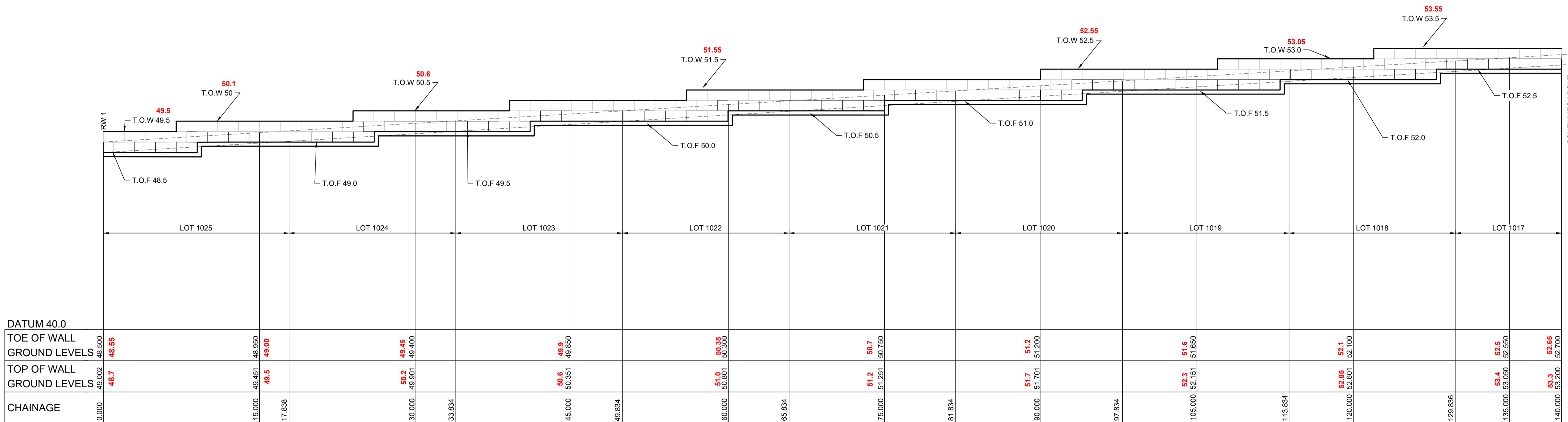
RETAINING WALLS SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION



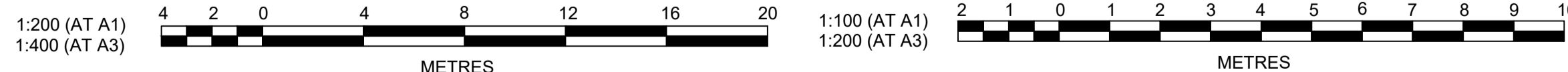
LONGITUDINAL SECTION RW 1  
 HORIZONTAL SCALE 1:200  
 VERTICAL SCALE 1:100



LONGITUDINAL SECTION RW 2  
 HORIZONTAL SCALE 1:200  
 VERTICAL SCALE 1:100



LONGITUDINAL SECTION RW 2  
 HORIZONTAL SCALE 1:200  
 VERTICAL SCALE 1:100



CLIENT:



THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

ISSUED FOR CONSTRUCTION APPROVAL

SANDSTONE ARCH  
 REDBANK, NORTH RICHMOND

PLAN No: 11018512/CC217 2  
 FILE No: 11018512CC217  
 SHEET SIZE: A1 ORIGINAL

Plotted: 21 August, 2020 12:36:12 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\12 - Stage 1 DA\DCO\SANDSTONE ARCH\11018512CC217.dwg

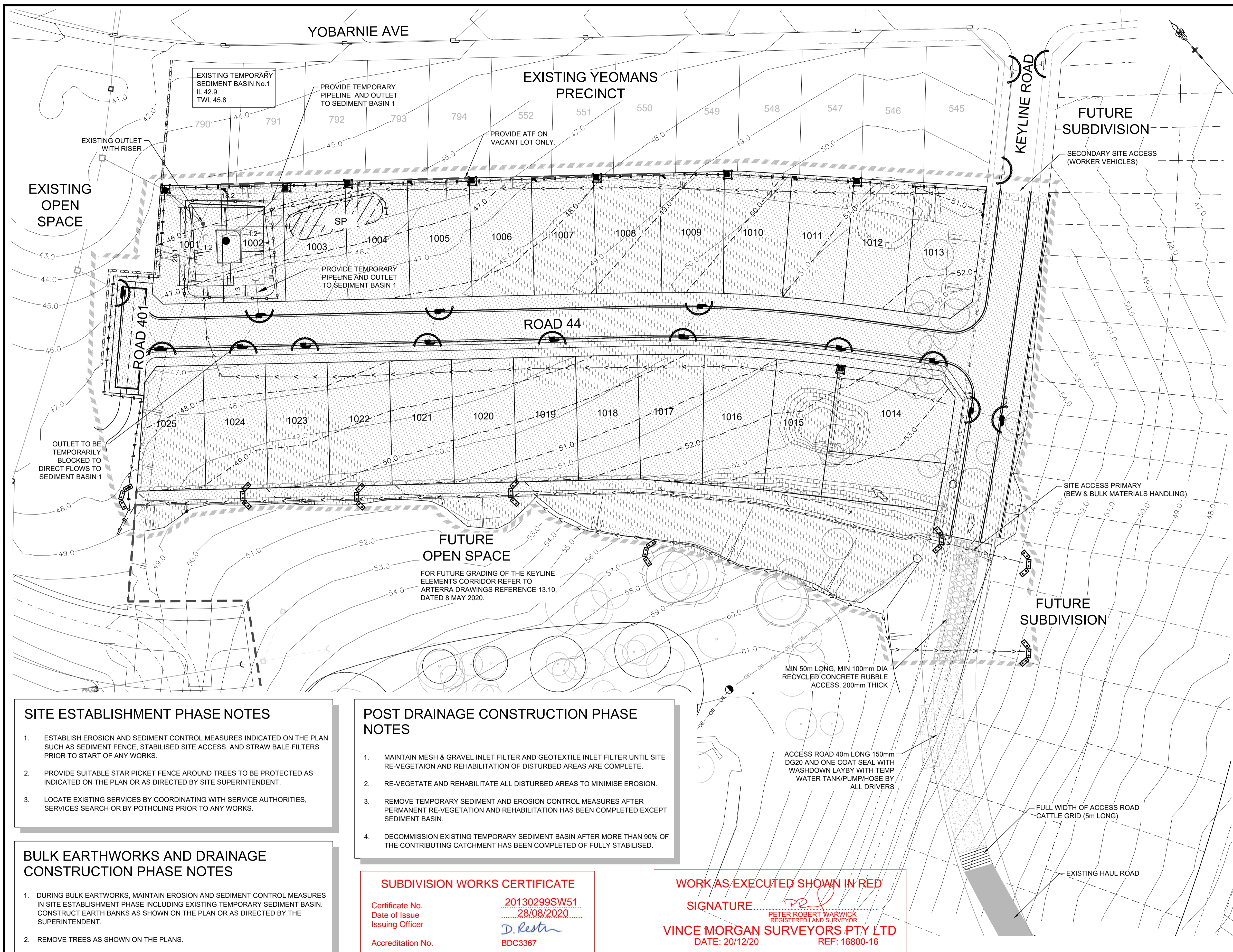
NO	DESCRIPTION	CC	NDW	MS	DF	DATE
2	CERTIFIERS COMMENTS ADDRESSED	CC	NDW	MS	DF	21/08/20
1	ISSUE 80% CLIENT COMMENTS	MP	NDW	RO	MS	20/07/20
	AMENDMENT	DES	DRN	CKD	APR	DATE

**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH:  
 DATUM:  
 ORIGIN:





LEGEND	
SEDIMENT FENCE	
STRAW BALE BARRIER	
STOCKPILE	
CUT	
FILL	
PROTECTIVE FENCING	
MESH AND GRAVEL INLET FILTER	
GEOTEXTILE INLET FILTER	
EXISTING CONTOURS	
DESIGN CONTOURS	
ATF FENCE	
CATCH DRAIN / EARTH BANK	
TREES TO BE REMOVED	
TREES TO BE RETAINED AND PROTECTED WITH SUITABLE STAR PICKET & PARAWEB UNLESS WITHIN AREAS EXCLUDED BY OTHER PROTECTIVE FENCE	

- NOTES**
- PLACE ATF AS INDICATED
  - CONSTRUCT ENTRY TO SITE AS INDICATED
  - PLACE SEDIMENT FENCE AT PERIMETER FITTED WITH FENCING
  - TEMPORARY SEDIMENT RETENTION BASIN AND TRAPS CAN BE DECOMMISSIONED AFTER THE WORK FOR WHICH THEY WERE DESIGNED ARE COMPLETED AND FULLY STABILISED ON MORE THAN 90% OF CONTRIBUTING CATCHMENT.

EXISTING TEMPORARY SEDIMENT BASIN 1  
 VOLUME REQUIRED = 489m<sup>3</sup>  
 VOLUME PROVIDED = 570m<sup>3</sup>

a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.

b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

- SITE ESTABLISHMENT PHASE NOTES**
- ESTABLISH EROSION AND SEDIMENT CONTROL MEASURES INDICATED ON THE PLAN SUCH AS SEDIMENT FENCE, STABILISED SITE ACCESS, AND STRAW BALE FILTERS PRIOR TO START OF ANY WORKS.
  - PROVIDE SUITABLE STAR PICKET FENCE AROUND TREES TO BE PROTECTED AS INDICATED ON THE PLAN OR AS DIRECTED BY SITE SUPERINTENDENT.
  - LOCATE EXISTING SERVICES BY COORDINATING WITH SERVICE AUTHORITIES, SERVICES SEARCH OR BY POTHOLING PRIOR TO ANY WORKS.

- POST DRAINAGE CONSTRUCTION PHASE NOTES**
- MAINTAIN MESH & GRAVEL INLET FILTER AND GEOTEXTILE INLET FILTER UNTIL SITE RE-VEGETATION AND REHABILITATION OF DISTURBED AREAS ARE COMPLETE.
  - RE-VEGETATE AND REHABILITATE ALL DISTURBED AREAS TO MINIMISE EROSION.
  - REMOVE TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AFTER PERMANENT RE-VEGETATION AND REHABILITATION HAS BEEN COMPLETED EXCEPT SEDIMENT BASIN.
  - DECOMMISSION EXISTING TEMPORARY SEDIMENT BASIN AFTER MORE THAN 90% OF THE CONTRIBUTING CATCHMENT HAS BEEN COMPLETED OF FULLY STABILISED.

- BULK EARTHWORKS AND DRAINAGE CONSTRUCTION PHASE NOTES**
- DURING BULK EARTHWORKS, MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN SITE ESTABLISHMENT PHASE INCLUDING EXISTING TEMPORARY SEDIMENT BASIN. CONSTRUCT EARTH BANKS AS SHOWN ON THE PLAN OR AS DIRECTED BY THE SUPERINTENDENT.
  - REMOVE TREES AS SHOWN ON THE PLANS.
  - STOCKPILE EXCESS MATERIAL AS SHOWN ON THE PLAN AND PROVIDE ADEQUATE SEDIMENT FENCE AT THE DOWNSTREAM TOE.
  - INSTALL MESH & GRAVEL INLET FILTER AND GEOTEXTILE INLET FILTER AS SHOWN ON THE PLAN.

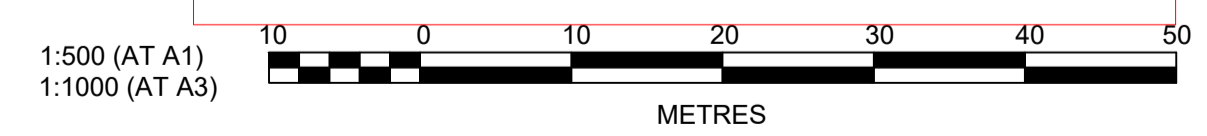
**SUBDIVISION WORKS CERTIFICATE**

Certificate No. 20130299SW51  
 Date of Issue 28/08/2020  
 Issuing Officer *D. Rosta*  
 Accreditation No. BDC3367

These plans/specifications form part of the certificate issued 28th of August 2020

**WORK AS EXECUTED SHOWN IN RED**

SIGNATURE *P. Morgan*  
 PETER ROBERT WARWICK  
 REGISTERED LAND SURVEYOR  
 VINCE MORGAN SURVEYORS PTY LTD  
 DATE: 20/12/20 REF: 16800-16



**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

CLIENT:

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

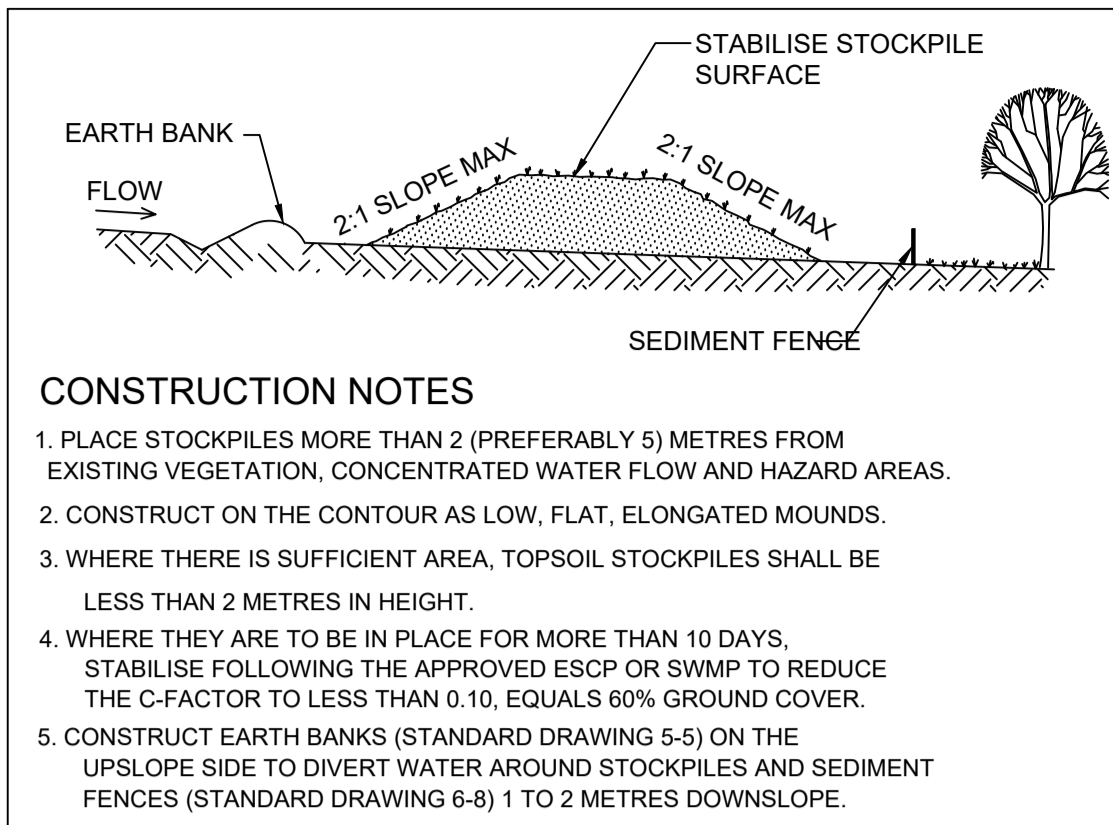
**ISSUED FOR CONSTRUCTION APPROVAL**

SANDBANK, NORTH RICHMOND  
 SOIL & WATER MANAGEMENT PLAN

PLAN No: 11018512/CC218 2  
 FILE No: 11018512CC218  
 SHEET SIZE: A1 ORIGINAL

Plotted: 27 August, 2020 10:51:59 AM File Name: J:\110185 - Redbank North Richmond Residential Precincts\12 - Stage 1 DA\DCD\SANDSTONE ARCH\11018512CC218.dwg

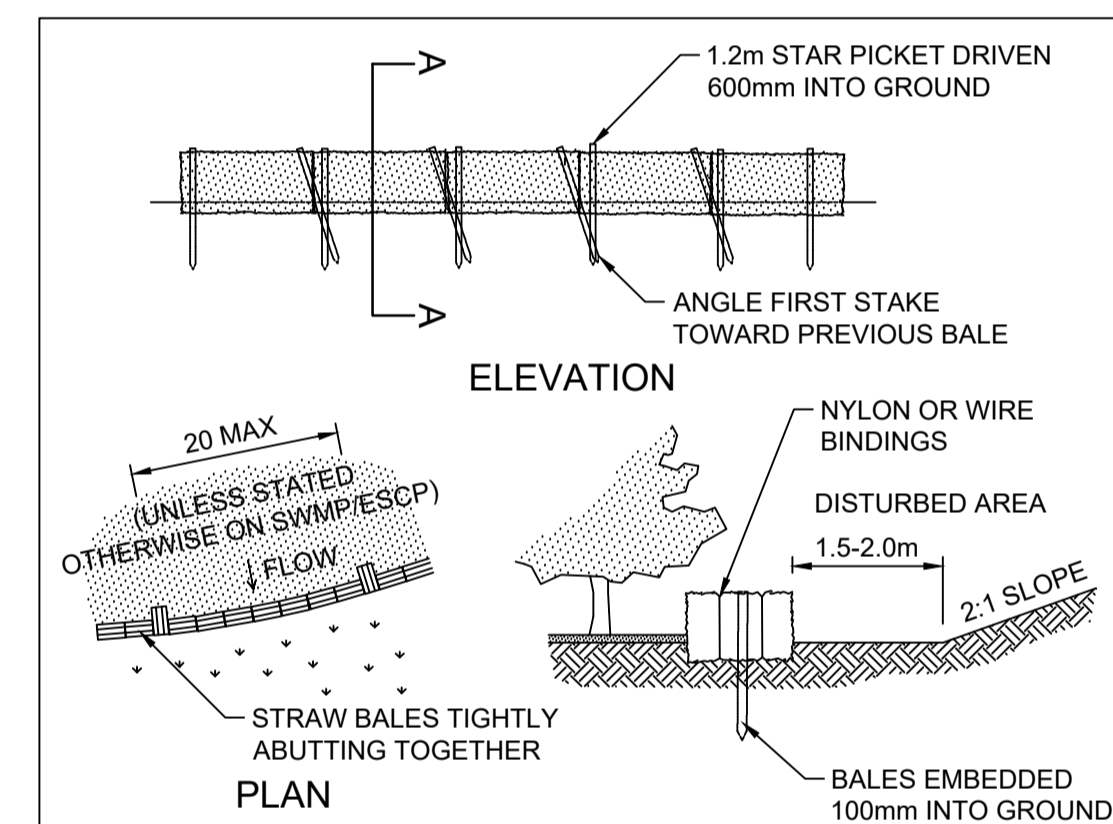




**STOCKPILE SD4-1**  
N.T.S.

**a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.**

**b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.**



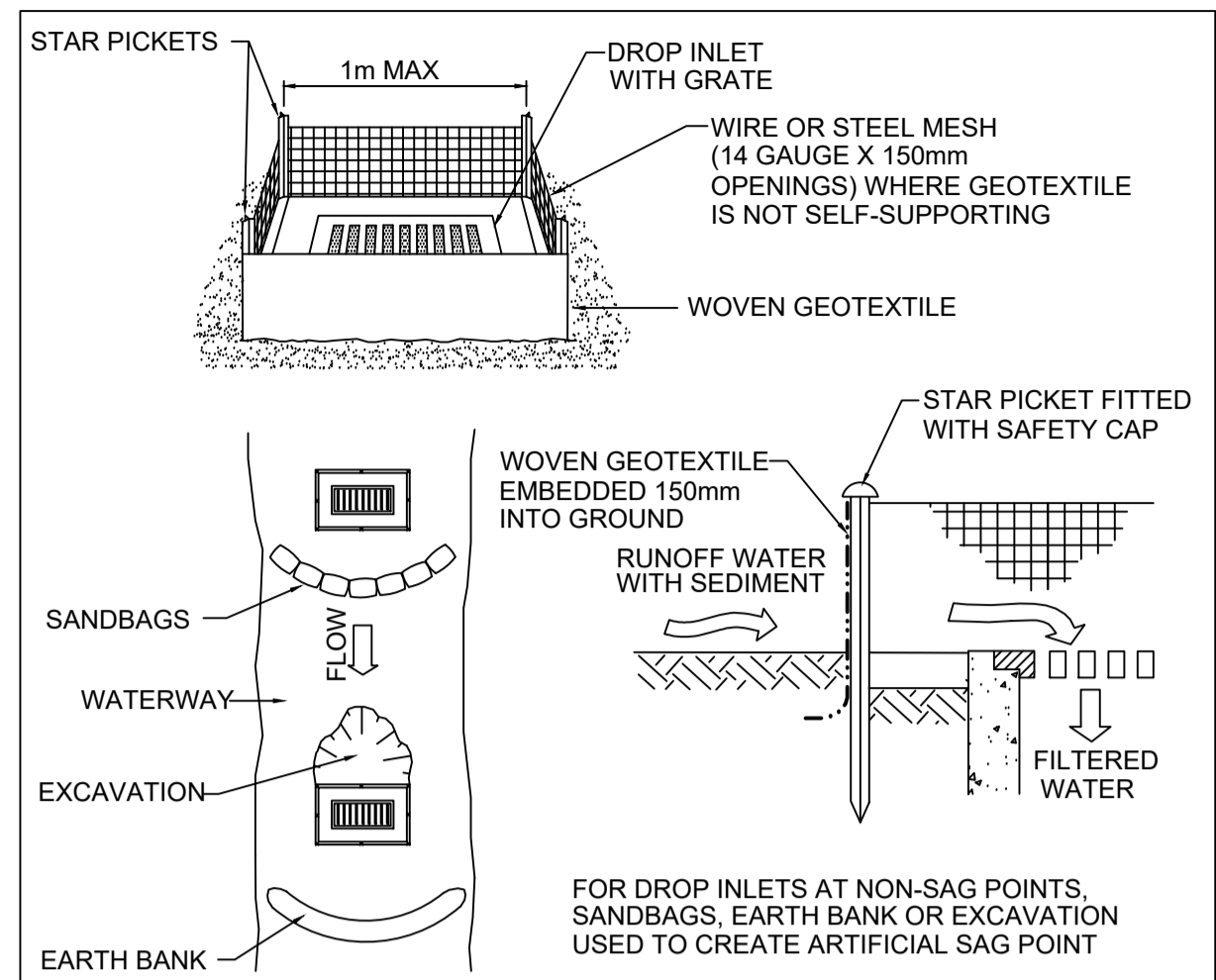
**STRAW BALE FILTER SD6-7**  
SCALE N.T.S.

**SUBDIVISION WORKS CERTIFICATE**

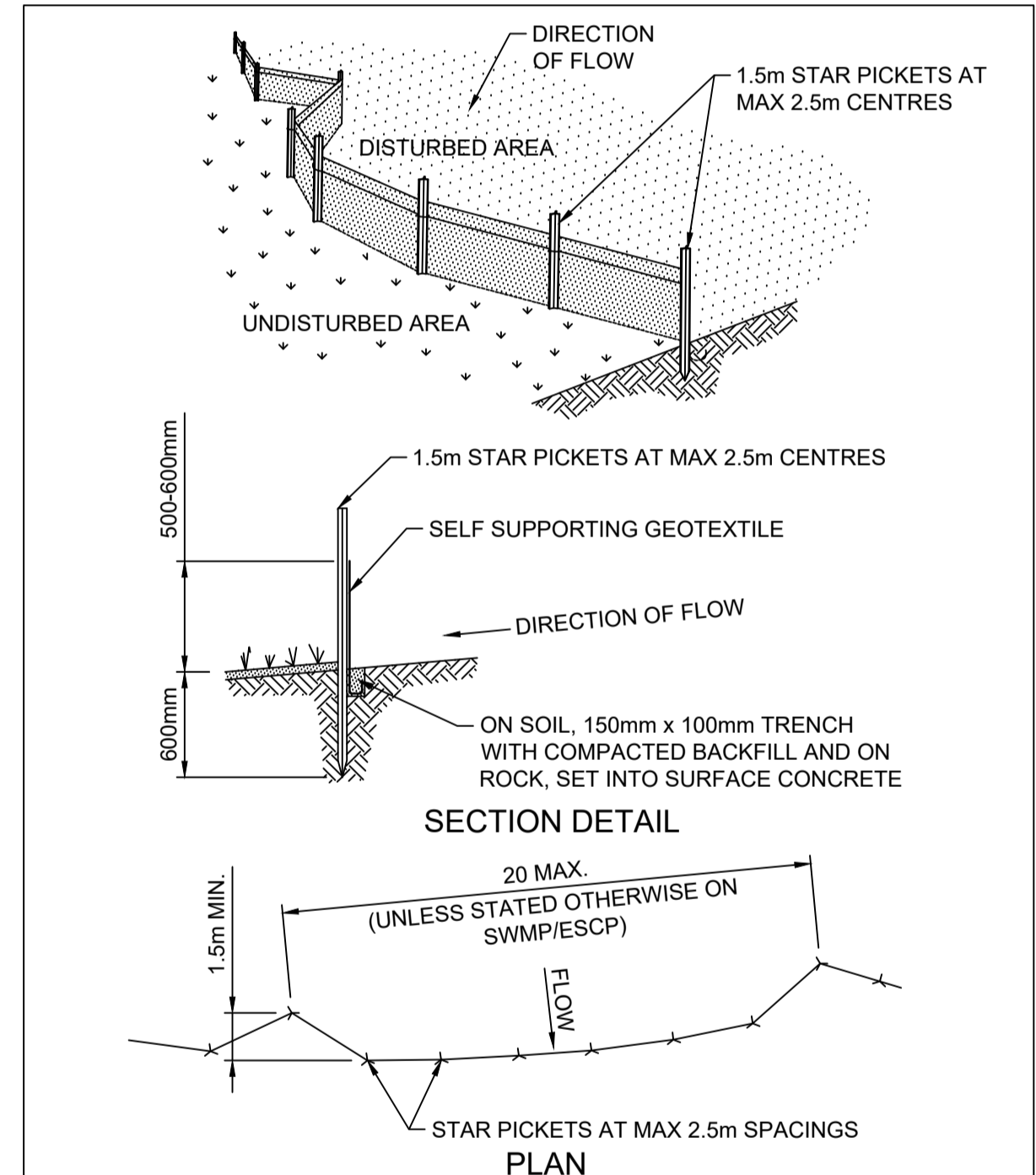
Certificate No. **20130299SW51**  
Date of Issue **28/08/2020**  
Issuing Officer **D. Resta**

Accreditation No. **BDC3367**

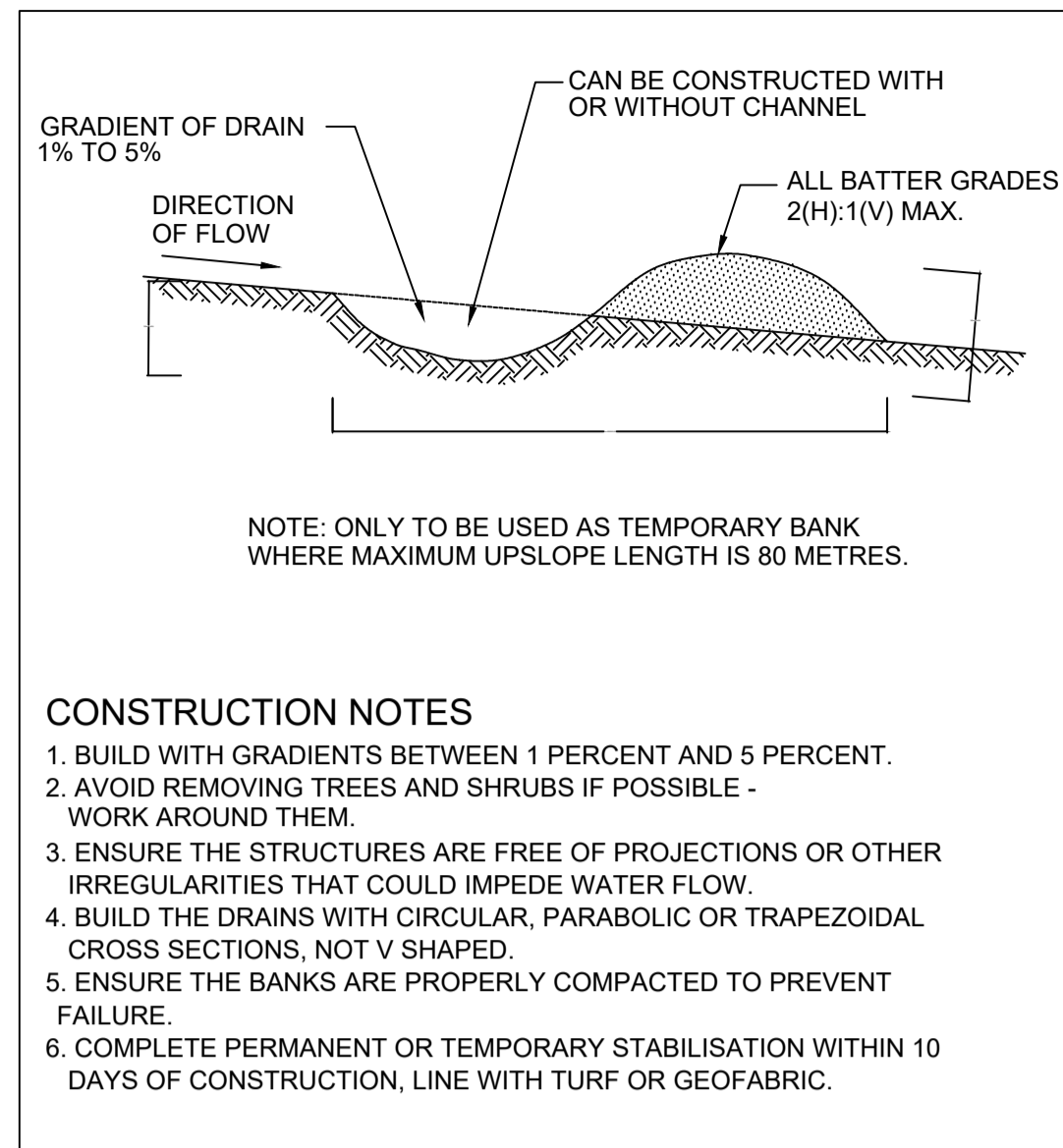
These plans/specifications form part of the certificate issued **28th of August 2020**



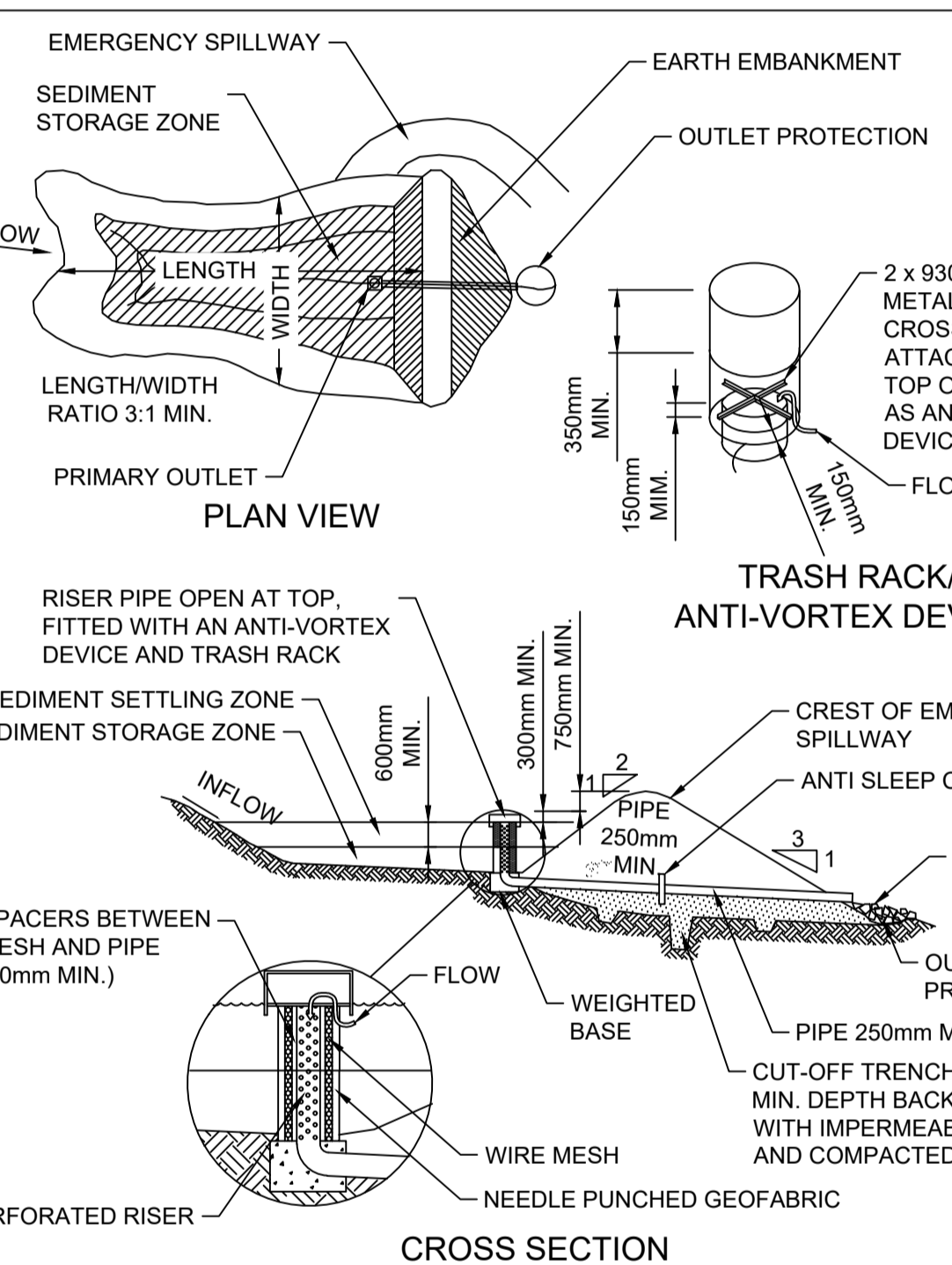
**GEOTEXTILE INLET FILTER SD6-12**  
N.T.S.



**SEDIMENT FENCE SD6-8**  
SCALE: N.T.S.



**EARTH BANK (LOW FLOW) SD5-5**  
N.T.S.

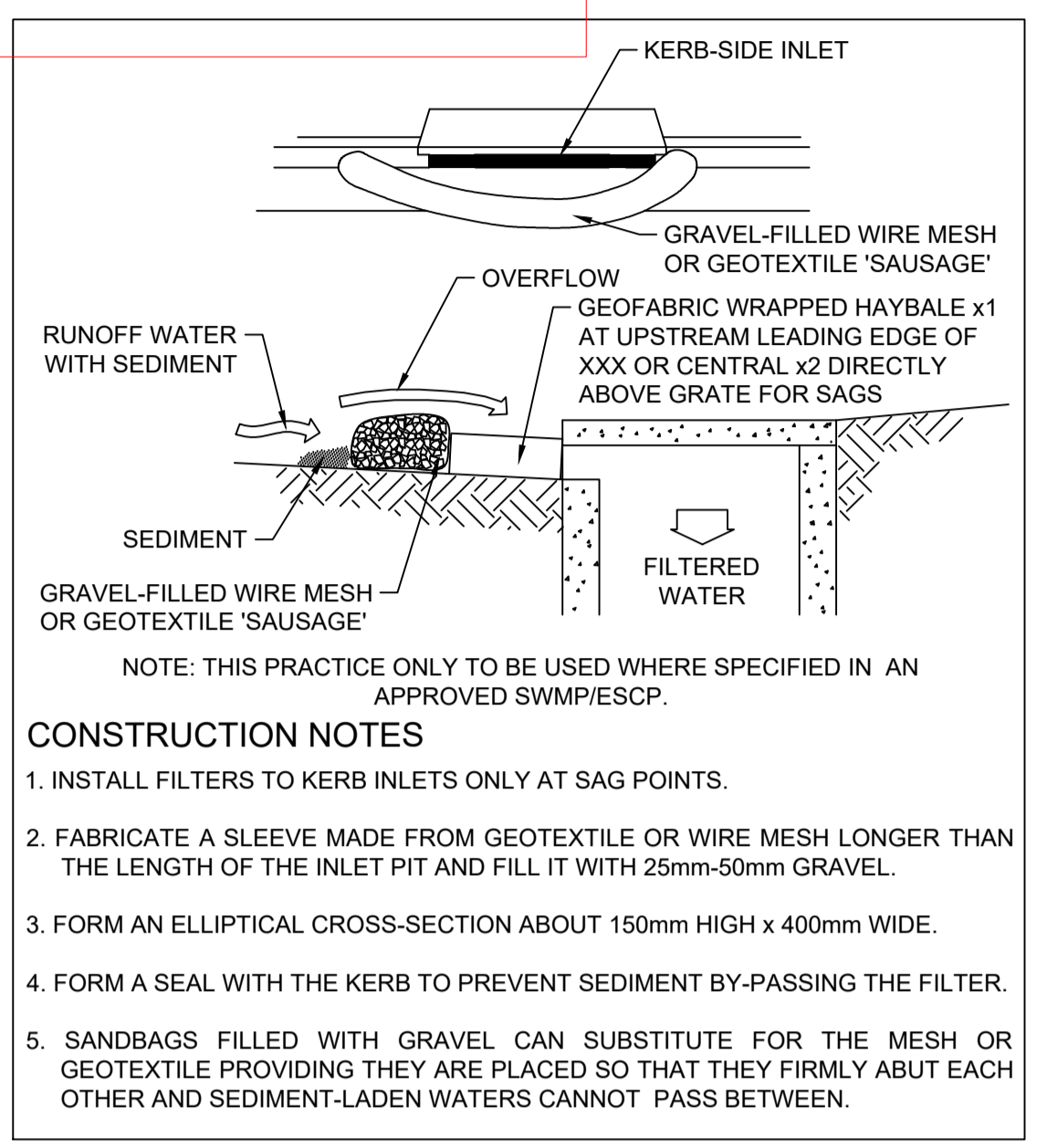


**EARTH BASIN - DRY SD6-3**  
(APPLIES TO 'TYPE C' SOILS ONLY)  
N.T.S.

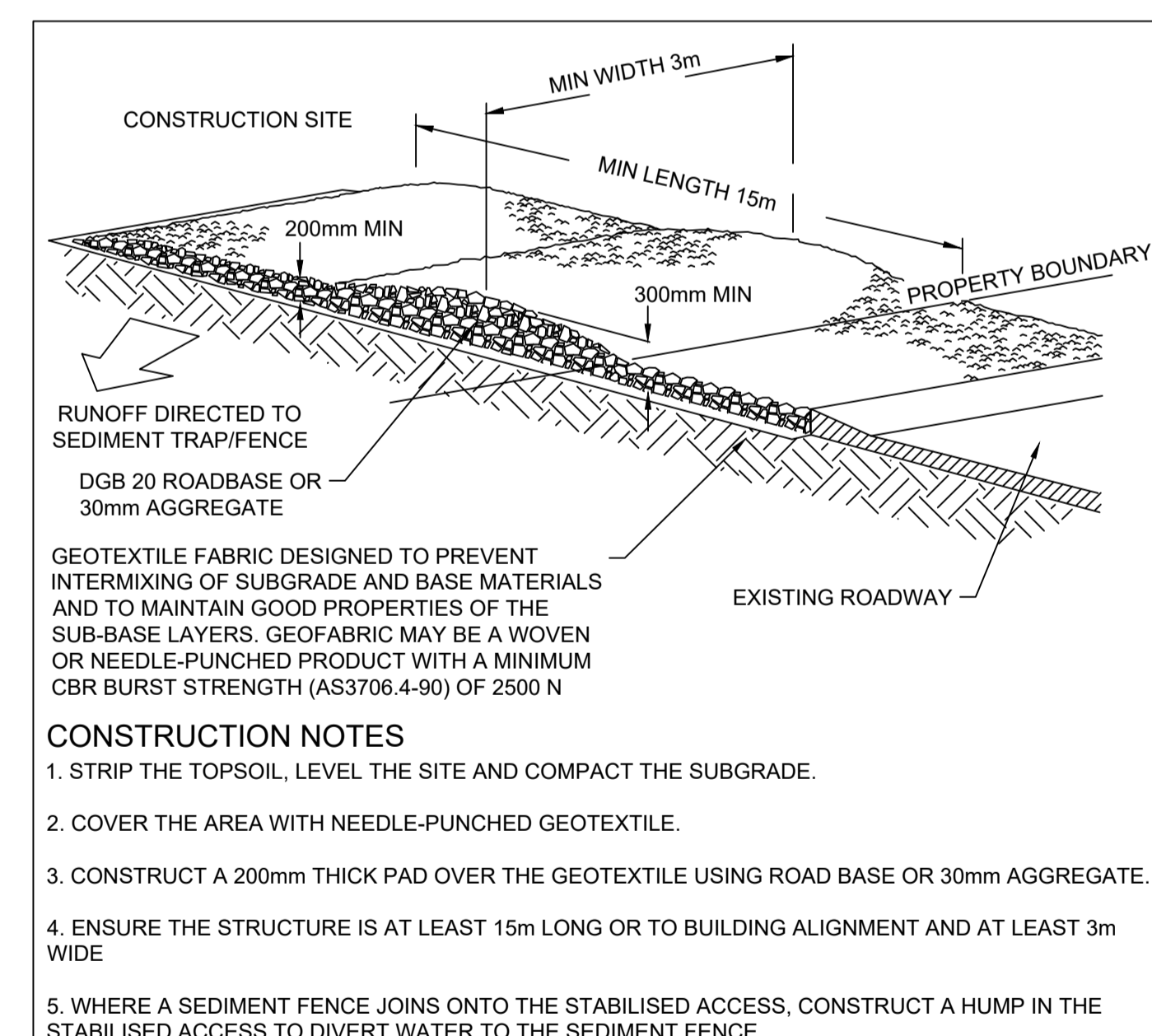
**WORK AS EXECUTED SHOWN IN RED**

SIGNATURE: **PETER ROBERT WARWICK**  
REGISTERED LAND SURVEYOR

**VINCE MORGAN SURVEYORS PTY LTD**  
DATE: 20/12/20 REF: 16800-16



**MESH & GRAVEL INLET FILTER SD6-11**  
SCALE N.T.S.



**STABILISED SITE ACCESS SD6-14**  
N.T.S.

Plotfile: 21 August, 2020 12:37:34 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\12 - Stage 1 DA\DCD\SANDSTONE ARCH\11018512CC219.dwg

2	CERTIFIERS COMMENTS ADDRESSED	CC	NDW	MS	DF	21/08/20
1	ISSUE 80% CLIENT COMMENTS	MP	NDW	RO	MS	20/07/20
	AMENDMENT	DES	DRN	CKD	APR	DATE

**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

CLIENT: **REDBANK NORTH RICHMOND**

AZIMUTH:  
DATUM:  
ORIGIN:

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

**ISSUED FOR CONSTRUCTION APPROVAL**

**SANDSTONE ARCH**  
**REDBANK, NORTH RICHMOND**  
SOIL & WATER MANAGEMENT DETAILS

PLAN No: **11018512/CC219** 2  
FILE No: 11018512CC219  
SHEET SIZE: A1 ORIGINAL



# SOIL AND WATER MANAGEMENT NOTES

## GENERAL NOTES:

- ALL EROSION AND SEDIMENT CONTROL MEASURES, INCLUDING REVEGETATION AND STORAGE OF SOIL AND TOPSOIL, SHALL BE IMPLEMENTED TO THE REQUIREMENTS OF THE BLUE BOOK (CHECK DENOTE & DATE)
- TOPSOIL FROM ALL AREAS TO BE DISTURBED SHALL BE STOCKPILED AND LATER RESPREAD TO AID REVEGETATION IN THOSE AREAS.
- ALL DRAINAGE WORKS SHALL BE CONSTRUCTED AND STABILISED AS EARLY AS POSSIBLE DURING DEVELOPMENT.
- ALL TAIL-OUT DRAINS SHALL BE COUGH GRASSED AND TRAPEZOIDAL IN SECTION. STAKED STRAW BALES SHALL BE PLACED AS A SEDIMENT CONTROL DEVICE WHERE REQUIRED.
- VEHICULAR TRAFFIC SHALL BE CONTROLLED DURING DEVELOPMENT CONFINING ACCESS WHERE POSSIBLE TO PROPOSED OR EXISTING ROAD ALIGNMENTS. AREAS TO BE LEFT UNDISTURBED SHALL BE MARKED OFF.
- ROADS SHALL BE PAVED AS EARLY AS POSSIBLE AFTER FORMATION.
- DISTURBANCE OF VEGETATION SHALL BE LIMITED TO FILL AREAS, ROADWAYS AND DRAINAGE LINES. NO LOT GRADING SHALL BE CARRIED OUT IN UNDISTURBED AREAS WITHOUT CONSULTATION WITH SITE SUPERINTENDENT.
- ALL DISTURBED AREAS SHALL BE REVEGETATED AS SOON AS THE RELEVANT WORKS ARE COMPLETED.
- ALL SEDIMENT BASINS AND TRAPS SHALL BE CLEANED WHEN THE STRUCTURES ARE A MAXIMUM 60% FULL OF SOLID MATERIALS, INCLUDING DURING THE MAINTENANCE PERIOD.
- THE SOIL AND WATER MANAGEMENT PLAN IS TO BE READ IN CONJUNCTION WITH THE ENGINEERING PLANS, AND COUNCIL'S WRITTEN GUIDELINES FOR THE DEVELOPMENT OF LAND.
- CONTRACTORS SHALL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE UNDERTAKEN AS SPECIFIED ON THE PLAN AND IN ACCORDANCE WITH THE GUIDELINES SHOWN IN "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION 4TH EDITION" ("THE BLUE BOOK").
- ALL CONTRACTORS AND SUBCONTRACTORS ARE RESPONSIBLE FOR REDUCING THE SOIL EROSION AND POLLUTION OF DOWNSLOPE AREAS.
- THE SOIL EROSION HAZARD ON THE SITE IS TO BE KEPT AS LOW AS POSSIBLE AND GENERALLY IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

LAND USE	LIMITATION	COMMENTS
CONSTRUCTION AREAS	DISTURBANCE TO BE NO FURTHER THAN 5m (PREF 2m) FROM THE EDGE OF ANY ESSENTIAL ENGINEERING ACTIVITY AS SHOWN ON THESE PLANS	ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE ZONES - WHERE APPROPRIATE THE CONSTRUCTION AREAS ARE TO BE IDENTIFIED WITH BARRIER FENCING (DOWNSLOPE) OR SIMILAR MATERIAL.
ACCESS AREAS	LIMITED TO A MAXIMUM WIDTH OF 10m	THE SITE MANAGER SHALL DETERMINE AND MARK THE LOCATION OF THESE ZONES ONSITE. THEY CAN VARY IN POSITION TO BEST CONSERVE THE EXISTING VEGETATION AND PROTECT DOWNSTREAM AREAS WHILE BEING CONSIDERATE OF THE NEEDS OF EFFICIENT WORKS ACTIVITIES. ALL SITE WORKERS SHALL CLEARLY RECOGNISE THEIR BOUNDARIES. WHERE APPROPRIATE THE ACCESS AREAS ARE TO BE MARKED WITH BARRIER MESH, SEDIMENT FENCING OR SIMILAR MATERIALS.
REMAINING LANDS	ENTRY PROHIBITED EXCEPT FOR ESSENTIAL THINNING OF PLANT GROWTH	THINNING OF GROWTH MAY BE REQUIRED FOR FIRE HAZARD REDUCTION.

NOTE:  
WORKS WITHIN WATERWAYS AND CREEKS SHALL BE RESTRICTED AS DIRECTED - ALL LANDS WITHIN CREEKS AND WATERWAYS SHALL HAVE A GROUND COVER MORE THAN 70%, USING MATERIALS THAT CAN CATER FOR CONCENTRATED FLOWS.

- WORKS ARE TO BE UNDERTAKEN IN THE FOLLOWING SEQUENCE / EACH SUBSEQUENT STAGE IS NOT TO COMMENCE UNTIL THE PREVIOUS ONE IS COMPLETE:-
  - INSTALL ALL BARRIER AND SEDIMENT FENCING WHERE SHOWN ON THE PLAN AND TO DETAIL (SD) 6-7.
  - CONSTRUCT STABILISED SITE ACCESS AS SHOWN ON THE PLAN AND TO DETAIL (SD) 6-14.
  - CONSTRUCT LOW FLOW EARTH BANKS WHERE SHOWN ON THE PLAN AND TO DETAIL (SD) 4-1.
  - PROVIDE TEMP. ACCESS TO THE SEDIMENT BASIN(S) AND PROTECT THIS WITH SEDIMENT FENCING (SD) 6-8 OR BARRIER FENCING AND EARTH BANKS (SD) 5-5.
  - PLACE SEDIMENT FENCING (SD) 6-8 DOWNSLOPE OF LANDS TO BE DISTURBED FOR CONSTRUCTION OF THE SEDIMENT BASINS.
  - CONSTRUCT SEDIMENT BASIN(S) GENERALLY IN ACCORDANCE WITH (SD) 6-4
  - STABILISE LAND SURFACES DISTURBED BY CONSTRUCTION OF THE SEDIMENT BASIN(S) AS SOON AS FINAL LEVELS ARE ESTABLISHED
  - CLEAR THE SITE AND STRIP AND STOCKPILE THE TOPSOIL IN THE LOCATIONS SHOWN ON THE PLAN OR AS DIRECTED BY THE SITE SUPERINTENDENT TO DETAIL (SD) 4-1.
  - UNDERTAKE ALL ESSENTIAL CONSTRUCTION WORKS.
  - GRADE LOT AREAS TO FINAL GRADES AND APPLY PERMANENT STABILISATION (LANDSCAPING) WITHIN 14 DAYS OF COMPLETION OF CONSTRUCTION WORKS.
  - REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER THE PERMANENT LANDSCAPING HAS BEEN COMPLETED.
- CLEARLY VISIBLE BARRIER FENCING SHALL BE INSTALLED WHERE DIRECTED BY THE SITE SUPERINTENDENT TO CONTROL AND PROHIBIT UNNECESSARY SITE DISTURBANCE
- EARTH BATTERS SHALL BE CONSTRUCTED WITH AS LOW A GRADIENT AS PRACTICABLE BUT NO STEEPER THAN:-
  - 3(h) - 1(v) WHERE SLOPE LENGTH IS BETWEEN 10m AND 12m
  - 4(h) - 1(v) WHERE SLOPE LENGTH IS BETWEEN 12m AND 18m
  - 5(h) - 1(v) WHERE SLOPE LENGTH IS BETWEEN 18m AND 27m
  - 6(h) - 1(v) WHERE SLOPE LENGTH IS GREATER THAN 27m

SLOPE LENGTHS CAN BE SHORTENED BY USING LOW FLOW EARTH BANKS AS CATCH DRAINS ABOVE THE EARTH BATTER AREA.

- PROTECTION FROM EROSION FORCES SHALL BE UNDERTAKEN ON ALL LANDS. GROUND COVER TO BE IN PLACE WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION AND BEFORE THEY ARE ALLOWED TO CARRY ANY CONCENTRATED FLOWS.
- TEMPORARY GROUND COVER SHOULD BE MINIMUM 70%. FOOT AND VEHICULAR TRAFFIC SHALL BE KEPT AWAY FROM REHABILITATED AREAS.
- WHERE POSSIBLE THE CONSTRUCTION PROGRAM IS TO SCHEDULE WORKS SUCH THAT LAND DISTURBANCE ACTIVITIES ARE COMPLETED IN LESS THAN 6 MONTHS. REVEGETATION WORKS MUST BE CARRIED OUT AS STIPULATED IN THE RELEVANT COUNCIL GUIDELINES / SPECIFICATIONS SUCH THAT A SATISFACTORY GROUND COVER IS PROVIDED TO AT LEAST 60% OF THE DISTURBED AREA WITHIN 10 DAYS AND AT LEAST 70% OF THE DISTURBED AREA WITHIN A FURTHER 60 DAYS.
- SEDIMENT FENCES (SD) 6-8 SHALL:-
  - BE INSTALLED WHERE SHOWN ON THE PLAN AND AS DIRECTED AT THE DISCRETION OF THE SITE SUPERINTENDENT DURING THE COURSE OF CONSTRUCTION TO CONTAIN THE COARSER SEDIMENT FRACTIONS AS NEAR AS POSSIBLE TO THEIR SOURCE.
  - HAVE A CATCHMENT AREA NOT EXCEEDING 720sq.m, AND A STORAGE DEPTH OF AT LEAST 0.6m.
  - PROVIDE AN UPSLOPE RETURN OF 1m AT INTERVALS ALONG THE FENCE.
- STOCKPILES (SD) 4-1 SHALL BE LOCATED AS SHOWN ON THE PLANS AND AT THE DISCRETION OF THE SITE SUPERINTENDENT.
- DURING WINDY WEATHER LARGE UNPROTECTED AREAS ARE TO BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL. IN THE EVENT WATER IS NOT AVAILABLE IN SUFFICIENT QUANTITIES SOIL BINDERS AND/OR DUST RETARDANTS SHALL BE USED OR THE SURFACE SHALL BE LEFT IN A CLODDY STATE THAT RESISTS REMOVAL BY WIND.
- STOCKPILES SHALL NOT BE LOCATED WITHIN 5m OF HAZARD AREAS, INCLUDING LIKELY AREAS OF HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS OR DRIVEWAYS.
- THE SEDIMENT RETENTION BASINS (SD) 6-4 SHALL:-
  - BE CONSTRUCTED WHERE SHOWN ON THE PLANS.
  - BE FLOCCULATED (APPENDIX E MANAGING URBAN STORMWATER SOILS & CONSTRUCTION 4TH ED.) BEFORE DISCHARGE OCCURS (UNLESS THE DESIGN STORM EVENT IS EXCEEDED)
  - HAVE ONE OR MORE PEGS PLACED ON THE FLOOR TO CLEARLY INDICATE THE LEVEL AT WHICH DESIGN CAPACITY OCCURS AND WHEN SEDIMENT SHALL BE REMOVED.
- STORED CONTENTS OF THE BASINS SHALL BE TREATED WITH GYPSUM (APPENDIX E MANAGING URBAN STORMWATER SOILS & CONSTRUCTION 4TH ED.) OR OTHER FLOCCULATING AGENTS WHERE THEY CONTAIN MORE THAN 50mg/litre OF SUSPENDED SOLIDS. TREATMENT SHALL BE AS FOLLOWS:-
  - LOWER SUSPENDED SOLIDS TO LESS THAN 50mg/litre WITHIN 24hrs OF FILLING
  - THE BASINS SHALL THEN BE ALLOWED TO STAND 36 TO 48hrs FOR FLOCCULATED PARTICLES TO SETTLE
  - THE BASINS SHALL THEN BE DRAINED SO THAT FULL STORAGE CAPACITY IS REGAINED WITHOUT DISCHARGING SEDIMENT FROM THE SITE.
- SEDIMENT REMOVED FROM ANY TRAPPING DEVICE SHALL BE DISPOSED IN LOCATIONS WHERE FURTHER EROSION AND CONSEQUENT POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS SHALL NOT OCCUR.
- WATER SHALL BE PREVENTED FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE (ie THE CATCHMENT HAS BEEN LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN TREATED IN AN APPROVED DEVICE) NEVERTHELESS STORMWATER INLETS SHALL BE PROTECTED (SD) 6-11 & 6-12.
- TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES SHALL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE STABILISED.
- ACCEPTABLE BINS SHALL BE PROVIDED FOR ANY CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHTWEIGHT WASTE MATERIALS AND LITTER. CLEARANCE SERVICES SHALL BE PROVIDED AT LEAST ONCE A WEEK.

## STOCKPILE NOTES:

- SPOIL AND TOPSOIL STOCKPILES SHALL BE LOCATED AWAY FROM DRAINAGE LINES AND AREAS WHERE WATER MAY CONCENTRATE.
- FOLLOWING CONSTRUCTION, TOPSOIL SHALL BE RESPREAD TO A MINIMUM DEPTH OF 100mm ON THE BARE SOIL SURFACES AND REVEGETATED.

## SEDIMENTATION CONTROL DEVICES

- ALL STRAW BALES SHALL BE BOUND WITH WIRE. STRAW BALES SHALL BE PLACED END TO END IN A SINGLE ROW AND EMBEDDED INTO THE SOIL TO A DEPTH OF 100mm. EACH BALE SHALL BE SECURELY ANCHORED WITH TWO STEEL STAKES DRIVEN 450mm INTO THE GROUND AND LOCKED ON THE BALE CENTRELINE.
- SILT FENCES SHALL BE CONSTRUCTED BY STRETCHING A FILTER FABRIC (PROPEX OR SIMILAR) BETWEEN POSTS AT 2.5m CENTRES. FABRIC SHALL BE BURIED 150mm ALONG ITS LOWER EDGE.
- PROVIDE STRIP OF TURF MIN. 300mm WIDE BEHIND KERB + 1m WIDE AROUND ALL SURFACE INLET PITS
- TEMPORARY SEDIMENT RETENTION BASIN AND TRAPS CAN BE DECOMMISSIONED AFTER THE WORK FOR WHICH THEY WERE DESIGNED ARE COMPLETED AND FULLY STABILISED ON MORE THAN 90% OF CONTRIBUTING CATCHMENT.

## SITE INSPECTION AND MAINTENANCE

- A SELF-AUDITING PROGRAM SHALL BE ESTABLISHED BASED ON A CHECK SHEET. A SITE INSPECTION USING THE CHECK SHEET SHALL BE MADE BY THE SITE SUPERVISOR / PROJECT MANAGER:-
  - AT LEAST WEEKLY
  - IMMEDIATELY BEFORE SITE CLOSURE
  - IMMEDIATELY FOLLOWING RAINFALL EVENTS IN EXCESS OF 5mm IN ANY 24hr PERIOD.

THE SELF AUDIT SHALL INCLUDE:-

  - RECORDING THE CONDITION OF EVERY 'BEST MANAGEMENT PRACTICE' EMPLOYED
  - RECORDING MAINTENANCE REQUIREMENTS (IF ANY) FOR EACH 'BEST MANAGEMENT PRACTICE'
  - RECORDING THE VOLUMES OF SEDIMENT REMOVED FROM SEDIMENT RETENTION SYSTEMS WHERE APPLICABLE
  - RECORDING THE SITE WHERE SEDIMENT IS DISPOSED
  - FORWARDING A SIGNED DUPLICATE OF THE COMPLETED CHECK SHEET TO THE PROJECT MANAGER/DEVELOPER FOR THEIR INFORMATION.
- IN ADDITION A SUITABLY QUALIFIED PERSON SHALL BE RESPONSIBLE FOR OVERSEEING THE INSTALLATION AND MAINTENANCE OF ALL SOIL AND WATER MANAGEMENT WORKS ON THE SITE. THE PERSON SHALL BE REQUIRED TO SPEND A MINIMUM OF:-
  - 2hrs ONSITE EACH FORTNIGHT UP UNTIL COMPLETION OF ROAD AND DRAINAGE WORKS AND/OR THE COMMISSIONING OF SEDIMENT BASIN(S)/WATER QUALITY CONTROL FACILITIES, AND DURING THE DECOMMISSIONING OF SAME AND/OR FINAL SITE STABILISATION. TO PROVIDE A SHORT MONTHLY WRITTEN REPORT.

THE RESPONSIBLE PERSON SHALL ENSURE THAT:-

  - THIS PLAN IS BEING IMPLEMENTED CORRECTLY
  - REPAIRS ARE BEING UNDERTAKEN AS REQUIRED
  - ESSENTIAL MODIFICATIONS TO THIS PLAN ARE BEING MADE IF AND WHEN NECESSARY. EACH REPORT SHALL CERTIFY THAT WORKS HAVE BEEN CARRIED OUT ACCORDING TO THE APPROVED PLANS.
- WASTE BINS SHALL BE EMPLOYED AS NECESSARY, DISPOSAL OF WASTE SHALL BE IN A MANNER APPROVED BY THE SITE SUPERINTENDENT
- PROPER DRAINAGE OF THE SITE SHALL BE MAINTAINED. DRAINS (INCLUDING INLET AND OUTLET WORKS) SHALL BE CHECKED TO ENSURE THAT THEY ARE OPERATING AS INTENDED, ESPECIALLY THAT:-
  - AREAS OF EROSION ARE REPAIRED (eg LINED WITH SUITABLE MATERIAL) AND/OR VELOCITY OF FLOW IS REDUCED APPROPRIATELY THROUGH CONSTRUCTION OF SMALL CHECK DAMS OR INSTALLING ADDITIONAL DIVERSIONS UPSLOPE
  - BLOCKAGES ARE CLEARED (THESE MIGHT OCCUR BECAUSE OF SEDIMENT POLLUTION, SAND/SOIL/SPOIL BEING DEPOSITED IN OR TOO CLOSE TO THEM, BREACHED BY VEHICLE WHEELS etc)
- SAND/SOIL/SPOIL MATERIALS PLACED CLOSER THAN 2m FROM HAZARD AREAS SHALL BE REMOVED SUCH HAZARD AREAS INCLUDE ANY AREAS OF HIGH VELOCITY WATER FLOWS (eg WATERWAYS AND GUTTERS) PAVED AREAS AND DRIVEWAYS.
- RECENTLY STABILISED LANDS SHALL BE CHECKED TO ENSURE THAT THE EROSION HAZARD HAS BEEN EFFECTIVELY REDUCED. ANY REPAIRS SHALL BE INITIATED AS APPROPRIATE.
- EXCESSIVE VEGETATIVE GROWTH SHALL BE CONTROLLED THROUGH MOWING OR SLASHING.
- ALL SEDIMENT DETENTION SYSTEMS SHALL BE KEPT IN GOOD WORKING CONDITION. IN PARTICULAR ATTENTION SHALL BE GIVEN TO:-
  - RECENT WORKS TO ENSURE THAT THEY HAVE NOT RESULTED IN DIVERSION OF SEDIMENT LADEN WATER AWAY FROM THEM.
  - DEGRADABLE PRODUCTS TO ENSURE THAT THEY ARE REPLACED AS REQUIRED
  - SEDIMENT REMOVAL TO ENSURE THE DESIGN CAPACITY OR LESS REMAINS IN THE SETTLING ZONE.
- ADDITIONAL EROSION AND/OR SEDIMENT CONTROL WORKS SHALL BE INSTALLED AS MIGHT BECOME NECESSARY TO ENSURE THE DESIRED PROTECTION IS GIVEN TO DOWNSLOPE LANDS AND WATERWAYS (ie MAKE ONGOING CHANGES TO THIS PLAN WHERE IT PROVES INADEQUATE IN PRACTICE OR IS SUBJECT TO CHANGES IN CONDITIONS AT THE WORKS SITE OR ELSEWHERE IN THE CATCHMENT.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN A FUNCTIONING CONDITION UNTIL ALL EARTHWORKS ACTIVITIES ARE COMPLETED AND THE SITE STABILISED.
- WATERS IN SEDIMENT RETENTION BASIN(S) THAT OCCUPY MORE THAN 1/4 OF THE DESIGN CAPACITY DURING THAT STAGE OF THE WORKS UP UNTIL COMMISSIONING OF THE BASIN(S) SHALL BE:-
  - TREATED WITH A FLOCCULATING AGENT (APPENDIX E MANAGING URBAN STORMWATER SOILS & CONSTRUCTION 4TH ED.)
  - DISCHARGED WITHIN 5 days FROM THE CONCLUSION OF ANY STORM EVENT LARGE ENOUGH TO FILL THE BASIN TO THAT LEVEL.

WORK AS EXECUTED SHOWN IN RED  
SIGNATURE.....  
PETER ROBERT WARWICK  
REGISTERED LAND SURVEYOR  
VINCE MORGAN SURVEYORS PTY LTD  
DATE: 20/12/20 REF: 16800-16

a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.  
b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

**SUBDIVISION WORKS CERTIFICATE**  
Certificate No. 20130299SW51  
Date of Issue 28/08/2020  
Issuing Officer D. Resta  
Accreditation No. BDC3367  
These plans/specifications form part of the certificate issued 28th of August 2020

Plotfile: 21 August, 2020 12:38:07 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\12 - Stage 1 DA\DCO\SANDSTONE ARCH\11018512CC220.dwg

NO	DESCRIPTION	CC	NDW	MS	DF	DATE
2	CERTIFIERS COMMENTS ADDRESSED	CC	NDW	MS	DF	21/08/20
1	ISSUE 80% CLIENT COMMENTS	MP	NDW	RO	MS	20/07/20
	AMENDMENT	DES	DRN	CKD	APR	DATE

**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS  
PO Box 4366 PENRITH WESTFIELD NSW 2750  
P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

CLIENT:  
  
AZIMUTH:  
DATUM:  
ORIGIN:  
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

ISSUED FOR CONSTRUCTION APPROVAL  
**SANDSTONE ARCH**  
**REDBANK, NORTH RICHMOND**  
SOIL & WATER MANAGEMENT NOTES  
PLAN No: 11018512/CC220 2  
FILE No: 11018512CC220  
SHEET SIZE: A1 ORIGINAL



Plotted: 21 August, 2020 12:38:22 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\12 - Stage 1 DA\DCD\SANDSTONE ARCH\11018512CC221.dwg

Note: These "Detailed Calculation" spreadsheets relate only to high erosion hazard lands as identified in figure 4.6 or where the designer chooses to use the RUSLE to size sediment basins. The "Standard Calculation" spreadsheets should be used on low erosion hazard lands as identified by figure 4.6 and where the designer chooses not to run the RUSLE in calculations.

**1. Site Data Sheet**

Site Name: **Redbank, Southern Valley**  
 Site Location: **North Richmond**  
 Precinct: **Sandstone Arch Subdivision**  
 Description of Site: **Sandstone Arch Subdivision**

Site area	Sub-catchments				Remarks
	BASIN 1				
Total catchment area (ha)	2.21				
Disturbed catchment area (ha)	2.21				

**Soil analysis (enter sediment type if known, or laboratory particle size data)**

Sediment Type (C, F or D) if known:	F				From Appendix C
% sand (fraction 0.02 to 2.00 mm)	33				Soil texture should be assessed through mechanical dispersion only. Dispersing agents (e.g. Calgon) should not be used
% silt (fraction 0.002 to 0.02 mm)	33				
% clay (fraction finer than 0.002 mm)	33				
Dispersion percentage	10.0				E.g. enter 10 for dispersion of 10%
% of whole soil dispersible	4.95				See Section 6.3.3(e). Auto-calculated
Soil Texture Group	F				Automatic calculation from above

**Rainfall data**

Design rainfall depth (days)	5				See Sections 6.3.4 (d) and (e)
Design rainfall depth (percentile)	85				See Sections 6.3.4 (f) and (g)
x-day, y-percentile rainfall event	29.5				See Section 6.3.4 (h)
Rainfall R-factor (if known)	2500				See Appendix B
IFD: 2-year, 6-hour storm (if known)	12.08				See IFD chart for the site

**RUSLE Factors**

Rainfall erosivity (R-factor)	2500				Auto-filled from above
Soil erodibility (K-factor)	0.03				
Slope length (m)	30				
Slope gradient (%)	4				RUSLE LS factor calculated for a high till/intermill ratio.
Length/gradient (L.S-factor)	0.54				
Erosion control practice (P-factor)	1.3				
Ground cover (C-factor)	1				

**Calculations**

Soil loss (t/ha/yr)	53				
Soil Loss Class	1				See Section 4.4.2(b)
Soil loss (m <sup>3</sup> /ha/yr)	41				
Sediment basin storage volume, m <sup>3</sup>	15				See Sections 6.3.4(i) and 6.3.5 (e)

**4. Volume of Sediment Basins, Type D and Type F Soils**

Basin volume = settling zone volume + sediment storage zone volume

**Settling Zone Volume**

The settling zone volume for Type F and Type D soils is calculated to provide capacity to contain all runoff expected from up to the y-percentile rainfall event. The volume of the basin's settling zone (V) can be determined as a function of the basin's surface area and depth to allow for particles to settle and can be determined by the following equation:

$$V = 10 \times C_v \times A \times R_{x\text{-day}, y\text{-site}} \text{ (m}^3\text{)}$$

where:

10 = a unit conversion factor

C<sub>v</sub> = the volumetric runoff coefficient defined as that portion of rainfall that runs off as stormwater over the x-day period

R<sub>x-day, y-site</sub> = is the x-day total rainfall depth (mm) that is not exceeded in y percent of rainfall events. (See Sections 6.3.4(d), (e), (f), (g) and (h)).

A = total catchment area (ha)

**Sediment Storage Zone Volume**

In the detailed calculation on Soil Loss Classes 1 to 4 lands, the sediment storage zone can be taken as 50 percent of the settling zone capacity. Alternately designers can design the zone to store the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(ii)). However, on Soil Loss Classes 5, 6 and 7 lands, the zone must contain the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(iii)).

Place an "X" in the box below to show the sediment storage zone design parameters used here:

<input type="checkbox"/> X	50% of settling zone capacity,
<input type="checkbox"/> X	2 months soil loss calculated by RUSLE

**Total Basin Volume**

Site	C <sub>v</sub>	R <sub>x-day, y-site</sub>	Total catchment area (ha)	Settling zone volume (m <sup>3</sup> )	Sediment storage volume (m <sup>3</sup> )	Total basin volume (m <sup>3</sup> )
BASIN 1	0.50	29.5	2.21	326	163	489

WORK AS EXECUTED SHOWN IN RED

SIGNATURE:   
 PETER ROBERT WARWICK  
 REGISTERED LAND SURVEYOR  
**VINCE MORGAN SURVEYORS PTY LTD**  
 DATE: 20/12/20 REF: 16800-16

a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.

b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

**SUBDIVISION WORKS CERTIFICATE**


Certificate No. **20130299SW51**  
 Date of Issue **28/08/2020**  
 Issuing Officer **D. Restar**  
 Accreditation No. **BDC3367**  
 These plans/specifications form part of the certificate issued **28th of August 2020**

**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH:  
 DATUM:  
 ORIGIN:

CLIENT:



THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

ISSUED FOR CONSTRUCTION APPROVAL

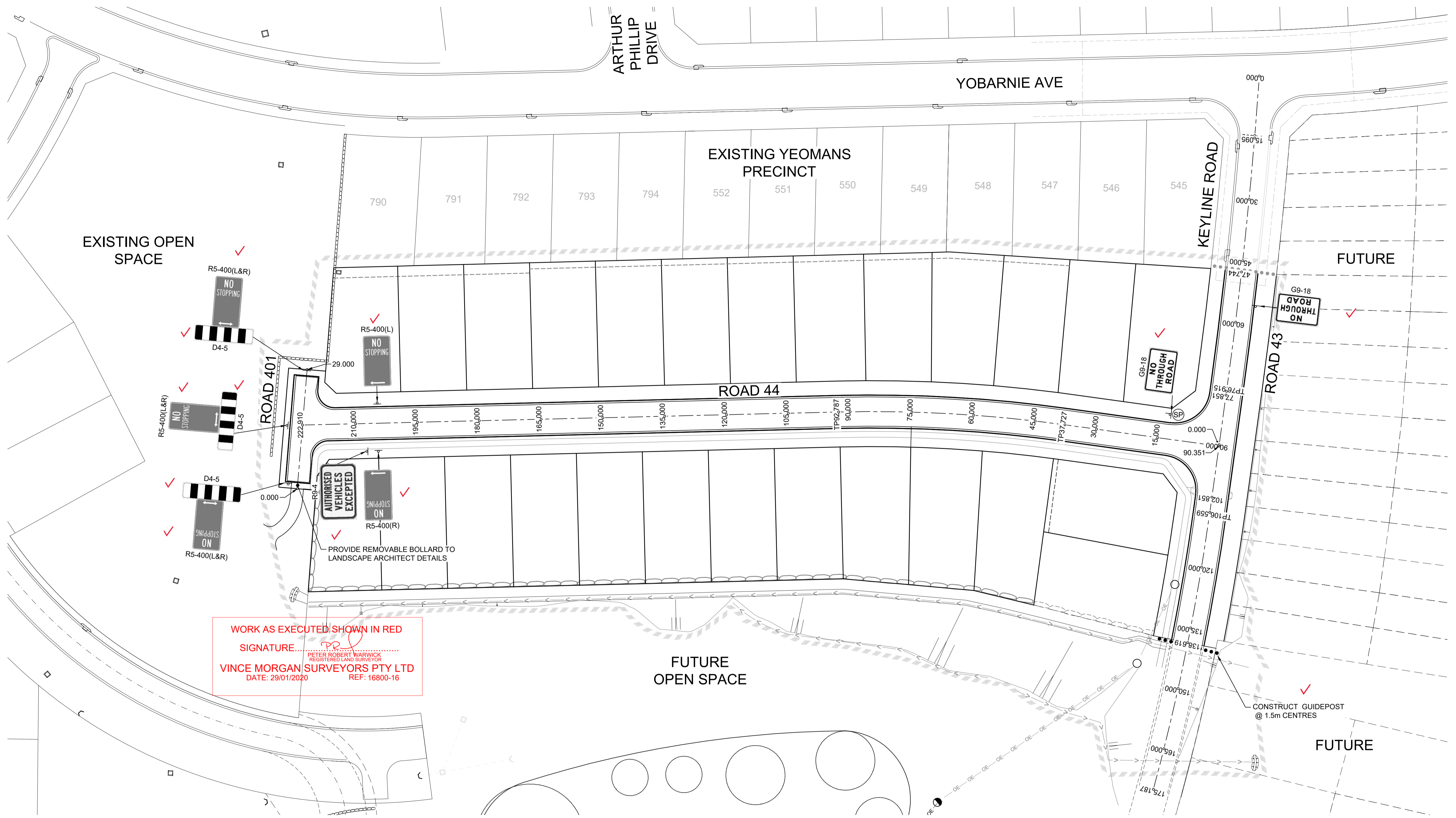
SANDSTONE ARCH  
 REDBANK, NORTH RICHMOND  
 SEDIMENT BASIN CALCULATIONS

PLAN No: **11018512/CC221** 1  
 FILE No: 11018512CC221  
 SHEET SIZE: A1 ORIGINAL

1	CERTIFIERS COMMENTS ADDRESSED	MP	NDW	MS	DF	21/08/20
	AMENDMENT	DES	DRN	CKD	APR	DATE



Plotfile: 27 January, 2021 11:02:44 AM File Name: \\110185 - Redbank North Richmond Residential Precincts\12 - Stage 1 DA\CC222\SANDSTONE ARCH\11018512CC222.dwg



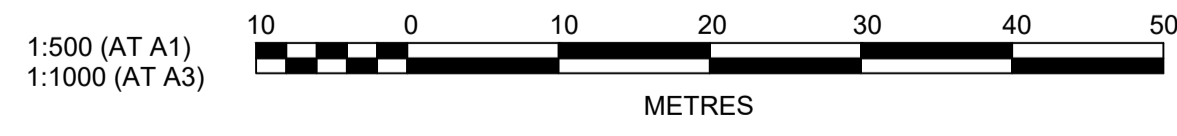
WORK AS EXECUTED SHOWN IN RED  
 SIGNATURE: *[Signature]*  
 PETER ROBERT WARWICK  
 REGISTERED LAND SURVEYOR  
 VINCE MORGAN SURVEYORS PTY LTD  
 DATE: 29/01/2020 REF: 16800-16

- NOTES:**
- ALL SIGNS TO BE IN ACCORDANCE WITH CURRENT AUSTRALIAN STANDARD, AS 1743 - ROAD SIGNS AND HAWKESBURY CITY COUNCIL'S DEVELOPMENT CONTROL PLAN 2002 - APPENDIX E 'CIVIL WORKS SPECIFICATION'.
  - ALL STREET SIGNS SHALL BE IN ACCORDANCE WITH HAWKESBURY CITY COUNCIL'S STANDARD DRAWING No. SD80 AND SD81.
  - THIS SIGNAGE AND LINEMARKING PLAN IS SUBJECT TO APPROVAL BY LOCAL TRAFFIC COMMITTEE.

UTILITIES SHOWN ARE DIAGRAMMATIC ONLY. CONTRACTORS ARE RESPONSIBLE TO LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES & STANDARDS. NOTE: UTILITIES SHOWN MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS



UNDERGROUND SERVICE CABLES IN VICINITY. EXERCISE EXTREME CAUTION DURING EXCAVATION. CONTACT "DIAL BEFORE YOU DIG" PRIOR TO ANY CONSTRUCTION WORK



AMENDMENT	DES	DRN	CKD	APR	DATE
3	JET	JA	MP	RO	27/01/21
2	JET	JET	MP	RO	21/01/21
1	CC	NDW	MS	DF	21/08/20

**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS  
 PO Box 4366 PENRITH WESTFIELD NSW 2750  
 P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

CLIENT: REDBANK NORTH RICHMOND  
 AZIMUTH:  
 DATUM:  
 ORIGIN: THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

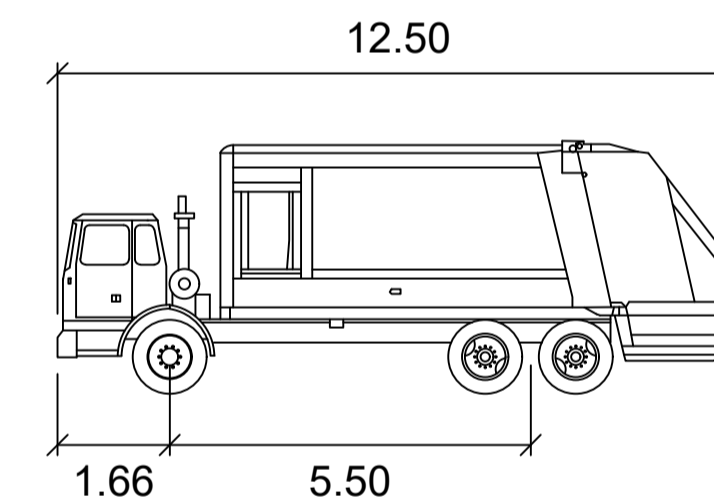
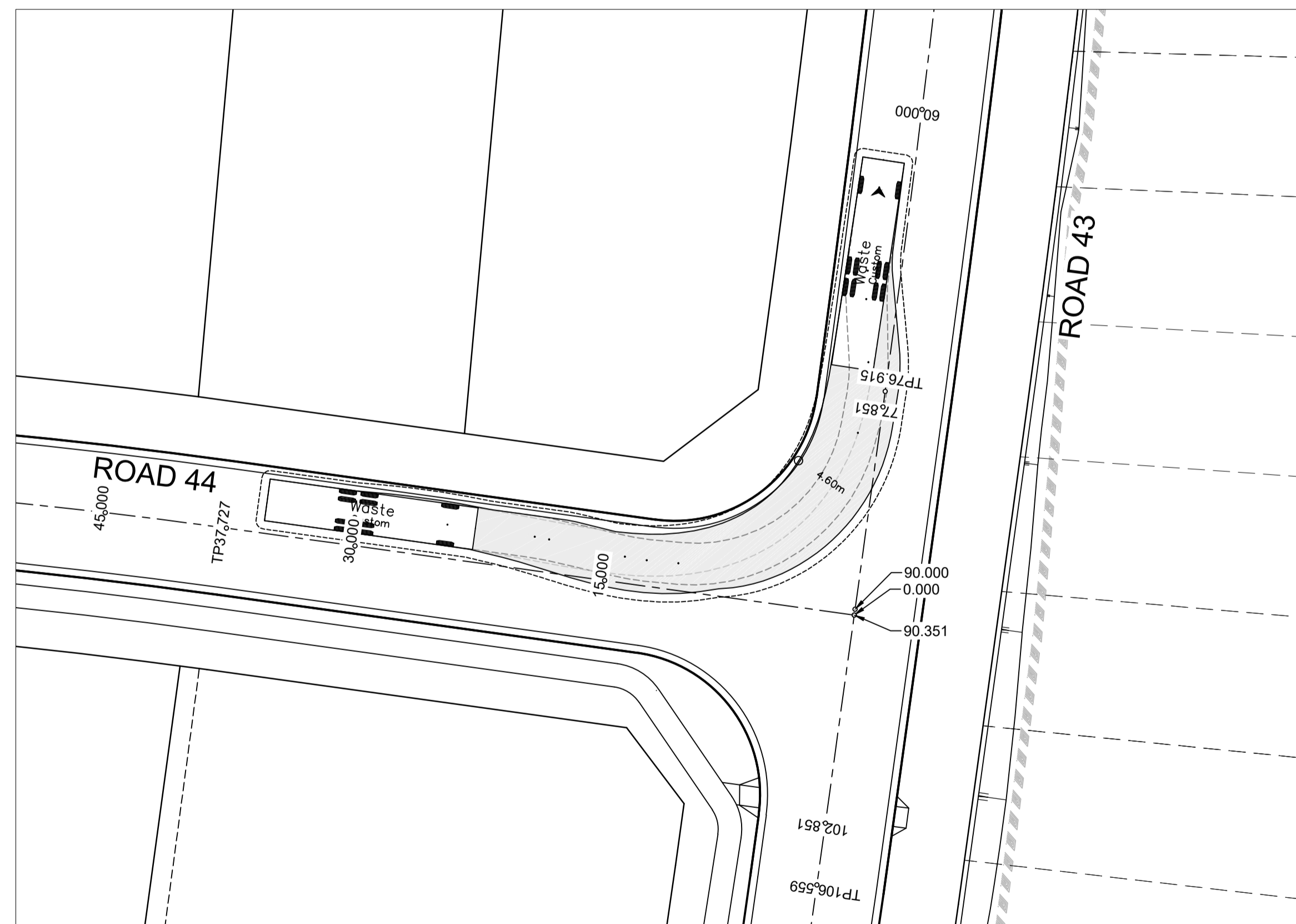
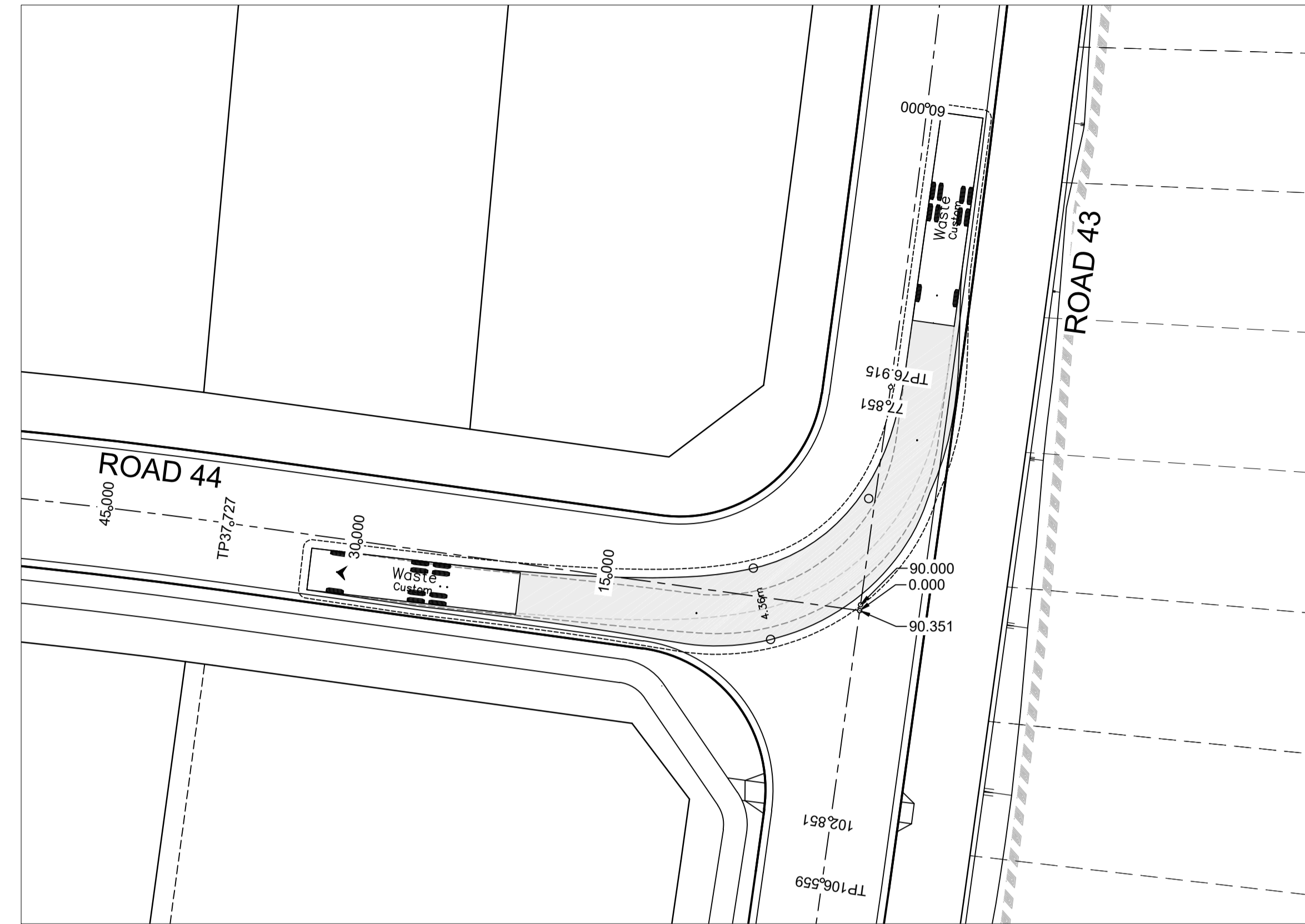
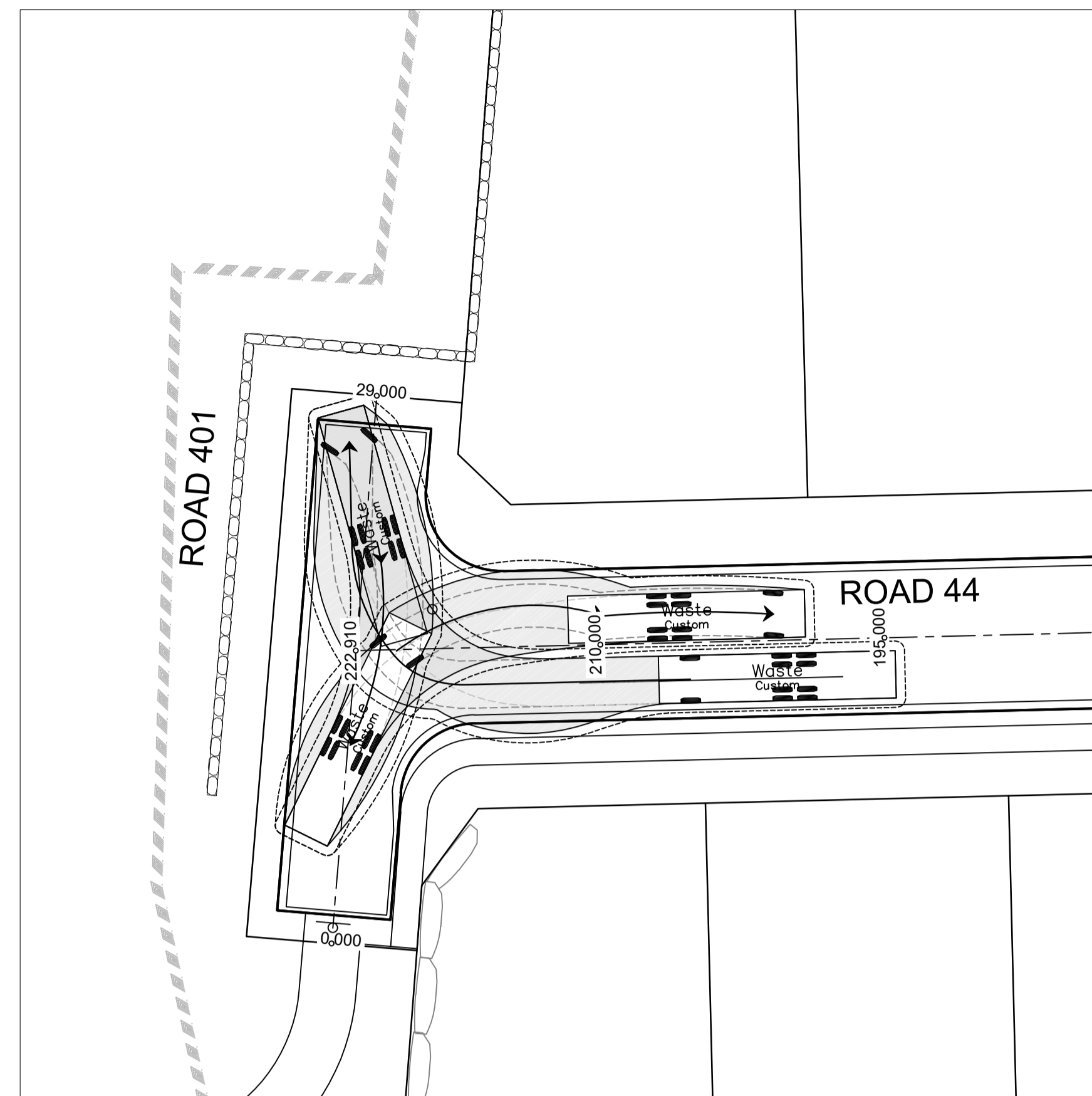
ISSUED FOR CONSTRUCTION APPROVAL

SANDSTONE ARCH  
 REDBANK, NORTH RICHMOND  
 SIGNAGE AND LINEMARKING PLAN

PLAN No: 11018512/CC222 **3**  
 FILE No: 11018512CC222  
 SHEET SIZE: A1 ORIGINAL



Plotted: 21 August, 2020 12:39:21 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\12 - Stage 1 DA\DC\CC\SANDSTONE ARCH\11018512CC223.dwg



**Waste Custom**

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

- a. No works are to occur outside of the property boundary unless written approval from Hawkesbury Council has been received.
- b. All landscaping requires separate formal approval by Council or an Accredited Certifier, prior to commencement of landscaping works.

**WORK AS EXECUTED SHOWN IN RED**

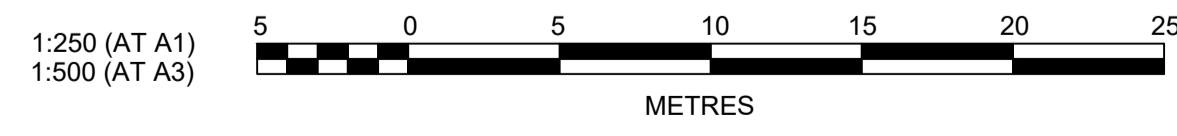
SIGNATURE **PETER ROBERT WARWICK**  
REGISTERED LAND SURVEYOR

**VINCE MORGAN SURVEYORS PTY LTD**  
DATE: 20/12/20 REF: 16800-16

**SUBDIVISION WORKS CERTIFICATE**

Certificate No. 20130299SW51  
Date of Issue 28/08/2020  
Issuing Officer   
Accreditation No. BDC3367

These plans/specifications form part of the certificate issued **28th of August 2020**



**J. WYNDHAM PRINCE** CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750  
P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH:  
DATUM:  
ORIGIN:

CLIENT:

THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

**ISSUED FOR CONSTRUCTION APPROVAL**

**SANDSTONE ARCH**  
**REDBANK, NORTH RICHMOND**  
TURNING PATHS

PLAN No: **11018512/CC223** 1  
FILE No: 11018512CC223  
SHEET SIZE: A1 ORIGINAL

1	CERTIFIERS COMMENTS ADDRESSED	CC	NDW	MS	DF	21/08/20
	AMENDMENT	DES	DRN	CKD	APR	DATE