PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0585

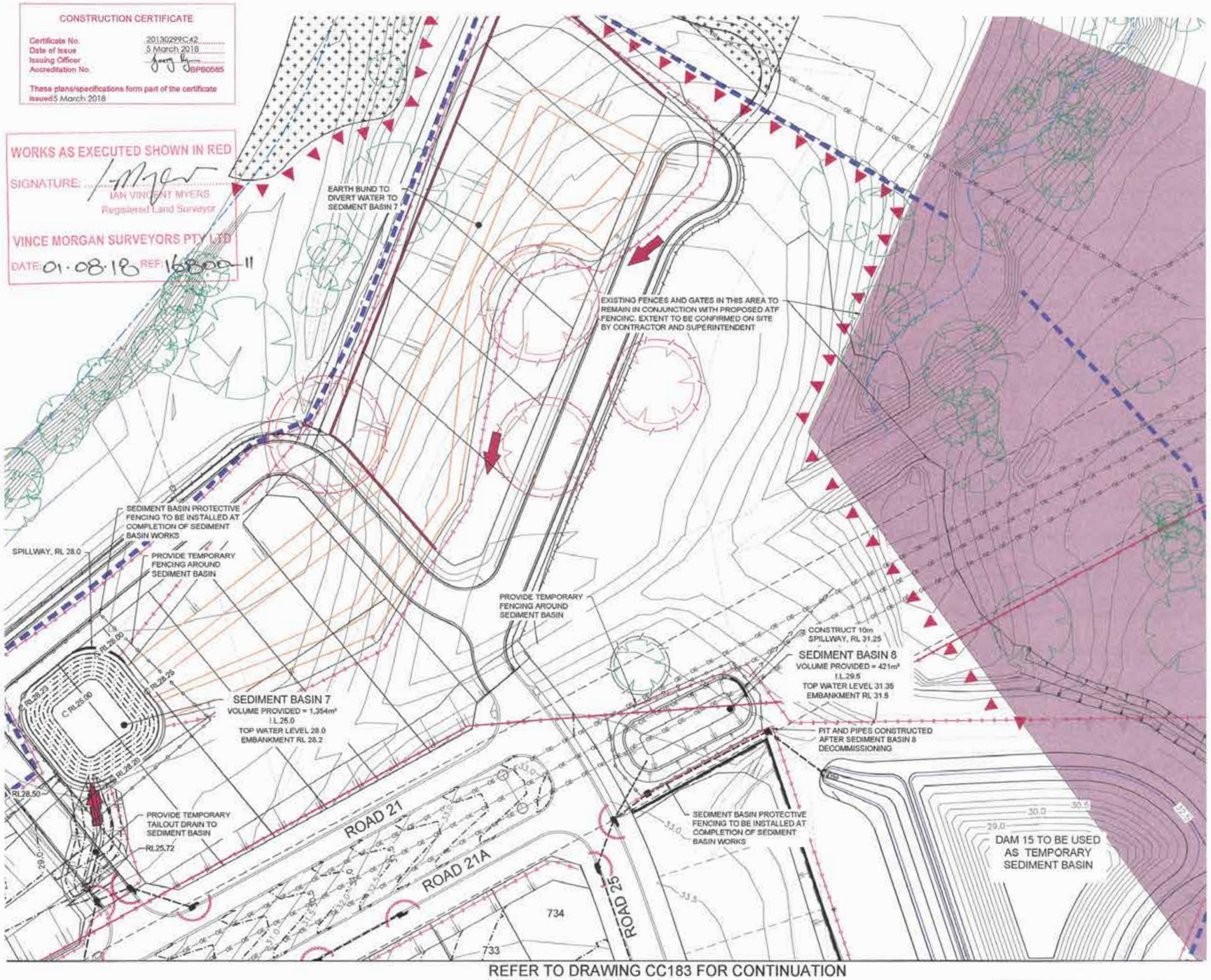
These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11



REFER TO DRAWING CC183 FOR CONTINUATION

1:500 (AT A1)
1:1000 (AT A3)
10 0 10 20 30 40 50
METRES

LEGEND

SEDIMENT FENCE	
EXISTING CONTOURS	47.0
DESIGN CONTOURS	48.0
ATF FENCE	
CATCH DRAIN	
STABILISED SITE ACCESS	
STRAW BALES	
SEDIMENT BASIN	
PROTECTIVE FENCE TO CPW, RIPARIAN CORRIDOR AND UNDISTURBED LAND	
STAR PICKET / FLAGGING	
TREES TO BE RETAINED AND PROTECTED WITH SUITABLE STAR PICKET & PARAWEB UNLESS WITHIN AREAS EXCLUDED BY OTHER PROTECTIVE FENCE (ie. CPW)	
TREES TO BE PROTECTED DURING CURRENT WORKS	
STOCKPILE	STOCKPILE
SITE COMPOUND	
CUMBERLAND PLAIN WOODS (CPW)	
REFER TO SEPARATE DA PACKAGE FOR PEEL FARM WORKS	

PHASE 3
SOIL AND WATER MANAGEMENT

1. MAINTAIN SEDIMENT FENCE
2. PLACE STRAW BALE FILTER TO HEADWALL INLET & OUTLETS.
3. PLACE FILTER ROLL AT KI PITS.
4. PLACE SURFACE INLET SEDIMENT TRAP AT GSIP.
5. MAINTAIN SEDIMENT BASIN AND CATCH DRAINS TO SEDIMENT BASIN

LAYOUT KEY
SCALE : N.T.S

C	DAM 15 AND STORMWATER REDESIGN	MP	CC	RO	RO	09/01/18
B	SEDIMENT BASINS REVISION	MP	LS	RO	MS	26/07/17
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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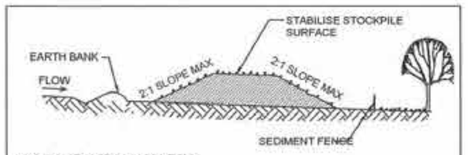
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PHASE 3 POST STORMWATER
DRAINAGE CONSTRUCTION SHEET 6 OF 6

PLAN No: 11018511/CC187 C
FILE No: 11018511CC187
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 9:00:39 AM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC187.dwg

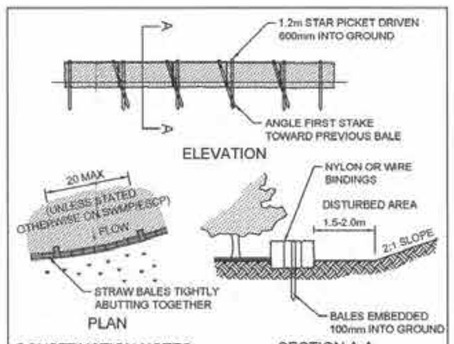


CONSTRUCTION NOTES

1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10, EQUALS 80% GROUND COVER.
5. CONSTRUCT EARTH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWING 6-8) 1 TO 2 METRES DOWNSLOPE.

STOCKPILE SD4-1

N.T.S.

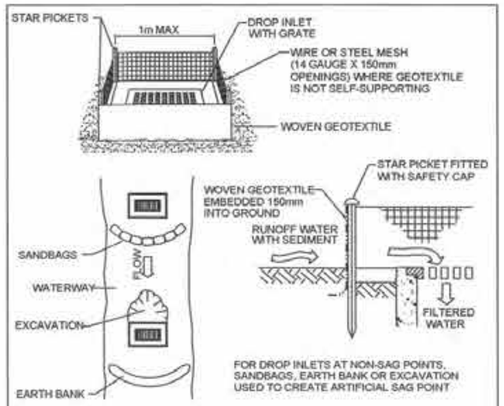


CONSTRUCTION NOTES

1. CONSTRUCT THE STRAW BALE FILTER AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE.
2. PLACE BALES LENGTHWISE IN A ROW WITH ENDS TIGHTLY ABUTTING. USE STRAW TO FILL ANY GAPS BETWEEN BALES. STRAWS ARE TO BE PLACED PARALLEL TO GROUND.
3. ENSURE THAT THE MAXIMUM HEIGHT OF THE FILTER IS ONE BALE.
4. EMBED EACH BALE IN THE GROUND 75mm TO 100mm AND ANCHOR WITH TWO 1.2m STAR PICKETS OR STAKES. ANGLE THE FIRST STAR PICKET OR STAKE IN EACH BALE TOWARDS THE PREVIOUSLY LAID BALE. DRIVE THEM 600mm INTO THE GROUND AND, IF POSSIBLE, FLUSH WITH THE TOP OF THE BALES. WHERE STAR PICKETS ARE USED AND THEY PROTRUDE ABOVE THE BALES, ENSURE THEY ARE FITTED WITH SAFETY CAPS.
5. WHERE A STRAW BALE FILTER IS CONSTRUCTED DOWNSLOPE FROM A DISTURBED BATTER, ENSURE THE BALES ARE PLACED 1m TO 2m DOWNSLOPE FROM THE TOE.
6. ESTABLISH A MAINTENANCE PROGRAM THAT ENSURES THE INTEGRITY OF THE BALES IS RETAINED - THEY COULD REQUIRE REPLACEMENT EACH TWO TO FOUR MONTHS.

STRAW BALE FILTER SD6-7

SCALE N.T.S.

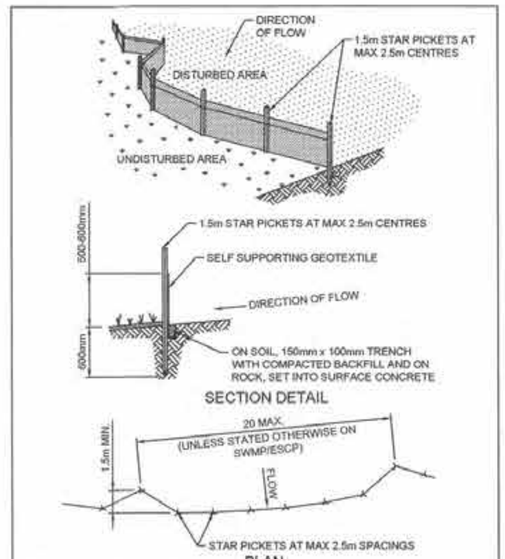


CONSTRUCTION NOTES

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

GEOTEXTILE INLET FILTER SD6-12

N.T.S.

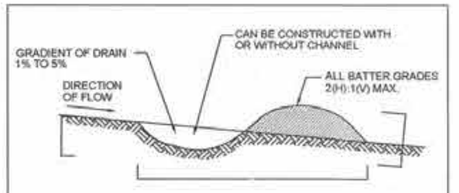


CONSTRUCTION NOTES

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

SEDIMENT FENCE SD6-8

SCALE: N.T.S.



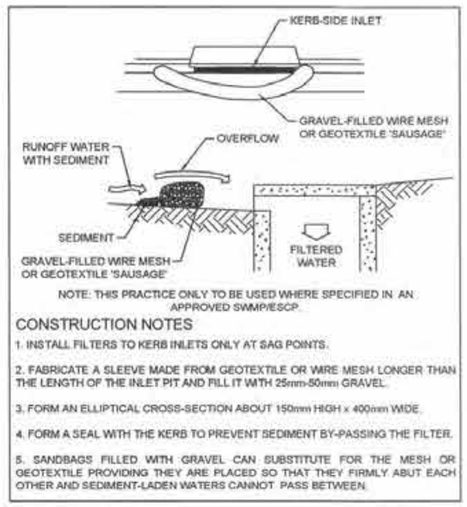
NOTE: ONLY TO BE USED AS TEMPORARY BANK WHERE MAXIMUM UPSLOPE LENGTH IS 80 METRES.

CONSTRUCTION NOTES

1. BUILD WITH GRADIENTS BETWEEN 1 PERCENT AND 5 PERCENT.
2. AVOID REMOVING TREES AND SHRUBS IF POSSIBLE - WORK AROUND THEM.
3. ENSURE THE STRUCTURES ARE FREE OF PROJECTIONS OR OTHER IRREGULARITIES THAT COULD IMPEDE WATER FLOW.
4. BUILD THE DRAINS WITH CIRCULAR, PARABOLIC OR TRAPEZOIDAL CROSS SECTIONS, NOT V SHAPED.
5. ENSURE THE BANKS ARE PROPERLY COMPACTED TO PREVENT FAILURE.
6. COMPLETE PERMANENT OR TEMPORARY STABILISATION WITHIN 10 DAYS OF CONSTRUCTION, LINE WITH TURF OR GEOFABRIC.

EARTH BANK (LOW FLOW) SD5-5

N.T.S.



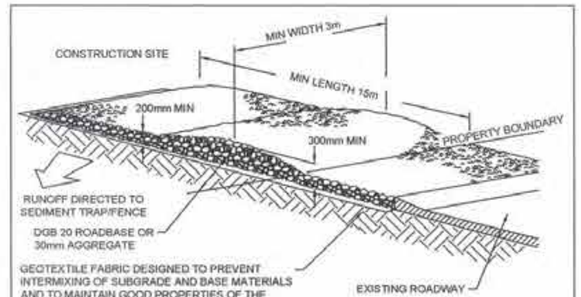
NOTE: THIS PRACTICE ONLY TO BE USED WHERE SPECIFIED IN AN APPROVED SWMP/ESCP.

CONSTRUCTION NOTES

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

MESH & GRAVEL INLET FILTER SD6-11

SCALE N.T.S.

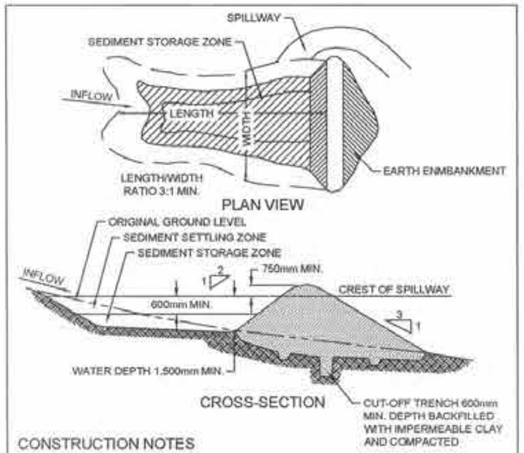


CONSTRUCTION NOTES

1. STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE.
2. COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
3. CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASE OR 30mm AGGREGATE.
4. ENSURE THE STRUCTURE IS AT LEAST 15m LONG OR TO BUILDING ALIGNMENT AND AT LEAST 3m WIDE.
5. WHERE A SEDIMENT FENCE JOINS ONTO THE STABILISED ACCESS, CONSTRUCT A HUMP IN THE STABILISED ACCESS TO DIVERT WATER TO THE SEDIMENT FENCE.

STABILISED SITE ACCESS SD6-14

N.T.S.



CONSTRUCTION NOTES

1. REMOVE ALL VEGETATION AND TOPSOIL FROM UNDER THE DAM WALL AND FROM WITHIN THE STORAGE AREA.
2. CONSTRUCT A CUT-OFF TRENCH 500mm DEEP AND 1,200mm WIDE ALONG THE CENTRELINE OF THE EMBANKMENT EXTENDING TO A POINT ON THE GULLY WALL LEVEL WITH THE RISER CREST.
3. MAINTAIN THE TRENCH FREE OF WATER AND RECOMPACT THE MATERIALS WITH EQUIPMENT AS SPECIFIED IN THE SWMP TO 95 PER CENT STANDARD PROCTOR DENSITY.
4. SELECT FILL FOLLOWING THE SWMP THAT IS FREE OF ROOTS, WOOD, ROCK, LARGE STONE OR FOREIGN MATERIAL.
5. PREPARE THE SITE UNDER THE EMBANKMENT BY RIPPING TO AT LEAST 100mm TO HELP BOND COMPACTED FILL TO THE EXISTING SUBSTRATE.
6. SPREAD THE FILL IN 100mm TO 150mm LAYERS AND COMPACT IT AT OPTIMUM MOISTURE CONTENT FOLLOWING THE SWMP.
7. CONSTRUCT THE EMERGENCY SPILLWAY.
8. REHABILITATE THE STRUCTURE FOLLOWING THE SWMP.

EARTH BASIN - WET SD6-4

(APPLIES TO 'TYPE D' AND 'TYPE F' SOILS ONLY)

SCALE N.T.S.

CONSTRUCTION CERTIFICATE

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Date of Issue 5 March 2018
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Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-1

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
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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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SOIL AND WATER MANAGEMENT DETAILS

PLAN No: 11018511/CC188 A
FILE No: 11018511CC188
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 5:05:29 PM File Name: z\11\10185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC188.dwg

SOIL AND WATER MANAGEMENT NOTES

GENERAL NOTES:

1. 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)
2. TOPSOIL FROM ALL AREAS TO BE DISTURBED SHALL BE STOCKPILED AND LATER RESPREAD TO AID REVEGETATION IN THOSE AREAS.
3. ALL DRAINAGE WORKS SHALL BE CONSTRUCTED AND STABILISED AS EARLY AS POSSIBLE DURING DEVELOPMENT.
4. ALL TAIL-OUT DRAINS SHALL BE COUCH GRASSED AND TRAPEZOIDAL IN SECTION. STAKED STRAW BALES SHALL BE PLACED AS A SEDIMENT CONTROL DEVICE WHERE REQUIRED.
5. 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.
6. ROADS SHALL BE PAVED AS EARLY AS POSSIBLE AFTER FORMATION.
7. 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.
8. ALL DISTURBED AREAS SHALL BE REVEGETATED AS SOON AS THE RELEVANT WORKS ARE COMPLETED.
9. ALL SEDIMENT BASINS AND TRAPS SHALL BE CLEANED WHEN THE STRUCTURES ARE A MAXIMUM 60% FULL OF SOLID MATERIALS, INCLUDING DURING THE MAINTENANCE PERIOD.
10. 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.
11. 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").
12. ALL CONTRACTORS AND SUBCONTRACTORS ARE RESPONSIBLE FOR REDUCING THE SOIL EROSION AND POLLUTION OF DOWNSLOPE AREAS.
13. 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 GROUNDCOVER MORE THAN 70%, USING MATERIALS THAT CAN CATER FOR CONCENTRATED FLOWS.

14. WORKS ARE TO BE UNDERTAKEN IN THE FOLLOWING SEQUENCE / EACH SUBSEQUENT STAGE IS NOT TO COMMENCE UNTIL THE PREVIOUS ONE IS COMPLETE:-
    a. INSTALL ALL BARRIER AND SEDIMENT FENCING WHERE SHOWN ON THE PLAN AND TO DETAIL(SD) 6-7.
    b. CONSTRUCT STABILISED SITE ACCESS AS SHOWN ON THE PLAN AND TO DETAIL (SD) 6-14.
    c. CONSTRUCT LOW FLOW EARTH BANKS WHERE SHOWN ON THE PLAN AND TO DETAIL (SD) 4-1.
    d. 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..
    e. PLACE SEDIMENT FENCING (SD) 6-8 DOWNSLOPE OF LANDS TO BE DISTURBED FOR CONSTRUCTION OF THE SEDIMENT BASINS.
    f. CONSTRUCT SEDIMENT BASIN(S) GENERALLY IN ACCORDANCE WITH (SD) 6-4
    g. STABILISE LAND SURFACES DISTURBED BY CONSTRUCTION OF THE SEDIMENT BASIN(S) AS SOON AS FINAL LEVELS ARE ESTABLISHED
    h. 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.
    i. UNDERTAKE ALL ESSENTIAL CONSTRUCTION WORKS.
    j. GRADE LOT AREAS TO FINAL GRADES AND APPLY PERMANENT STABILISATION (LANDSCAPING) WITHIN 14 DAYS OF COMPLETION OF CONSTRUCTION WORKS.
    k. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER THE PERMANENT LANDSCAPING HAS BEEN COMPLETED.
15. CLEARLY VISIBLE BARRIER FENCING SHALL BE INSTALLED WHERE DIRECTED BY THE SITE SUPERINTENDENT TO CONTROL AND PROHIBIT UNNECESSARY SITE DISTURBANCE
16. EARTH BATTERS SHALL BE CONSTRUCTED WITH AS LOW A GRADIENT AS PRACTICABLE BUT NO STEEPER THAN:-
    a. 3(h) - 1(v) WHERE SLOPE LENGTH IS BETWEEN 10m AND 12m
    b. 4(h) - 1(v) WHERE SLOPE LENGTH IS BETWEEN 12m AND 18m
    c. 5(h) - 1(v) WHERE SLOPE LENGTH IS BETWEEN 18m AND 27m
    d. 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.
17. PROTECTION FROM EROSIVE 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.
18. TEMPORARY GROUND COVER SHOULD BE MINIMUM 70%. FOOT AND VEHICULAR TRAFFIC SHALL BE KEPT AWAY FROM REHABILITATED AREAS.
19. 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.
20. SEDIMENT FENCES (SD) 6-8 SHALL:-
    a. 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.
    b. HAVE A CATCHMENT AREA NOT EXCEEDING 720sq.m, AND A STORAGE DEPTH OF AT LEAST 0.6m.
    c. PROVIDE AN UPSLOPE RETURN OF 1m AT INTERVALS ALONG THE FENCE.
21. STOCKPILES (SD) 4-1 SHALL BE LOCATED AS SHOWN ON THE PLANS AND AT THE DISCRETION OF THE SITE SUPERINTENDENT.
22. 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.
23. STOCKPILES SHALL NOT BE LOCATED WITHIN 5m OF HAZARD AREAS, INCLUDING LIKELY AREAS OF HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS OR DRIVEWAYS.
24. THE SEDIMENT RETENTION BASINS (SD) 6-4 SHALL:-
    a. BE CONSTRUCTED WHERE SHOWN ON THE PLANS.
    b. BE FLOCCULATED (APPENDIX E MANAGING URBAN STORMWATER SOILS & CONSTRUCTION 4TH ED.) BEFORE DISCHARGE OCCURS (UNLESS THE DESIGN STORM EVENT IS EXCEEDED)
    c. 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.
25. 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:-
    a. LOWER SUSPENDED SOLIDS TO LESS THAN 50mg/litre WITHIN 24hrs OF FILLING
    b. THE BASINS SHALL THEN BE ALLOWED TO STAND 36 TO 48hrs FOR FLOCCULATED PARTICLES TO SETTLE
    c. THE BASINS SHALL THEN BE DRAINED SO THAT FULL STORAGE CAPACITY IS REGAINED WITHOUT
    d. DISCHARGING SEDIMENT FROM THE SITE.
26. 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.
27. 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.
28. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES SHALL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE STABILISED.
29. 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:

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

SEDIMENTATION CONTROL DEVICES

1. 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.
2. 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 IT'S LOWER EDGE.
3. PROVIDE STRIP OF TURF MIN. 300mm WIDE BEHIND KERB + 1m WIDE AROUND ALL SURFACE INLET PITS

SITE INSPECTION AND MAINTENANCE

1. 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:-
    a. AT LEAST WEEKLY
    b. IMMEDIATELY BEFORE SITE CLOSURE
    c. IMMEDIATELY FOLLOWING RAINFALL EVENTS IN EXCESS OF 5mm IN ANY 24hr PERIOD.

    THE SELF AUDIT SHALL INCLUDE:-
    a. RECORDING THE CONDITION OF EVERY 'BEST MANAGEMENT PRACTICE' EMPLOYED
    b. RECORDING MAINTENANCE REQUIREMENTS (IF ANY) FOR EACH 'BEST MANAGEMENT PRACTICE'
    c. RECORDING THE VOLUMES OF SEDIMENT REMOVED FROM SEDIMENT RETENTION SYSTEMS WHERE APPLICABLE
    d. RECORDING THE SITE WHERE SEDIMENT IS DISPOSED
    e. FORWARDING A SIGNED DUPLICATE OF THE COMPLETED CHECK SHEET TO THE PROJECT MANAGER/DEVELOPER FOR THEIR INFORMATION.
2. 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:-
    a. 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:-
    a. THIS PLAN IS BEING IMPLEMENTED CORRECTLY
    b. REPAIRS ARE BEING UNDERTAKEN AS REQUIRED
    c. ESSENTIAL MODFICATIONS 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.
3. WASTE BINS SHALL BE EMPTIED AS NECESSARY, DISPOSAL OF WASTE SHALL BE IN A MANNER APPROVED BY THE SITE SUPERINTENDENT
4. 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:-
    a. AREAS OF EROSION ARE REPAIRED (e.g LINED WITH SUITABLE MATERIAL) AND/OR VELOCITY OF FLOW IS REDUCED APPROPRIATELY THROUGH CONSTRUCTION OF SMALL CHECK DAMS OR INSTALLING ADDITIONAL DIVERSIONS UPSLOPE
    b. 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)
5. 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.
6. RECENTLY STABILISED LANDS SHALL BE CHECKED TO ENSURE THAT THE EROSION HAZARD HAS BEEN EFFECTIVELY REDUCED. ANY REPAIRS SHALL BE INITIATED AS APPROPRIATE.
7. EXCESSIVE VEGETATIVE GROWTH SHALL BE CONTROLLED THROUGH MOWING OR SLASHING.
8. ALL SEDIMENT DETENTION SYSTEMS SHALL BE KEPT IN GOOD WORKING CONDITION. IN PARTICULAR ATTENTION SHALL BE GIVEN TO:-
    a. RECENT WORKS TO ENSURE THAT THEY HAVE NOT RESULTED IN DIVERSION OF SEDIMENT LADEN WATER AWAY FROM THEM.
    b. DEGRADABLE PRODUCTS TO ENSURE THAT THEY ARE REPLACED AS REQUIRED
    c. SEDIMENT REMOVAL TO ENSURE THE DESIGN CAPACITY OR LESS REMAINS IN THE SETTLING ZONE.
9. 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 SUBJECTED TO CHANGES IN CONDITIONS AT THE WORKS SITE OR ELSEWHERE IN THE CATCHMENT.
10. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN A FUNCTIONING CONDITION UNTIL ALL EARTHWORKS ACTIVITIES ARE COMPLETED AND THE SITE STABILISED.
11. 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:-
    a. TREATED WITH A FLOCCULATING AGENT (APPENDIX E MANAGING URBAN STORMWATER SOILS & CONSTRUCTION 4TH ED.)
    b. DISCHARGED WITHIN 5 days FROM THE CONCLUSION OF ANY STORM EVENT LARGE ENOUGH TO FILL THE BASIN TO THAT LEVEL.

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SOIL AND WATER MANAGEMENT NOTES

PLAN No: 11018511/CC189 A
FILE No: 11018511CC189
SHEET SIZE: A1 ORIGINAL

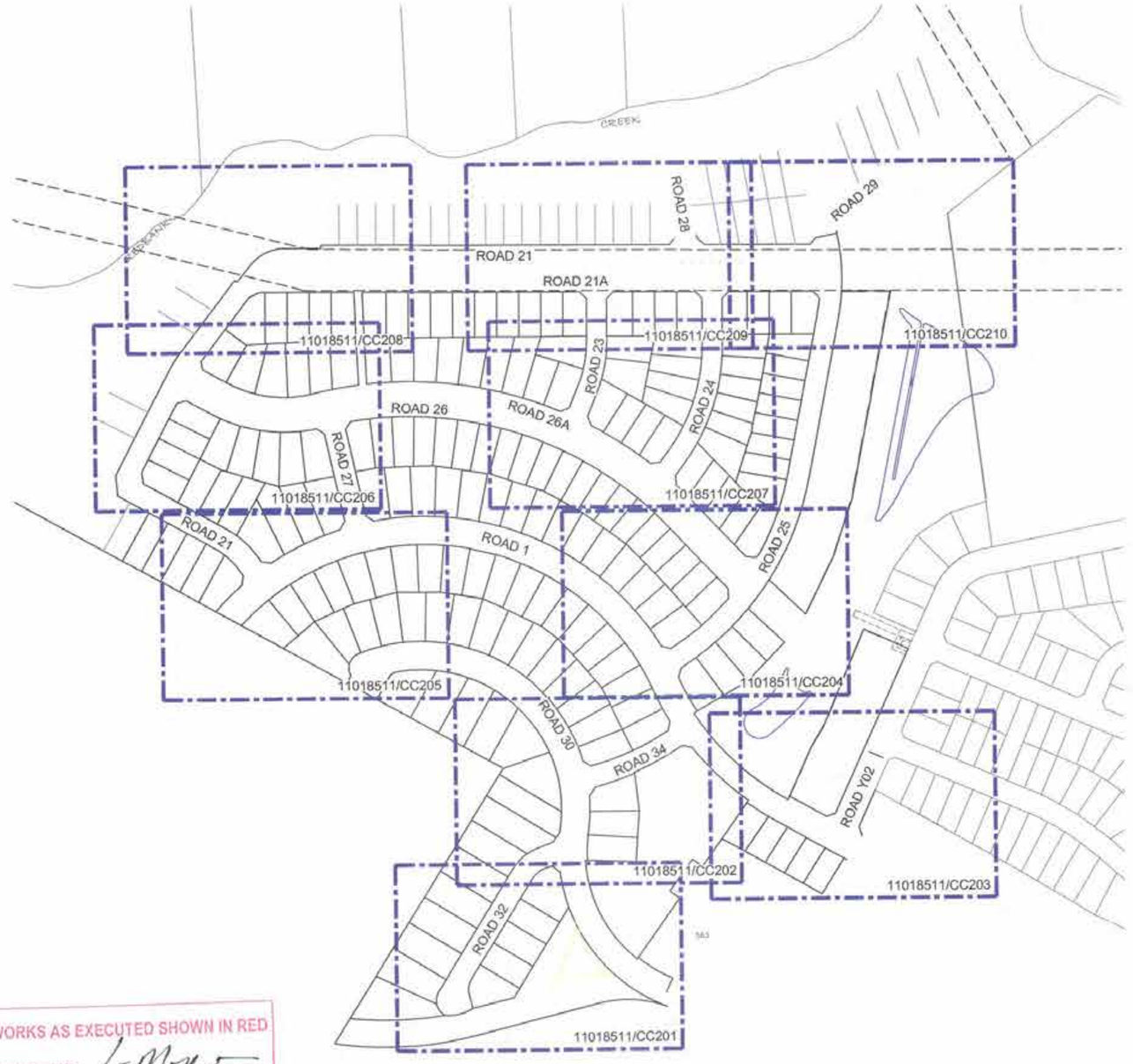
Plotted: 25 January , 2018 5:05:32 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC189.dwg

PAVEMENT MARKING & SIGNPOSTING NOTES

1. ALL PAVEMENT MARKINGS, CHEVRONS AND REFLECTORS ARE TO BE IN ACCORDANCE WITH AUST ROAD GUIDE (GUIDE TO TRAFFIC MANAGEMENT) AND AUSTRALIAN STANDARD AS1742, AS1743 AND AS2890.
2. ALL SIGNS TO BE IN ACCORDANCE WITH CURRENT AUSTRALIAN STANDARD AS 1743 - ROAD SIGNS, RMS SUPPLEMENTS AND COUNCIL'S SPECIFICATIONS UNLESS STATED OTHERWISE.
3. ROAD SIGNS ARE SIZE 'A', UNLESS OTHERWISE SHOWN. LOCATE OUTSIDE OF CLEAR ZONES.
4. ALL NEW PAVEMENT MARKINGS ARE TO BE INSTALLED IN WHITE REFLECTIVE, THERMOPLASTIC PAINT.
5. ALL MEASUREMENTS ARE IN METRES UNLESS SHOWN OTHERWISE. KERBSIDE LANE WIDTH MEASURED FROM FACE OF KERB. NO INFORMATION IS TO BE SCALED FROM THESE DRAWINGS.
6. REFER TO RD-001 FOR SAFETY BARRIER MODEL DRAWINGS.

PAVEMENT MARKING SCHEDULE

CODE	USE	STYLE	COLOUR & TYPE
TB	Give way line (Used with Signs)	0.6m, 0.30, 0.6m	Reflectorised white
TB1	Give way line (Used on right side of side)	0.6m, 0.15, 0.6m	Reflectorised white
TF	Stop line at traffic signals	0.30 (< 80km/h)	Reflectorised white
E1	Left hand edge line on general purpose road	0.02, 24m, 0.15	Reflectorised white type 'R' pavement markers mono-directional reflective red
E5	Outline of painted median	12m, 0.15, 0.02 MIN	Reflectorised white type 'YY' pavement markers bi-directional reflective yellow
BB	Barrier line where sight is restricted in both directions or approach to median island	12m, 0.10, 0.10, 0.10	Reflectorised white type 'YY' pavement markers bi-directional reflective yellow
S1	Dividing (seperation) line in 2 lane road	3, 9, 3, 0.10m	Reflectorised white
YY	Bi-directional raised reflective pavement marker	4.5, 4.5	Reflectorised white pavement markers bi-directional reflective yellow
RPG	Reflective guide posts	••	



WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ..... IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0585
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1:2000 (AT A1)
1:4000 (AT A3)
50 0 50 100 150 200
METRES

B	COUNCIL'S COMMENTS	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	JG	RO	MB	15/06/17
	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:

CLIENT: REDBANK

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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SIGN POSTING AND LINEMARKING
LAYOUT PLAN

PLAN No: 11018511/CC200 B
FILE No: 11018511CC200
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 2:23:16 PM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS11018511CC200.dwg

REFER TO DRAWING 1108511/CC202 FOR CONTINUATION

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

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707
708
709
715
714
713
712
788

ROAD 32
ROAD 30

PROVIDE WHITE REFLECTORISED GUIDE POSTS AT 1.5m CENTRES

WORK AS EXECUTED SHOWN IN RED
SIGNATURE.....
PETER ROBERT WARWICK
REGISTERED LAND SURVEYOR
VINCE MORGAN SURVEYORS PTY LTD
DATE: 14/01/20 REF:16800-11

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

1:250 (AT A1)
1:500 (AT A3)
5 0 5 10 15 20 25
METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	COUNCIL'S COMMENTS	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

CLIENT: REDBANK

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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SIGN POSTING AND LINEMARKING
SHEET 1 OF 10

PLAN No: 11018511/CC201 B
FILE No: 11018511CC201
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February - 2018 2:23:20 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CCYEOMANS\11018511CC201.dwg

REFER TO DRAWING 11018511/CC204 FOR CONTINUATION

683 681 682 701 702 703 704 719 718 717 789 790

ROAD 34 ROAD 1 ROAD 30 ROAD 32 FUTURE ROAD 40

NO THROUGH ROAD G9 - 18

FLOODWAY WARNING SIGN

WORK AS EXECUTED SHOWN IN RED
SIGNATURE.....
PETER ROBERT WARWICK
REGISTERED LAND SURVEYOR
VINCE MORGAN SURVEYORS PTY LTD
DATE: 14/01/20 REF:16800-11

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE.....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130229/C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No BPB0565
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REFER TO DRAWING 11018511/CC202 FOR CONTINUATION

REFER TO DRAWING 11018511/CC203 FOR CONTINUATION

1:250 (AT A1)
1:500 (AT A2)
5 0 5 10 15 20 25
METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	COUNCIL'S COMMENTS	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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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: MGA 56
DATUM: A.H.D.
ORIGIN:

CLIENT: REDBANK

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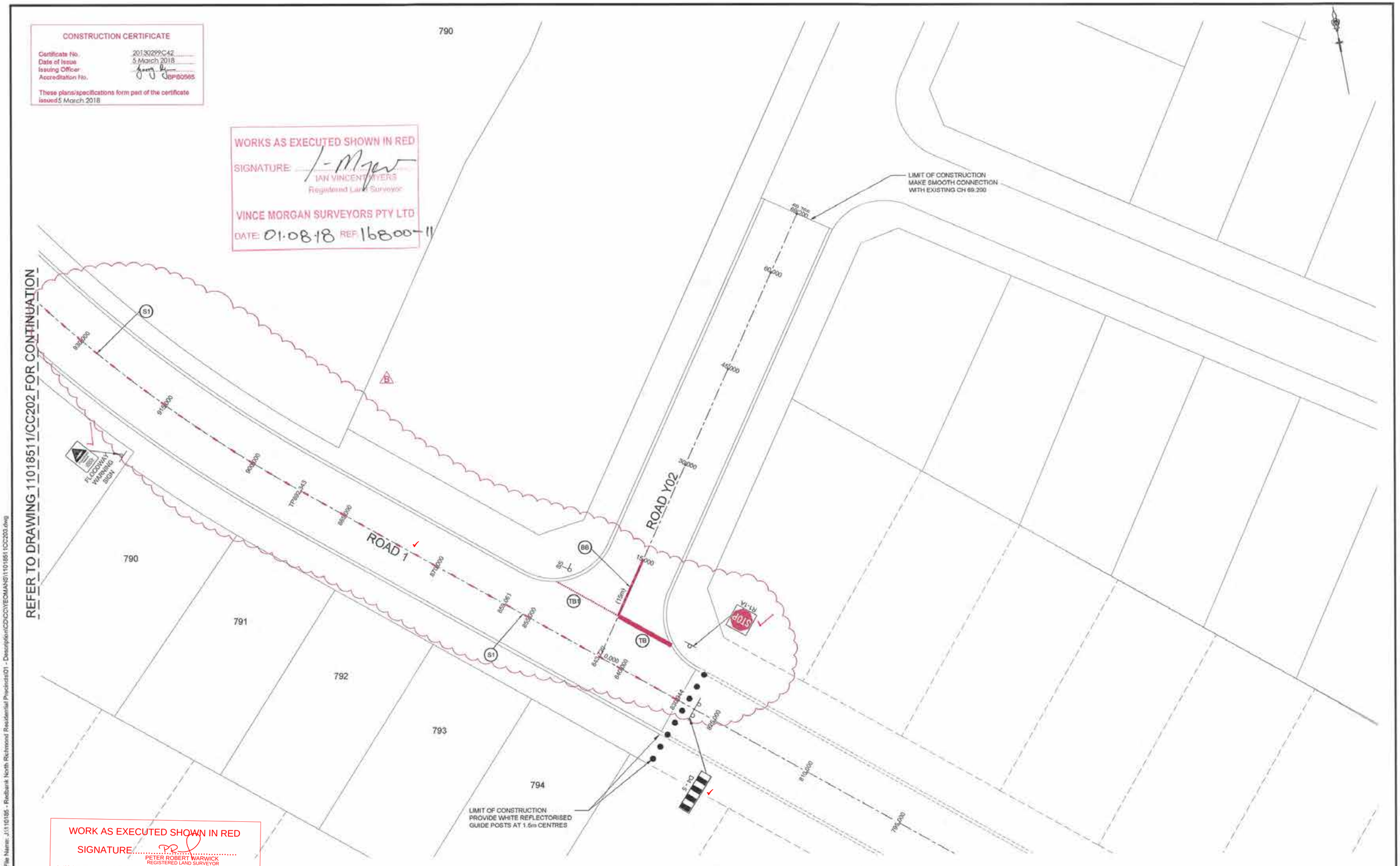
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SIGN POSTING AND LINEMARKING
SHEET 2 OF 10

PLAN No: 11018511/CC202 B
FILE No: 11018511CC202
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 2:23:24 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CDC\CC\YEOMANS\11018511CC202.dwg



B	COUNCIL'S COMMENTS	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

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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: MGA 56
DATUM: A.H.D
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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SIGN POSTING AND LINEMARKING
SHEET 3 OF 10

PLAN No: 11018511/CC203 B
FILE No: 11018511CC203
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 2:23:27 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC203.dwg

REFER TO DRAWING 11018511/CC207FOR CONTINUATION

ROAD 1
ROAD 25
ROAD 26
ROAD 26A
609
636
608
637
607
638
606
639
675
605
676
677
601
602
686
678
603
685
679
604

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
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1:250 (AT A1)
1:500 (AT A3)
5 0 5 10 15 20 25
METRES

B	COUNCIL'S COMMENTS	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

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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: MGA 56
DATUM: A.H.D
ORIGIN:

CLIENT: REDBANK

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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SIGN POSTING AND LINEMARKING
SHEET 4 OF 10

PLAN No: 11018511/CC204 B
FILE No: 11018511CC204
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February, 2018 2:23:30 PM File Name: J:\110185 - Redbank North Richmond Residential Precinct\03 - Description\CD\CC\YEOMANS\11018511CC204.dwg

REFER TO DRAWING 11018511/CC206 FOR CONTINUATION

ROAD 21

ROAD 1

ROAD 27

ROAD 30

643 660 661 662 663 664 665 666 667 668 669 691 692 693 694 695 696

WORK AS EXECUTED SHOWN IN RED
SIGNATURE.....
PETER ROBERT WARWICK
REGISTERED LAND SURVEYOR
VINCE MORGAN SURVEYORS PTY LTD
DATE: 14/01/20 REF:16800-11

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

1:250 (AT A1)
1:500 (AT A3)
5 0 5 10 15 20 25
METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	COUNCIL'S COMMENTS	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

J. WYNDHAM PRINCE
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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: MGA 56
DATUM: A.H.D
ORIGIN:

CLIENT: REDBANK

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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SIGN POSTING AND LINEMARKING
SHEET 5 OF 10

PLAN No: 11018511/CC205 B
FILE No: 11018511CC205
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 2:50:09 PM File Name: z:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC206.dwg

REFER TO DRAWING 11018511/CC208 FOR CONTINUATION

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of issue 5 March 2018
Issuing Officer
Accreditation No BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

ROAD 21
ROAD 26
ROAD 26A
ROAD 27

ONE WAY R2 - 2(L)
ONE WAY R2 - 2(R)
GIVE WAY R1-2A
NO ENTRY R2 - 4
NO RIGHT TURN R2 - 6(R)
ONLY R2 - 14(L)
D4 - 2
D4 - 5

649 650 651 652 653 654 655 766 767 768 769 770
648 647 646 645 644 641 640

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF 16800-11

REFER TO DRAWING 11018511/CC205 FOR CONTINUATION

1:250 (AT A1)
1:500 (AT A3)
METRES

B	COUNCIL'S COMMENTS	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

CLIENT: REDBANK

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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SIGN POSTING AND LINEMARKING
SHEET 6 OF 10

PLAN No: 11018511/CC206 B
FILE No: 11018511CC206
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 2:50:24 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Design\civil\CD\CC\YEOMANS\11018511CC206.dwg

REFER TO DRAWING 11018511/CC209 & CC210 FOR CONTINUATION

760 759 758 757 754 747 755 756 746 745 744 743 726 725 724 723 722 627 628 629 630 631 632 633 626 612 614

ROAD 26A

ROAD 26

ROAD 23

ROAD 24

NO ENTRY R2-4

ONE WAY R2-2(R)

STOP R1-1(A)

ONE WAY R2-2(L)

ONLY R1-2(L)

GIVE WAY R1-2A

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: 613

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE 01.08.18 REF 16800-11

CONSTRUCTION CERTIFICATE

Certificate No. 20130229C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

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REFER TO DRAWING 11018511/CC204 FOR CONTINUATION

1:250 (AT A1)
1:500 (AT A3)

5 0 5 10 15 20 25
METRES

B	COUNCIL'S COMMENTS	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

CLIENT: REDBANK

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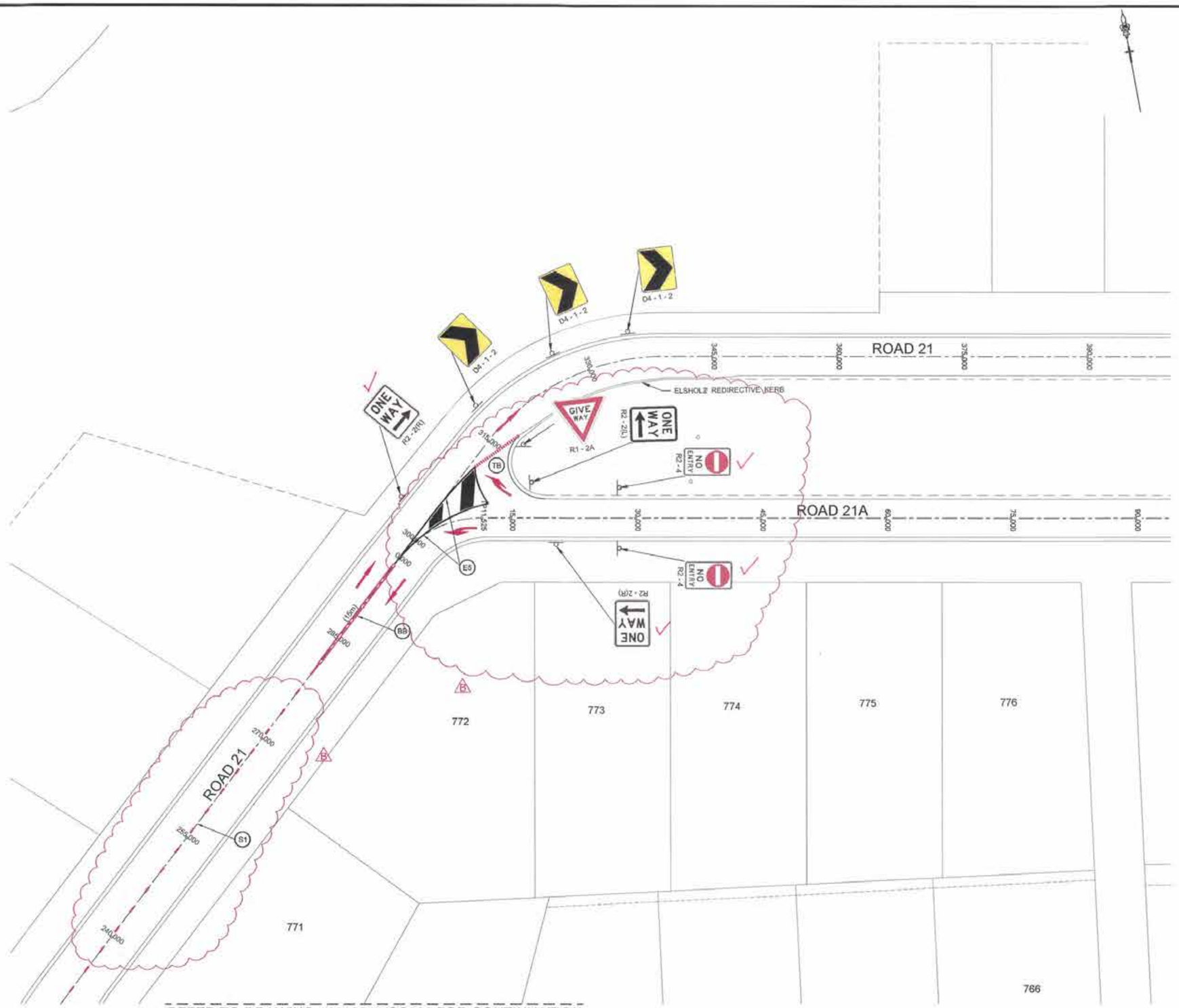
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SIGN POSTING AND LINEMARKING
SHEET 7 OF 10

PLAN No: 11018511/CC207 B
FILE No: 11018511CC207
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February, 2018 2:50:28 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC207.dwg



REFER TO DRAWING 11018511/CC206 FOR CONTINUATION

1:250 (AT A1)
1:500 (AT A3)
5 0 5 10 15 20 25
METRES

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130229C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	COUNCIL'S COMMENTS	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/08/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

CLIENT: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SIGN POSTING AND LINEMARKING
SHEET 8 OF 10

PLAN No: 11018511/CC208 B
FILE No: 11018511CC208
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 2:50:31 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\COY\EOMANS\11018511CC208.dwg

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: ..... IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE 01.08.18 REF 16800-11

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0585

These plans/specifications form part of the certificate issued 5 March 2018

ROAD 21

ROAD 21A

ROAD 23

ROAD 24

ROAD 28

LIMIT OF CONSTRUCTION PROVIDE WHITE REFLECTORISED GUIDE POSTS AT 1.5m CENTRES

782 783 784 785 786 749 750 751 752 753 748 747

REFER TO DRAWING 11018511/CC207 FOR CONTINUATION

REFER TO DRAWING 11018511/CC210 FOR CONTINUATION

1:250 (AT A1)
1:500 (AT A3)

5 0 5 10 15 20 25
METRES

B	COUNCIL'S COMMENTS	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/08/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

J. WYNDHAM PRINCE
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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

CLIENT: REDBANK

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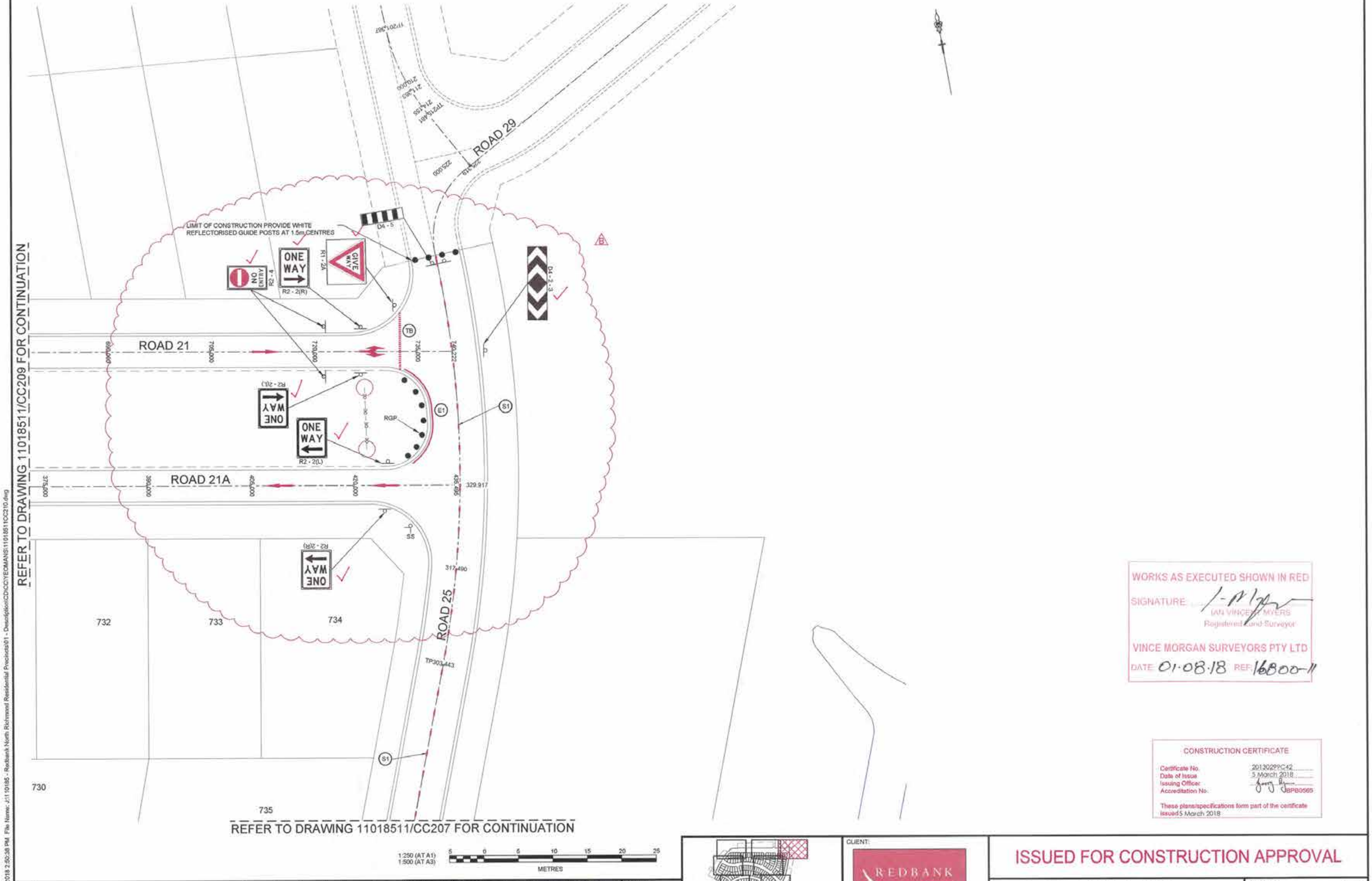
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SIGN POSTING AND LINEMARKING
SHEET 9 OF 10

PLAN No: 11018511/CC209 B
FILE No: 11018511CC209
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 2:50:35 PM File Name: J:\11018511 Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS11018511CC209.dwg



WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE 01·08·18 REF 16800-11

CONSTRUCTION CERTIFICATE

Certificate No. 20130229C42
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B	COUNCIL'S COMMENTS	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MQ	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

J. WYNDHAM PRINCE
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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: MGA 56
DATUM: A.H.D
ORIGIN:

CLIENT: REDBANK

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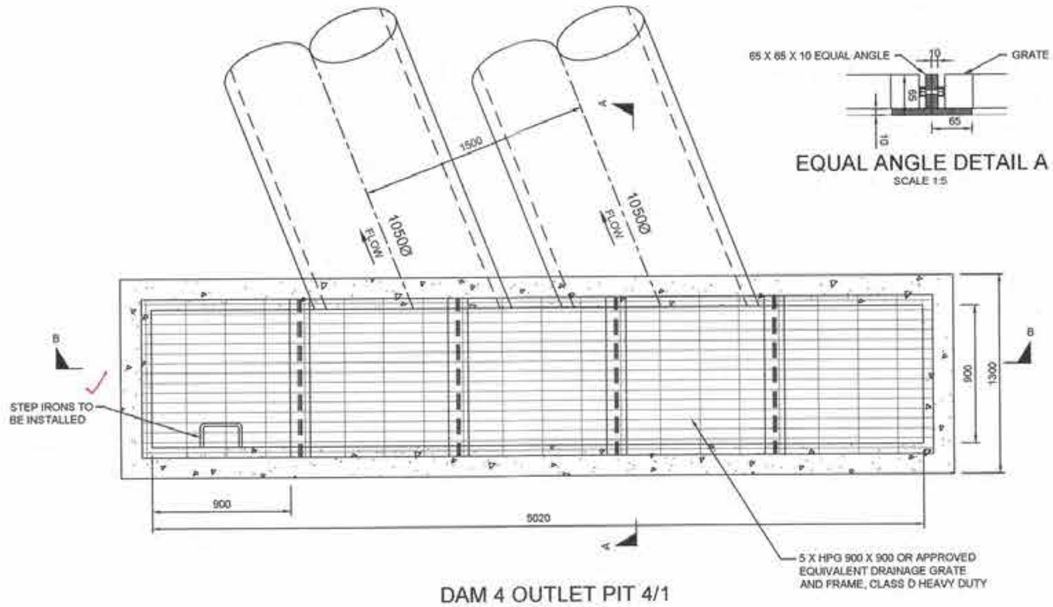
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SIGN POSTING AND LINEMARKING
SHEET 10 OF 10

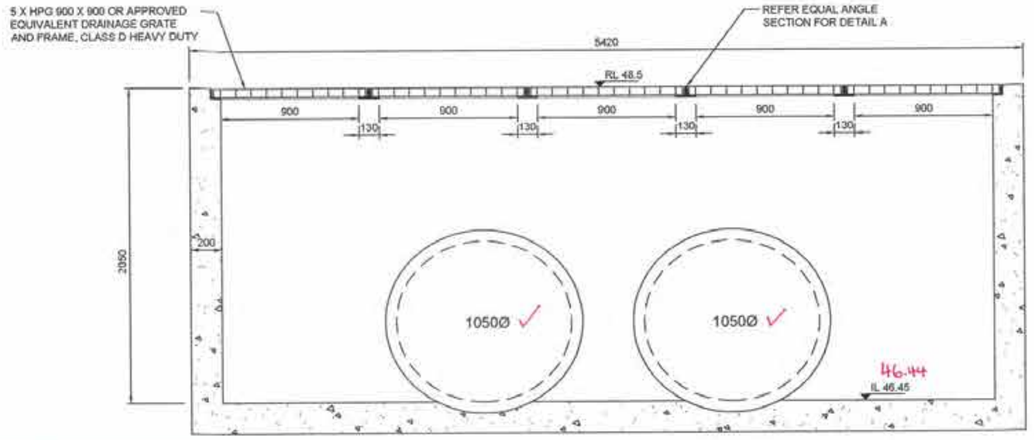
PLAN No: 11018511/CC210 B
FILE No: 11018511CC210
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February, 2018 2:50:38 PM File Name: J:\11\0185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC210.dwg



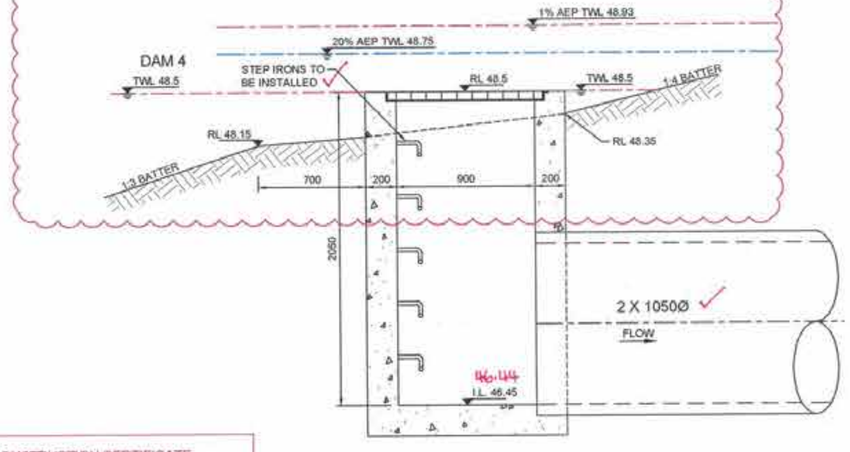
DAM 4 OUTLET PIT 4/1
SCALE 1:20

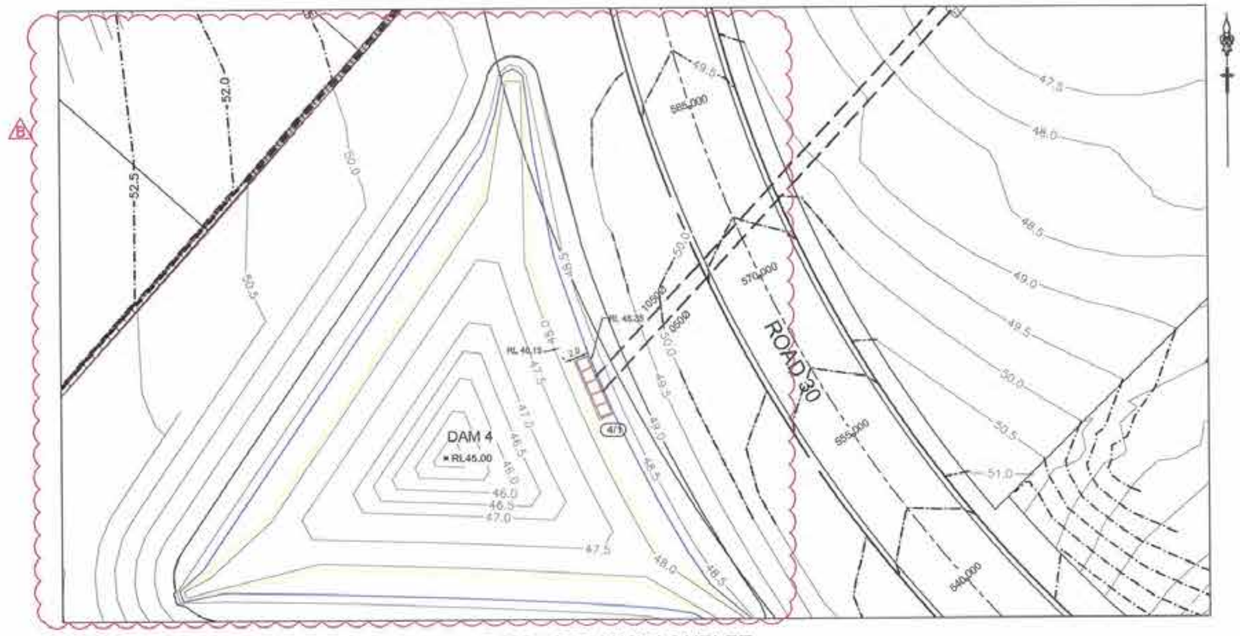
EQUAL ANGLE DETAIL A
SCALE 1:5



WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: J. Myers
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF 16800-11

SECTION B
SCALE H 1:20





DAM 4 SPILLWAY OUTLET
SCALE 1:250

SECTION A
SCALE H 1:20

CONSTRUCTION CERTIFICATE
Certificate No. 20130229C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
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1:250 (AT A1)
1:500 (AT A3)
5 0 5 10 15 20 25
METRES

1:5 (AT A1)
100 0 100 200 300 400 500
MILLIMETRES

1:20 (AT A1)
400 200 0 400 800 1200 1600 2000
MILLIMETRES

SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	DAM 4 EMBANKMENT AMENDED	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

J. WYNDHAM PRINCE
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P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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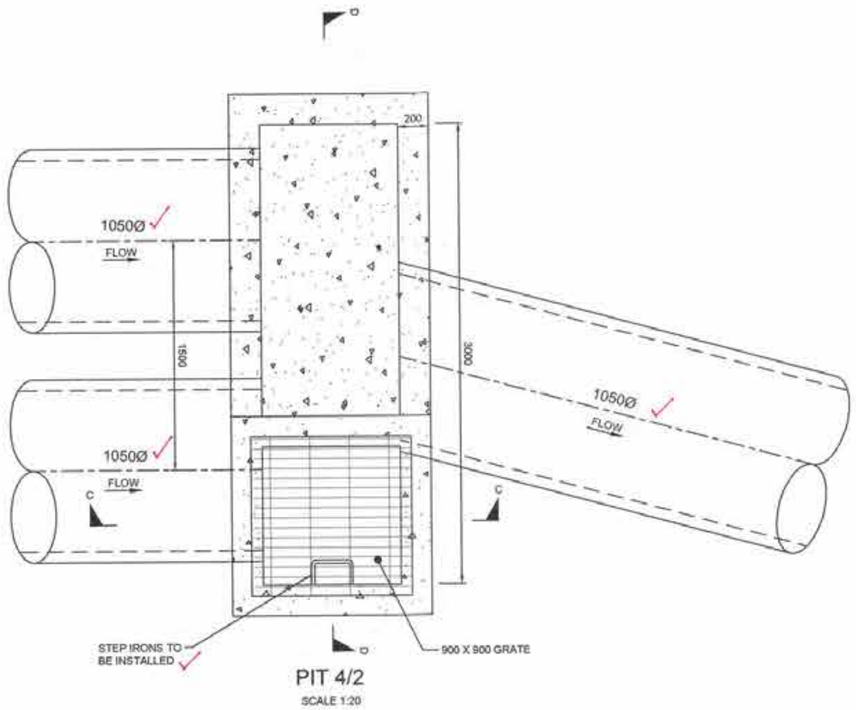
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DAM 4 OUTLET PIT 4/1 PLAN, DETAIL AND SECTIONS

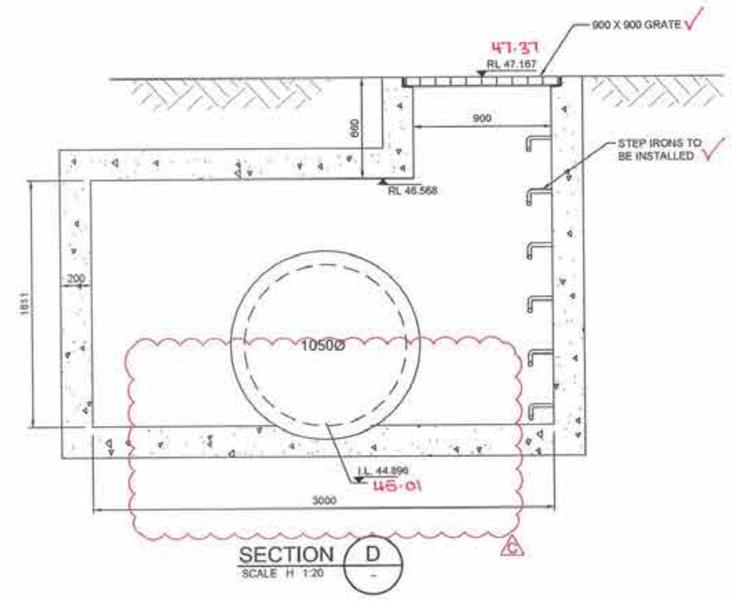
PLAN No: 11018511/CC220 B
FILE No: 11018511CC220
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February - 2018 10:04:05 AM File Name: J:\11101851 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC220.dwg



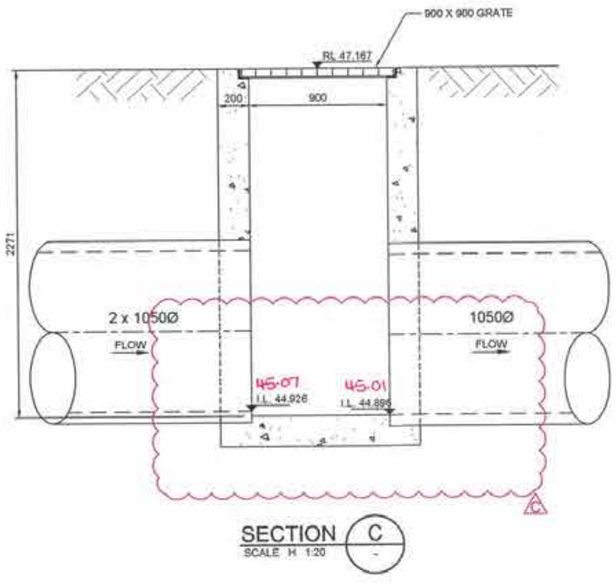
PIT 4/2

SCALE 1:20



SECTION D

SCALE H 1:20



SECTION C

SCALE H 1:20

1:20 (AT A1)

400 200 0 400 800 1200 1600 2000

MILLIMETRES

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: ..... IAN VINCENT MYERS Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42

Date of Issue 5 March 2018

Issuing Officer .....

Accreditation No. BPB0565

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SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

	AMENDMENT	DES	DRN	CKD	APR	DATE
C	STORMWATER PIT AMENDED TO ORIGINAL DEPTH	MP	MP	RO	RO	12/01/18
B	STORMWATER PIT AMENDED	MP	TG	RO	RC	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56

DATUM: A.H.D

ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11

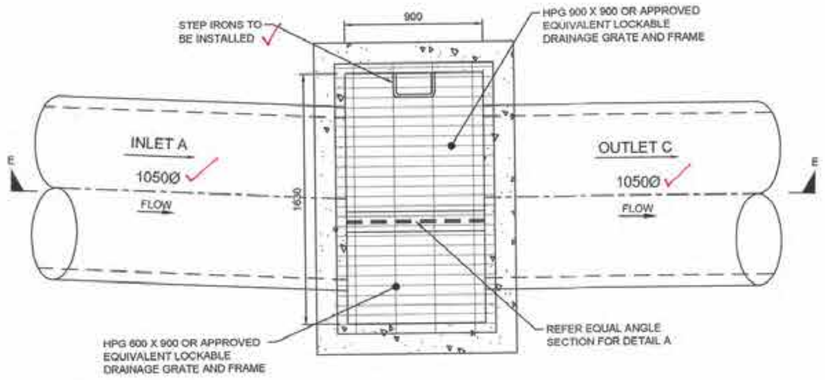
PIT 4/2 PLAN AND SECTIONS

PLAN No: 11018511/CC221 C

FILE No: 11018511CC221

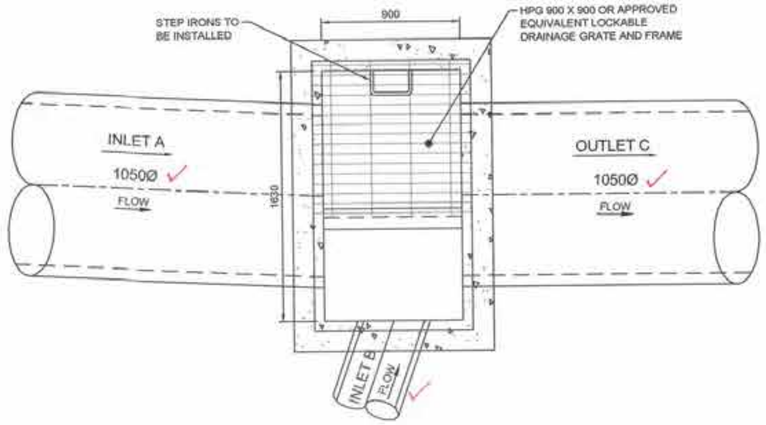
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 11:41:51 AM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CDC\CC\YEOMANS\11018511CC221.dwg



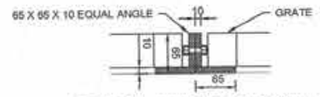
SURCHARGE PIT 4/5

SCALE 1:20



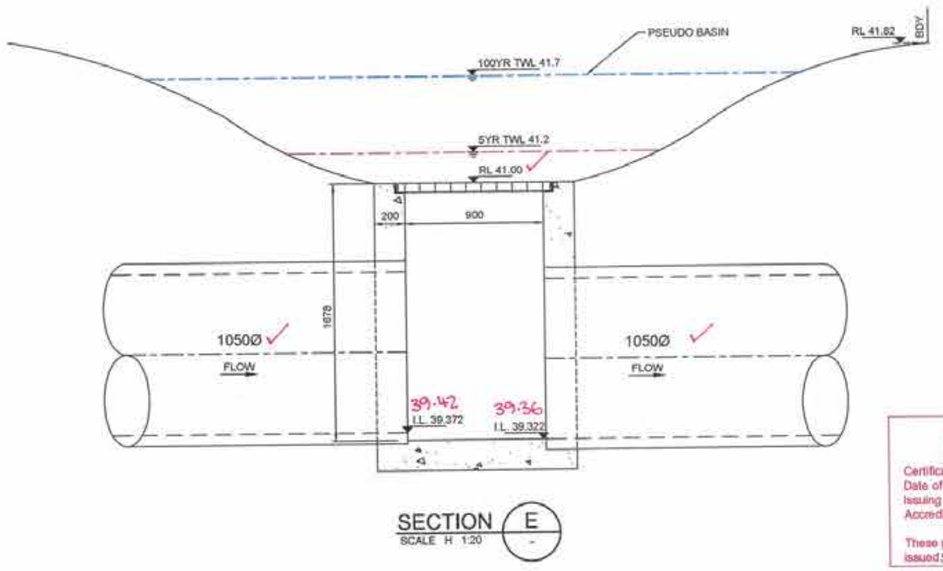
PIT 4/3 & 4/4

SCALE 1:20



EQUAL ANGLE DETAIL A

SCALE 1:5



SECTION E

SCALE H 1:20

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: I. Myers

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0585

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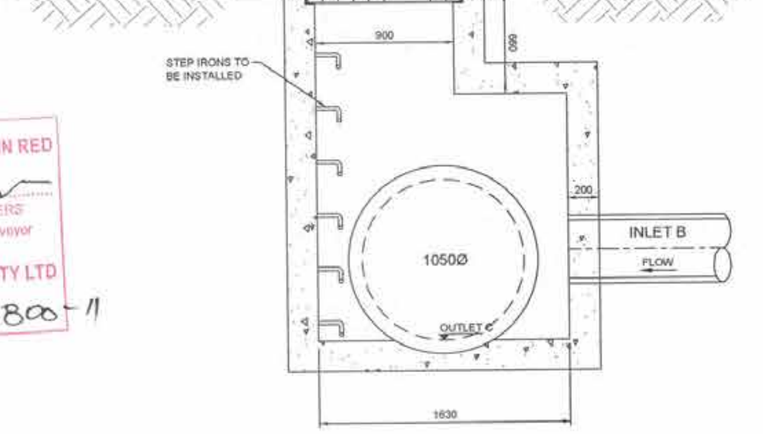

SECTION F

SCALE H 1:20

PIT NO.	COVER RL	INLET INV 'A'	INLET INV 'B'	OUTLET INV 'C'	INLET 'A' Ø (MM)	INLET 'B' Ø (MM)	OUTLET 'C' Ø (MM)
PIT 4/3	43.721	41.46 41.635	42.085	41.410	1050	375	1050
PIT 4/4	42.159	39.869 39.972	40.494 40.47	39.819	1050	375	1050

SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

1:5 (AT A1) 100 0 100 200 300 400 500 MILLIMETRES

1:20 (AT A1) 400 200 0 400 800 1200 1600 2000 MILLIMETRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	STORMWATER PIT AMENDED	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
PO Box 4366 PENRITH WESTFIELD NSW 2750
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AZIMUTH: MGA 56

DATUM: A.H.D

ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

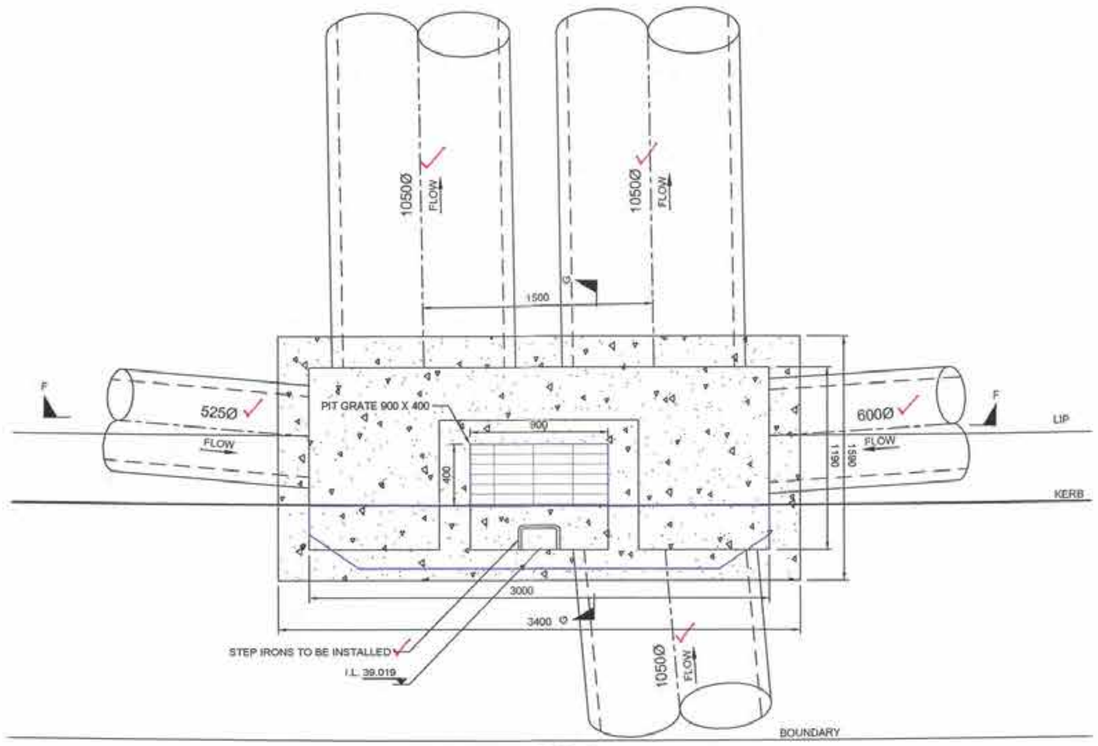
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SURCHARGE PIT 4/3, 4/4 AND 4/5 PLAN AND SECTIONS

PLAN No: 11018511/CC222 B

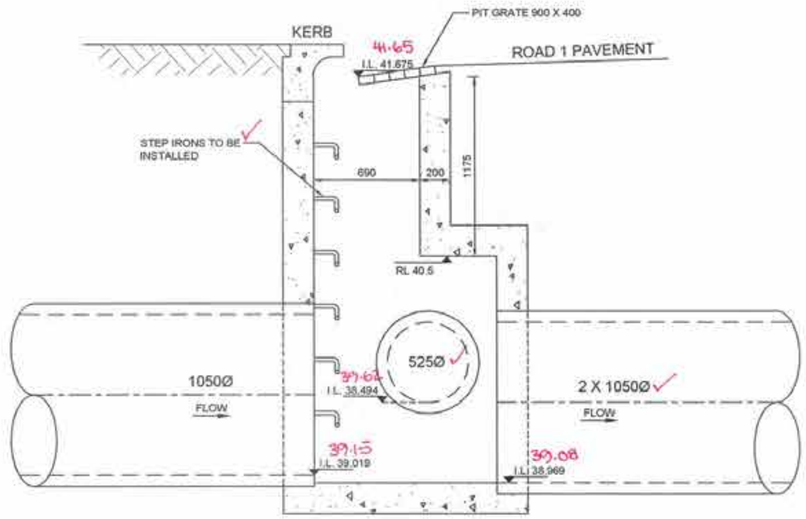
FILE No: 11018511CC222

SHEET SIZE: A1 ORIGINAL

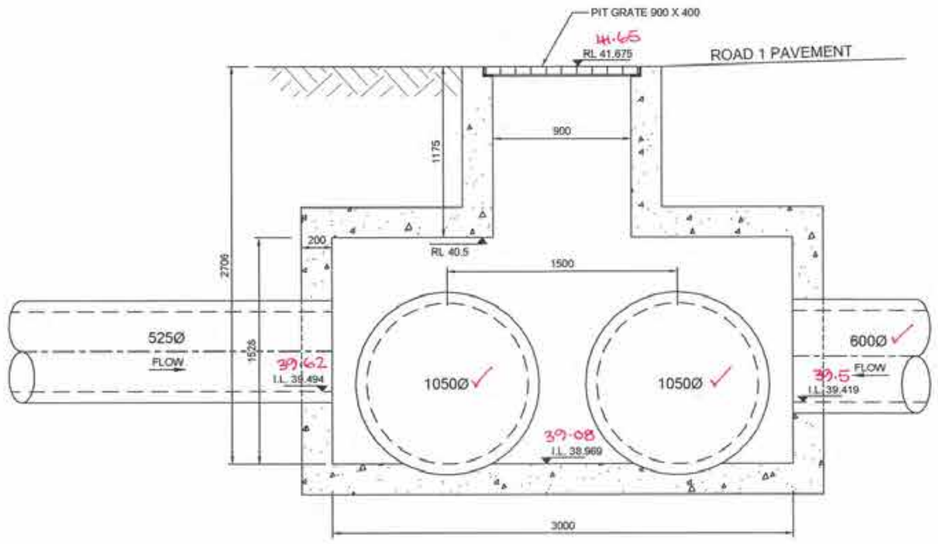
Plotted: 12 February, 2018 11:53:31 AM File Name: J:\11\0185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC222.dwg



PIT 4/6
SCALE 1:20



SECTION G
SCALE H 1:20



SECTION F
SCALE H 1:20

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

1:20 (AT A1)

400 200 0 400 800 1200 1600 2000
MILLIMETRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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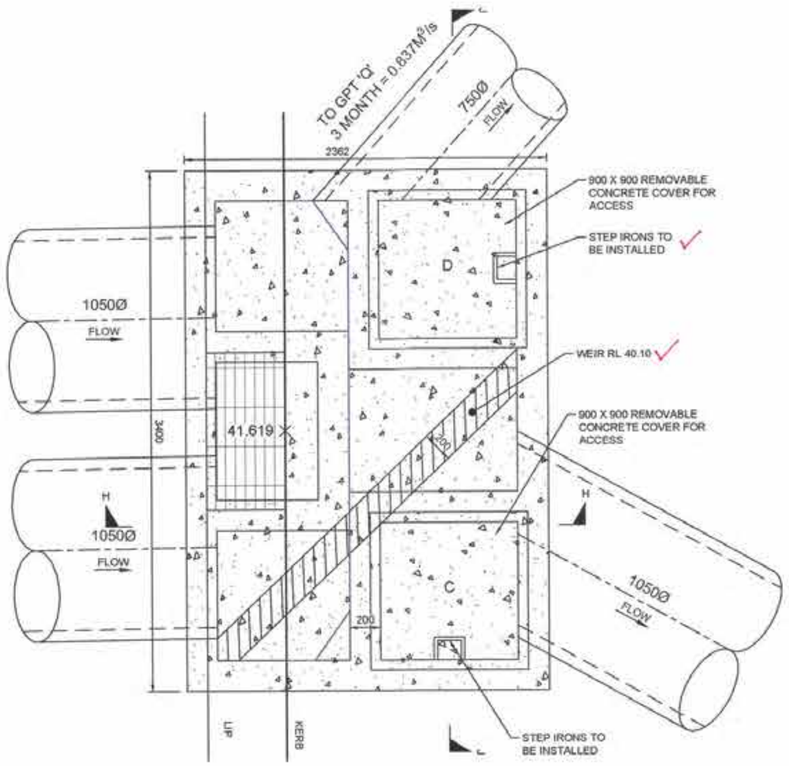
ISSUED FOR CONSTRUCTION APPROVAL

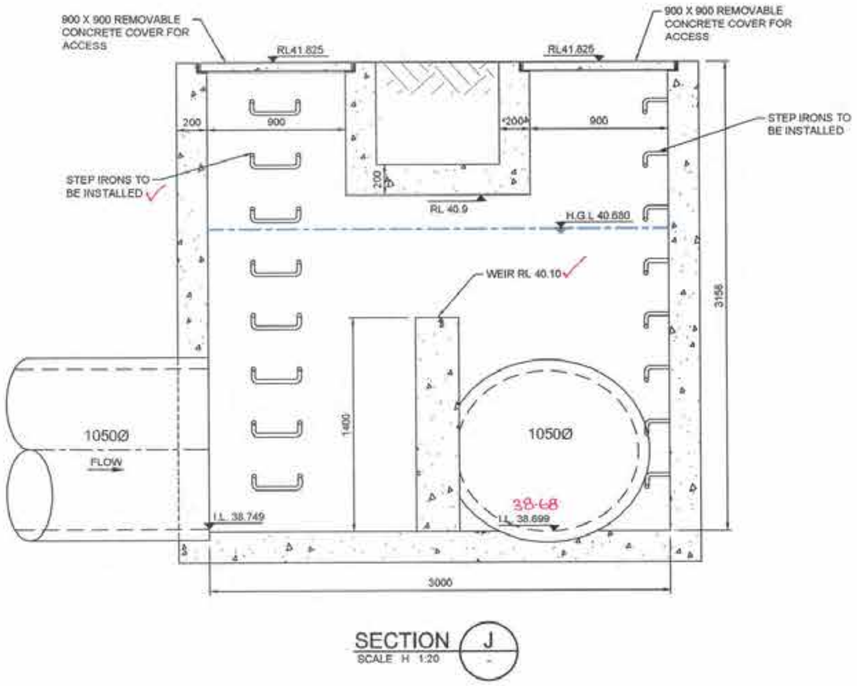
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PIT 4/6 PLAN
AND SECTIONS

PLAN No: 11018511/CC223 A
FILE No: 11018511CC223
SHEET SIZE: A1 ORIGINAL

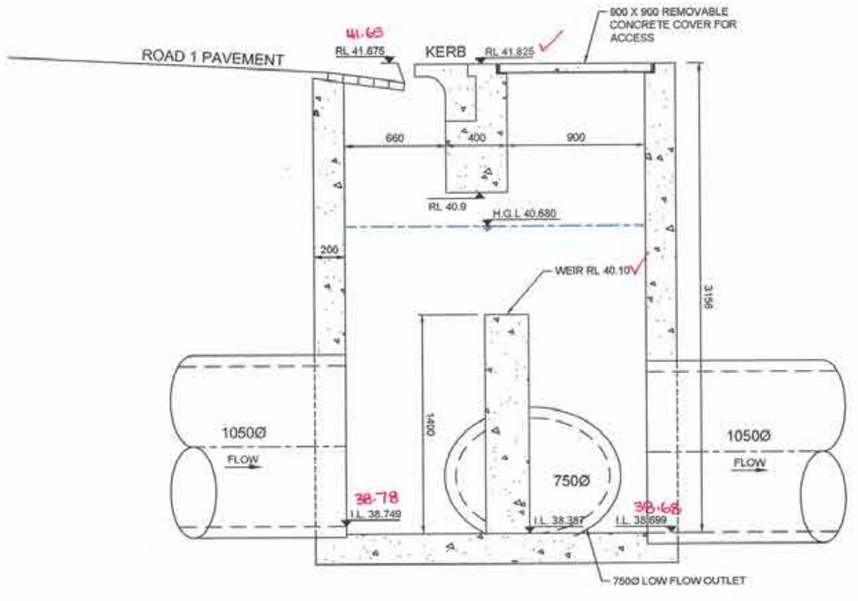
Plotted: 25 January , 2018 5:09:00 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC223.dwg



SPLITTER PIT 4/7
SCALE 1:20



SECTION J
SCALE H 1:20



SECTION H
SCALE H 1:20

1:20 (AT A1) 400 200 0 400 800 1200 1600 2000 MILLIMETRES

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE

Certificate No.	20130299C42
Date of Issue	5 March 2018
Issuing Officer	
Accreditation No.	BPB0565

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SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

		MP	MG	RO	MS	15/06/17
A	ISSUE FOR CONSTRUCTION APPROVAL	DES	DRN	CKD	APR	DATE
	AMENDMENT					

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SPLITTER PIT 4/7 PLAN
AND SECTIONS

PLAN No: 11018511/CC224 A
FILE No: 11018511CC224
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 5:09:14 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC224.dwg

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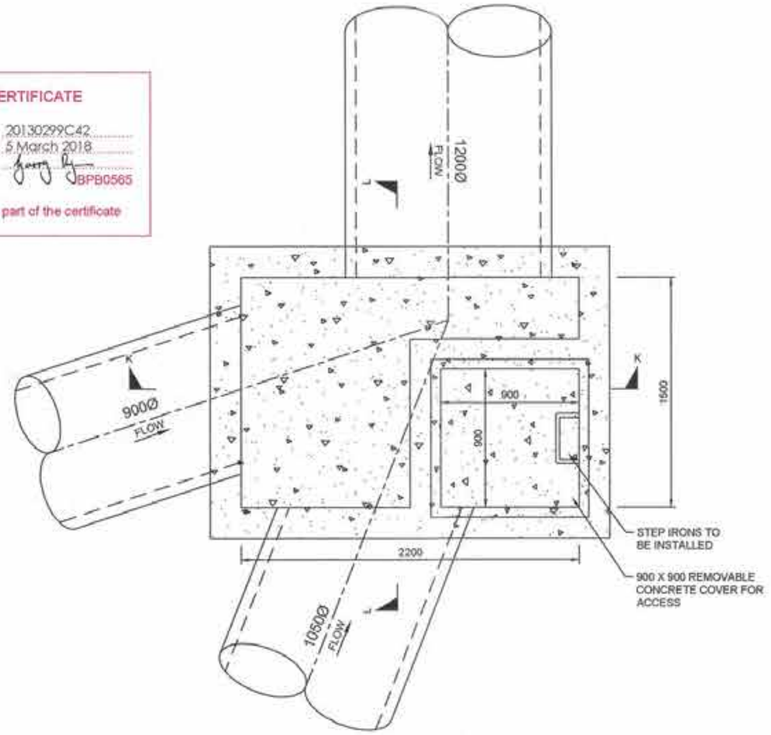
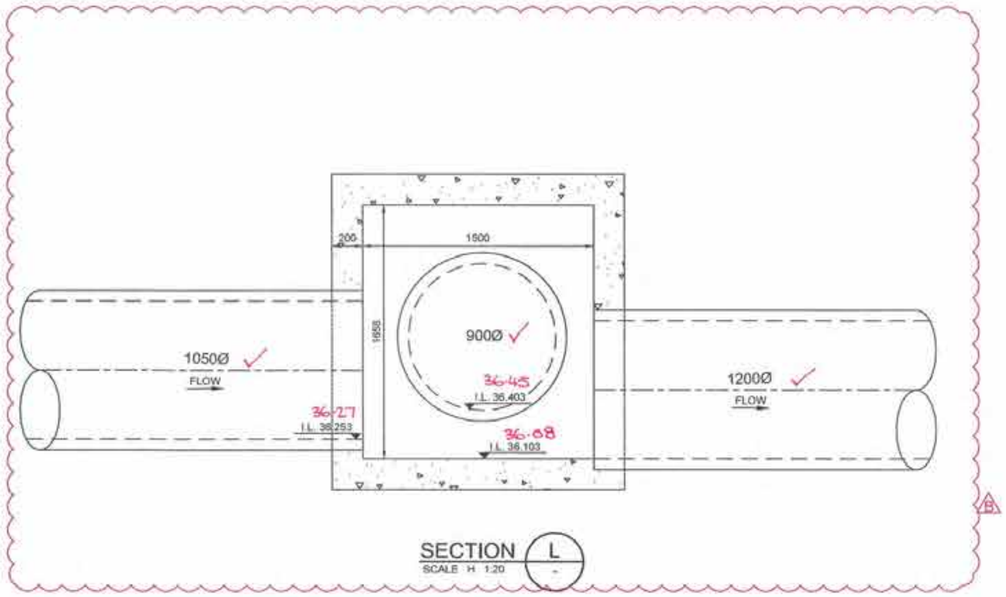
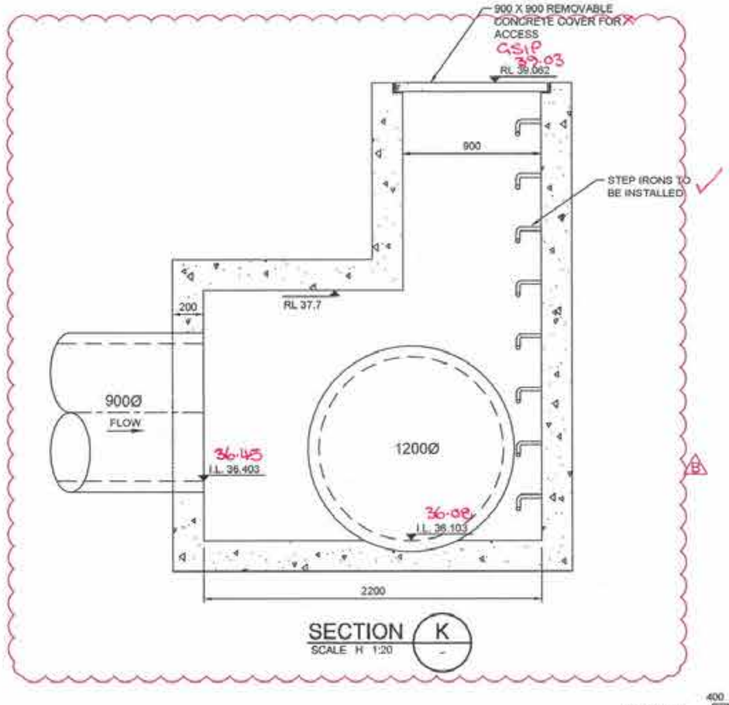
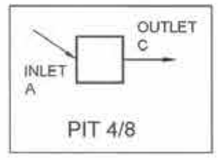
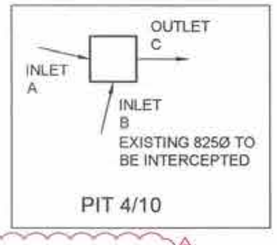


PIT 4/9
SCALE 1:20









WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

PIT NO.	COVER RL	INLET INV 'A'	INLET INV 'B'	OUTLET INV 'C'	INLET 'A' Ø (MM)	INLET 'B' Ø (MM)	OUTLET 'C' Ø (MM)	
PIT 4/8	41.003 (41.29)	38.105 (38.37)		38.075 (38.27)	1050		1050	CONCRETE COVER
PIT 4/10	37.394 (37.44)	34.390 (34.46)	34.689 (34.76)	34.340 (34.52)	1200	825	1200	CONCRETE COVER

SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

1:20 (AT A1)

400 200 0 400 800 1200 1600 2000
MILLIMETRES

C	STORMWATER PIT 4/8 AMENDED TO ORIGINAL DEPTH	MP	MP	RO	RO	12/01/18
B	STORMWATER PIT AMENDED	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PIT 4/8, 4/9 AND 4/10 PLAN AND SECTIONS

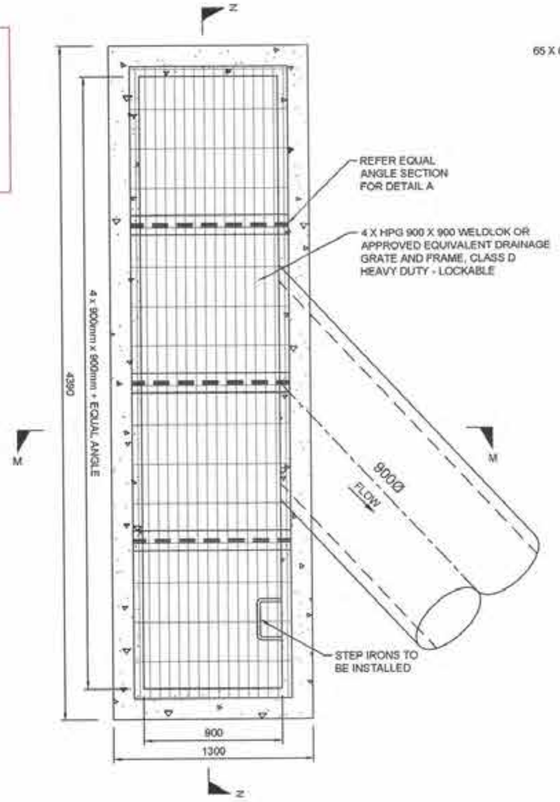
PLAN No: 11018511/CC225 C
FILE No: 11018511CC225
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 12:21:15 PM File Name: J:\11\0185 - Redbank North Richmond Residential Precincts\01 - Design\plan\CDC\YEOMANS\11018511CC225.dwg

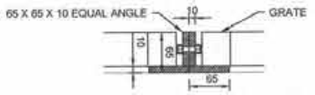
CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

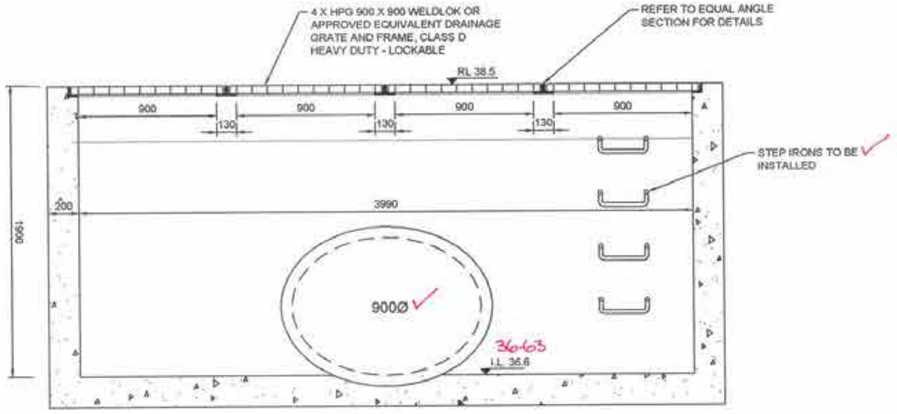
These plans/specifications form part of the certificate issued 5 March 2018



DAM 12 OUTLET PIT 12/01
SCALE 1:20

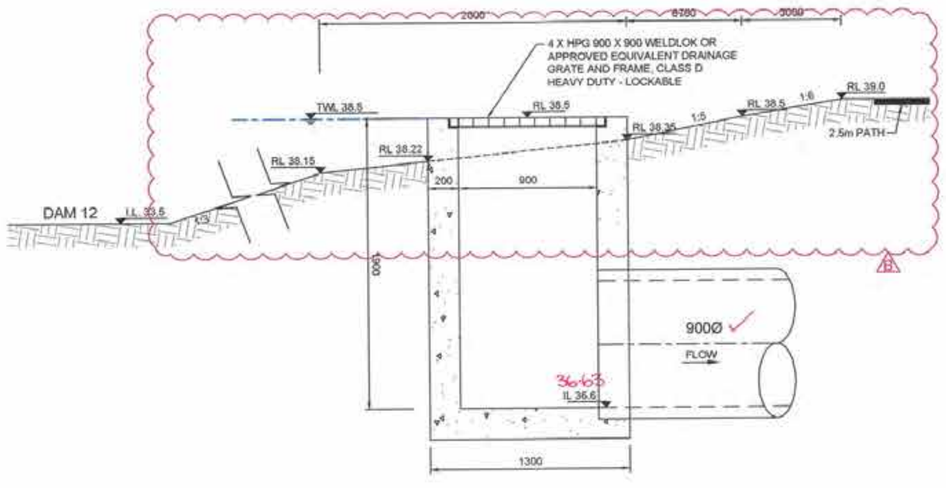


EQUAL ANGLE DETAIL A
SCALE 1:5

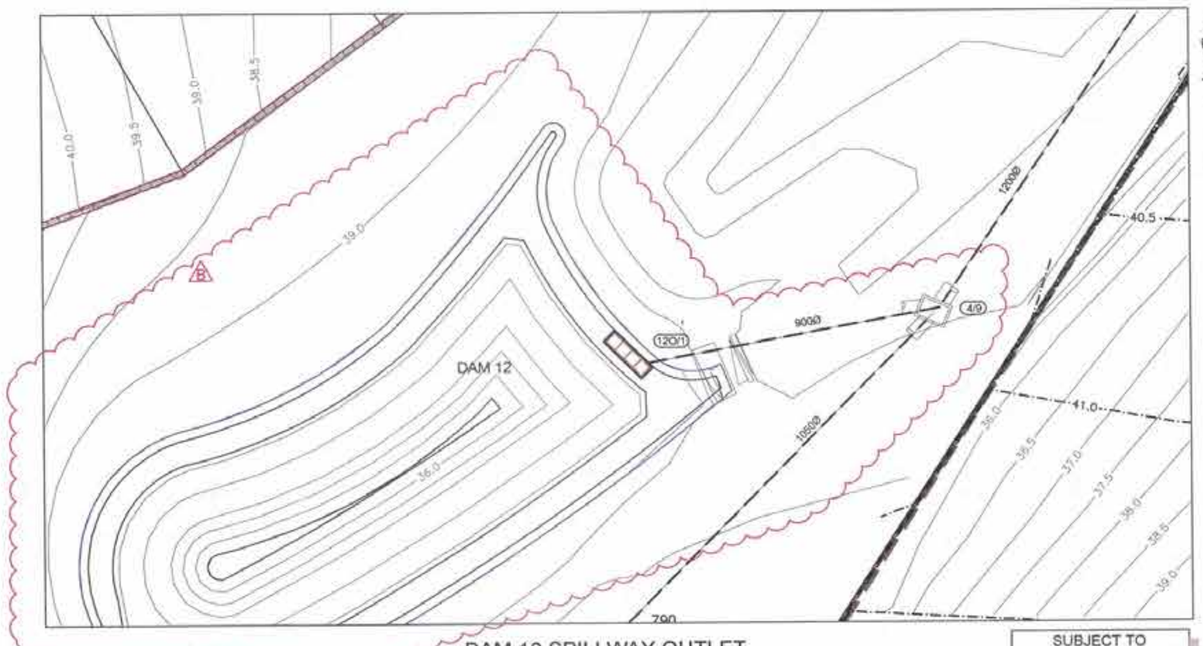


SECTION N
SCALE H 1:20

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF 16800-11



SECTION M
SCALE H 1:20



DAM 12 SPILLWAY OUTLET
SCALE 1:250

SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

1:250 (AT A1)
1:500 (AT A3)
5 0 5 10 15 20 25
METRES

1:5 (AT A1)
100 0 100 200 300 400 500
MILLIMETRES

1:20 (AT A1)
400 200 0 400 800 1200 1600 2000
MILLIMETRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	DAM 12 OUTLET PIT 12/1 MOVED	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

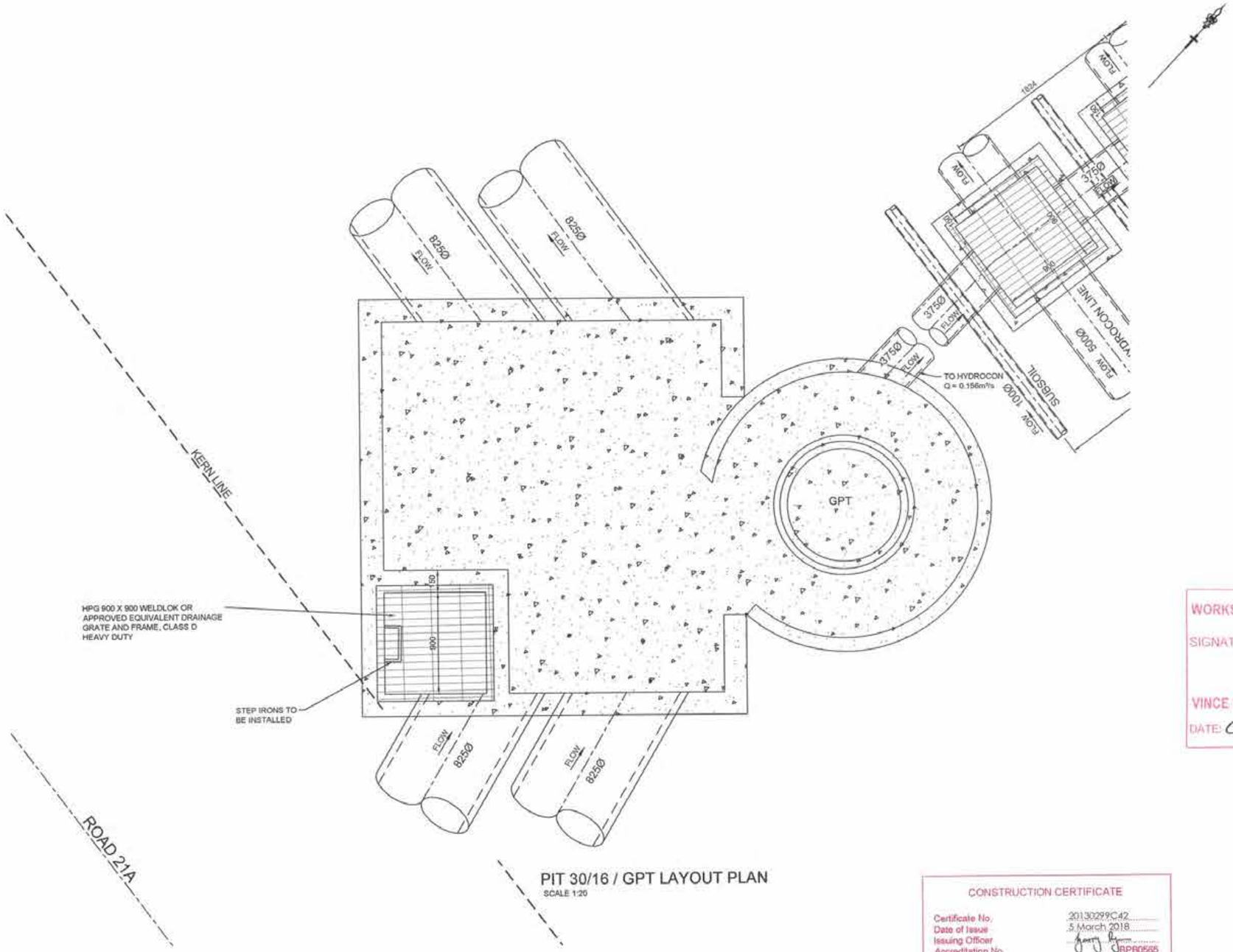
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DAM 12 OUTLET PIT 12/01 PLAN, DETAIL AND SECTIONS

PLAN No: 11018511/CC226 B
FILE No: 11018511CC226
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 12:32:04 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC226.dwg



PIT 30/16 / GPT LAYOUT PLAN
SCALE 1:20

1:20 (AT A1)

400 200 0 400 800 1200 1600 2000
MILLIMETRES

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MORGAN
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

REFER TO DETAIL DRAWINGS BY ROCLA

SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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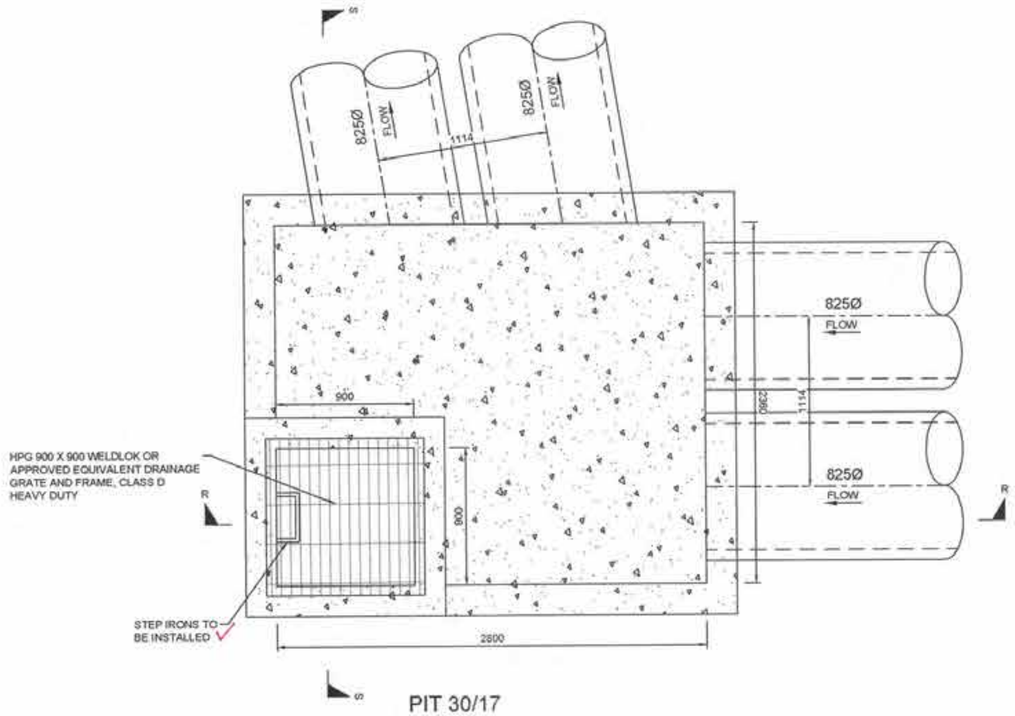
ISSUED FOR CONSTRUCTION APPROVAL

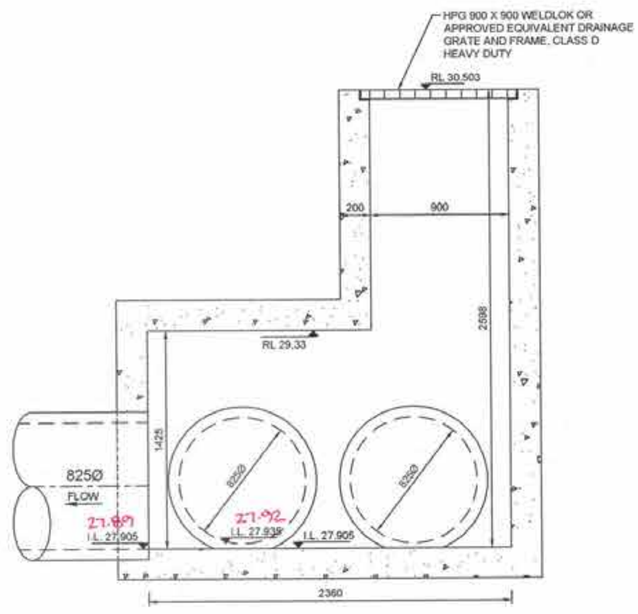
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
OUTLET PIT 30/16 AND GPT PLAN

PLAN No: 11018511/CC227 A
FILE No: 11018511CC227
SHEET SIZE: A1 ORIGINAL

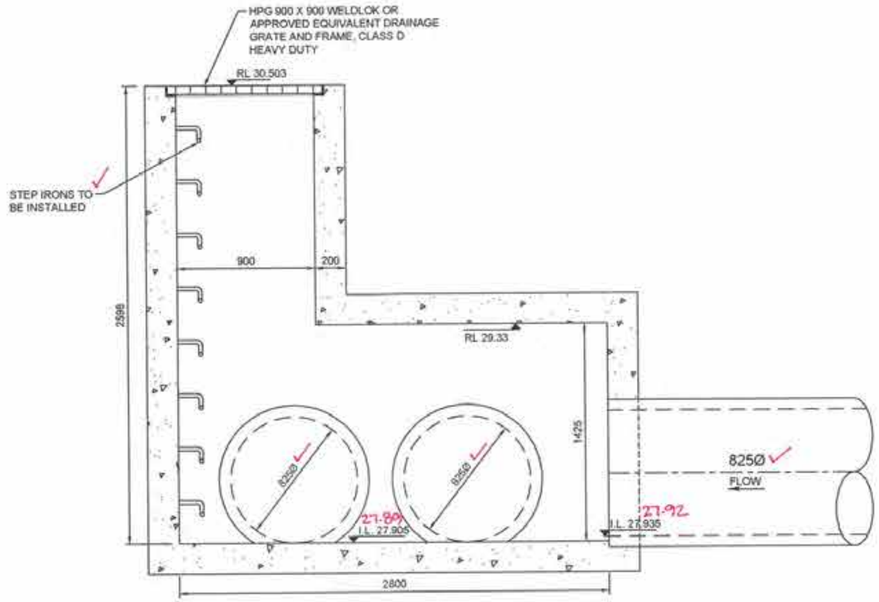
Plotted: 25 January , 2018,5:10:35 PM File Name: J:\110185 - Redbank North Richmond Residential Precinct\91 - Description\CD\CC\YEOMANS\11018511CC227.dwg



PIT 30/17
SCALE 1:20



SECTION S
SCALE H 1:20



SECTION R
SCALE H 1:20

1:20 (AT A1)
400 200 0 400 600 1200 1600 2000
MILLIMETRES

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299:C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

SUBJECT TO
STRUCTURAL DESIGN
AND CERTIFICATION

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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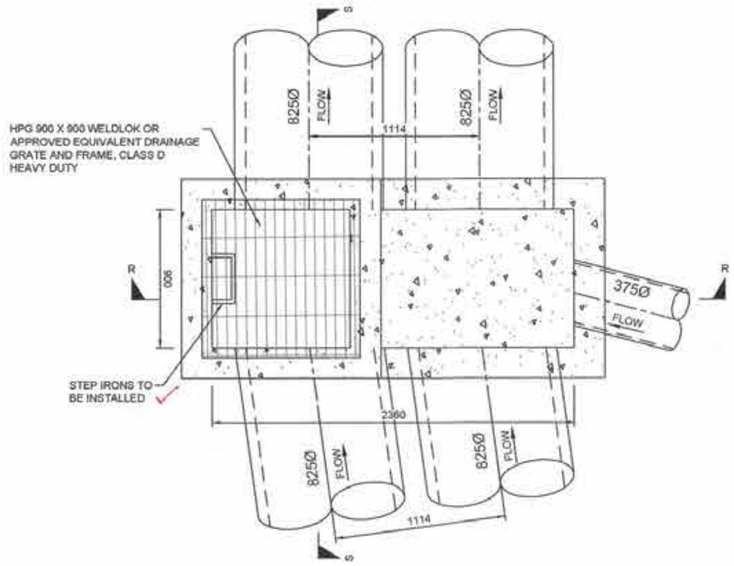
ISSUED FOR CONSTRUCTION APPROVAL

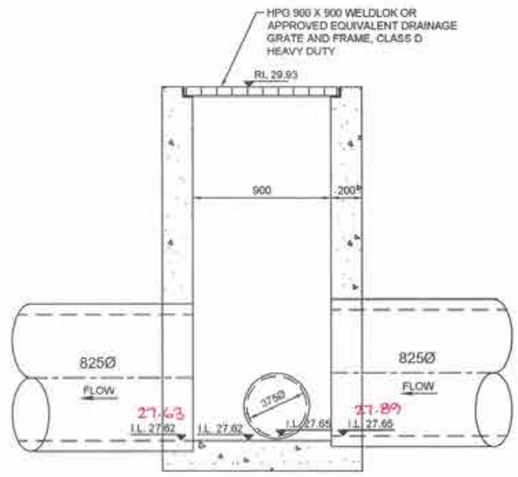
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
OUTLET PIT 30/17 PLAN
AND SECTIONS

PLAN No: 11018511/CC228 A
FILE No: 11018511CC228
SHEET SIZE: A1 ORIGINAL

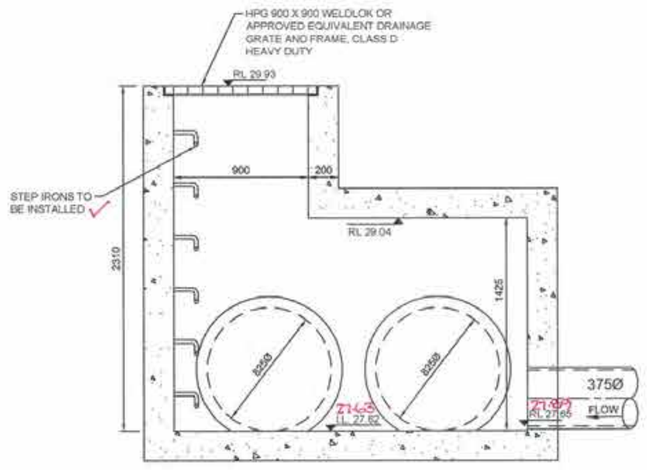
Plotted: 25 January , 2018 5:10:53 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Design\dosn\CD\CC\YEOMANS\11018511CC228.dwg



PIT 30/18
SCALE 1:20



SECTION S
SCALE H 1:20



SECTION R
SCALE H 1:20

1:20 (AT A1)

400 200 0 400 800 1200 1600 2000
MILLIMETRES

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MORGAN
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299:C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifiostions form part of the certificate issued 5 March 2018

SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/08/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

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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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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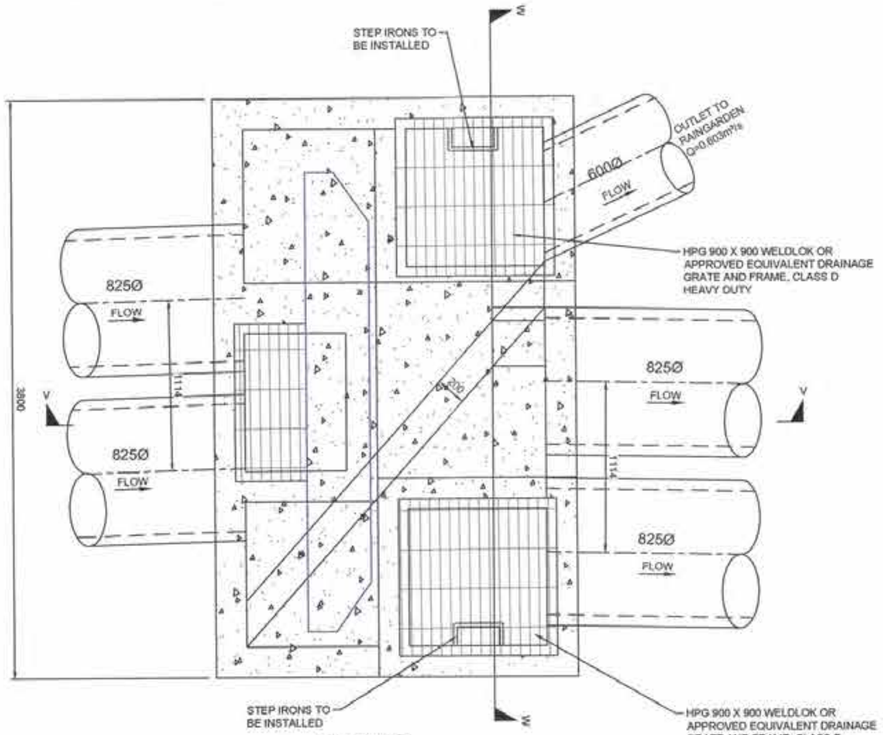
ISSUED FOR CONSTRUCTION APPROVAL

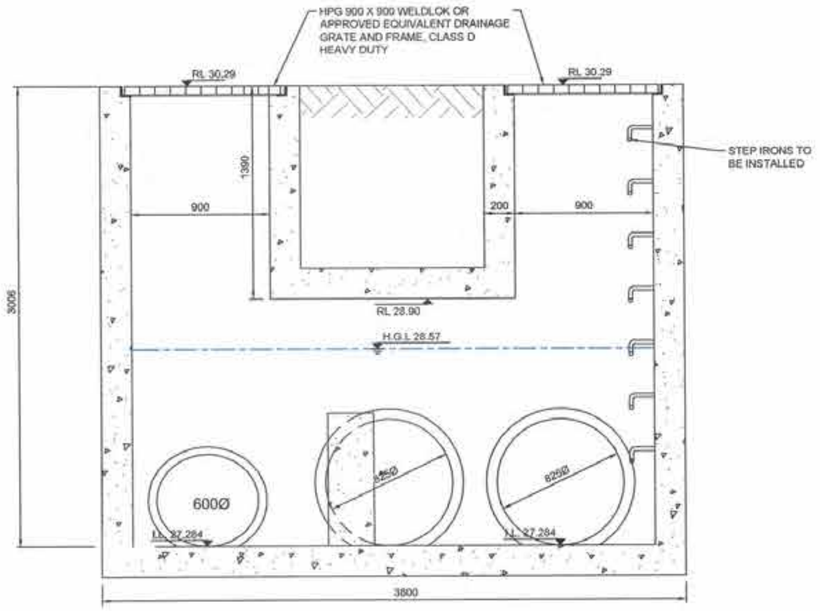
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
OUTLET PIT 30/18 PLAN
AND SECTIONS

PLAN No: 11018511/CC229 A
FILE No: 11018511CC229
SHEET SIZE: A1 ORIGINAL

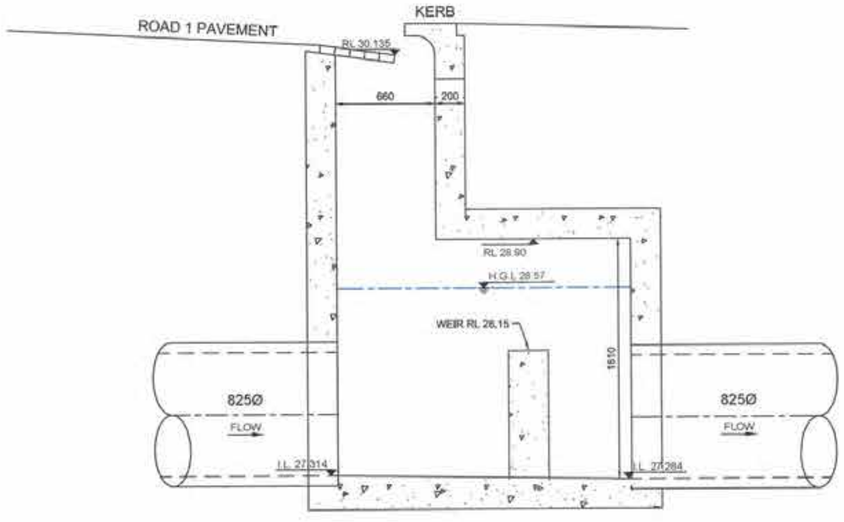
Plotted: 25 January, 2018 5:11:11 PM File Name: J:\110180 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC229.dwg



PIT 30/19
SCALE 1:20



SECTION W
SCALE H 1:20



SECTION V
SCALE H 1:20

1:20 (AT A1) 400 200 0 400 800 1200 1600 2000 MILLIMETRES

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
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SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
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P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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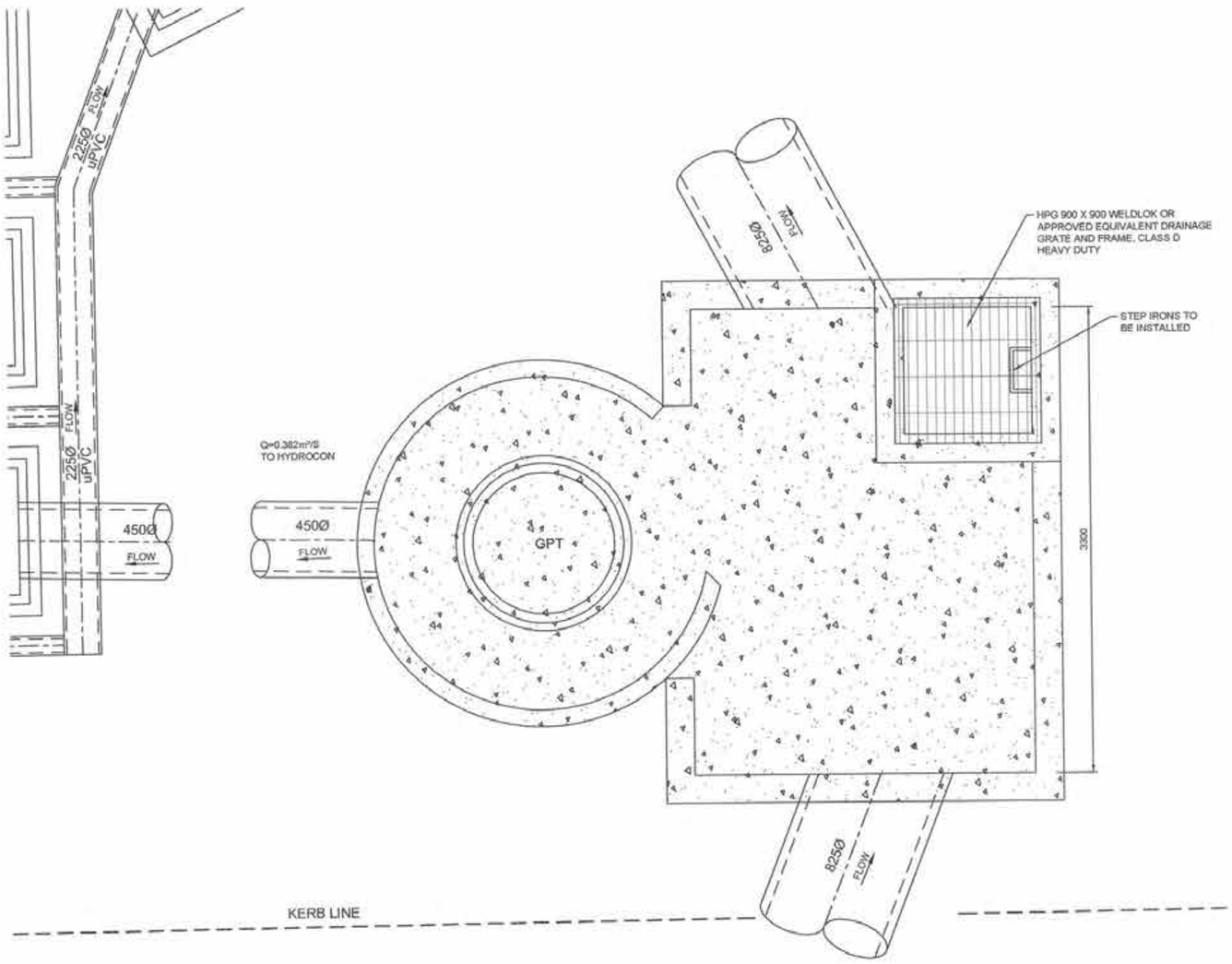
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
OUTLET PIT 30/19 PLAN
AND SECTIONS

PLAN No: 11018511/CC230 A
FILE No: 11018511CC230
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 5:11:29 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC230.dwg



GPT 22/9 LAYOUT PLAN
SCALE 1:20

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE .....
IAN VINCENT AYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01·08·18 REF 16800-11

REFER TO DETAIL DRAWINGS BY ROCLA

SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
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Issuing Officer
Accreditation No. BPB0565
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1:20 (AT A1)
400 200 0 400 800 1200 1600 2000
MILLIMETRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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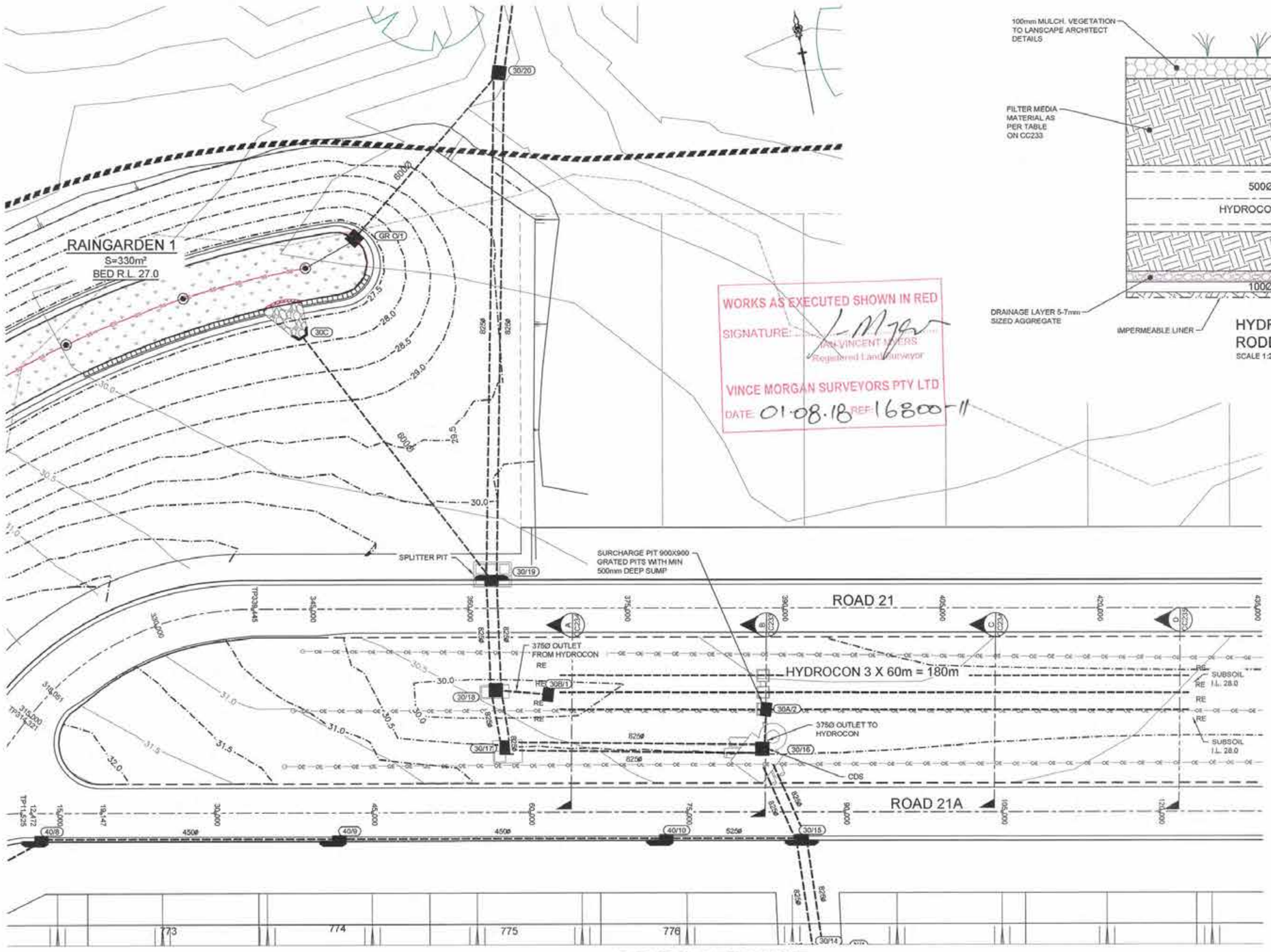
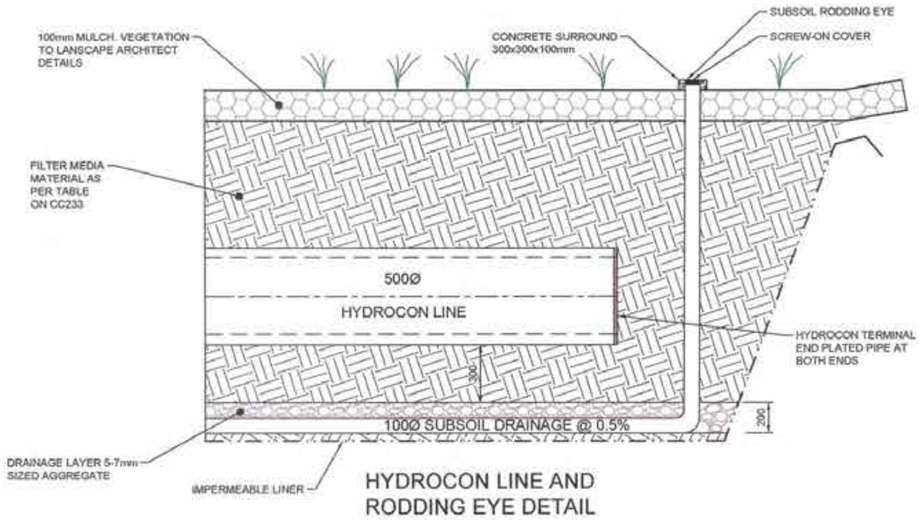
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
OUTLET PIT 22/9 AND GPT PLAN

PLAN No: 11018511/CC231 A
FILE No: 11018511CC231
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January, 2018 5:11:47 PM File Name: J:\1101\85 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11101851 1CC231.dwg





HYDROCON LINE AND RODDING EYE DETAIL

SCALE 1:20

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MORGAN
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

LEGEND	
SUBSOIL DRAINAGE	
EXISTING CONTOURS	47.0
DESIGN CONTOURS	47.0
RODDING EYE	RE

NOTE

PROPOSED LOCATION / FOOTPRINT OF HYDROCON PIPE :

1. BULK EARTHWORKS CONSTRUCTION TO BE UNDERTAKEN TO INVERT OF FILTER MEDIA OF HYDROCON PIPE WITH THIS CIVIL CONSTRUCTION CERTIFICATE, AS WELL AS INLET AND OUTLET STRUCTURES.
2. SUITABLE SAFETY PROTECTIONS AND VISUAL SCREENINGS TO BE APPLIED TO THE PERIMETER OF THIS WATER QUALITY LOCATION / FOOTPRINTS UNTIL THEY RECEIVE THEIR 'FINAL CONSTRUCTION'.
3. 'FINAL CONSTRUCTION' OF HYDROCON PIPE TO BE TARGETED WHEN 80% OF THE UPSTREAM LOTS HAVE THEIR DWELLINGS COMPLETED.
4. IT IS ANTICIPATED THAT THE PERIOD BETWEEN PRACTICAL COMPLETION BEING AWARDED BY EITHER AN ACCREDITED CERTIFIER OR COUNCIL FOR CIVIL WORKS, AND THE 'FINAL CONSTRUCTION' OF THESE ELEMENTS WILL BE BETWEEN 18 MONTHS TO 2 YEARS.
5. APPROPRIATE BONDS TO VALUE OF THE ESTABLISHED CONTRACT AMOUNT OF WORKS WITH THE APPOINTED CIVIL CONTRACTOR, TO BE LODGED BETWEEN DEVELOPER AND COUNCIL IN ORDER TO ATTAIN PRACTICAL COMPLETION / SUBDIVISION CERTIFICATE FROM COUNCIL, PRIOR TO THESE WATER QUALITY ELEMENTS RECEIVING THEIR 'FINAL CONSTRUCTION'.

CONSTRUCTION CERTIFICATE

Certificate No. 20130279C.42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

1:20 (AT A1) 400 200 0 400 800 1200 1600 2000 MILLIMETRES

1:200 (AT A1) 1:400 (AT A3) 4 2 0 4 8 12 16 20 METRES

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

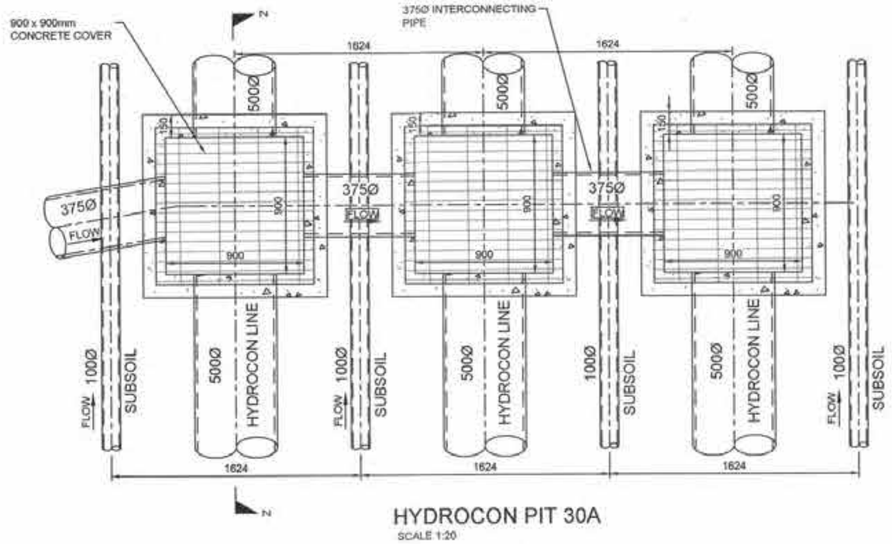
J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
PO Box 4366 PENRITH WESTFIELD NSW 2750
P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

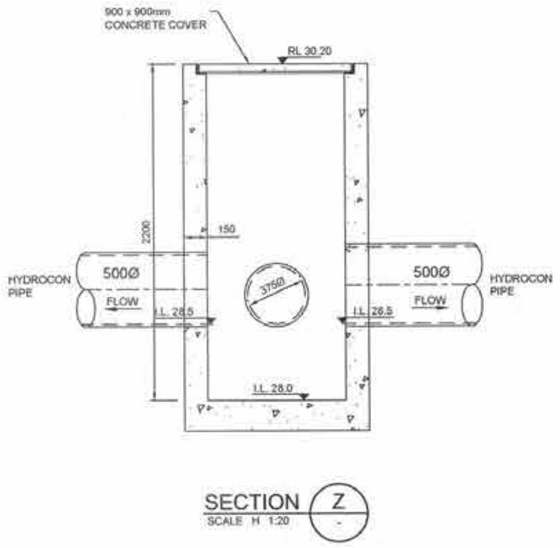
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
HYDROCON WEST LAYOUT
PLAN AND DETAIL

PLAN No: 11018511/CC232 A
FILE No: 11018511CC232
SHEET SIZE: A1 ORIGINAL

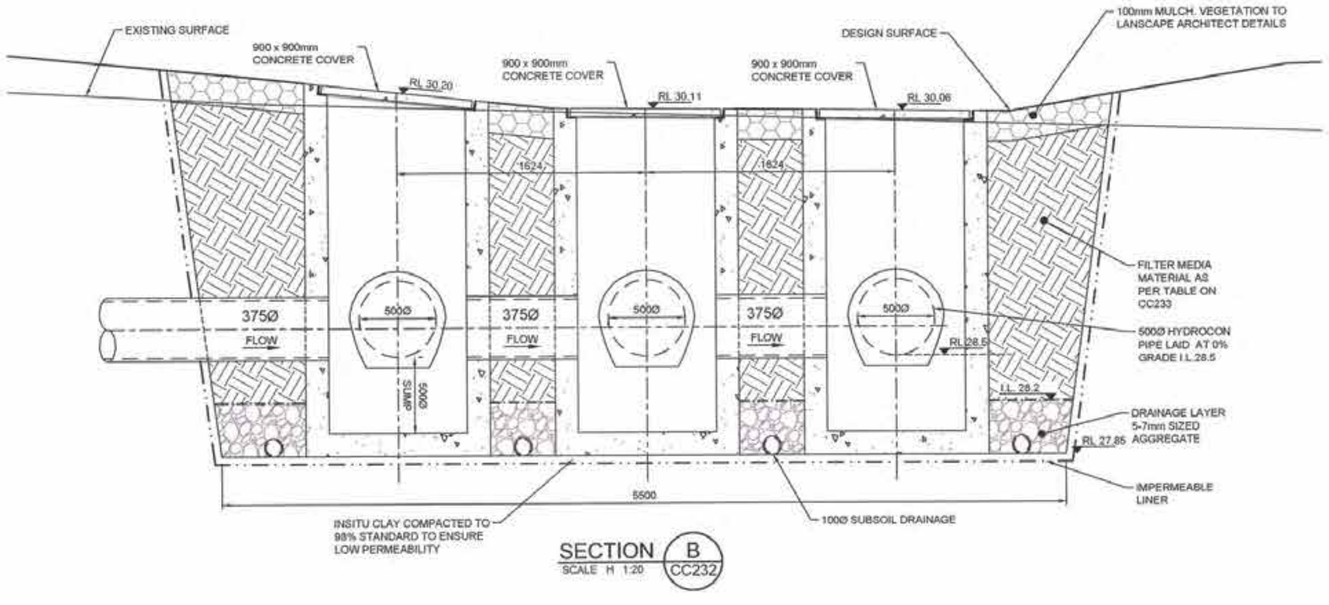
Plotted: 25 January , 2018 5:12:19 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CDC\YEOMANS\11018511CC232.dwg



HYDROCON PIT 30A
SCALE 1:20



SECTION Z
SCALE H 1:20



SECTION B
SCALE H 1:20
CC232

FILTER MEDIA GRADING TABLE		
DESCRIPTION	GRADING	PROPORTION
CLAY AND SILT	<0.05mm	<3%
VERY FIND SAND	0.05 - 0.15mm	5 - 10%
FIND SAND	0.15 - 0.25mm	10 - 30%
MEDIUM TO COARSE SAND	0.25 - 1.0mm	40 - 60%
COARSE SAND	1.0 - 2.0mm	7 - 10%
FIND GRAVEL	2.0 - 3.4mm	<3%

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01·08·18 REF 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

SUBJECT TO
STRUCTURAL DESIGN
AND CERTIFICATION

1:20 (AT A1)
400 200 0 400 800 1200 1600 2000
MILLIMETRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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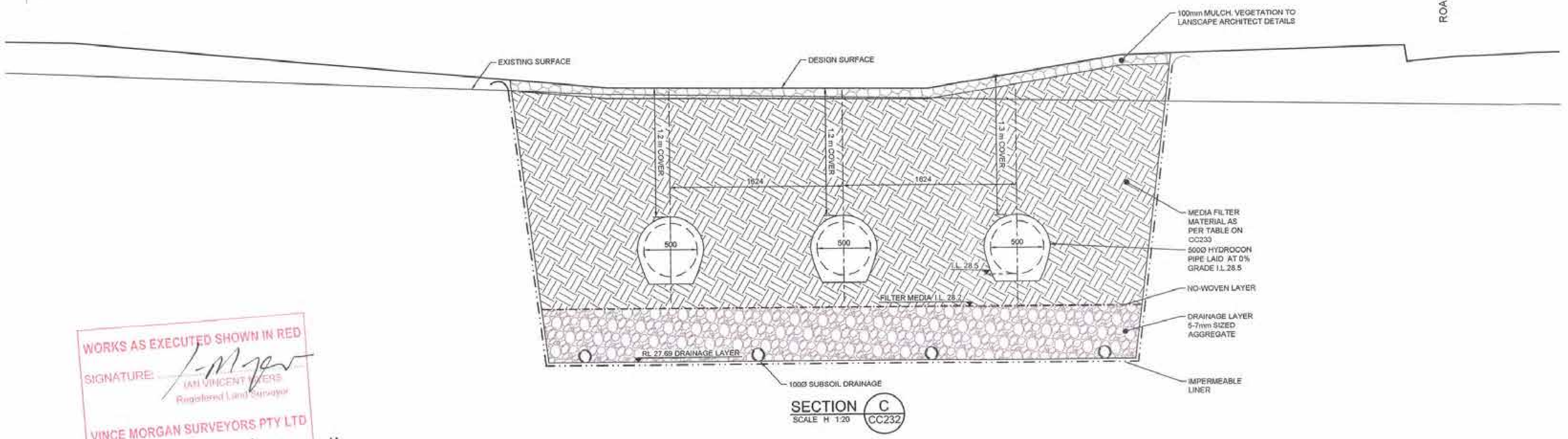
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
HYDROGON PIT 30A,
PIPES AND SECTION

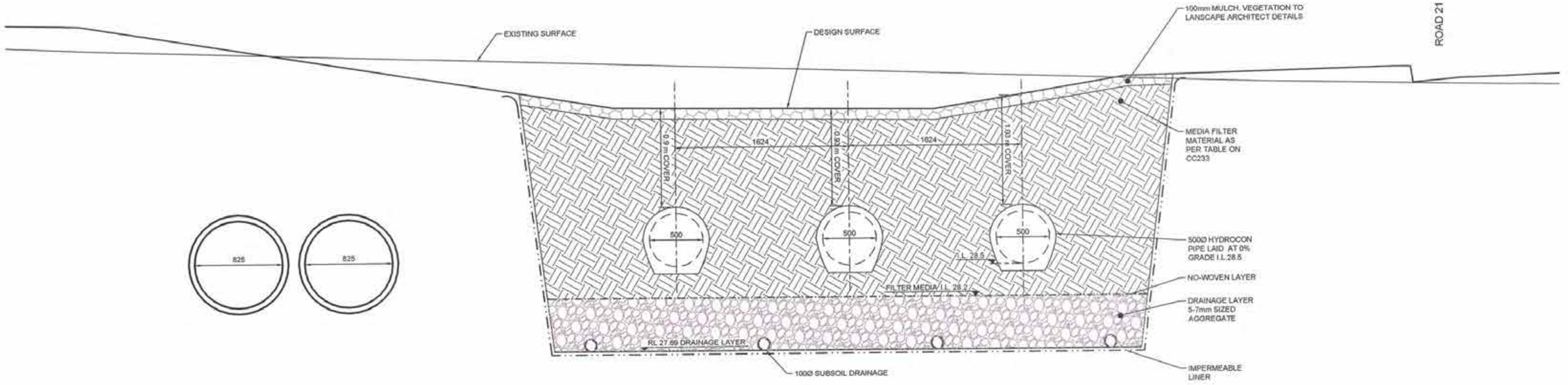
PLAN No: 11018511/CC233 A
FILE No: 11018511CC233
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 5:12:33 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CG\YEOMANS11018511CC233.dwg



SECTION C
SCALE H 1:20 CC232

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MORGAN
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF 16800-11



SECTION A
SCALE H 1:20 CC232

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

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SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

1:20 (AT A1) 400 200 0 400 800 1200 1600 2000 MILLIMETRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/09/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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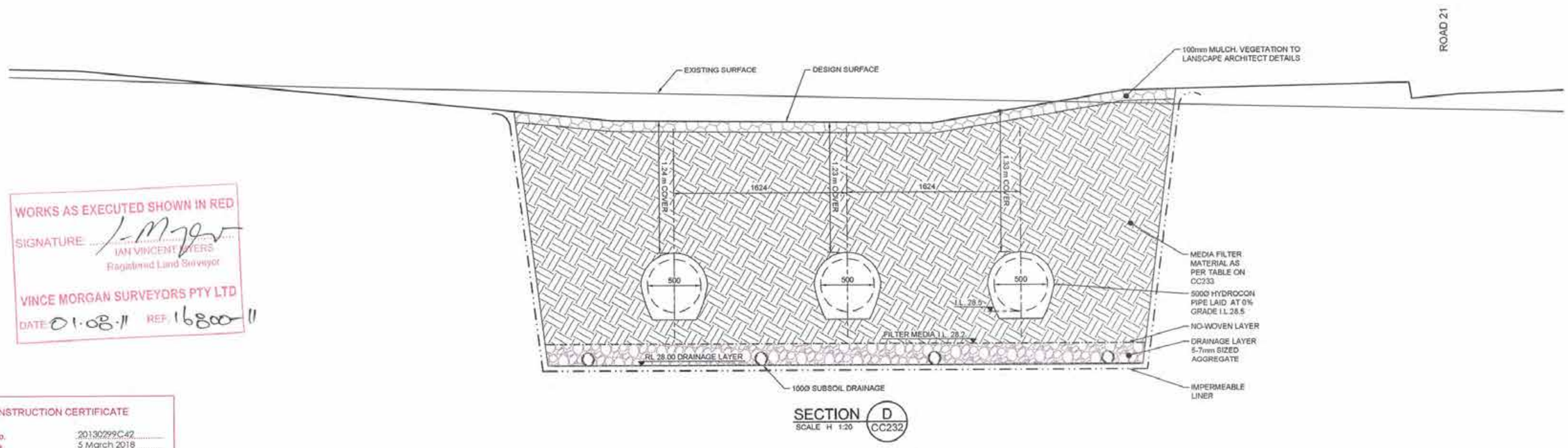
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
HYDROCON WEST SECTIONS
SHEET 1 OF 2

PLAN No: 11018511/CC234 A
FILE No: 11018511CC234
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January, 2018 5:12:54 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC234.dwg



SECTION D CC232
SCALE H 1:20

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: [signature]
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.11 REF: 16800-11

CONSTRUCTION CERTIFICATE

Certificate No.	20130299C42
Date of issue	5 March 2018
Issuing Officer	[signature]
Accreditation No.	BPB0565

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SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

1:20 (AT A1) 400 200 0 400 800 1200 1600 2000 MILLIMETRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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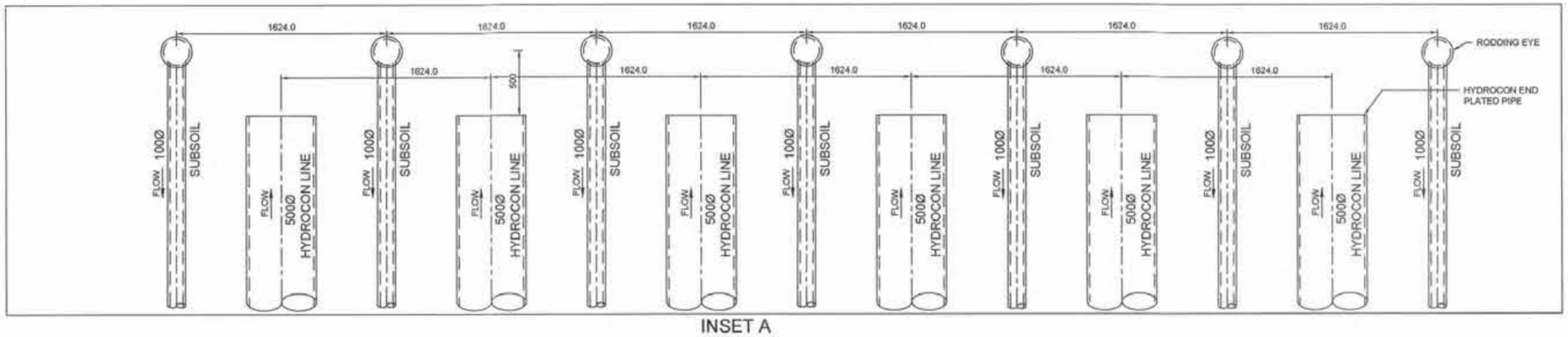
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
HYDROCON WEST SECTIONS
SHEET 2 OF 2

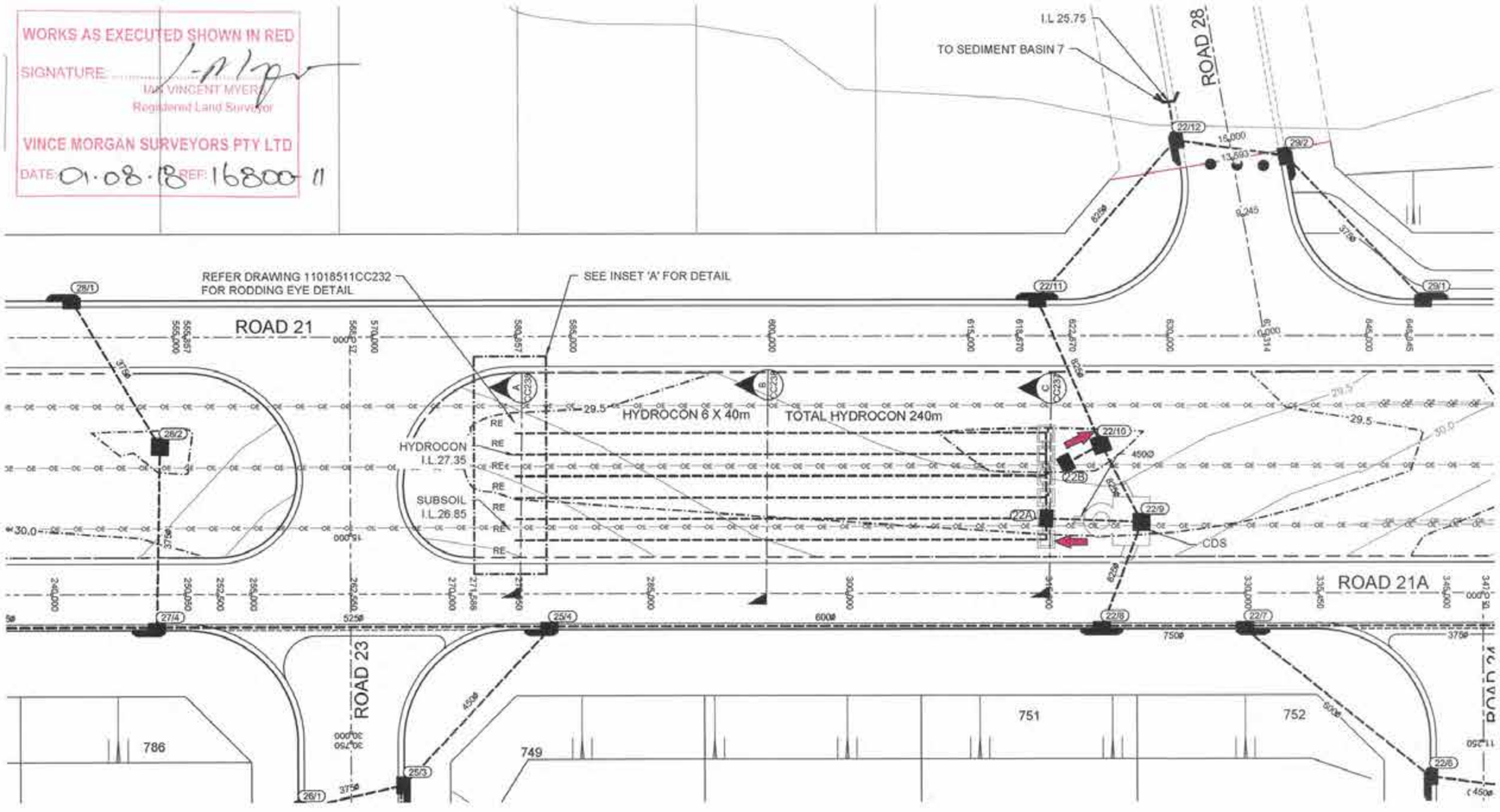
PLAN No: 11018511/CC235 A
FILE No: 11018511CC235
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 5:13:07 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC235.dwg



INSET A
SCALE 1:20

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800 11



HYDROCON EAST LAYOUT

LEGEND

SUBSOIL DRAINAGE	
EXISTING CONTOURS	47.0
DESIGN CONTOURS	47.0
RODDING EYE	RE

NOTE

PROPOSED LOCATION / FOOTPRINT OF HYDROCON PIPE :

1. BULK EARTHWORKS CONSTRUCTION TO BE UNDERTAKEN TO INVERT OF FILTER MEDIA OF HYDROCON PIPE WITH THIS CIVIL CONSTRUCTION CERTIFICATE, AS WELL AS INLET AND OUTLET STRUCTURES.
2. SUITABLE SAFETY PROTECTIONS AND VISUAL SCREENINGS TO BE APPLIED TO THE PERIMETER OF THIS WATER QUALITY LOCATION / FOOTPRINTS UNTIL THEY RECEIVE THEIR 'FINAL CONSTRUCTION'.
3. 'FINAL CONSTRUCTION' OF HYDROCON PIPE TO BE TARGETED WHEN 80% OF THE UPSTREAM LOTS HAVE THEIR DWELLINGS COMPLETED.
4. IT IS ANTICIPATED THAT THE PERIOD BETWEEN PRACTICAL COMPLETION BEING AWARDED BY EITHER AN ACCREDITED CERTIFIER OR COUNCIL FOR CIVIL WORKS, AND THE 'FINAL CONSTRUCTION' OF THESE ELEMENTS WILL BE BETWEEN 18 MONTHS TO 2 YEARS.
5. APPROPRIATE BONDS TO VALUE OF THE ESTABLISHED CONTRACT AMOUNT OF WORKS WITH THE APPOINTED CIVIL CONTRACTOR, TO BE LODGED BETWEEN DEVELOPER AND COUNCIL IN ORDER TO ATTAIN PRACTICAL COMPLETION / SUBDIVISION CERTIFICATE FROM COUNCIL, PRIOR TO THESE WATER QUALITY ELEMENTS RECEIVING THEIR 'FINAL CONSTRUCTION'.

CONSTRUCTION CERTIFICATE

Certificate No. 20130299:C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

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1:20 (AT A1) 400 200 0 400 800 1200 1800 2000 MILLIMETRES

1:200 (AT A1) 1:400 (AT A3) 4 2 0 4 8 12 16 20 METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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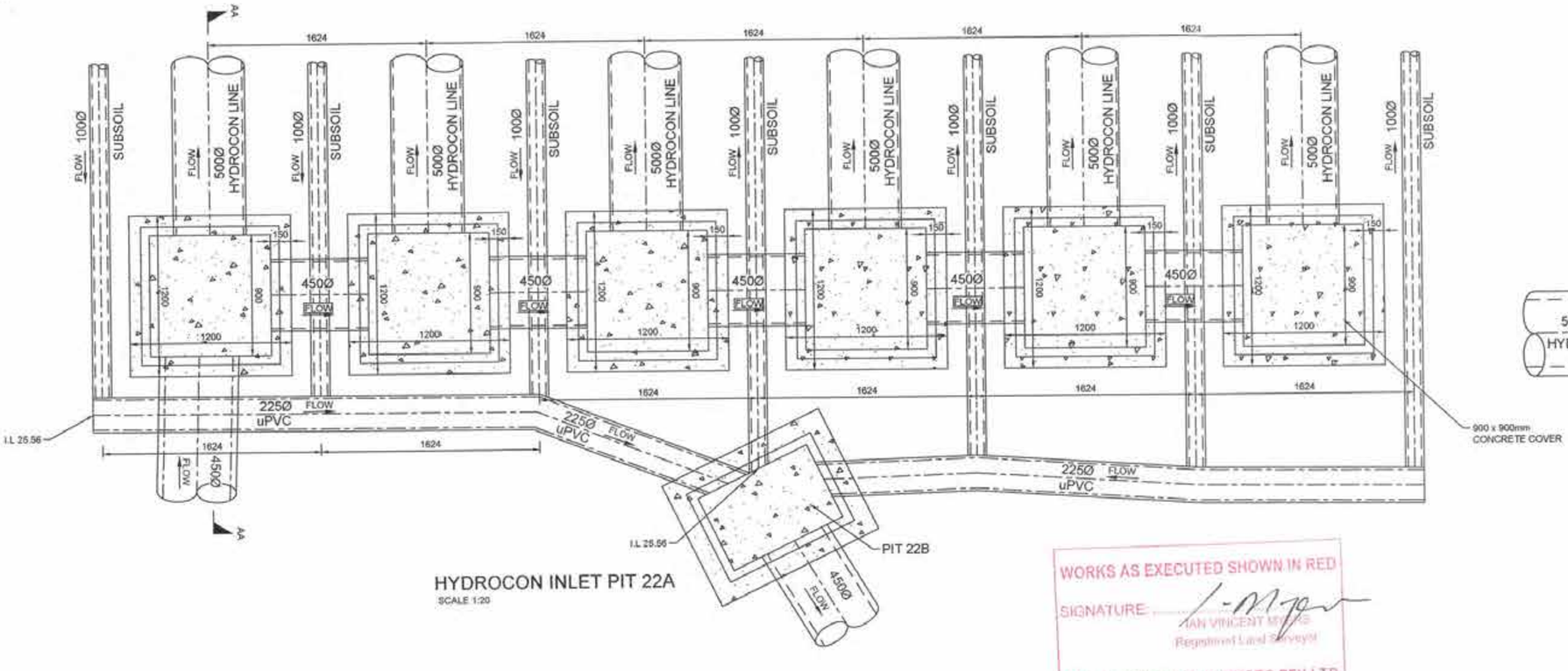
ISSUED FOR CONSTRUCTION APPROVAL

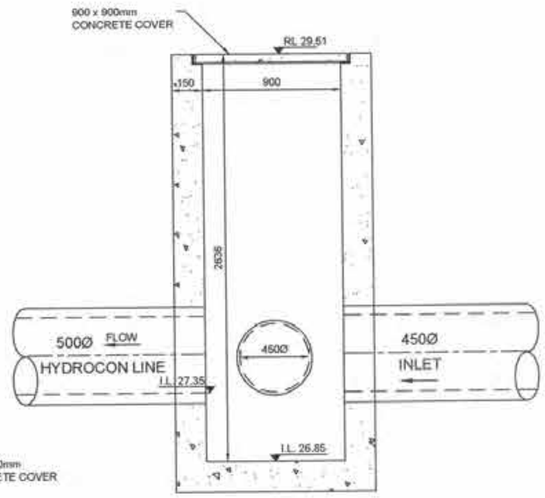
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
HYDROCON EAST LAYOUT
PLAN

PLAN No: 11018511/CC236 A
FILE No: 11018511CC236
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 5:13:38 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Design\Civil\CC\YEOMANS\11018511CC236.dwg

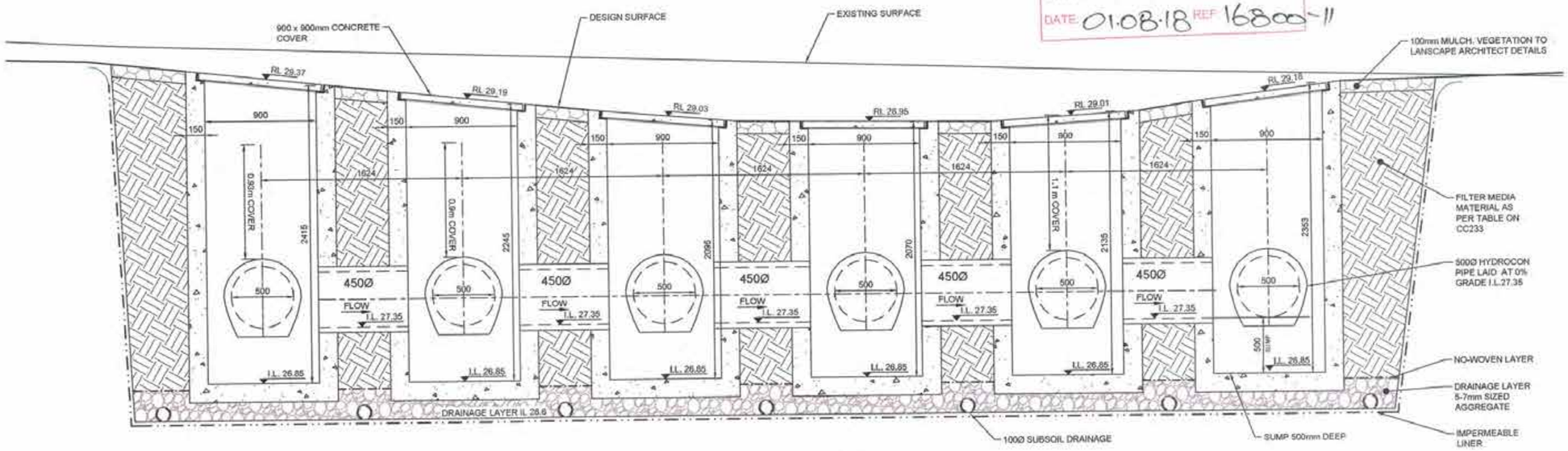


HYDROCON INLET PIT 22A
SCALE 1:20



SECTION AA
SCALE H 1:20

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ...
IAN VINCENT MORGAN
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF 16800-11



SECTION C
SCALE H 1:20 CC236

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer ...
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

1:20 (AT A1)
400 200 0 400 800 1200 1600 2000
MILLIMETRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/08/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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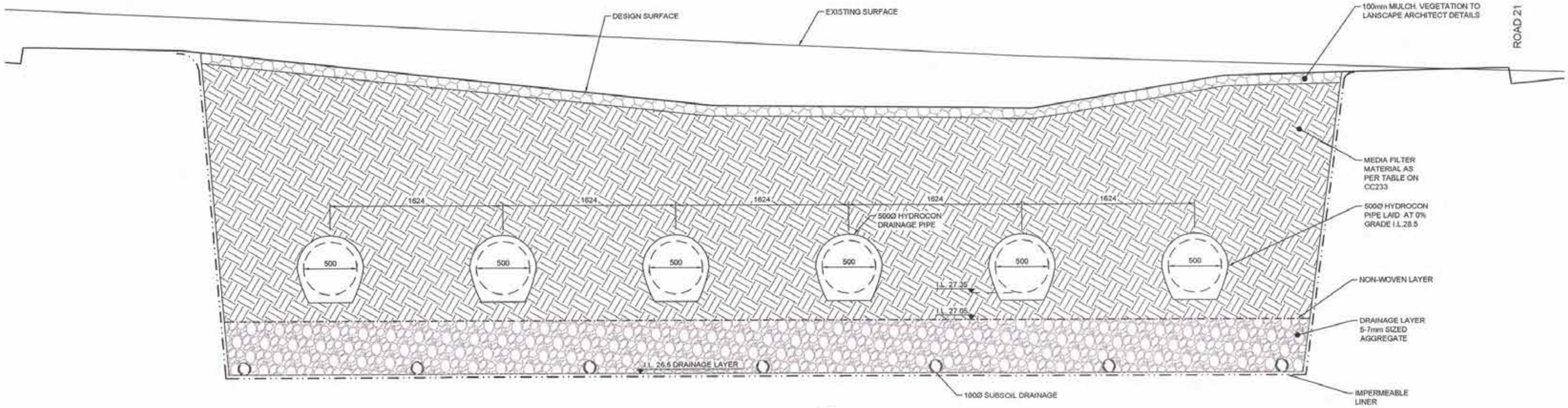
ISSUED FOR CONSTRUCTION APPROVAL

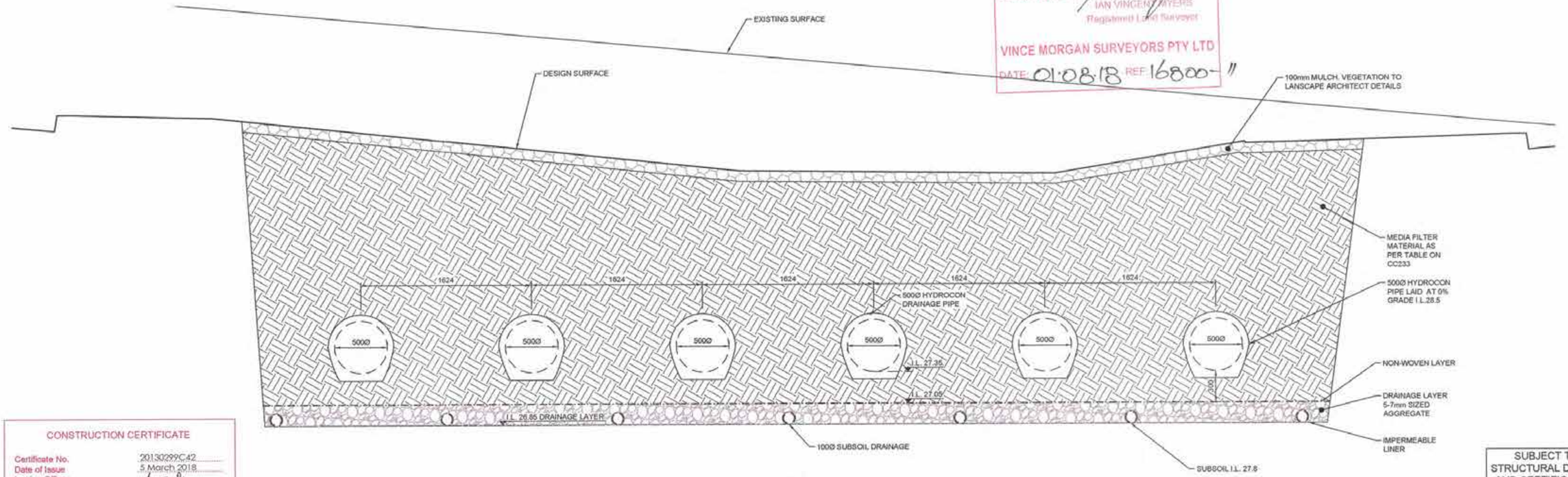
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
HYDROCON PIT 22A,
PIPES AND SECTION

PLAN No: 11018511/CC237 A
FILE No: 11018511CC237
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January 2018 5:14:17 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CIVIL\MAINS\11018511CC237.dwg



SECTION B
SCALE H 1:20
CC236



SECTION A
SCALE H 1:20
CC236

1:20 (AT A1)
400 200 0 400 800 1200 1600 2000
MILLIMETRES

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ..... IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
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SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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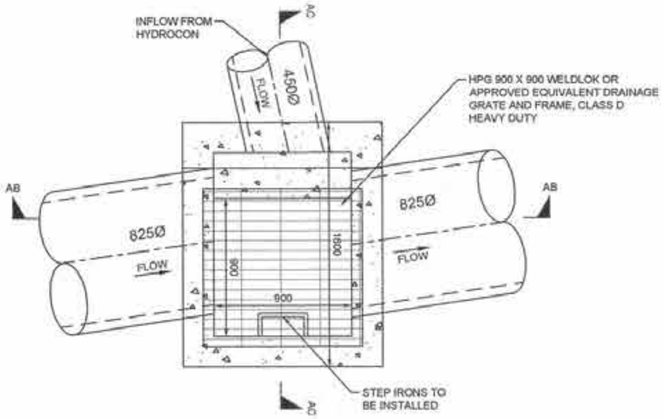
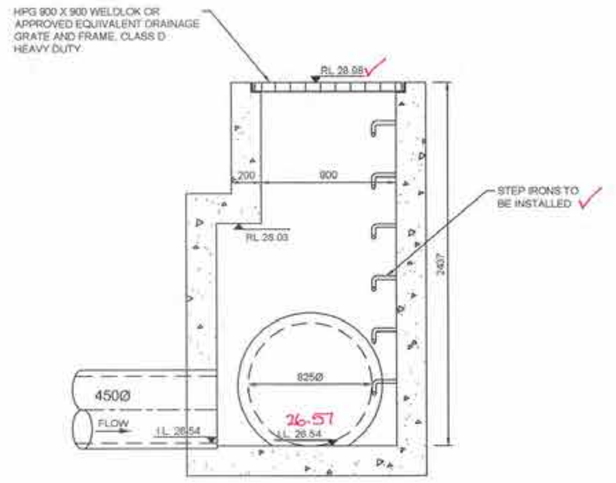
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
HYDROCON EAST SECTION

PLAN No: 11018511/CC238 A
FILE No: 11018511CC238
SHEET SIZE: A1 ORIGINAL

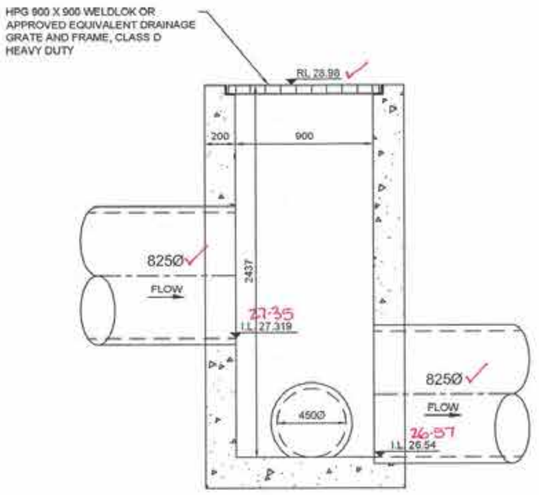
Plotted: 25 January , 2018 5:14:33 PM File Name: J:\11018S - Redbank North Richmond Residential Precincts\01 - Descriptions\CD\CC\YEOMANS\11018511\CC238.dwg



OUTLET PIT 22/10
SCALE 1:20



SECTION AC
SCALE H 1:20



SECTION AB
SCALE H 1:20

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ..... IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

1:20 (AT A1) 400 200 0 400 800 1200 1600 2000 MILLIMETRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/08/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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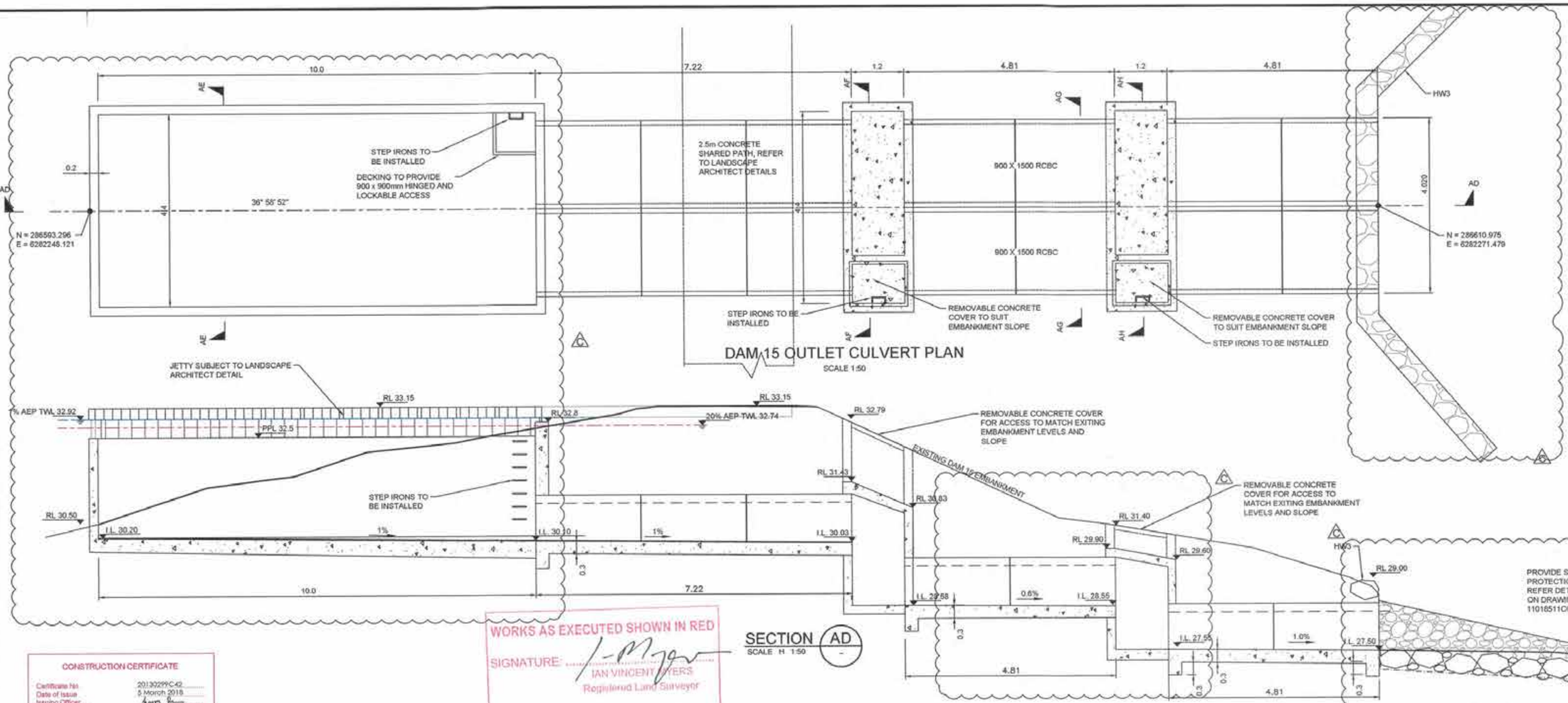
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
OUTLET PIT 22/10 PLAN
AND SECTIONS

PLAN No: 11018511/CC239 A
FILE No: 11018511CC239
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 8:14:51 PM File Name: J:\11018S - Redbank North Richmond Residential Precincts\01 - Description\Dsn\CD\CC\YEOMANS\11018511CC239.dwg



CONSTRUCTION CERTIFICATE

Certificate No: 20130299C-02
Date of Issue: 5 March 2018
Issuing Officer:
Accreditation No: BDP0565

These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

NOTE
THIS DRAWING IS TO BE SUBMITTED TO HAWKESBURY CITY COUNCIL FOR SEPARATE APPROVAL.

1:50 (AT A1)
1:100 (AT A3)
1 0 1 2 3 4 5
METRES

1:20 (AT A1)
400 200 0 400 800 1200 1600 2000
MILLIMETRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
C	LANDSCAPE ARCHITECT INPUT	MP	CC	RO	RO	09/01/18
B	STRUCTURAL DESIGN INPUT	MP	MG	RO	RO	04/07/17
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DAM 15 CULVERT PLAN
AND SECTIONS SHEET 1 OF 2

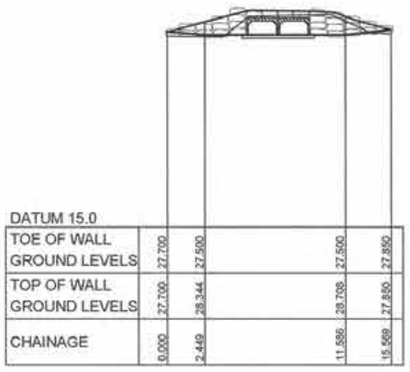
PLAN No: 11018511/CC240 C
FILE No: 11018511CC240
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 12:34:02 PM File Name: J:\110185 - Redbank North Richmond Residential Precinct\01 - Description\CD\CC\YEOMANS\11018511CC240.dwg

NOTES

- DESIGN BASED ON FLOW VELOCITIES FROM 12D DRAINAGE OUTPUTS FOR 100 YEAR ARI STORM EVENT
- RIP-RAP SCOUR PROTECTION DIMENSIONS CALCULATED FROM "ROCK SIZING FOR SINGLE PIPE OUTLETS - STORMWATER MANAGEMENT PRACTICES" BY CATCHMENTS AND CREEKS, VERSION 2 DATED NOVEMBER 2014
- ROCK HEADWALL ARRANGEMENT SHOWN ON PLANS, PRECAST CONCRETE OUTLET ARRANGEMENT CAN BE ADOPTED, HOWEVER RIP-RAP LENGTH SHALL COMMENCE AT THE END OF THE PRECAST CONCRETE APRON SLAB
- MINIMUM RIP-RAP DIMENSIONS ARE DENOTED ON BOTH TABLE AND PLANS
- ALL RIP-RAP TO CONSIST OF ANGULAR DURABLE QUARRY ROCK PLACED OVER A LAYER OF ANGULAR COBBLES (D50=50mm)
- RIP-RAP IS TO BE PLACED BY HAND AND PACKED INTO PLACE WITH A CROW-BAR TO ENSURE UNIFORM FIT WITH MINIMUM VOIDS

OUTLET HEADWALL RIP-RAP SCOUR PROTECTION (MINIMUM RECOMMENDED DIMENSIONS)								
OUTLET	CULVERT DIAMETER (mm)	NUMBER OF	VELOCITY (m/s)	DESIGN VELOCITY	MEAN ROCK SIZE	APRON LENGTH L	APRON WIDTH W	BED THICKNESS
3/4	600Ø	1	5.0	5.0	400	2400	1600	720
4/11	1200Ø	1	8.52	6.75	400	3600	3000	360
4A/HW	750Ø	1	3.0	3.0	200	2250	1700	360
8/16	675Ø	1	2.75	2.75	200	2000	1500	360
30/21	825Ø	2	2.9	3.0	300	2500	3500	540
15/3	825Ø	1	6.93	7.00	500	2000	1500	540
17/12	525Ø	1	2.42	2.50	200	1800	1200	360
43/9	600Ø	1	4.23	4.25	300	2400	1500	540
30/C	600Ø	1	2.64	2.75	200	1800	1300	360
DAM 15 OUTLET	1500x900	2	2.4	2.5	200	8000	10000	360
PANSY INLET	1500x900	3	1.6	1.75	200	9700	10000	360
PANSY OUTLET	1500x900	3	1.6	1.75	200	7200	7800	360



DATUM 15.0					
TOE OF WALL GROUND LEVELS	27.700	27.500		27.500	27.850
TOP OF WALL GROUND LEVELS	27.700	28.344		28.706	27.850
CHAINAGE	0.000	2.449		11.586	15.568

LONGITUDINAL SECTION HW3 BOT

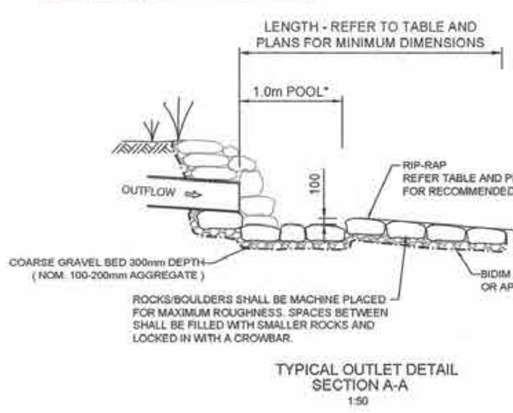
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200

HW3 BOT			
CHAINAGE	EASTING	NORTHING	BEARING
0	286608.02	6282278.4	171°58'51.64"
5.3	286608.76	6282273.14	
10.61	286613	6282269.95	
14.57	286616.95	6282270.29	85°34'24.64"

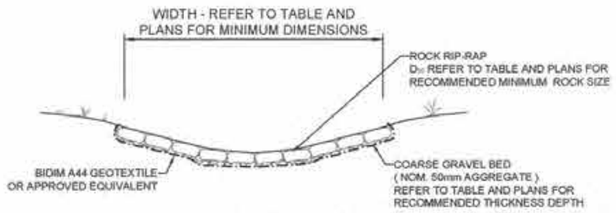
CONSTRUCTION CERTIFICATE

Certificate No: 20130299C42
Date of Issue: 5 March 2018
Issuing Officer:
Accreditation No: BPB0565

These plans/specifications form part of the certificate issued 5 March 2018



TYPICAL OUTLET DETAIL
SECTION A-A
1:50



TYPICAL OUTLET DETAIL
SECTION B-B
1:50

DAM 15 CULVERT
SCALE 1:100

SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

1:200 (AT A1)
1:400 (AT A3)
4 2 0 4 8 12 16 20
METRES

1:100 (AT A1)
1:200 (AT A3)
2 1 0 1 2 3 4 5 6 7 8 9 10
METRES

1:50 (AT A1)
100 0 100 200 300 400 500
MILLIMETRES

NOTE
THIS DRAWING IS TO BE SUBMITTED TO HAWKESBURY CITY COUNCIL FOR SEPARATE APPROVAL.

AMENDMENT	DES	DRN	CKD	APR	DATE
C LANDSCAPE ARCHITECT INPUT	MP	CC	RO	RO	09/01/18
B STRUCTURAL DESIGN INPUT	MP	MG	RO	RO	04/07/17
A ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

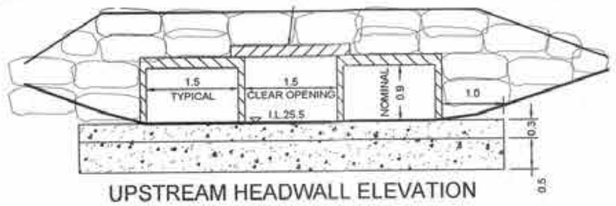
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE

ISSUED FOR CONSTRUCTION APPROVAL

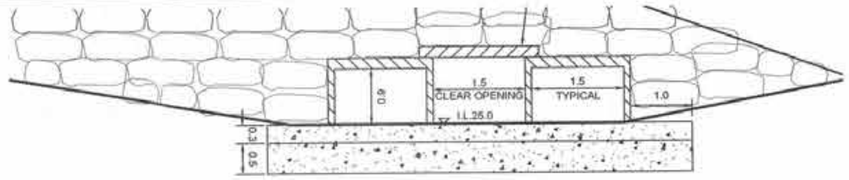
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DAM 15 CULVERT PLAN
AND SECTIONS SHEET 2 OF 2

PLAN No: 11018511/CC241 C
FILE No: 11018511CC241
SHEET SIZE: A1 ORIGINAL

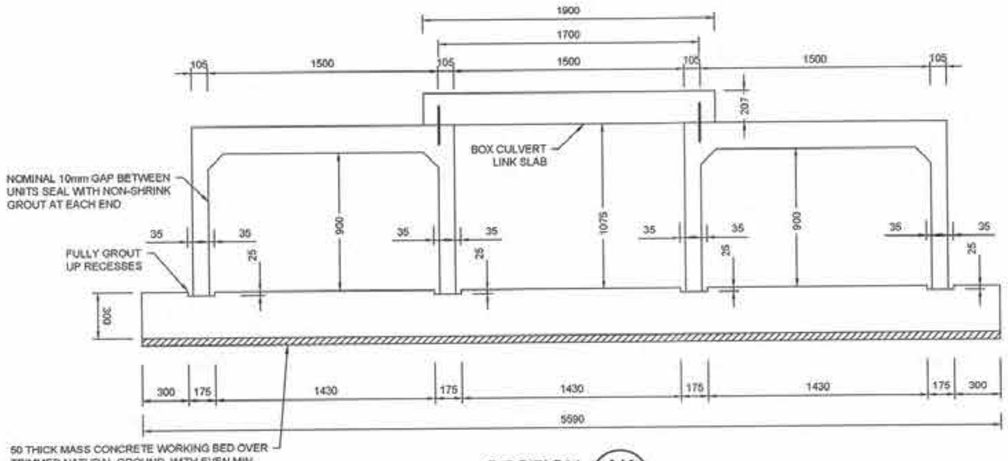
Plotted: 12 February , 2018 12:39:30 PM File Name: J:\110\155 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC241.dwg



UPSTREAM HEADWALL ELEVATION
HW1
SCALE 1:50

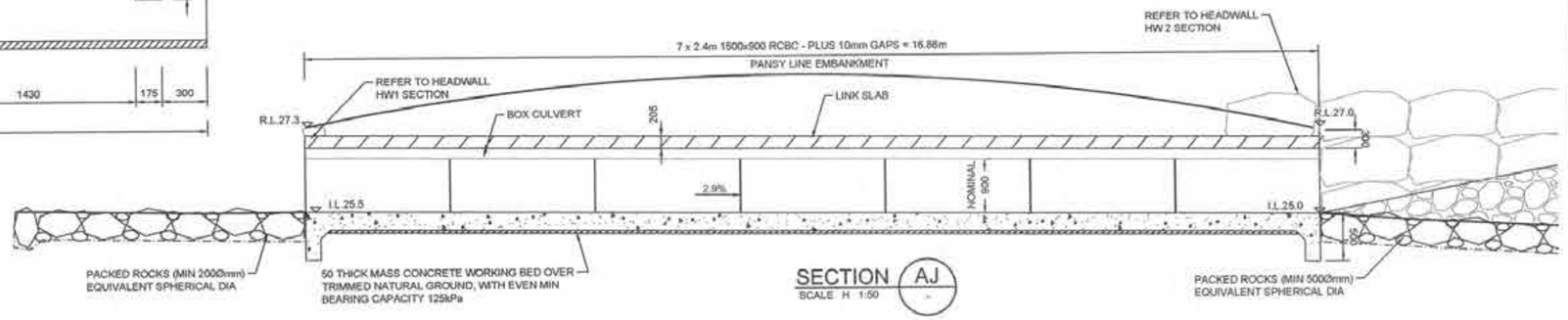


DOWNSTREAM HEADWALL ELEVATION
HW2
SCALE 1:50

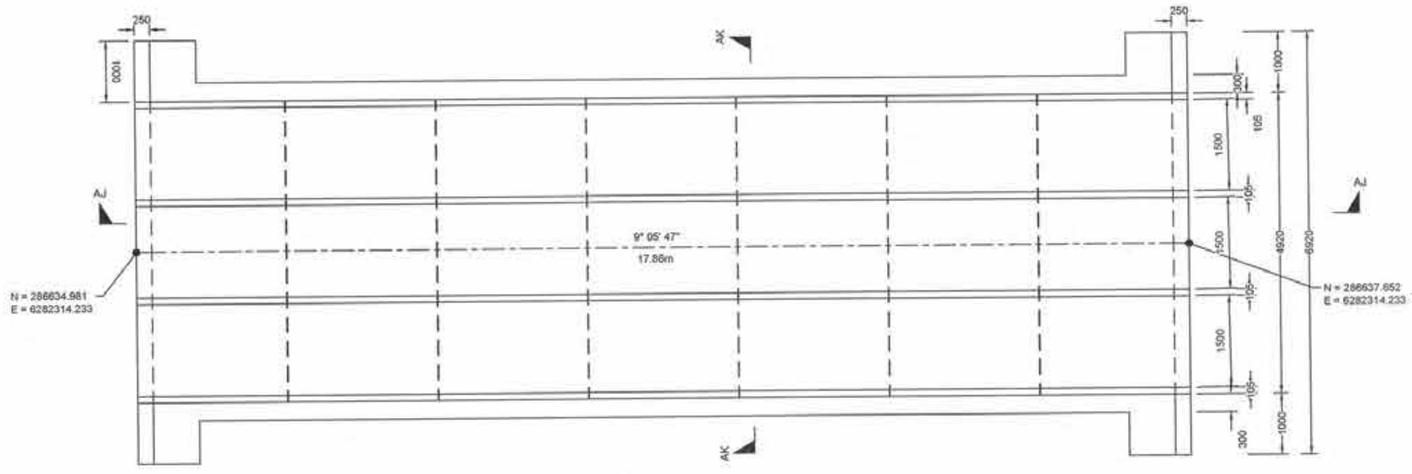


SECTION AK
SCALE H 1:20

CULVERT BASE SLAB



SECTION AJ
SCALE H 1:50



PANSY LINE CULVERT PLAN
SCALE 1:50

1:50 (AT A1)
1:100 (AT A3)
1 0 1 2 3 4 5
METRES

1:20 (AT A1)
400 200 0 400 800 1200 1600 2000
MILLIMETRES

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01·08·18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

SUBJECT TO
STRUCTURAL DESIGN
AND CERTIFICATION

NOTE
THIS DRAWING IS TO BE SUBMITTED TO HAWKESBURY CITY COUNCIL FOR SEPARATE APPROVAL.

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/09/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

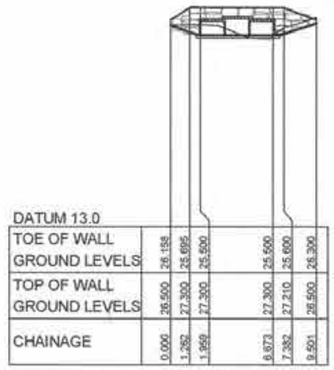
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PANSY LINE CULVERT PLAN
AND SECTIONS SHEET 1 OF 2

PLAN No: 11018511/CC242 A
FILE No: 11018511CC242
SHEET SIZE: A1 ORIGINAL

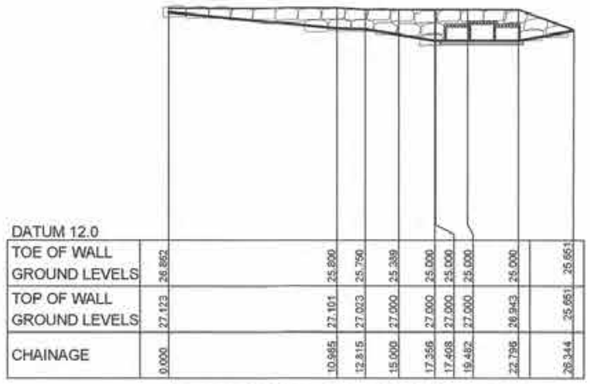
Plotted: 25 January , 2018 5:16:06 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC242.dwg



DATUM 13.0							
TOE OF WALL GROUND LEVELS	26.158	25.695	25.500		25.500	25.600	26.300
TOP OF WALL GROUND LEVELS	26.500	27.300	27.300		27.300	27.210	26.500
CHAINAGE	0.000	1.262	1.959		8.573	7.382	9.501

LONGITUDINAL SECTION HW1 BOT

HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200



DATUM 12.0										
TOE OF WALL GROUND LEVELS	26.862			25.800	25.750	25.389	25.000	25.000	25.000	25.651
TOP OF WALL GROUND LEVELS	27.123			27.101	27.023	27.000	27.000	27.000	26.943	25.651
CHAINAGE	0.000			10.995	12.815	15.000	17.356	17.468	19.482	22.796	28.344

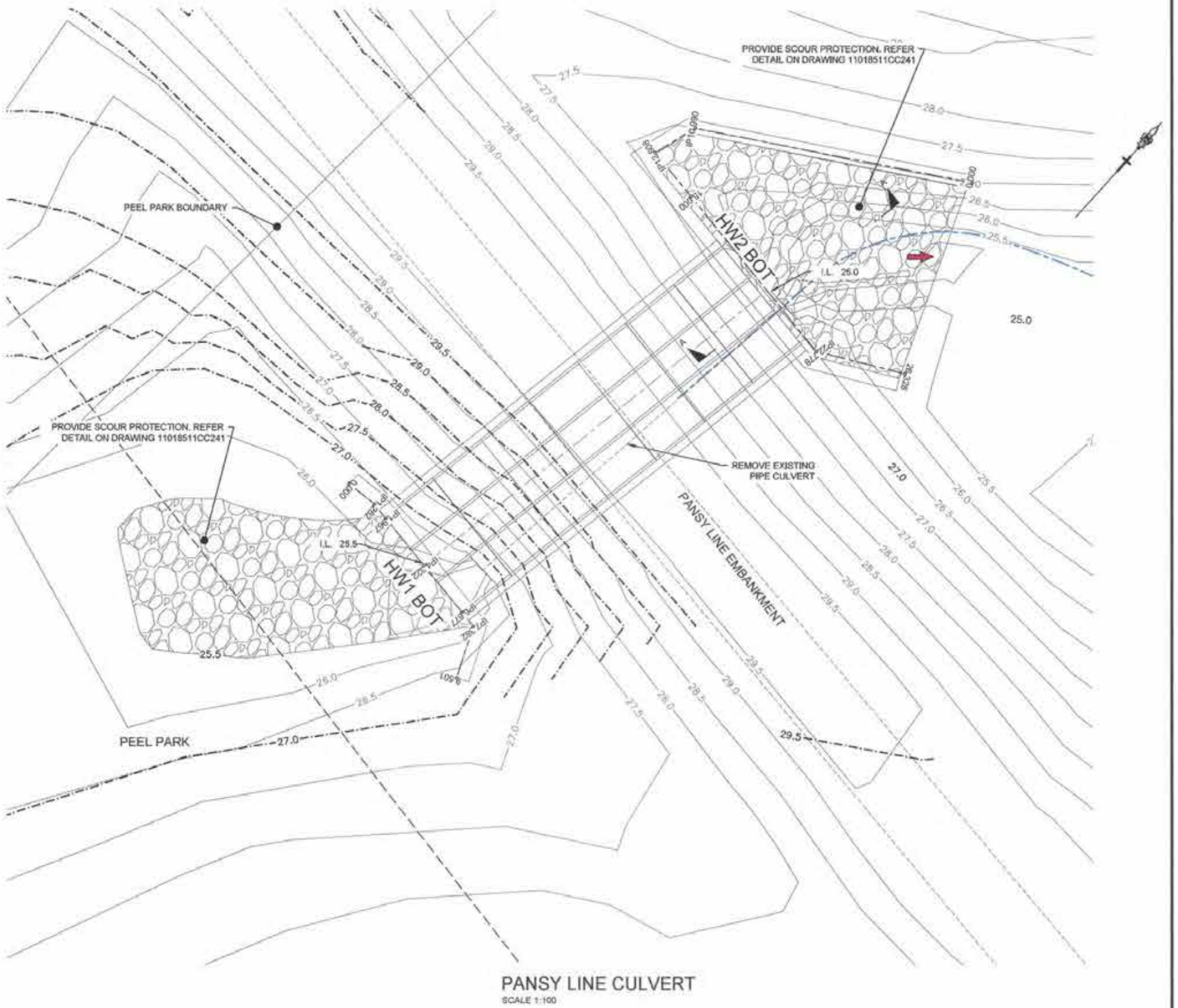
LONGITUDINAL SECTION HW2 BOT

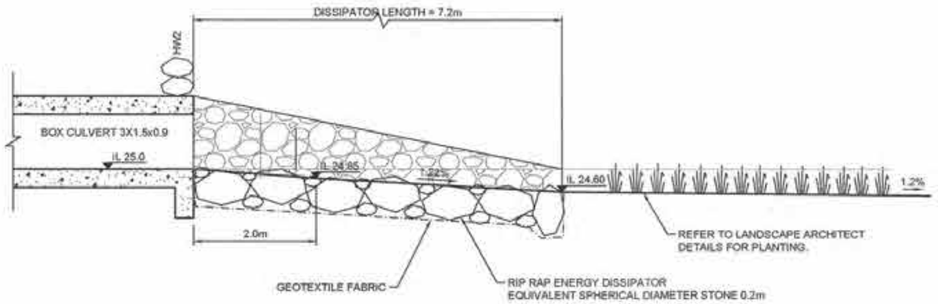
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:200

HW2 BOT			
CHAINAGE	EASTING	NORTHING	BEARING
0	286640.75	6282339.37	239°03'34.32"
10.98	286631.33	6282333.72	
12.82	286630.82	6282331.97	
22.8	286640.68	6282330.4	
26.34	286643.81	6282332.06	51°59'23.06"

HW1 BOT			
CHAINAGE	EASTING	NORTHING	BEARING
0	286630.7	6282314.65	86°51'01.74"
1.26	286631.96	6282314.72	
7.38	286638	6282313.75	
9.5	286638.88	6282311.82	155°33'23.37"

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11





SECTION A
SCALE 1:50

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

1:200 (AT A1)
1:400 (AT A3)
4 2 0 4 8 12 16 20
METRES

1:100 (AT A1)
1:200 (AT A3)
2 1 0 1 2 3 4 5 6 7 8 9 10
METRES

1:20 (AT A1)
400 200 0 400 800 1200 1600 2000
MILLIMETRES

SUBJECT TO STRUCTURAL DESIGN AND CERTIFICATION

NOTE
THIS DRAWING IS TO BE SUBMITTED TO HAWKESBURY CITY COUNCIL FOR SEPARATE APPROVAL.

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/08/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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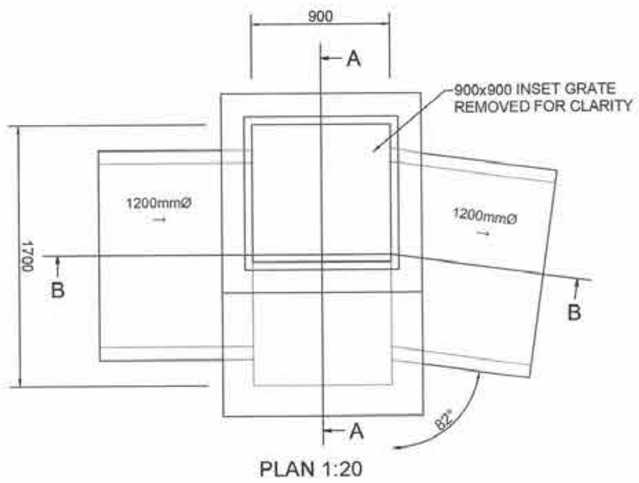
ISSUED FOR CONSTRUCTION APPROVAL

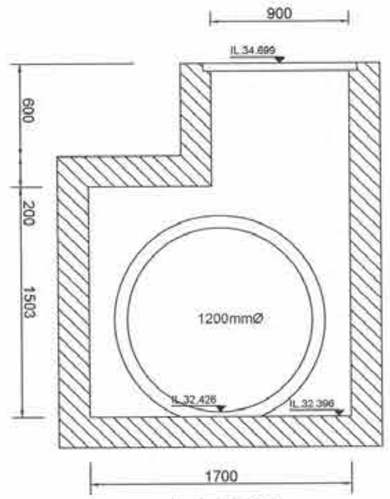
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PANSY LINE CULVERT PLAN
AND SECTIONS SHEET 2 OF 2

PLAN No: 11018511/CC243 A
FILE No: 11018511CC243
SHEET SIZE: A1 ORIGINAL

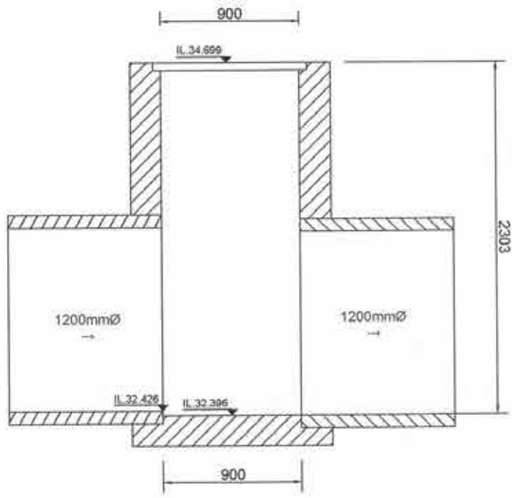
Plotted: 25 January , 2018 5:16:35 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Descriptions\CD\CIVIL\YEOMANS\11018511CC243.dwg



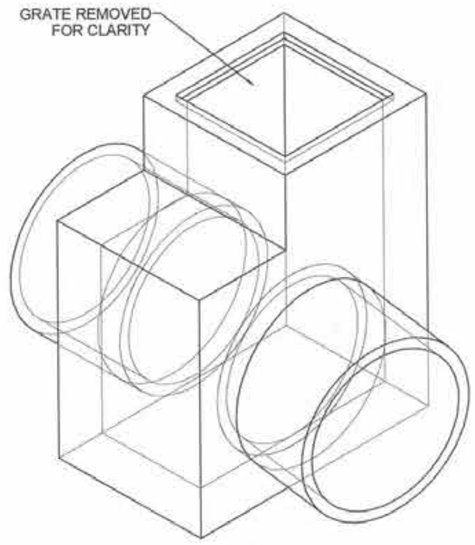
PLAN 1:20



A-A (1:20)



B-B (1:20)



SURCHARGE PIT 4/11

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: ..... IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE 01·06·18 REF 16800-11

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

1:20 (AT A1)

400 200 0 400 800 1200 1600 2000
MILLIMETRES

A	ADDITIONAL PIT	MP	TG	RO	RO	25/01/18
	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 3299 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA 57
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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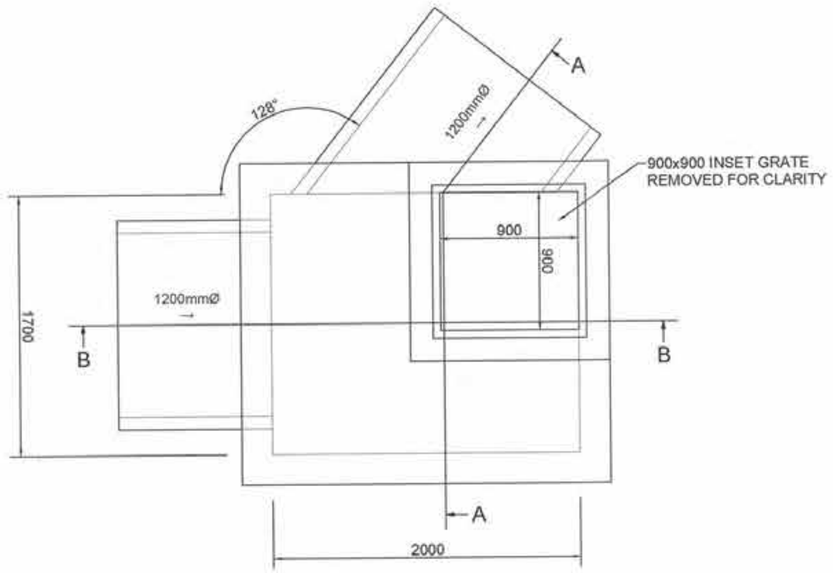
ISSUED FOR CONSTRUCTION APPROVAL

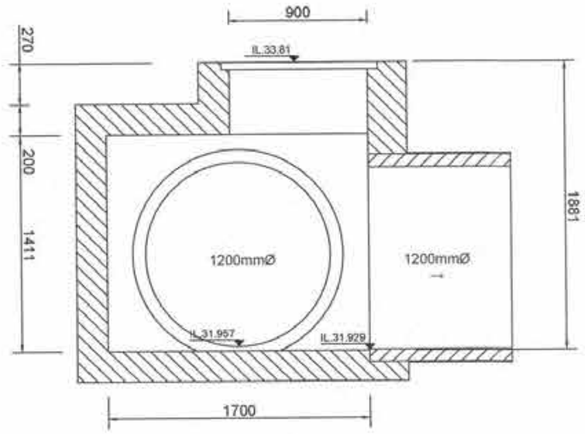
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SURCHARGE PIT 4/11

PLAN No: 11018511/CC244 A
FILE No: 11018511CC244
SHEET SIZE: A1 ORIGINAL

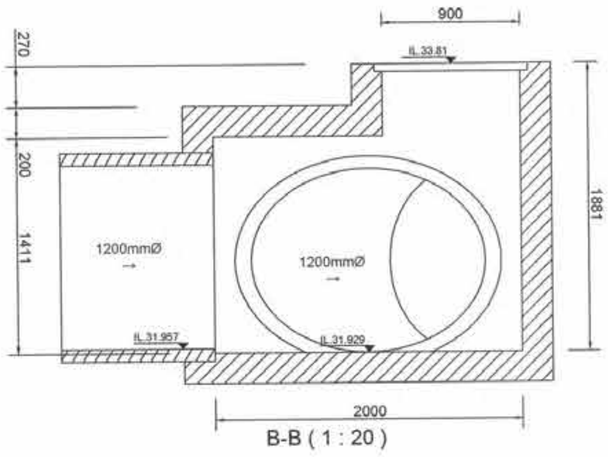
Plotted: 12 February , 2018 2:00:20 PM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC244.dwg



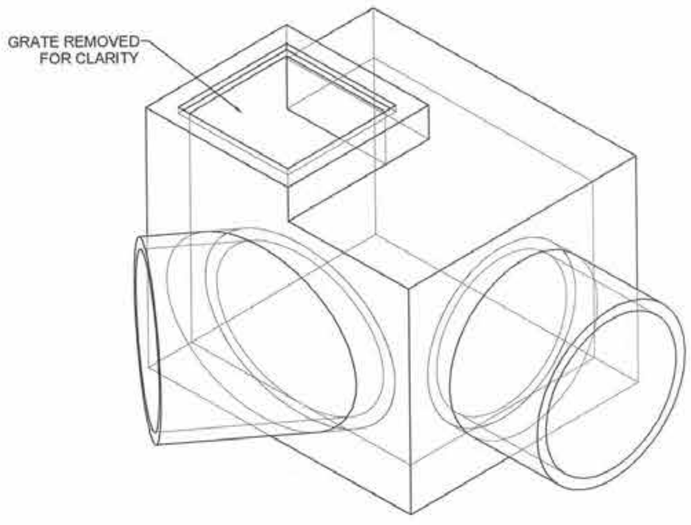
PLAN 1:20



A-A (1 : 20)



B-B (1 : 20)



SURCHARGE PIT 4/12

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 010818 REF 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0585
These plans/specifications form part of the certificate issued 5 March 2018

1:20 (AT A1)

400 200 0 400 800 1200 1600 2000
MILLIMETRES

A	ADDITIONAL PIT	MP	TG	RO	RO	25/01/18
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SURCHARGE PIT 4/12

PLAN No: 11018511/CC245 A
FILE No: 11018511CC245
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 1:59:52 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\DC\YEOMANS\11018511CC245.dwg

CREEK

REDBANK

ROAD 28

ROAD 21

ROAD 21A

ROAD 29

PEEL PARK

PATH 2

PATH 3

PATH 4

PATH 1

ROAD 25A

ROAD 26

ROAD 23

ROAD 24

ROAD 25

ROAD 27

ROAD 21

110185CC256

DAM 15

PATH 5

PATH 6

110185CC255

PATH 7

PATH 9

PATH 8

PATH 10

PATH 24

110185CC254

ROAD 1

ROAD 30

PATH 23

PATH 12

DAM 12

110185CC253

ROAD 34

PATH 14

PATH 15

PATH 16

PATH 17

PATH 18

PATH 19

ROAD 32

110185CC252

PATH 22

DAM 4

PATH 21

110185CC251

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11

WORK AS EXECUTED SHOWN IN RED

SIGNATURE.....

PETER ROBERT WARWICK
REGISTERED LAND SURVEYOR

VINCE MORGAN SURVEYORS PTY LTD

DATE: 14/01/20 REF:16800-11

FOOTPATH CONSTRUCTION SUBJECT TO SEPARATE CONSTRUCTION CERTIFICATE

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42

Date of Issue 5 March 2018

Issuing Officer .....

Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

1:1500 (AT A1)
1:3000 (AT A3)

30 15 0 15 30 45 60 75 90 105 120 135 150
METRES

A	ADVANCE ISSUE FOR COMMENTS	MP	JG			19/01/18
	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: MGA 59
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PATH LAYOUT PLAN

PLAN No: 11018511/CC250 A
FILE No: 11018511CC250
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 1:59:05 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC250.dwg

CONSTRUCTION CERTIFICATE

Certificate No. 20180299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE.....
IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 010818 REF: 16800-11

REFER TO DRAWING CC252 FOR CONTINUATION

WORK AS EXECUTED SHOWN IN RED

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

VINCE MORGAN SURVEYORS PTY LTD

DATE: 14/01/20 REF:16800-11

FOOTPATH CONSTRUCTION SUBJECT TO SEPARATE CONSTRUCTION CERTIFICATE

1:250 (AT A1)
1:500 (AT A3)

5 0 5 10 15 20 25
METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	ISSUE FOR CONSTRUCTION APPROVAL	MP	TG	RO	RO	25/01/18
A	ADVANCE ISSUE FOR COMMENTS	MP	JG			10/01/18

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: MGA 60
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PATH LOCATION AND SETOUT
SHEET 1

PLAN No: 11018511/CC251 B
FILE No: 11018511CC251
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 1:53:33 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC251.dwg

REFER TO DRAWING CC253 FOR CONTINUATION

REFER TO DRAWING CC251 FOR CONTINUATION

ROAD 34

PATH 14

PATH 15

PATH 16

PATH 17

PATH 18

PATH 19

PATH 11

PATH 13

PATH 22

ROAD 1

ROAD Y02

SHARED CYCLEWAY 2.5m WIDE

PATH 1.4m WIDE

PATH 1.8m WIDE

718

719

717

789

790

791

792

793

794

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0585

These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE:

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16000-11

FOOTPATH CONSTRUCTION SUBJECT TO SEPARATE CONSTRUCTION CERTIFICATE

1:250 (AT A1)
1:500 (AT A3)

5 0 5 10 15 20 25
METRES

B	ISSUE FOR CONSTRUCTION APPROVAL	MP	TG	RO	RO	25/01/18
A	ADVANCE ISSUE FOR COMMENTS	MP	JG			TBU
	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: MGA 61
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PATH LOCATION AND SETOUT
SHEET 2

PLAN No: 11018511/CC252 B
FILE No: 11018511CC252
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 1:58:05 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC252.dwg

REFER TO DRAWING CC254 FOR CONTINUATION

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
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639
ROAD 25
PATH 5
SHARED CYCLEWAY 2.5m WIDE
601
602
603
DAM 12
PATH 12
PATH 11
SHARED CYCLEWAY 2.5m WIDE
790
PATH 23
4m WIDE
PATH 5
TREE TO BE RETAINED ?
Existing surface RL 33.78
Design surface RL 35.1
EXISTING RESIDENTIAL
YOBARNIE PRECINCT
ARTHUR PHILLIP DRIVE

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF 16800-11

FOOTPATH CONSTRUCTION SUBJECT TO SEPARATE CONSTRUCTION CERTIFICATE

REFER TO DRAWING CC252 FOR CONTINUATION

1:250 (AT A1)
1:500 (AT A3)
5 0 5 10 15 20 25
METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	ISSUE FOR CONSTRUCTION APPROVAL	MP	TG	RO	RO	25/01/18
A	ADVANCE ISSUE FOR COMMENTS	MP	JG			10/01/18

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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: MGA 62
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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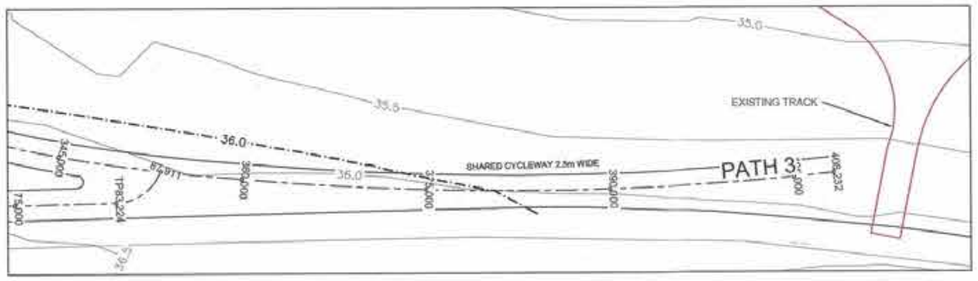
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PATH LOCATION AND SETOUT
SHEET 3

PLAN No: 11018511/CC253 B
FILE No: 11018511CC253
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 1:57:03 PM File Name: J:\11\0185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC253.dwg

REFER TO DRAWING CC255 FOR CONTINUATION



CONSTRUCTION CERTIFICATE

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Date of Issue 5 March 2018
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Accreditation No. BPB0565

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WORKS AS EXECUTED SHOWN IN RED

SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11

DAM 15

PATH 5

PATH 9

PATH 8

PATH 3

SHARED CYCLEWAY 2.5m WIDE

EXISTING TRACK

EXISTING RESIDENTIAL

PEEL PARK

PATH 24

FOOTPATH CONSTRUCTION SUBJECT TO SEPARATE CONSTRUCTION CERTIFICATE

ARTHUR PHILLIP DRIVE

REFER TO DRAWING CC253 FOR CONTINUATION

1:250 (AT A1)
1:500 (AT A3)

5 0 5 10 15 20 25
METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	ISSUE FOR CONSTRUCTION APPROVAL	MP	TG	RO	RO	25/01/18
A	ADVANCE ISSUE FOR COMMENTS	MP	JG			10/01/18

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

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P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA 63
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PATH LOCATION AND SETOUT
SHEET 4

PLAN No: 11018511/CC254 B
FILE No: 11018511CC254
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 1:56:19 PM File Name: J:\11018511CC254.dwg

REFER TO DRAWING CC256 FOR CONTINUATION

ROAD 25

PATH 5

PATH 3

PATH 6

SHARED CYCLEWAY 2.5m WIDE

DAM 15

EXISTING TRACK

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE 01.08.18 REF 16800-11

FOOTPATH CONSTRUCTION SUBJECT TO SEPARATE CONSTRUCTION CERTIFICATE

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C:42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

REFER TO DRAWING CC254 FOR CONTINUATION

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

10 0 10 20 30 40 50
METRES

B	ISSUE FOR CONSTRUCTION APPROVAL	MP	TG	RO	RO	25/01/18
A	ADVANCE ISSUE FOR COMMENTS	MP	JG			10/01/18
	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: MGA 64
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PATH LOCATION AND SETOUT
SHEET 5

PLAN No: 11018511/CC255 B
FILE No: 11018511CC255
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 1:55:47 PM File Name: J:\110185 - Redbank North Richmond Residential\ Precinct\01 - Description\CD\CC\YEOMANS\11018511CC255.dwg

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SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No: 20130229C42
Date of issue: 5 March 2018
Issuing Officer:
Accreditation No: BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

ROAD 21
ROAD 29
ROAD 25
ROAD 21A
PATH 2
PATH 3
PATH 4
PATH 1
SHARED CYCLEWAY 2.5m WIDE
EXISTING TRACK
24m
HW3
PROVIDE REMOVABLE BOLLARD AT THE OPEN SPACE BOUNDARY TO LANDSCAPE ARCHITECT DETAILS
PROVIDE OPT (CDS) MAINTENANCE ACCESS 150mm REINFORCED CONCRETE (F72 MESH) ON 50mm GRANULAR BASE

FOOTPATH CONSTRUCTION SUBJECT TO SEPARATE CONSTRUCTION CERTIFICATE

REFER TO DRAWING CC255 FOR CONTINUATION

1:500 (AT A1)
1:1000 (AT A3)
10 0 10 20 30 40 50
METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	ISSUE FOR CONSTRUCTION APPROVAL	MP	TG	RO	RC	25/01/18
A	ADVANCE ISSUE FOR COMMENTS	MP	JG			19/01/18

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: MGA 65
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PATH LOCATION AND SETOUT
SHEET 6

PLAN No: 11018511/CC256 B
FILE No: 11018511CC256
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 2:01:44 PM File Name: J:\116185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS11018511CC256.dwg

REDBANK - YEOMANS NORTH PRECINCT
PROPOSED LOT, ROAD & DRAINAGE WORKS
CONSTRUCTION CERTIFICATE

HAWKESBURY CITY COUNCIL REF: DA0216/16

LOCALITY SKETCH

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0585
These plans/specifications form part of the certificate issued 5 March 2018

Survey By:
VINCE MORGAN SURVEYORS
REGISTERED SURVEYORS
1/77 UNION ROAD PENRITH NSW 2750
Ph. (02) 4721 5293
REF: NORTH RICHMOND - DETAIL SURVEY UPDATE 15 MARCH 2017 & 5th MAY 2017
LOT LAYOUT PLAN OF PROPOSED SUBDIVISION REF: 16800-6-P3(C) & 16800-12-L3(B)

Prepared By:
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

PLAN No. 11018511/CC000 B
FILE No. 11018511CC000

Plotted: January 29, 2018 File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CG\YEOMANS\11018511CC000.dwg

LEGEND

DESCRIPTION	PROPOSED	EXISTING	FUTURE
EXTENT OF WORKS			
KERB & GUTTER	KG		
ROLL KERB	RK		
KERB ONLY	KO		
SLOTTED KERB	SK		
EDGE RESTRAINT	ER		
DISH CROSSING	DC		
PRAM RAMP			
DRAINAGE LINE, PIT & EASEMENT	05/05 Ø225		
DRAINAGE LINE & PIT	05/06 Ø600		
HEADWALL			
GUIDE POSTS			
EXTENT OF FILL			
EXTENT OF CUT			
CONTOURS	46.0	47.0	
CATCH DRAIN			
SUBSOIL DRAIN			
KERB RETURN No	KR -		
ELECTRICITY, POWER POLE			
TELECOM, BOX			
WATER, STOP VALVE, HYDRANT			
SEWER, MANHOLE			
GAS			
OPEN SPACE STRUCTURAL FENCING			
TREES TO BE PROTECTED			
TREES TO BE REMOVED			
STREET NAME SIGNS			
SURVEY MARKS - BENCH MARKS			
STATE SURVEY MARKS			
TRANSMISSION LINE POWER POLES			

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

NOTE:
EARTHWORKS AND SITE PREPARATION TO BE UNDERTAKEN IN ACCORDANCE WITH SALINITY ASSESSMENT REPORT PREPARED BY GEOTECHNIQUE PTY. LTD. (REFERENCE 12261 / 18 - AC - R1 DATED 7TH JUNE 2017)

GENERAL NOTES

1. ALL WORKS ARE TO BE IN ACCORDANCE WITH HAWKESBURY CITY COUNCIL CIVIL WORKS SPECIFICATION - APPENDIX E. WHERE DISCREPANCIES OCCUR BETWEEN NOTES PRESENT ON DRAWINGS AND COUNCIL'S NOTES, RFI TO BE RAISED WITH THE SUPERINTENDENT FOR INSTRUCTION TO BE ISSUED.
2. THE CONTRACTOR SHALL LOCATE AND LEVEL ALL EXISTING SERVICES PRIOR TO COMMENCING CONSTRUCTION AND MAKE ARRANGEMENTS WITH THE RELEVANT AUTHORITY TO RELOCATE OR ADJUST IF NECESSARY.
3. THE CONTRACTOR SHALL NOT ENTER UPON NOR DO ANY WORK WITHIN ADJACENT LANDS WITHOUT THE WRITTEN PERMISSION OF THE CLIENT AND SUPERINTENDENT. PERMISSION TO BE PROVIDED PRIOR TO THE APPROVAL OF THE PLANS.
4. THE CONTRACTOR SHALL MAINTAIN SERVICES AND ALL WEATHER ACCESS AT ALL TIMES TO ADJOINING PROPERTIES.
5. NO TREE SHALL BE FELLED, LOPPED OR REMOVED WITHOUT THE PRIOR APPROVAL OF SUPERINTENDENT AND CLIENTS SPECIALIST CONSULTANTS, IF DIFFERENT TO APPROVED TREE RETENTION / REMOVAL PLAN. REFER TO ARTERRA'S TREES RETAINED/REMOVED PLAN.
6. TREES TO BE RETAINED ON SITE SHALL BE PROTECTED BY SUITABLE STURDY APPROVED PROTECTIVE FENCING PRIOR TO COMMENCEMENT OF SITE WORKS AND INSPECTED AND APPROVED BY SITE SUPERINTENDENT BEFORE ANY TREE IS REMOVED WITHIN THE SITE.
7. THE CONTRACTOR SHALL CLEAR THE SITE BY REMOVING ALL RUBBISH, FENCES, AND DEBRIS ETC.
8. 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 AUTHORITY TO DO SO HAS BEEN OBTAINED FROM THE PRINCIPAL'S NOMINATED CONSULTANTS FOR BOTH GEOTECHNICAL AND CONTAMINATION.
9. SITE FILL AREAS: - THE CONTRACTOR SHALL TAKE LEVELS OF EXISTING SURFACE AFTER STRIPPING TOPSOIL AND PRIOR TO COMMENCING FILL OPERATIONS.
10. ALL SITE REGRADING AREAS SHALL BE GRADED AT A MINIMUM 1% TO THE ENGINEERS' REQUIREMENTS.
11. SURPLUS EXCAVATED MATERIAL SHALL BE PLACED WHERE DIRECTED BY THE SUPERINTENDENT.
12. ALL NEW WORKS SHALL MAKE A SMOOTH JUNCTION WITH EXISTING CONDITIONS.
13. DIMENSIONS OF ANY DETAIL SHALL NOT BE SCALED - DIMENSIONS, IF IN DOUBT, SHALL BE VERIFIED BY THE SUPERINTENDENT.
14. 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.
15. SERVICE ADJUSTMENTS TO BE AT CLIENT (PRINCIPAL)'S EXPENSE.
16. IF TWO OF MORE SPECS ARE APPLICABLE FOR PARTICULAR ELEMENT, AREA, ZONE OR PHASE OF WORK, THE PREVALENCE OF THESE MULTIPLE SPECIFICATIONS IS TO BE IDENTIFIED BY THE CONTRACTOR TO THE SUPERINTENDENT FOR DIRECTION / INSTRUCTION. NOTING THAT IS THE INTENTION OF THIS CONSTRUCTION CERTIFICATE SET AND ITS APPROVAL BY THE ACCREDITED CERTIFIER FOR THE HIGHER SPECIFICATION TO BE SELECTED BY THE SUPERINTENDENT FOR APPLICATION BY THE CONTRACTOR.

STORMWATER NOTES

1. STORMWATER DESIGN CRITERIA:
   AVERAGE RECURRANCE INTERVAL:
   1:100 MAJOR SYSTEM
   1:5 MINOR SYSTEM
2. PIPES TO BE INSTALLED TO TYPE HS1 SUPPORT IN ACCORDANCE WITH AS 3725 (1989) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 300mm LAYERS TO MINIMUM 100% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
3. 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).
4. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES, GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
5. GRATES AND COVERS SHALL CONFORM TO AS 3996.
6. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
7. ALL DRAINAGE LINES THROUGH LOTS SHALL BE CONTAINED WITHIN THE FOLLOWING EASEMENTS: -

a) 1.2m WIDE FOR PIPELINE < 225Ø TO BE CREATED.
b) 2.5m WIDE FOR PIPELINE > 300Ø TO BE CREATED
c) STREET DRAINS - REFER TO COUNCILS DESIGN GUIDELINES SUBDIVISION/ DEVELOPMENTS.

8. 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.
9. ALL STORMWATER PIPES WITHIN ROADS TO BE REINFORCED CONCRETE PIPE (RRJ) CLASS 2 OR FRC CLASS 2.
10. ALL INTERALLOTMENT DRAINAGE LINES SHALL BE LAID AT A MINIMUM GRADE OF 1% UNLESS OTHERWISE INDICATED.
11. DRAINAGE LINES ON PLANS ARE DIAGRAMMATIC ONLY AND PIPE CENTRELINES SHALL ENTER AND EXIT PITS AT THE CENTRE OF THE RESPECTIVE PIT WALLS.
12. STEP IRONS REQUIRED WHERE THE PIT EXCEEDS 1200 IN DEPTH. REFER TO COUNCIL DRAWING SD41
13. WHERE GRADES EXCEED 15.0%, BULKHEADS TO BE PROVIDED IN ACCORDANCE WITH SECTION 5.12 OF COUNCIL'S CIVIL WORKS SPECIFICATION PART 2 CONSTRUCTION.
14. SUBSOIL DRAIN TO BE RUN BOTH SIDE OF ROAD WITH CAPPED FLUSH POINTS AND CONNECTED TO NEAREST STORMWATER PIT.
15. ALL PIT GRATES TO HAVE LOCKING CLIP.

SURVEY SET OUT INFORMATION NOTES:

1. ALL SITE SET OUT AND CONTROL POINTS ARE TO BE CERTIFIED BY A REGISTERED SURVEYOR.
2. THE INFORMATION DETAILED ON THE CERTIFIED CONSTRUCTION CERTIFICATE PLANS TAKES PRECEDENCE OVER ALL ELECTRONIC INFORMATION PROVIDED. THE ORDER OF PRIORITY FOR USE OF ALL INFORMATION PROVIDED IS AS FOLLOWS (TO BE READ IN CONJUNCTION WITH SIGNED CONTRACT BETWEEN PRINCIPAL AND CONTRACTOR :

   a. CERTIFIED CONSTRUCTION CERTIFICATE DRAWINGS
   b. 2D DRAFTING BASE (ELECTRONIC FILE)
   c. 3D DTM (ELECTRONIC FILE)

3. ANY DISCREPANCY BETWEEN ANY OF THE INFORMATION CONTAINED WITHIN THESE FILES IS TO BE BROUGHT TO THE ATTENTION OF THE SUPERINTENDENT WHO WILL SEEK CLARIFICATION AND ISSUE INSTRUCTIONS ON THE APPROPRIATE COURSE OF ACTION.

COMPACTION SPECIFICATION

1) WITHIN FULL WIDTH OF ROAD CARRIAGEWAY PLUS 1.0M EITHER SIDE -
   a) 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",
   b) 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",
   c) 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",
   d) ALL ROAD CROSSINGS TO BE PROVIDED IN EXISTING ROADS, THE TRENCHES SHALL BE BACKFILLED AND COMPACTED WITH A SANDICEMENT 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,
   e) ALL TESTS TO BE TAKEN EVERY 50 METRE LENGTH OF PAVEMENT, TAKEN 1.0M FROM ALTERNATE SIDES OF PAVEMENT, BY A NAT REGISTERED LABORATORY,
   f) THESE AND ALL OTHER REQUIREMENTS TO BE COMPLIED WITH, TO BE READ IN CONJUNCTION WITH HAWKESBURY CITY COUNCIL DCP PART II - CONSTRUCTION SPECIFICATION,
   g) ANY ERRORS, OMISSIONS OR QUERIES TO BE SUBMITTED TO THE PROJECT SUPERINTENDENT FOR INSTRUCTION.

2) WITHIN FULL WIDTH OF ROAD FOOTPATH / VERGE EXCLUDING 1.0M BESIDE ROAD CARRIAGEWAY EITHER SIDE -
   a) 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 AT LEAST 98% STANDARD DRY DENSITY RATIO DETERMINED IN ACCORDANCE WITH AS1289 5.4.1-2007 "COMPACTION CONTROL TEST - DRY DENSITY RATIO, MOISTURE VARIATION AND MOISTURE RATIO",
   b) ALL TESTS TO BE TAKEN EVERY 50 METRE LENGTH OF ROAD FOOTPATH / VERGE ON CENTRELINE, BY A NATA REGISTERED LABORATORY
   c) ALL TRENCHES TO BE BACKFILLED TO HAVE EQUAL COMPACTION (+2%/-0% VRAIATION) AS THE SURROUNDING ROAD FOOTPATH / VERGE,
   d) ALL TRENCH TESTS TO BE TAKEN IN EACH 300MM LAYER AND EVERY 50 METRES OF TRENCH, BY A NATA REGISTERED LABORATORY,
   e) THESE AND ALL OTHER REQUIREMENTS TO BE COMPLIED WITH, TO BE READ IN CONJUNCTION WITH HAWKESBURY CITY COUNCIL DCP PART II - CONSTRUCTION SPECIFICATION,
   f) ANY ERRORS, OMISSIONS OR QUERIES TO BE SUBMITTED TO THE PROJECT SUPERINTENDENT FOR INSTRUCTION.

3) WITHIN LOTS -
   a) 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 AS1289 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,
   b) ALL TESTS TO BE A MINIMUM OF TWO COMPACTION TESTS PER LOT PER LAYER ARE TO BE CARRIED OUT, BY A NATA REGISTERED LABORATORY,
   c) ALL TRENCHES TO BE BACKFILLED TO HAVE EQUAL COMPACTION (+2%/-0% VARIATION) AS THE SURROUNDING LOTS,
   d) ALL TRENCH TESTS TO BE TAKEN IN EACH 300MM LAYER AND EVERY 50 METRES OF TRENCH, BY A NATA REGISTERED LABORATORY,
   e) THESE AND ALL OTHER REQUIREMENTS TO BE COMPLIED WITH, TO BE READ IN CONJUNCTION WITH HAWKESBURY CITY COUNCIL DCP PART II - CONSTRUCTION SPECIFICATION,
   f) ANY ERRORS, OMISSIONS OR QUERIES TO BE SUBMITTED TO THE PROJECT SUPERINTENDENT FOR INSTRUCTION.

ROCKWALL NOTES

1. NATURE OF FOUNDATION:
THE WALL MAY BE PLACED ON SUITABLE SOIL FOUNDATIONS. SUITABLE FOUNDING SOILS WOULD NORMALLY BE RESIDUAL SANDSTONE OR OTHER DENISE CLAYEY SANDS. CLEAN SANDS, SILTY SANDS OR HIGH CLAY CONTENT SOILS SUCH AS RESIDUAL SHALE ARE GENERALLY UNACCEPTABLE AS FOUNDING MATERIALS FOR ROCK RETAINING WALLS.

2. DRAINAGE:
DRAINAGE OF THE WALL FOUNDATION SHALL BE ACHIEVED BY INSTALLING A CONTINUOUS 150mm DIAMETER SUBSOIL DRAIN AT THE REAR OF THE WALL. ALL SURFACE RUNOFF SHALL BE DIRECTED AWAY FROM THE BACK OF THE WALL SO AS TO PREVENT INFILTRATION OF SUCH SURFACE RUNOFF INTO THE GRANULAR BACKFILL.

3. MATERIALS:
MATERIALS USED FOR CONSTRUCTION OF THE WALL SHALL BE LARGE, COMPETENT BOULDERS, IN GENERAL AT LEAST 2m x 0.5m x 0.5m.

4. FOUNDATION PREPARATION - ROCK:
WHERE THE WALL IS FOUNDED ON BEDROCK THE PREPARATION OF THE FOUNDATION SHALL INCLUDE SHALL INCLUDE THE REMOVAL OF ALL LOOSE ROCK AND SOIL. ANY IRREGULARITIES IN THE LEVEL OF THE BEDROCK SHALL BE FILLED WITH MASS CONCRETE OR RIPPED ROCK COMPACTED TO A MINIMUM DRY DENSITY OF 98% STANDARD.

5. FOUNDATION PREPARATION - SOIL:
WHERE THE WALL IS TO BE FOUNDED ON SOIL THE EXPOSED FOUNDATION SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 300mm, WETTED TO BRING IT NEAR TO THE STANDARD OPTIMUM MOISTURE CONTENT AND COMPACTED TO A MINIMUM DRY DENSITY RATIO OF 95% STANDARD. ANY AREA WHICH REMAINS SOFT OR SPONGY AFTER THE COMPACTION, SHALL BE EXCAVATED AND FILLED. ALL FILL SHOULD BE PLACED IN LAYERS WITH A MAXIMUM LOOSE THICKNESS OF 250mm AND COMPACTED IN THE MANNER DESCRIBED ABOVE. THE BASE LAYER OF BOULDERS SHALL BE SET IN CONCRETE OR MORTAR PLACED ON THE PREPARED SOIL FOUNDATION WITHIN THE KEY EXCAVATION.

6. FOUNDATION DEPTH:
INSITU ROCK A MINIMUM DEPTH OF 200mm BELOW THE FINISHED SURFACE LEVEL AT THE TOE OF THE WALL. WHERE ADDITIONAL RESISTANCE TO SLIDING IS REQUIRED THE BASE OF THE WALL SHALL BE LAID INTO THE FOUNDATION ROCK BY CONCRETING THE BASE COURSE OF BOULDERS. WHERE THE WALL IS TO BE FOUNDED ON A COMPACTED SOIL THE BASE OF THE WALL SHALL BE AT A LEVEL WHICH IS A MINIMUM DEPTH OF 400mm BELOW THE FINISHED LEVEL AT THE TOE OF THE WALL.

7. PLACEMENT OF ROCK:
ROCK IS TO BE PLACED TO ENSURE THAT INDIVIDUAL BLOCKS ARE INTERLOCKING. TO ACHIEVE THIS, BLOCKS SHOULD BE LAID ROUGHLY COURSED AND BEDDED ON THEIR BROADEST BASES.

8. BACKFILL - MATERIALS:
MATERIAL USED FOR BACKFILLING BEHIND THE WALL SHALL BE ESSENTIALLY GRANULAR CONSISTING OF SAND, CLAYEY SAND, RIPPED SANDSTONE OR GRAVELLY MATERIAL.

9. BACKFILL - COMPACTION:
ANY COMPACTION OF FILL PLACED BEHIND THE WALL SHALL BE CAREFULLY CARRIED OUT TO MINIMISE THE INDUCED LATERAL STRESS AGAINST THE WALL. ALL FILL SHOULD BE PLACED IN LAYERS WITH A MAXIMUM LOOSE THICKNESS OF 250mm AND COMPACTED TO A DRY DENSITY RATIO OF NOT LESS THAN 95% BASED ON STANDARD COMPACTION. WHERE PAVEMENT CONSTRUCTION IS TO TAKE PLACE USING THE BACKFILL AS SUBGRADE MATERIAL, NEAR SURFACE COMPACTION OF THE BACKFILL SHALL BE CARRIED OUT IN ACCORDANCE WITH PAVEMENT COMPACTION REQUIREMENTS.

10. DRAINAGE:
WHERE THE POTENTIAL EXISTS FOR SIGNIFICANT SURFACE RUNOFF OR SURFACE GROUNDWATER FLOW, SUFFICIENT DRAINAGE MEASURES SHALL BE INCORPORATED TO ENSURE THAT WATER PRESSURE DOES NOT DEVELOP IN THE MATERIAL RETAINED BY THE WALL.

11. SLOPE STABILITY:
WHERE REQUIRED THE OVERALL STABILITY OF THE SLOPE AND ROCK WALL SHALL BE EVALUATED. SUCH AN EVALUATION SHALL BE CARRIED OUT BY A SUITABLY QUALIFIED OR EXPERIENCED GEOTECHNICAL ENGINEER PRIOR TO COMMENCING PLACEMENT OF THE WALL ROCK.

12. APPURTENANT STRUCTURE:
WHERE PIPES ARE TO PASS THROUGH OR BENEATH THE ROCK WALL THEY SHALL BE ENCASED IN CONCRETE TO ENSURE THAT THE BASE OF THE WALL FOUNDED IN COMPETENT MATERIAL, AND WALL FOUNDATION PIERED AS REQUIRED BY THE STRUCTURAL ENGINEER WHERE REQUIRED.

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C4/2
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

NOTE:
PRAM RAMPS TO LANDSCAPE ARCHITECT PLANS

DIAL 1100 BEFORE YOU DIG

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

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
GENERAL NOTES AND LEGEND

PLAN No: 11018511/CC001 A
FILE No: 11018511CC001
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:29:36 PM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMAN\11018511CC001.dwg

DRAWING NUMBER	DRAWING TITLE	REVISION
11018511/CC000	COVER SHEET	B
11018511/CC001	GENERAL NOTES AND LEGEND	A
11018511/CC002	DRAWING INDEX	D
11018511/CC003	LAYOUT PLAN	B
11018511/CC004	SETOUT PLAN SHEET 1 OF 2	B
11018511/CC005	SETOUT PLAN SHEET 2 OF 2	B
11018511/CC006	TYPICAL CROSS SECTIONS SHEET 1 OF 3	C
11018511/CC007	TYPICAL CROSS SECTIONS SHEET 2 OF 3	C
11018511/CC008	TYPICAL CROSS SECTIONS SHEET 3 OF 3	C
11018511/CC021	ENGINEERING PLAN SHEET 1 OF 6	C
11018511/CC022	ENGINEERING PLAN SHEET 2 OF 6	B
11018511/CC023	ENGINEERING PLAN SHEET 3 OF 6	B
11018511/CC024	ENGINEERING PLAN SHEET 4 OF 6	B
11018511/CC025	ENGINEERING PLAN SHEET 5 OF 6	B
11018511/CC026	ENGINEERING PLAN SHEET 6 OF 6	B
11018511/CC041	ROAD LONGITUDINAL SHEET 1 OF 9	A
11018511/CC042	ROAD LONGITUDINAL SHEET 2 OF 9	A
11018511/CC043	ROAD LONGITUDINAL SHEET 3 OF 9	A
11018511/CC044	ROAD LONGITUDINAL SHEET 4 OF 9	A
11018511/CC045	ROAD LONGITUDINAL SHEET 5 OF 9	A
11018511/CC046	ROAD LONGITUDINAL SHEET 6 OF 9	A
11018511/CC047	ROAD LONGITUDINAL SHEET 7 OF 9	A
11018511/CC048	ROAD LONGITUDINAL SHEET 8 OF 9	A
11018511/CC049	ROAD LONGITUDINAL SHEET 9 OF 9	A
11018511/CC061	CROSS SECTIONS SHEET 1 OF 19	B
11018511/CC062	CROSS SECTIONS SHEET 2 OF 19	A
11018511/CC063	CROSS SECTIONS SHEET 3 OF 19	A
11018511/CC064	CROSS SECTIONS SHEET 4 OF 19	A
11018511/CC065	CROSS SECTIONS SHEET 5 OF 19	B
11018511/CC066	CROSS SECTIONS SHEET 6 OF 19	A
11018511/CC067	CROSS SECTIONS SHEET 7 OF 19	A
11018511/CC068	CROSS SECTIONS SHEET 8 OF 19	A
11018511/CC069	CROSS SECTIONS SHEET 9 OF 19	B
11018511/CC070	CROSS SECTIONS SHEET 10 OF 19	A
11018511/CC071	CROSS SECTIONS SHEET 11 OF 19	A
11018511/CC072	CROSS SECTIONS SHEET 12 OF 19	A
11018511/CC073	CROSS SECTIONS SHEET 13 OF 19	A
11018511/CC074	CROSS SECTIONS SHEET 14 OF 19	B
11018511/CC075	CROSS SECTIONS SHEET 15 OF 19	A
11018511/CC076	CROSS SECTIONS SHEET 16 OF 19	A
11018511/CC077	CROSS SECTIONS SHEET 17 OF 19	A
11018511/CC078	CROSS SECTIONS SHEET 18 OF 19	A
11018511/CC079	CROSS SECTIONS SHEET 19 OF 19	B
11018511/CC081	KERB RETURN PLANS AND SECTIONS SHEET 1 OF 16	A
11018511/CC082	KERB RETURN PLANS AND SECTIONS SHEET 2 OF 16	A
11018511/CC083	KERB RETURN PLANS AND SECTIONS SHEET 3 OF 16	A
11018511/CC084	KERB RETURN PLANS AND SECTIONS SHEET 4 OF 16	A
11018511/CC085	KERB RETURN PLANS AND SECTIONS SHEET 5 OF 16	A
11018511/CC086	KERB RETURN PLANS AND SECTIONS SHEET 6 OF 16	A
11018511/CC087	KERB RETURN PLANS AND SECTIONS SHEET 7 OF 16	A
11018511/CC088	KERB RETURN PLANS AND SECTIONS SHEET 8 OF 16	A
11018511/CC089	KERB RETURN PLANS AND SECTIONS SHEET 9 OF 16	A
11018511/CC090	KERB RETURN PLANS AND SECTIONS SHEET 10 OF 16	A
11018511/CC091	KERB RETURN PLANS AND SECTIONS SHEET 11 OF 16	A
11018511/CC092	KERB RETURN PLANS AND SECTIONS SHEET 12 OF 16	A
11018511/CC093	KERB RETURN PLANS AND SECTIONS SHEET 13 OF 16	A

DRAWING NUMBER	DRAWING TITLE	REVISION
11018511/CC094	KERB RETURN PLANS AND SECTIONS SHEET 14 OF 16	A
11018511/CC095	KERB RETURN PLANS AND SECTIONS SHEET 15 OF 16	A
11018511/CC096	KERB RETURN PLANS AND SECTIONS SHEET 16 OF 16	B
11018511/CC101	CATCHMENT PLAN SHEET 1 OF 2	B
11018511/CC102	CATCHMENT PLAN SHEET 2 OF 2	B
11018511/CC103	PIT SCHEDULE	C
11018511/CC104	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 1 OF 19	B
11018511/CC105	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 2 OF 19	C
11018511/CC106	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 3 OF 19	C
11018511/CC107	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 4 OF 19	B
11018511/CC108	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 5 OF 19	B
11018511/CC109	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 6 OF 19	B
11018511/CC110	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 7 OF 19	C
11018511/CC111	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 8 OF 19	B
11018511/CC112	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 9 OF 19	B
11018511/CC113	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 10 OF 19	B
11018511/CC114	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 11 OF 19	B
11018511/CC115	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 12 OF 19	B
11018511/CC116	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 13 OF 19	B
11018511/CC117	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 14 OF 19	B
11018511/CC118	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 15 OF 19	B
11018511/CC119	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 16 OF 19	B
11018511/CC120	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 17 OF 19	B
11018511/CC121	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 18 OF 19	B
11018511/CC122	5 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 19 OF 19	C
11018511/CC123	NOT IN USE	B
11018511/CC124	100 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 1 OF 2	C
11018511/CC125	100 YR DRAINAGE LONGITUDINAL SECTIONS SHEET 2 OF 2	B
11018511/CC126	DRAINAGE CALCULATIONS SHEET 1 OF 9	B
11018511/CC127	DRAINAGE CALCULATIONS SHEET 2 OF 9	B
11018511/CC128	DRAINAGE CALCULATIONS SHEET 3 OF 9	B
11018511/CC129	DRAINAGE CALCULATIONS SHEET 4 OF 9	B
11018511/CC130	DRAINAGE CALCULATIONS SHEET 5 OF 9	B
11018511/CC131	DRAINAGE CALCULATIONS SHEET 6 OF 9	B
11018511/CC132	DRAINAGE CALCULATIONS SHEET 7 OF 9	C
11018511/CC133	DRAINAGE CALCULATIONS SHEET 8 OF 9	C
11018511/CC134	DRAINAGE CALCULATIONS SHEET 9 OF 9	C
11018511/CC141	OVERALL RETAINING WALL PLAN, NOTES & DETAILS	B
11018511/CC142	NOT USED	B
11018511/CC143	RETAINING WALL PLAN AND SECTION SHEET 2 OF 10	B
11018511/CC144	RETAINING WALL PLAN AND SECTION SHEET 3 OF 10	B
11018511/CC145	RETAINING WALL PLAN AND SECTION SHEET 4 OF 10	B
11018511/CC146	NOT USED	B
11018511/CC147	NOT USED	B
11018511/CC148	NOT USED	B
11018511/CC149	RETAINING WALL PLAN AND SECTION SHEET 8 OF 10	B
11018511/CC150	RETAINING WALL PLAN AND SECTION SHEET 9 OF 10	B
11018511/CC151	RETAINING WALL PLAN AND SECTION SHEET 10 OF 10	B
11018511/CC161	RAINGARDEN 1	B
11018511/CC162	RAINGARDEN 1 NOTES AND DETAILS	A
11018511/CC163	RAINGARDEN 1 SECTIONS	A
11018511/CC171	DAM MODIFICATION - DAM 15 PLAN	B
11018511/CC172	DAM MODIFICATION - DAM 15 SECTIONS	B
11018511/CC173	DAM MODIFICATION - DAM 12 PLAN	B
11018511/CC174	DAM MODIFICATION - DAM 12 SECTIONS SHEET 1 OF 2	B
11018511/CC175	DAM MODIFICATION - DAM 12 SECTIONS SHEET 2 OF 2	B

DRAWING NUMBER	DRAWING TITLE	REVISION
11018511/CC176	DAM MODIFICATION - DAM 4 PLAN	B
11018511/CC177	DAM MODIFICATION - DAM 4 SECTIONS	B
11018511/CC181	PHASE 2 PRE-CIVIL WORKS COMMENCEMENT	B
11018511/CC182	PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION SHEET 1 OF 6	B
11018511/CC183	PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION SHEET 2 OF 6	B
11018511/CC184	PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION SHEET 3 OF 6	B
11018511/CC185	PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION SHEET 4 OF 6	C
11018511/CC186	PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION SHEET 5 OF 6	A
11018511/CC187	PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION SHEET 6 OF 6	C
11018511/CC188	SOIL AND WATER MANAGEMENT DETAILS	A
11018511/CC189	SOIL AND WATER MANAGEMENT NOTES	A
11018511/CC200	SIGN POSTING AND LINEMARKINGLAYOUT PLAN	B
11018511/CC201	SIGN POSTING AND LINEMARKING SHEET 1 OF 10	B
11018511/CC202	SIGN POSTING AND LINEMARKING SHEET 2 OF 10	B
11018511/CC203	SIGN POSTING AND LINEMARKING SHEET 3 OF 10	B
11018511/CC204	SIGN POSTING AND LINEMARKING SHEET 4 OF 10	B
11018511/CC205	SIGN POSTING AND LINEMARKING SHEET 5 OF 10	B
11018511/CC206	SIGN POSTING AND LINEMARKING SHEET 6 OF 10	B
11018511/CC207	SIGN POSTING AND LINEMARKING SHEET 7 OF 10	B
11018511/CC208	SIGN POSTING AND LINEMARKING SHEET 8 OF 10	B
11018511/CC209	SIGN POSTING AND LINEMARKING SHEET 9 OF 10	B
11018511/CC210	SIGN POSTING AND LINEMARKING SHEET 10 OF 10	B
11018511/CC220	DAM 4 OUTLET PIT 4/1 PLAN, DETAIL AND SECTIONS	B
11018511/CC221	PIT 4/2 PLAN AND SECTIONS	C
11018511/CC222	SURCHARGE PIT 4/3, 4/4 AND 4/5 PLAN AND SECTIONS	B
11018511/CC223	PIT 4/6 PLAN AND SECTIONS	A
11018511/CC224	SPLITTER PIT 4/7 PLAN AND SECTIONS	A
11018511/CC225	PIT 4/8, 4/9 AND 4/10 PLAN AND SECTIONS	C
11018511/CC226	DAM 12 OUTLET PIT 12/01 PLAN, DETAIL AND SECTIONS	B
11018511/CC227	OUTLET PIT 30/15 AND GPT PLAN	A
11018511/CC228	OUTLET PIT 30/17 PLAN AND SECTIONS	A
11018511/CC229	OUTLET PIT 30/18 PLAN AND SECTIONS	A
11018511/CC230	OUTLET PIT 30/19 PLAN AND SECTIONS	A
11018511/CC231	OUTLET PIT 22/9 AND GPT PLAN	A
11018511/CC232	HYDROCON WEST LAYOUT PLAN AND DETAIL	A
11018511/CC233	HYDROCON PIT 30A, PIPES AND SECTION	A
11018511/CC234	HYDROCON WEST SECTIONS SHEET 1 OF 2	A
11018511/CC235	HYDROCON WEST SECTIONS SHEET 2 OF 2	A
11018511/CC236	HYDROCON EAST LAYOUT PLAN	A
11018511/CC237	HYDROCON PIT 22A, PIPES AND SECTION	A
11018511/CC238	HYDROCON EAST SECTION	A
11018511/CC239	OUTLET PIT 22/10 PLAN AND SECTIONS	A
11018511/CC240	DAM 15 CULVERT PLAN AND SECTIONS SHEET 1 OF 2	C
11018511/CC241	DAM 15 CULVERT PLAN AND SECTIONS SHEET 2 OF 2	C
11018511/CC242	PANSY LINE CULVERT PLAN AND SECTIONS SHEET 1 OF 2	A
11018511/CC243	PANSY LINE CULVERT PLAN AND SECTIONS SHEET 2 OF 2	A
11018511/CC244	SURCHARGE PIT 4/11	A
11018511/CC245	SURCHARGE PIT 4/12	A
11018511/CC250	PATH LAYOUT PLAN	A
11018511/CC251	PATH LOCATION AND SETOUT SHEET 1	B
11018511/CC252	PATH LOCATION AND SETOUT SHEET 2	B
11018511/CC253	PATH LOCATION AND SETOUT SHEET 3	B
11018511/CC254	PATH LOCATION AND SETOUT SHEET 4	B
11018511/CC255	PATH LOCATION AND SETOUT SHEET 5	B
11018511/CC256	PATH LOCATION AND SETOUT SHEET 6	B
11018511/CC257	PATH LOCATION AND SETOUT SHEET 7	B

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0585

These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11

	AMENDMENT	DES	DRN	CKD	APR	DATE
D	STORMWATER AMENDMENTS	MP	UF	RO	RO	12/02/18
C	DRAINAGE LONGSECTION SHEET ADDED	MP	UF	RO	RO	25/01/18
B	AMENDMENTS TO OPEN SPACE AND ROAD BOUNDARIES	MP	CC	RO	RO	
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D.
ORIGIN:

PRINCIPAL: REDBANK

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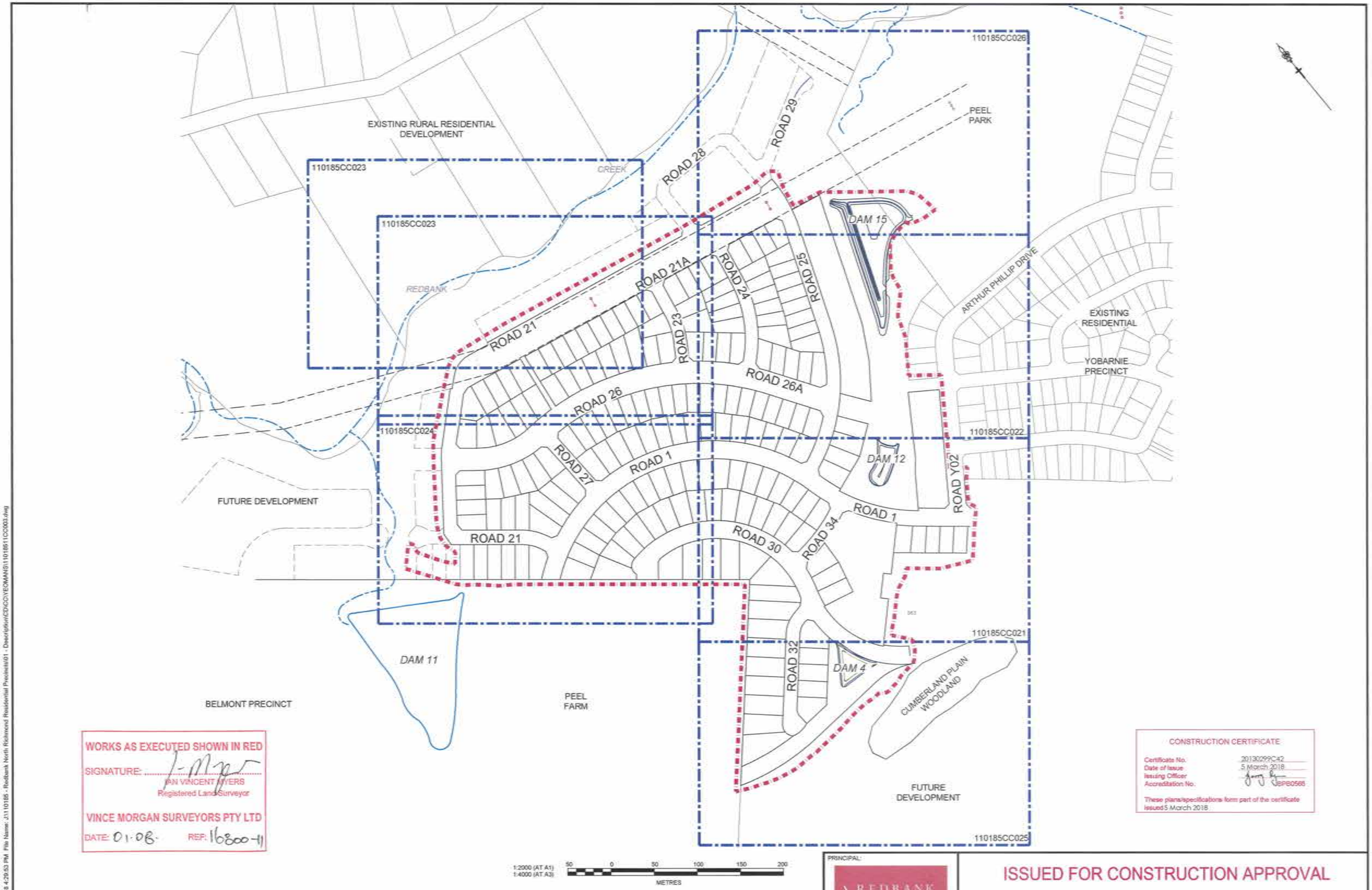
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DRAWING INDEX

PLAN No: 11018511/CC002 D
FILE No: 11018511CC002
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 3:03:31 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CDC\CIVIL\YEOMANS\11018511\CC002.dwg



WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: [signature]
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08. REF: 16800-11

CONSTRUCTION CERTIFICATE

Certificate No.	20130299C42
Date of Issue	5 March 2018
Issuing Officer	[signature]
Accreditation No.	BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

B	BOUNDARY AMENDED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL:
REDBANK

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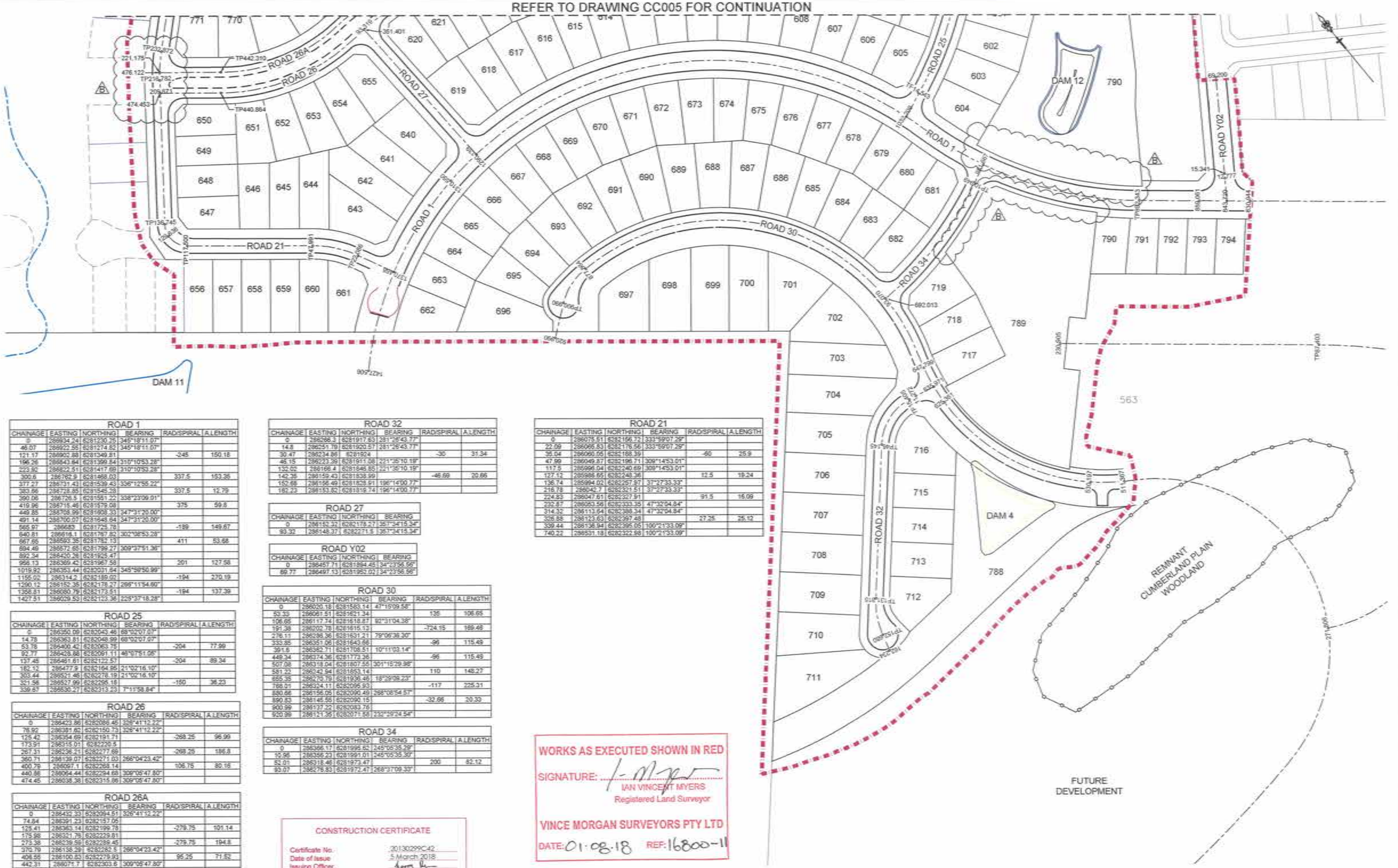
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
LAYOUT PLAN

PLAN No: 11018511/CC003 B
FILE No: 11018511CC003
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:29:53 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC003.dwg

REFER TO DRAWING CC005 FOR CONTINUATION



ROAD 1

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286934.24	6281230.25	345°18'11.07"		
46.07	286922.55	6281274.62	345°18'11.07"		
121.17	286902.88	6281349.81		-245	150.18
196.26	286843.84	6281399.84	315°10'53.28"		
223.92	286822.51	6281417.69	315°10'53.28"		
300.6	286762.9	6281468.03		337.5	153.35
377.27	286731.43	6281539.43	336°12'55.22"		
383.66	286728.85	6281545.28		337.5	12.79
390.06	286726.5	6281551.22	338°23'09.01"		
419.96	286715.46	6281579.08		375	59.8
449.85	286708.99	6281608.33	347°31'20.00"		
491.14	286700.07	6281648.64	347°31'20.00"		
565.97	286683	6281725.78		-189	149.67
640.81	286666.1	6281767.82	302°08'53.28"		
667.65	286663.35	6281782.13		411	53.68
694.49	286673.65	6281799.27	309°37'51.36"		
892.34	286420.28	6281925.47			
956.13	286369.43	6281967.59		201	127.58
1019.92	286353.44	6282031.64	345°58'50.99"		
1155.02	286314.2	6282159.02		-194	270.19
1290.12	286152.35	6282178.27	286°11'54.60"		
1358.81	286080.79	6282173.51		-194	137.39
1427.51	286029.53	6282123.36	225°37'18.28"		

ROAD 25

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286350.09	6282043.48	68°02'07.07"		
14.78	286363.81	6282048.99	68°02'07.07"		
53.78	286400.42	6282063.75		-204	77.99
92.77	286428.68	6282091.11	46°07'51.05"		
127.45	286461.61	6282122.57		-204	89.34
162.13	286477.9	6282164.95	21°02'16.10"		
303.44	286521.46	6282278.19	21°02'16.10"		
321.56	286527.99	6282295.18		-150	36.23
339.67	286530.27	6282313.23	7°11'58.84"		

ROAD 26

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286423.86	6282086.45	326°41'12.22"		
76.92	286381.62	6282150.73	326°41'12.22"		
125.42	286354.69	6282191.71		-268.25	96.99
173.91	286315.01	6282220.5			
267.31	286236.21	6282277.69		-268.25	186.8
360.71	286139.07	6282271.03	268°04'23.42"		
400.79	286097.1	6282268.14		106.75	80.16
440.86	286064.44	6282294.68	309°05'47.80"		
474.45	286038.38	6282315.86	309°05'47.80"		

ROAD 26A

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286432.33	6282094.51	326°41'12.22"		
74.84	286391.23	6282157.05			
125.41	286363.14	6282199.78		-279.75	101.14
175.98	286321.79	6282229.81			
273.38	286239.59	6282289.45		-279.75	194.8
370.79	286138.29	6282282.5	268°04'23.42"		
406.55	286100.63	6282279.93		95.25	71.52
442.31	286071.1	6282303.6	309°05'47.80"		
476.12	286045.46	6282324.93	309°05'47.80"		

ROAD 32

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286266.3	6281917.63	281°26'43.77"		
14.8	286251.79	6281920.57	281°26'43.77"		
30.47	286234.86	6281924		-30	31.34
46.15	286223.39	6281911.08	221°35'10.19"		
132.02	286166.4	6281845.85	221°35'10.19"		
142.35	286159.43	6281838.99		-46.69	20.66
152.68	286156.49	6281828.91	196°14'00.77"		
182.23	286153.82	6281819.74	196°14'00.77"		

ROAD 27

CHAINAGE	EASTING	NORTHING	BEARING
0	286152.32	6282178.27	351°34'15.34"
93.32	286148.37	6282271.5	351°34'15.34"

ROAD Y02

CHAINAGE	EASTING	NORTHING	BEARING
0	286457.71	6281894.45	34°23'56.56"
69.77	286497.13	6281950.02	34°23'56.56"

ROAD 30

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286020.18	6281583.14	47°15'09.58"		
53.33	286061.51	6281621.34		135	106.65
106.65	286117.74	6281618.87	92°31'04.38"		
191.38	286202.78	6281615.13		-724.15	189.46
276.11	286286.36	6281631.21	79°06'38.30"		
333.85	286351.06	6281643.66		-96	115.49
391.6	286382.71	6281708.51	10°11'03.14"		
449.34	286374.36	6281773.36		-96	115.49
507.08	286318.04	6281807.55	301°15'29.98"		
581.22	286242.94	6281853.14		110	148.27
655.35	286270.79	6281936.46	18°29'08.23"		
769.31	286324.11	6282066.93		-117	225.31
880.66	286156.05	6282090.49	298°08'54.57"		
890.83	286145.55	6282090.15		-32.66	20.33
900.99	286137.22	6282083.76			
920.99	286121.35	6282071.58	232°29'24.54"		

ROAD 34

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286366.17	6281995.62	245°05'35.29"		
10.96	286356.23	6281991.01	245°05'35.30"		
52.01	286318.46	6281973.47		200	82.12
93.07	286276.83	6281972.47	268°37'09.33"		

ROAD 21

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286075.51	6282156.72	333°59'07.29"		
22.09	286065.83	6282176.56	333°59'07.29"		
35.04	286060.05	6282188.39		-60	25.9
47.99	286049.87	6282196.71	309°14'53.01"		
117.5	285996.04	6282240.69	309°14'53.01"		
127.12	285988.65	6282248.36		12.5	19.24
136.74	285994.02	6282257.97	37°27'33.33"		
216.78	286042.7	6282321.51	37°27'33.33"		
224.83	286047.61	6282327.91		91.5	16.09
232.87	286053.56	6282333.35	47°32'04.84"		
314.32	286113.64	6282388.34	47°32'04.84"		
326.88	286123.63	6282397.48		27.25	25.12
339.44	286136.94	6282395.05	100°21'33.09"		
740.22	286531.18	6282322.98	100°21'33.09"		

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: _____

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer _____
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

1:1000 (AT A1)
1:2000 (AT A3)

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METRES

B	BOUNDARY AMENDED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/05/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SETOUT PLAN
SHEET 1 OF 2

PLAN No: 11018511/CC004 B
FILE No: 11018511CC004
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 2:13:01 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CGYEOMANS\11018511CC004.dwg

ROAD 21A					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286100.96	6282226.77	43°32'04.84"		
5.76	286105.57	6282380.96		12.5	11.52
11.52	286111.68	6282379.84	100°21'33.09"		
435.49	286628.74	6282303.6	100°21'33.09"		

ROAD 21					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286075.51	6282156.72	333°59'07.29"		
22.09	286065.83	6282176.56	333°59'07.29"		
35.04	286060.05	6282188.39		-80	25.9
47.99	286049.87	6282196.71	309°14'53.01"		
117.5	285996.04	6282240.69	309°14'53.01"		
127.12	285988.85	6282248.36		12.5	19.24
136.74	285984.02	6282257.97	37°27'33.33"		
216.78	286042.7	6282321.51	37°27'33.33"		
224.83	286047.61	6282327.91		91.5	16.09
232.87	286053.56	6282333.35	43°32'04.84"		
314.32	286113.64	6282388.34	43°32'04.84"		
326.88	286123.83	6282397.48		27.25	26.12
339.44	286135.94	6282396.05	100°21'33.09"		
740.22	286831.18	6282322.98	100°21'33.09"		

ROAD 23					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286362.12	6282383.68	190°21'33.09"		
64.75	286350.48	6282290.19			
82.19	286347.3	6282272.82		91.5	34.88
99.63	286337.88	6282257.88			
143.42	286314.56	6282220.83	212°12'07.03"		

ROAD 24					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286442.82	6282319.35	190°21'33.09"		
47.46	286434.09	6282272.66	190°21'33.09"		
93.94	286425.42	6282225.24		142.5	92.96
140.42	286389.75	6282192.83	227°44'15.09"		
158.44	286376.41	6282180.71	227°44'15.09"		

ROAD 25					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286350.09	6282043.46	68°02'07.07"		
14.78	286363.81	6282048.99	68°02'07.07"		
53.78	286400.42	6282063.75		-204	77.99
92.77	286428.68	6282091.11	46°07'51.05"		
137.45	286461.61	6282122.57		-204	89.34
182.12	286477.9	6282164.95	21°02'16.10"		
303.44	286521.46	6282278.19	21°02'16.10"		
321.56	286527.99	6282295.18		-150	36.23
339.67	286530.27	6282313.23	7°11'58.84"		

ROAD 28					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286429.95	6282341.48	0°29'39.79"		
59.01	286430.46	6282400.5	0°29'39.79"		
68	286430.56	6282411.9		11.5	17.97
76.98	286441.96	6282411.9	90°00'17.57"		
151.84	286516.83	6282411.89	90°00'17.57"		
160.69	286527.96	6282411.89		11.5	17.69
169.54	286528.32	6282400.79	179°08'56.62"		
203.93	286529.43	6282368.38	179°08'56.62"		
206.64	286529.53	6282363.63		-11.5	5.41
209.34	286530.85	6282361.21	151°11'38.80"		
223.85	286537.84	6282348.5	151°11'38.80"		

ROAD 29					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286630.27	6282313.23	7°11'58.84"		
11.95	286631.78	6282325.12		-150	23.9
23.9	286631.37	6282337.09			
23.92	286631.37	6282337.1		-150	0.03
23.94	286631.37	6282337.12	358°03'22.40"		
30.82	286631.11	6282344.8		12.5	13.77
37.71	286627.84	6282348.5	61°11'38.80"		
132.43	286620.84	6282394.14	61°11'38.80"		
142.77	286630.04	6282399.2		46.69	20.67
153.1	286640.53	6282399.83	86°33'07.29"		
163.1	286650.52	6282400.43	86°33'07.29"		

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

EXISTING RURAL RESIDENTIAL DEVELOPMENT

FUTURE DEVELOPMENT

PEEL PARK

DAM 15

YOBARNIE PRECINCT

REDBANK

ROAD 21

ROAD 21A

ROAD 23

ROAD 24

ROAD 25

ROAD 26

ROAD 26A

ROAD 28

ROAD 29

REFER TO DRAWING CC004 FOR CONTINUATION

1:1000 (AT A1)
1:2000 (AT A3)

20 10 0 10 20 30 40 50 60 70 80 90 100
METRES

B	BOUNDARY AMENDED	MP	MG	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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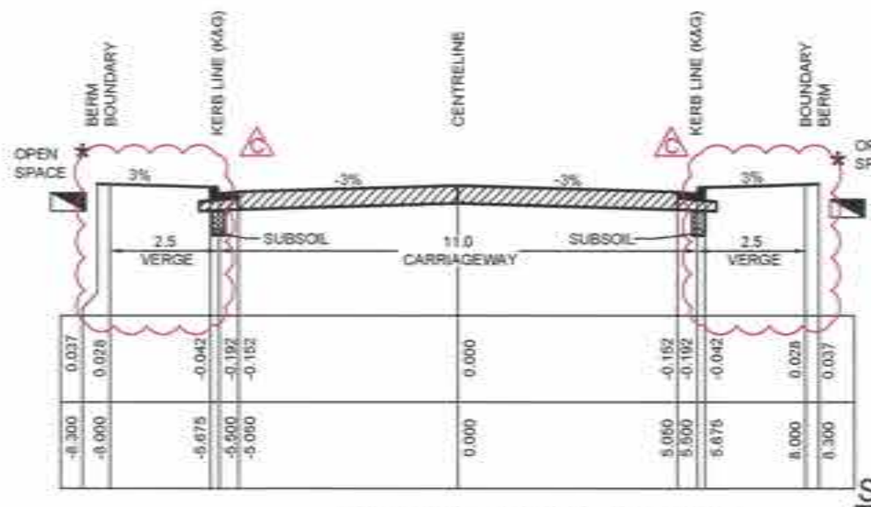
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
SETOUT PLAN
SHEET 2 OF 2

PLAN No: 11018511/CC005 B
FILE No: 11018511CC005
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February - 2018 2:12:01 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Design\CIVIL\YEOMANS\11018511CC005.dwg



TYPICAL CROSS SECTION
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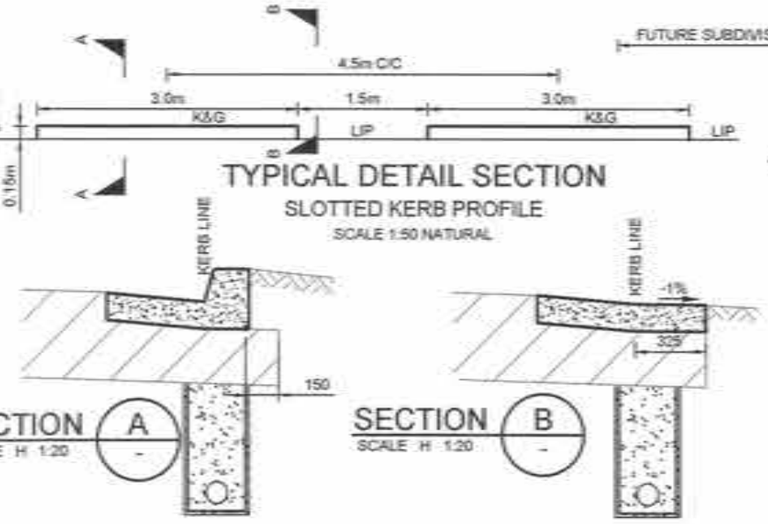
(16m ROAD RESERVE)
SCALE 1:100 NATURAL



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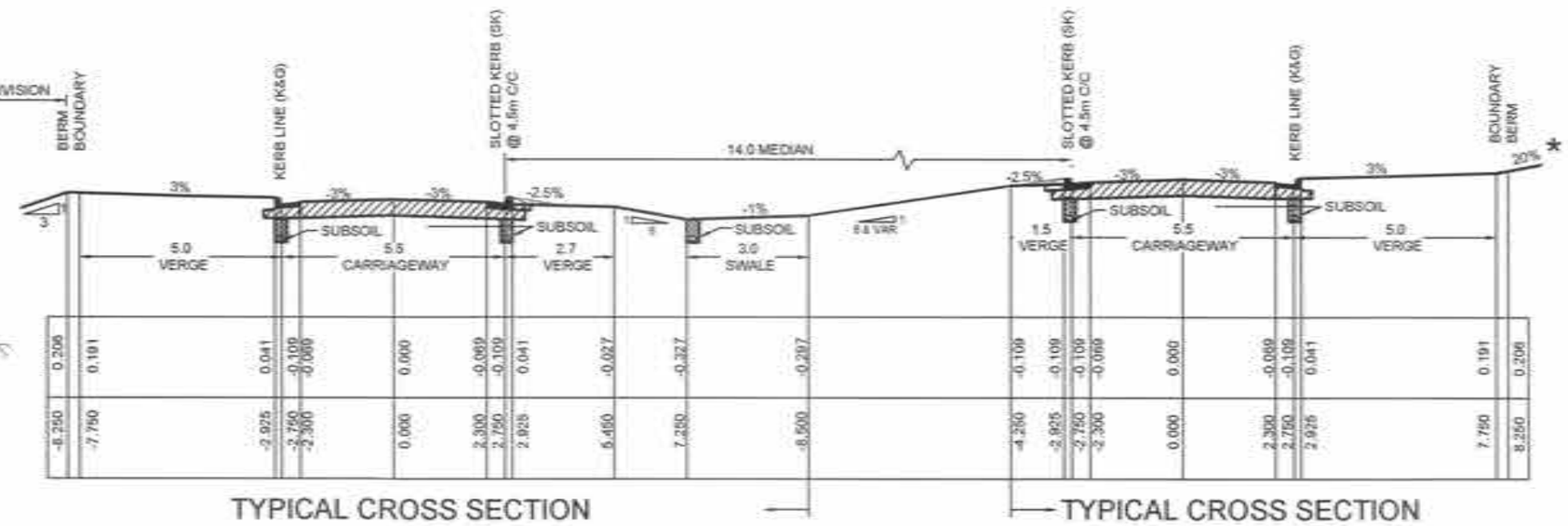
SLOTTED KERB PROFILE
SCALE 1:50 NATURAL



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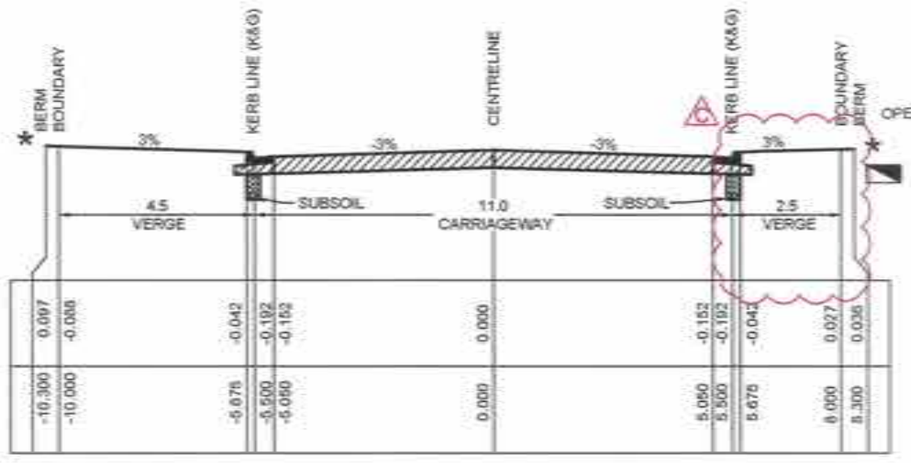
SCALE 1:100 NATURAL

TYPICAL CROSS SECTION
ROAD No.21A
SCALE 1:100 NATURAL



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(18m ROAD RESERVE)
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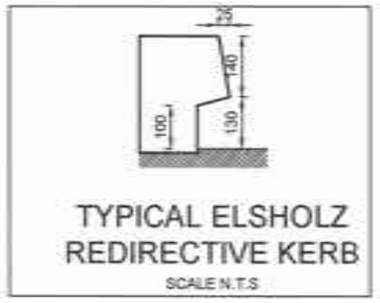

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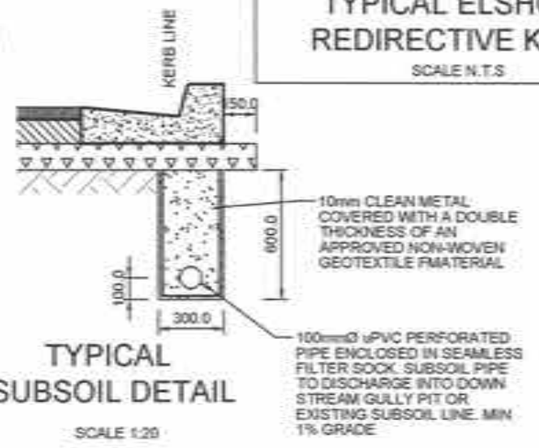
SCALE N.T.S



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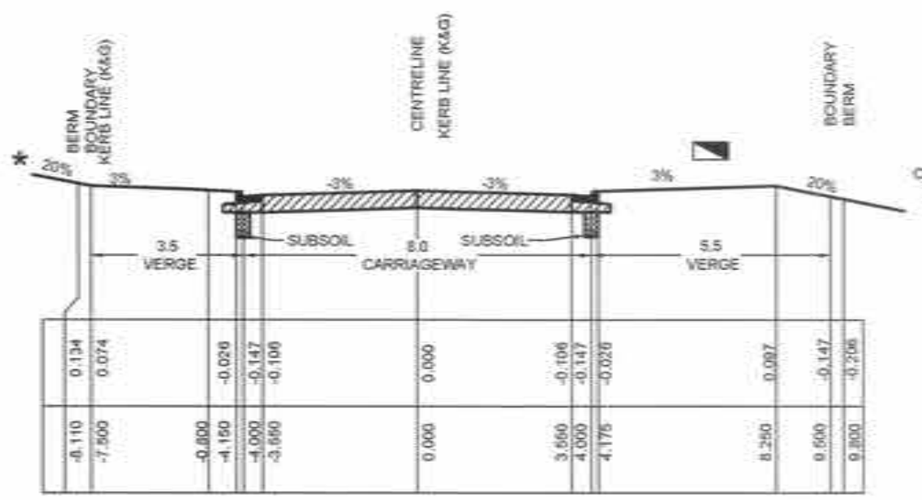

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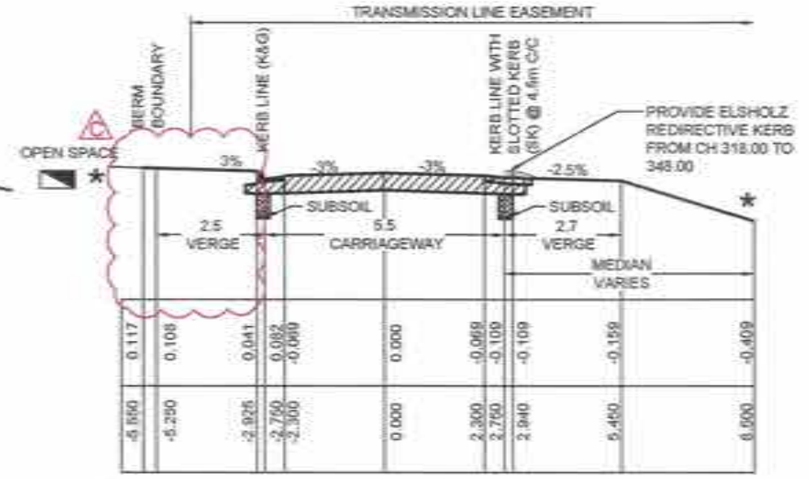
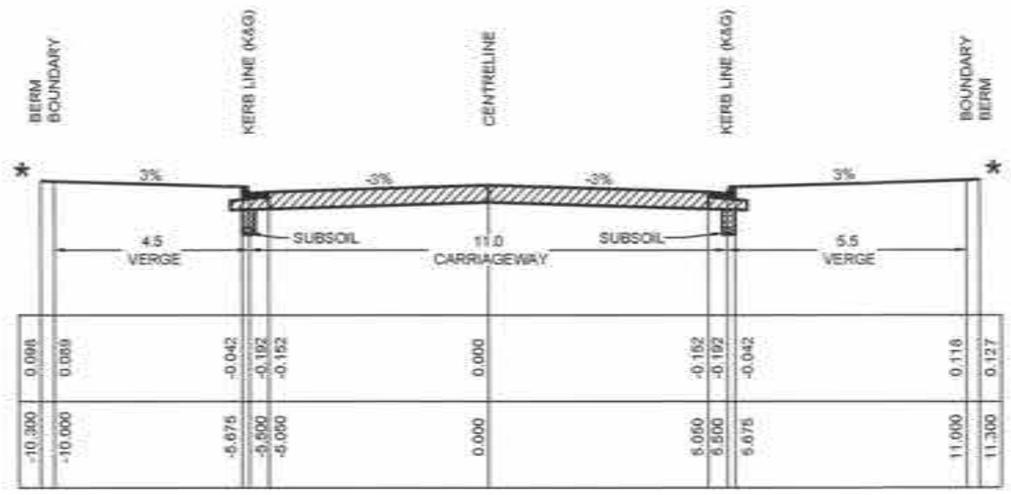
(17m ROAD RESERVE)
SCALE 1:100 NATURAL



TYPICAL CROSS SECTION
ROAD No.21 (CH295.000 - CH371.500)
SCALE 1:100 NATURAL



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(21m ROAD RESERVE)
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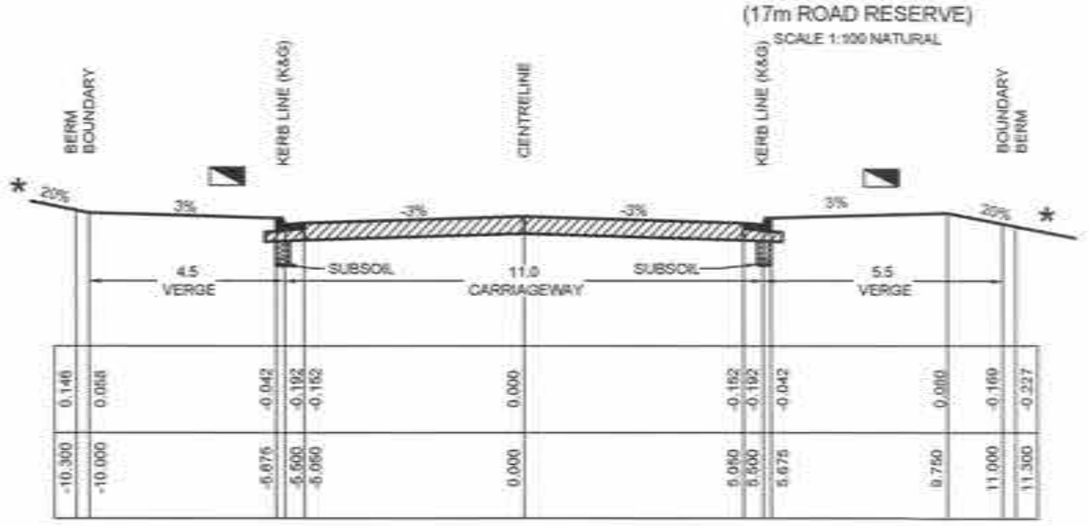

TYPICAL CROSS SECTION
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(21m ROAD RESERVE)
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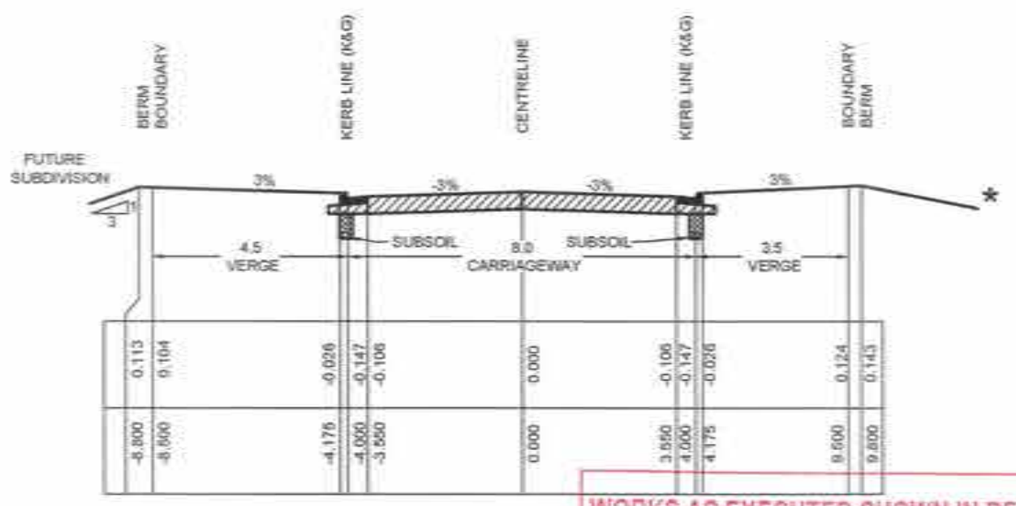

TYPICAL CROSS SECTION
ROAD No.21 (CH120.000 - CH295.000)
(16m ROAD RESERVE)
SCALE 1:100 NATURAL

REFER TO LANDSCAPE ARCHITECT PLANS FOR FOOTPATH LOCATION DETAILS

★ REFER TO ENGINEERING PLANS FOR SITE REGRADING

NOTE:
SUBSOIL DRAINAGE SHALL BE PROVIDED UNDER KERBS ON BOTH SIDES OF ROADS EXCEPT WHERE STREET DRAINAGE IS PRESENT
REFER HCC STANDARD DRAWING No. SD3.

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01-08-18 REF: 16800-11

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

C	BOUNDARY AMENDED	MP	CC	RO	RO	09/01/18
B	ADDITIONAL SUBSOIL DETAILS ADDED	MP	MG	RO	MS	23/06/17
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D.
ORIGIN:

PRINCIPAL:
REDBANK

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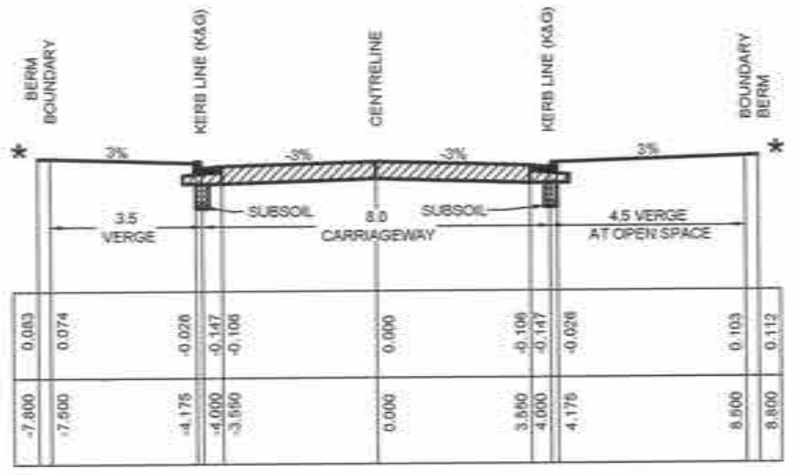
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
TYPICAL CROSS SECTIONS
SHEET 1 OF 3

PLAN No: 11018511/CC006 C
FILE No: 11018511CC006
SHEET SIZE: A1 ORIGINAL

Plotted: 9 February , 2018 4:24:38 PM File Name: J:\11\0188 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC006.dwg



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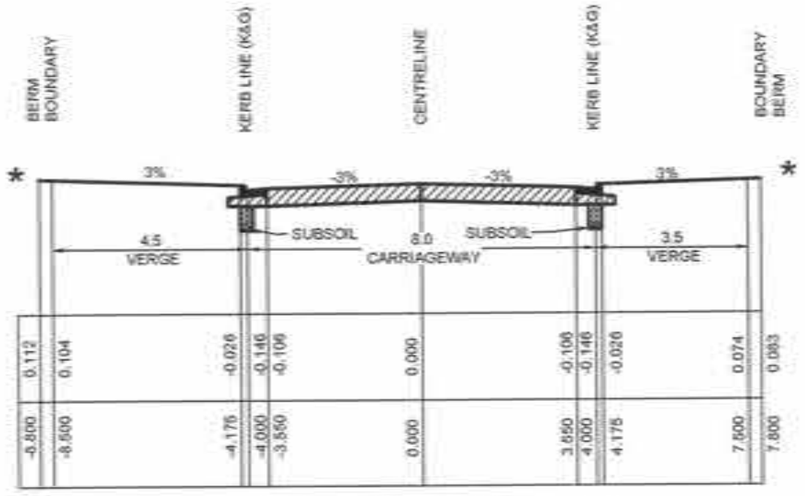
(16m ROAD RESERVE)
SCALE 1:100 NATURAL



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ROAD No.27
(16m ROAD RESERVE)
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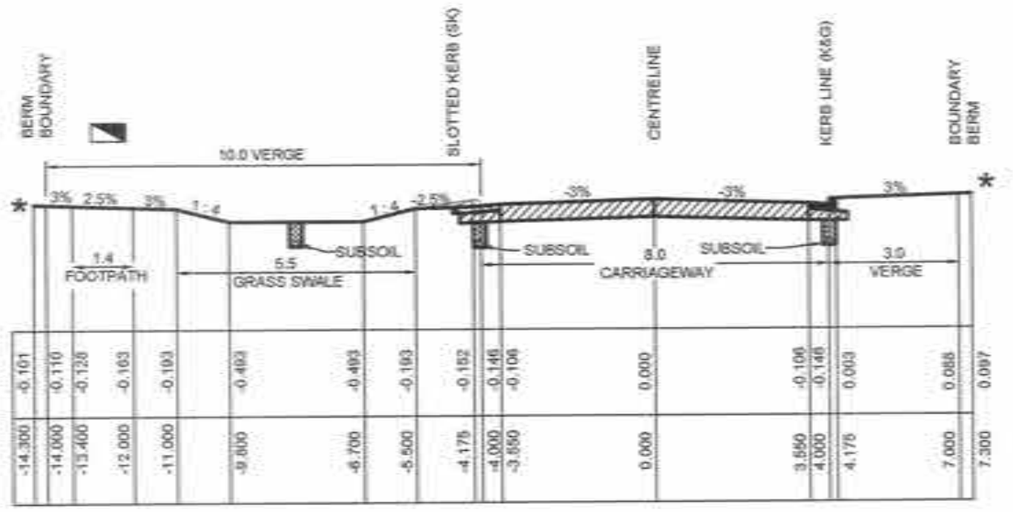

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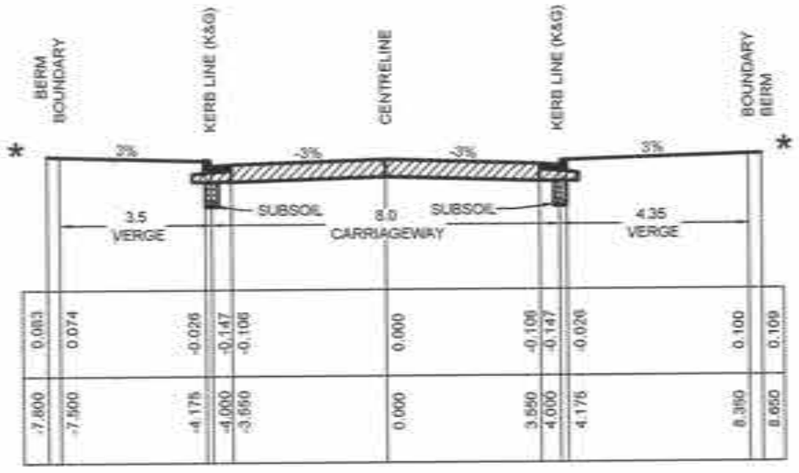
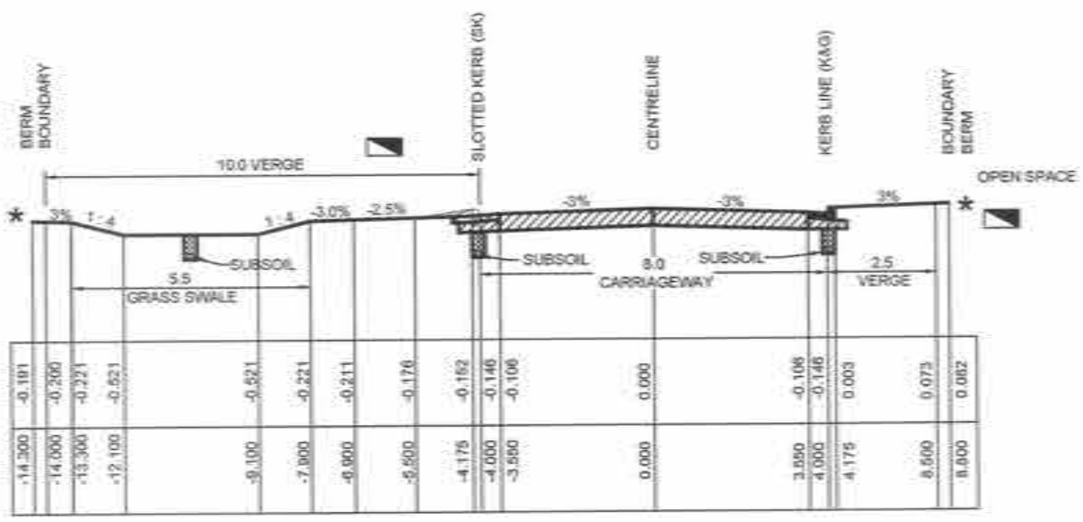
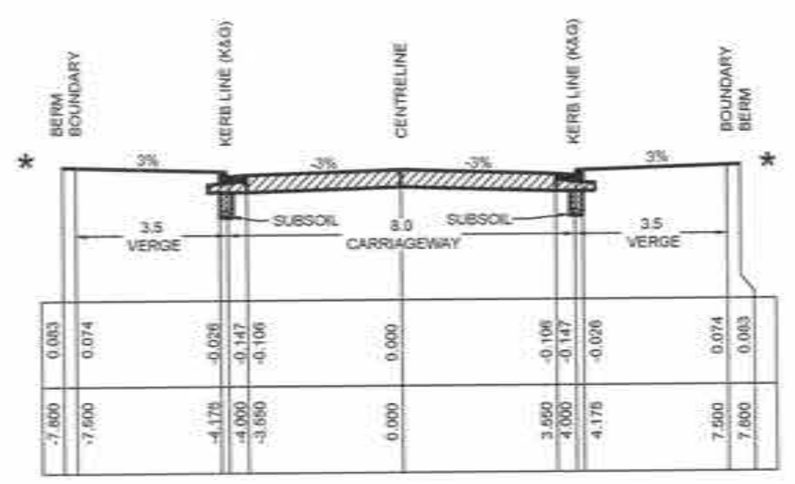


TYPICAL CROSS SECTION
ROAD No.25 (CH0.000 - CH322.700)
(15.85m ROAD RESERVE)
SCALE 1:100 NATURAL

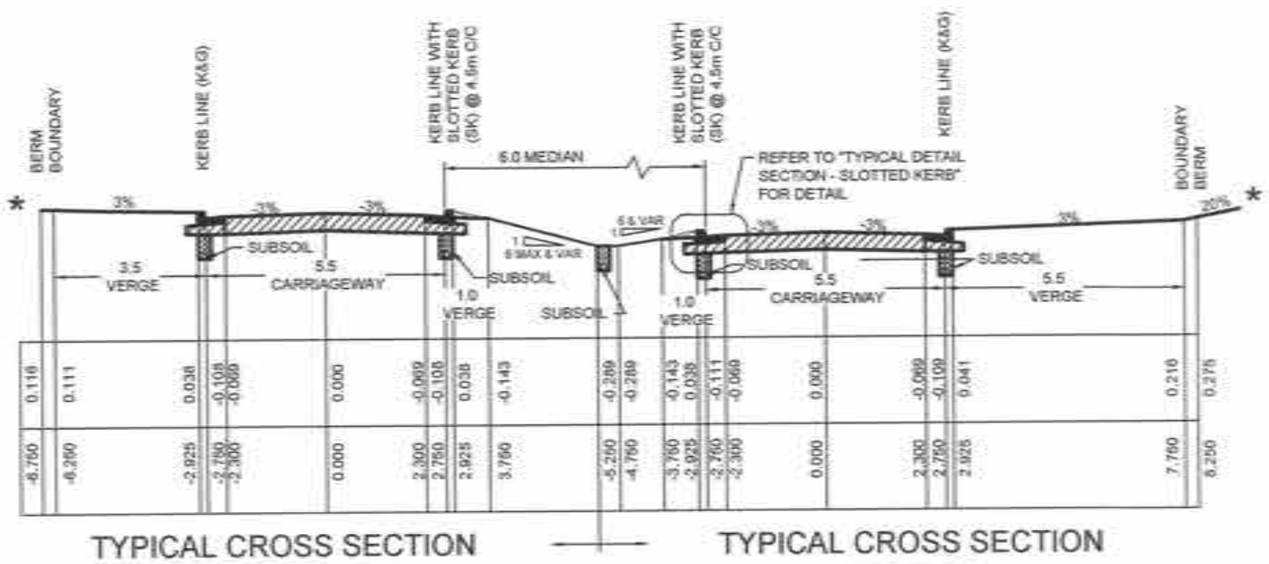
WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ...
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11



TYPICAL CROSS SECTION
ROAD No.30 (CH600.000 - CH630.000)
(20.5m ROAD RESERVE)
SCALE 1:100 NATURAL

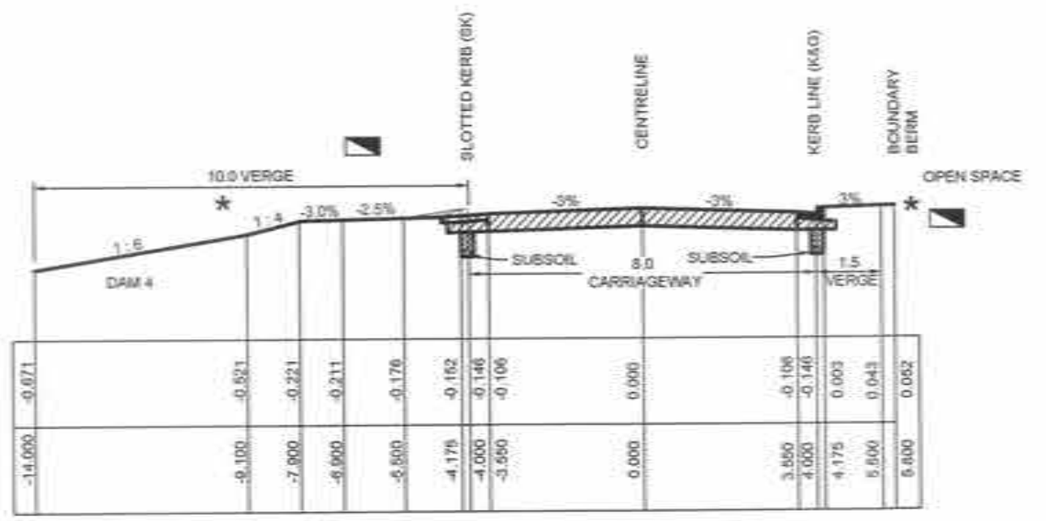


TYPICAL CROSS SECTION
ROAD No.23 & 24
(15m ROAD RESERVE)
SCALE 1:100 NATURAL



TYPICAL CROSS SECTION
ROAD No.26 (CH0.000 - CH465.000)
SCALE 1:100 NATURAL

TYPICAL CROSS SECTION
ROAD No.26A
SCALE 1:100 NATURAL



TYPICAL CROSS SECTION
ROAD No.30 (CH540.000 - CH600.000)
(19.5m ROAD RESERVE)
SCALE 1:100 NATURAL

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of issue 5 March 2018
Issuing Officer ...
Accreditation No. BPB0585
These plans/specifications form part of the certificate issued 5 March 2018

REFER TO LANDSCAPE ARCHITECT PLANS FOR FOOTPATH LOCATION DETAILS

★ REFER TO ENGINEERING PLANS FOR SITE REGRADING

NOTE:
SUBSOIL DRAINAGE SHALL BE PROVIDED UNDER KERBS ON BOTH SIDES OF ROADS EXCEPT WHERE STREET DRAINAGE IS PRESENT
REFER HCC STANDARD DRAWING No. SD3.

1:100 (AT A1)
1:200 (AT A3)
2 1 0 1 2 3 4 5 6 7 8 9 10
METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
C	BOUNDARY AMENDED	MP	CC	RO	RO	09/01/18
B	ADDITIONAL SUBSOIL DETAILS ADDED	MP	MG	RO	MS	23/06/17
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

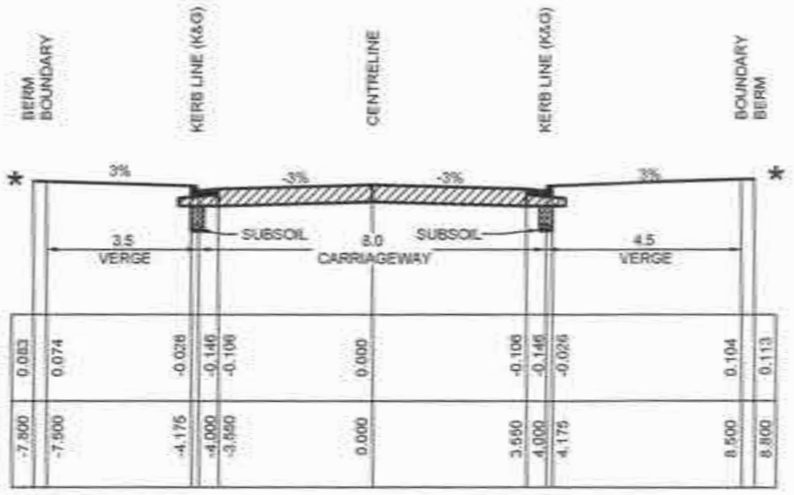
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

ISSUED FOR CONSTRUCTION APPROVAL

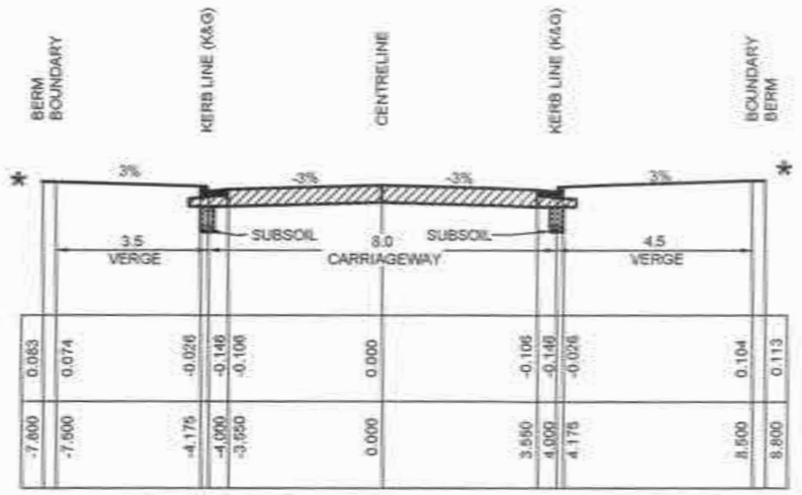
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
TYPICAL CROSS SECTIONS
SHEET 2 OF 3

PLAN No: 11018511/CC007 C
FILE No: 11018511CC007
SHEET SIZE: A1 ORIGINAL

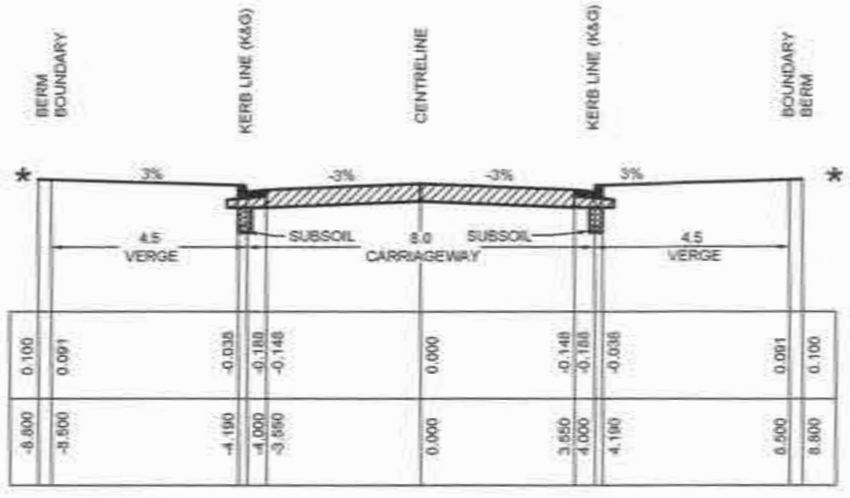
Plotted: 25 January, 2018 4:30:57 PM File Name: J:\11\10185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC007.dwg



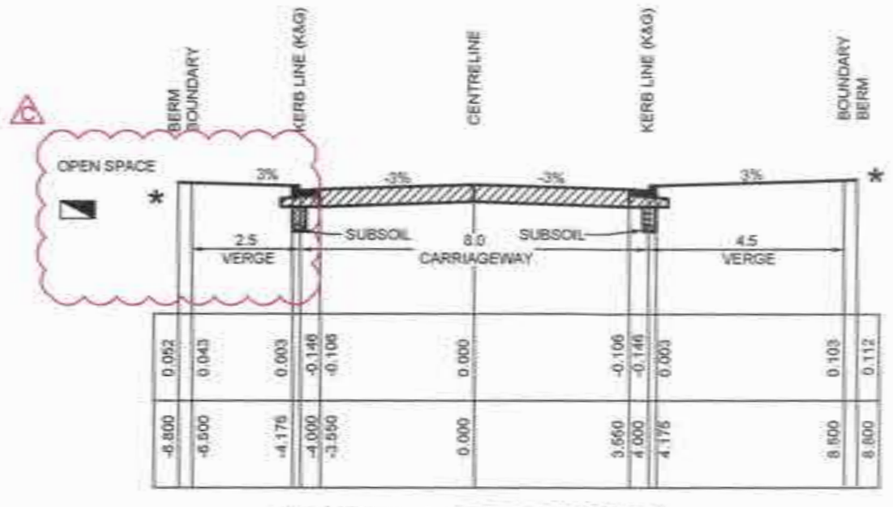
TYPICAL CROSS SECTION
ROAD No.32
(16m ROAD RESERVE)
SCALE 1:100 NATURAL



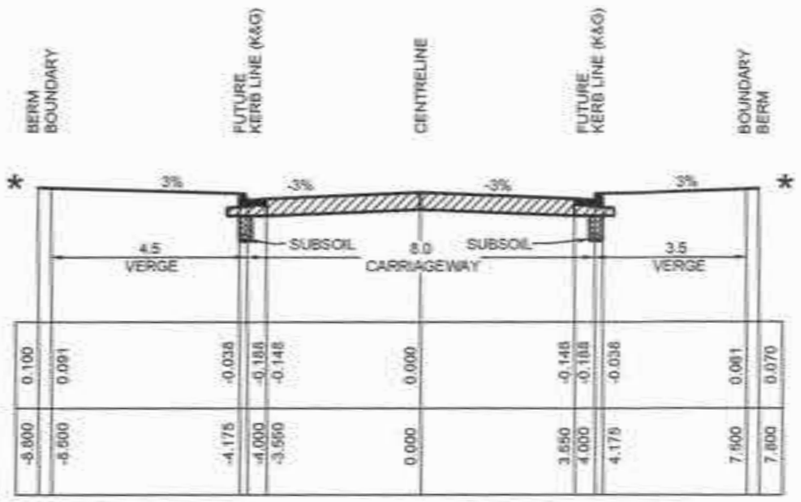
TYPICAL CROSS SECTION
ROAD No.34 (CH53.000 - CH94.070)
(16m ROAD RESERVE)
SCALE 1:100 NATURAL



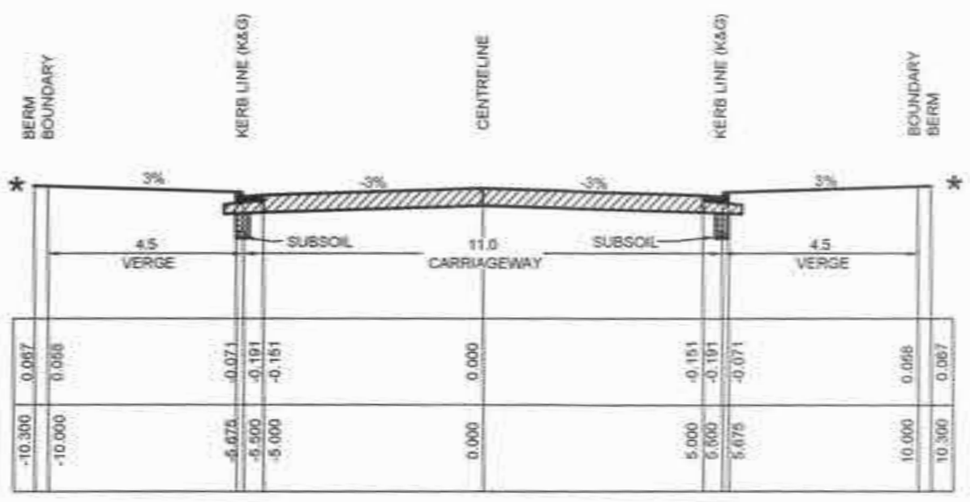
TYPICAL CROSS SECTION
ROAD No.29
(17m ROAD RESERVE)
SCALE 1:100 NATURAL



TYPICAL CROSS SECTION
ROAD No.34 (CH0.000 - CH53.000) - OPEN SPACE
(15m ROAD RESERVE)
SCALE 1:100 NATURAL



TYPICAL CROSS SECTION
ROAD No.28 (CH0.000 - CH63.000)
(16m ROAD RESERVE)
SCALE 1:100 NATURAL



TYPICAL CROSS SECTION
ROAD No. Y02
(20m ROAD RESERVE)
SCALE 1:100 NATURAL

REFER TO LANDSCAPE ARCHITECT PLANS FOR FOOTPATH LOCATION DETAILS

* REFER TO ENGINEERING PLANS FOR SITE REGRADING

NOTE:
SUBSOIL DRAINAGE SHALL BE PROVIDED UNDER KERBS ON BOTH SIDES OF ROADS EXCEPT WHERE STREET DRAINAGE IS PRESENT
REFER HCC STANDARD DRAWING No. SD3.

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

1:100 (AT A1)
1:200 (AT A3)
2 1 0 1 2 3 4 5 6 7 8 9 10
METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
C	BOUNDARY AMENDED	MP	CC	RO	RO	09/01/18
B	ADDITIONAL SUBSOIL DETAILS ADDED	MP	MG	RO	MS	23/06/17
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/05/17

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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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
TYPICAL CROSS SECTIONS
SHEET 3 OF 3

PLAN No: 11018511/CC008 C
FILE No: 11018511CC008
SHEET SIZE: A1 ORIGINAL

Plotted: 9 February , 2018 4:26:28 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC008.dwg

REFER TO DRAWING CC022 FOR CONTINUATION

REFER TO DRAWING CC024 FOR CONTINUATION

ROAD 25

KR 24

KR 23

DAM 12

FOR DAM 12 MODIFICATION
REFER DRAWING 11018511CC173

EXISTING DEVELOPMENT

CONNECT TO EXISTING PIT

LIMIT OF PAVEMENT WORKS CH 69.2
MAKE SMOOTH CONNECTION TO EXISTING SURFACE

REMOVE EXISTING HALF ROAD CONSTRUCTION TO SUBGRADE LEVEL AND CONSTRUCT AS PER THESE PLANS

PROVIDE TEMPORARY DRAIN TO AVOID WATER PONDING

ROAD Y02

FUTURE DEVELOPMENT

KR 20

TEMPORARY 1:3 BATTER TO EXISTING SURFACE

PROVIDE SANDSTONE HEADWALL TO LANDSCAPE ARCHITECT DESIGN

PROVIDE 2% REVERSE CROSSFALL FOR OVERLAND FLOW PATH

PROVIDE FENCING TO OPEN SPACE TO LANDSCAPE ARCHITECT DETAILS

KR 19

KR 22

KR 2

ROAD 1

PROVIDE TEMPORARY BOLLARDS @ 1.5m C/C

PROVIDE FLOOD WARNING SIGN TO HCC-SDS45

PLAYING FIELD
REFER LANDSCAPE ARCHITECT PLANS

PROVIDE FENCING TO OPEN SPACE TO LANDSCAPE ARCHITECT DETAILS

KR 30

KR 29

ROAD 30

ROAD 32

PROVIDE TEMPORARY 375Ø PIPELINE WITH HEADWALL INLET

PROVIDE TEMPORARY ENDCAP FOR FUTURE EXTENSION.

ROAD 40

PROVIDE SAFETY FENCING ON TOP OF THE RETAINING WALL TO STRUCTURAL ENGINEER DESIGN.

OPEN SPACE

FUTURE DEVELOPMENT

KR 32

KR 31

PROVIDE 2250 RCP STUB WITH END CAP FOR FUTURE LOT STORMWATER (CONCENTRATED FLOW ONLY) CONNECTION

PROVIDE 2% REVERSE CROSSFALL FOR OVERLAND FLOW PATH

FOR PIT DETAILS REFER DRAWING 11018511CC221

PROVIDE TEMPORARY HEADWALL INLET FOR FUTURE EXTENSION

EXTENTS OF FILL AREA

RIDGELINE DRAIN TO BE FILLED IN

CATCHMENT AREA = 0.703ha
Q_5 = 0.193m³/s
Q_{100} = 0.345m³/s
$Q_{100} - Q_5$ = 0.152m³/s
S_{min} = 2.5%
n = 0.013
depth d = 0.27m
velocity v = 0.4m/s
OVERLAND FLOW PATH CAPACITY
FOR MAX DEPTH (0.33m) = 0.218m³/s

LOT 701

LOT 702

LOT BOUNDARY

MAJOR SYSTEM FLOWS (100 year ARI - 5 year ARI)

MINOR SYSTEM FLOWS 1 TO 5 year ARI

2.5m WIDE EASEMENT

2.5 DRAINAGE EASEMENT OVER LAND FLOW PATH

SECTION A
SCALE 1:50

WORK AS EXECUTED SHOWN IN RED
SIGNATURE.....
PETER ROBERT WARWICK
REGISTERED LAND SURVEYOR
VINCE MORGAN SURVEYORS PTY LTD
DATE: 14/01/20 REF:16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130329/C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BP80585
These plans/specifications form part of the certificate
Issued 5 March 2018

REFER TO DRAWING CC025 FOR CONTINUATION

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

LEGEND

EASEMENT TO DRAIN WATER 1m x 1.5m WIDE PROVIDED FOR EACH LOT FUTURE DRAINING DIRECTLY TO OPEN SPACE

	AMENDMENT	DES	DRN	CKD	APR	DATE
C	RW15 AND OPEN SPACE REDESIGNED	MP	CC	RO	RO	08/01/18
B	CERTIFIER COMMENTS	MP	MS	RO	MS	26/05/17
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MS	RO	MS	15/05/17

J. WYNDHAM PRINCE
CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
PO Box 4316 PENRITH WESTFIELD NSW 2750
P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA 56
DATUM: AHD
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
ENGINEERING PLAN
SHEET 1 OF 6

PLAN No: 11018511/CC021 C
FILE No: 11018511CC021
SHEET SIZE: A1 ORIGINAL

Plotted: 9 February , 2018 4:37:29 PM. File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS11018511CC021.dwg

REFER TO DRAWING CC026 FOR CONTINUATION

REFER TO DRAWING CC023 FOR CONTINUATION

REFER TO DRAWING CC021 FOR CONTINUATION

ROAD 24 | ROAD 25 | ROAD 26 | ROAD 26A

DAM 15

FUTURE RETAINING WALL

KR 53 | KR 54 | KR 38 | KR 39 | KR 36 | KR 37 | KR 35

DRAINAGE EASEMENT 1.2m WIDE

PROVIDE SANDSTONE HEADWALL TO LANDSCAPE ARCHITECT DESIGN

INTERCEPT EXISTING 825Ø PIPELINE AND CONSTRUCT PIT 4/10. REMOVE EXISTING HEADWALL AND PIPELINE TO PIT 4/10

PROVIDE FENCING TO OPEN SPACE TO LANDSCAPE ARCHITECT DETAILS

OPEN SPACE

EXISTING DEVELOPMENT

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

LEGEND

LOT BDY

EASEMENT TO DRAIN WATER 1m x 1.5m WIDE PROVIDED FOR EACH LOT FUTURE DRAINING DIRECTLY TO OPEN SPACE

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

10 0 10 20 30 40 50
METRES

B	INTERNAL RETAINING WALLS REMOVED AND DAM15 REDESIGNED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
ENGINEERING PLAN
SHEET 2 OF 6

PLAN No: 11018511/CC022 B
FILE No: 11018511CC022
SHEET SIZE: A1 ORIGINAL

Plotted: 9 February , 2018 4:36:41 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CIDCC\YEOMANS\11018511CC022.dwg

NOTE

PROPOSED LOCATION / FOOTPRINT OF HYDROCON PIPE / RAINGARDEN :

1. BULK EARTHWORKS CONSTRUCTION TO BE UNDERTAKEN TO INVERT OF FILTER MEDIA OF HYDROCON PIPE / RAINGARDEN WITH THIS CIVIL CONSTRUCTION CERTIFICATE, AS WELL AS INLET AND OUTLET STRUCTURES.
2. SUITABLE SAFETY PROTECTIONS AND VISUAL SCREENINGS TO BE APPLIED TO THE PERIMETER OF THIS WATER QUALITY LOCATION / FOOTPRINTS UNTIL THEY RECEIVE THEIR 'FINAL CONSTRUCTION'.
3. 'FINAL CONSTRUCTION' OF HYDROCON PIPE / RAINGARDEN TO BE TARGETED WHEN 80% OF THE UPSTREAM LOTS HAVE THEIR DWELLINGS COMPLETED.
4. IT IS ANTICIPATED THAT THE PERIOD BETWEEN PRACTICAL COMPLETION BEING AWARDED BY EITHER AN ACCREDITED CERTIFIER OR COUNCIL FOR CIVIL WORKS, AND THE 'FINAL CONSTRUCTION' OF THESE ELEMENTS WILL BE BETWEEN 18 MONTHS TO 2 YEARS.
5. APPROPRIATE BONDS TO VALUE OF THE ESTABLISHED CONTRACT AMOUNT OF WORKS WITH THE APPOINTED CIVIL CONTRACTOR, TO BE LODGED BETWEEN DEVELOPER AND COUNCIL IN ORDER TO ATTAIN PRACTICAL COMPLETION / SUBDIVISION CERTIFICATE FROM COUNCIL, PRIOR TO THESE WATER QUALITY ELEMENTS RECEIVING THEIR 'FINAL CONSTRUCTION'.

CONSTRUCTION CERTIFICATE

Certificate No. 20130299CC42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

EXISTING RURAL RESIDENTIAL DEVELOPMENT

FUTURE DEVELOPMENT

FUTURE DEVELOPMENT

OPEN SPACE

CREEK

REDBANK

PROVIDE SCOUR PROTECTION. REFER TO DRAWING 11018511CC241 FOR DETAILS

PROVIDE SCOUR PROTECTION. REFER TO DRAWING 11018511CC241 FOR DETAILS

HYDROCON. WATER QUALITY SYSTEM. REFER TO DRAWING 11018511CC232 - CC233 FOR DETAILS

RAINGARDEN 1 REFER TO DETAILS ON DRAWING 11018511CC161 - CC163

RAINGARDEN

NO ADJUSTMENT TO NATURAL SURFACE LEVEL AT TRANSMISSION LINE POWER POLES

ELSHOLZ REDIRECTIVE KERB

PROVIDE FENCING TO OPEN SPACE TO LANDSCAPE ARCHITECT DETAILS

TEMPORARY 1:3 BATTER

TAILOUT TO SEDIMENT BASIN 7

HYDROCON. WATER QUALITY SYSTEM. REFER TO DRAWING 11018511CC236 - CC239 FOR DETAILS

ROAD 28
ROAD 21
ROAD 21A
ROAD 23
ROAD 26A
ROAD 26

KR 58
KR 52
KR 51
KR 50
KR 49
KR 48
KR 47
KR 41
KR 40
KR 61
KR 60

DRAINAGE EASEMENT 1.2m WIDE
DRAINAGE EASEMENT 2.5m WIDE
EASEMENT TO DRAIN WATER 750 WIDE

REFER TO DRAWING CC024 FOR CONTINUATION

REFER TO DRAWING CC022 FOR CONTINUATION

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

1:500 (AT A1)
1:1000 (AT A3)
10 0 10 20 30 40 50
METRES

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

AMENDMENT	DES	DRN	CKD	APR	DATE
B INTERNAL WALLS REMOVED AND BOUNDARY AMENDED	MP	CC	RO	RO	09/01/18
A ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
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P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
ENGINEERING PLAN
SHEET 3 OF 6

PLAN No: 11018511/CC023 B
FILE No: 11018511CC023
SHEET SIZE: A1 ORIGINAL

Plotted: 9 February , 2018 4:31:31 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CIVIL\YEOMANS\11018511CC023.dwg

REFER TO DRAWING CC023 FOR CONTINUATION

WORK AS EXECUTED SHOWN IN RED
SIGNATURE.....
PETER ROBERT WARWICK
REGISTERED LAND SURVEYOR
VINCE MORGAN SURVEYORS PTY LTD
DATE: 14/01/20 REF: 16800-11

OPEN SPACE

ROAD 21

ROAD 26A

ROAD 26

ROAD 27

ROAD 30

KR 46 KR 45 KR 44 KR 43 KR 42 KR 25 KR 26 KR 27 KR 28 KR 34

CVERLAND FLOW FROM PEEL FARM CATCHMENT TO BE INSTALLED ON PEEL FARM AND MAINTAINED IN PERIODICALLY BY NRJV

PROVIDE SCOUR PROTECTION. REFER TO DRAWING 11018511CC241 FOR DETAILS

TEMPORARY HEADWALL OUTLET TO TAILOUT TO SEDIMENT BASIN

OVERLAND FLOW FROM PEEL FARM CATCHMENT TO BE INSTALLED ON PEEL FARM AND MAINTAINED IN PERIODICALLY BY NRJV

DRAINAGE EASEMENT 1.2m WIDE

DRAINAGE EASEMENT 2.5m WIDE

1.8m KI PIT TO BE TEMPORARILY PART CONSTRUCTED, COVERED WITH STEEL PLATE AND BURIED. CONSTRUCT TO FINAL LEVELS AFTER TURNING HEAD DECOMMISSIONING.

ADDITIONAL TEMPORARY PAVEMENT FOR TURNING HEAD

TEMPORARY TURNING HEAD- ROAD 1

TEMPORARY CATCH DRAIN TO BE CONTRUCTED WITHIN THE PEEL FARM

END CAP FOR FUTURE CONNECTION

PEEL FARM

KEYLINE DRAIN TO BE FILLED IN

MAINTAIN EXISTING KEYLINE DRAIN

2% FILL REGRADE AREA

PROVIDE 225ø RC PIPE SUB WITH END CAP FOR FUTURE LOT STORMWATER (CONCENTRATED FLOW ONLY) CONNECTION

LIMIT OF SITE REGRADE

REFER TO DRAWING CC021 FOR CONTINUATION

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
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Issuing Officer
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DATE: 01.08.18 REF: 16800-11

1:500 (AT A1)
1:1000 (AT A3)
10 0 10 20 30 40 50
METRES

VC TO HCC SD68
DRIVEWAY 100mm MIN ABOVE SWALE INVERT
100 MIN
150
SWALE INVERT
375Ø DRAINAGE PIPE
600 MIN

TYPICAL DRIVEWAY SECTION
VEHICULAR CROSSING (VC)
N.T.S

B	TEMPORARY TURNING HEAD REDESIGNED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK NORTH RICHMOND

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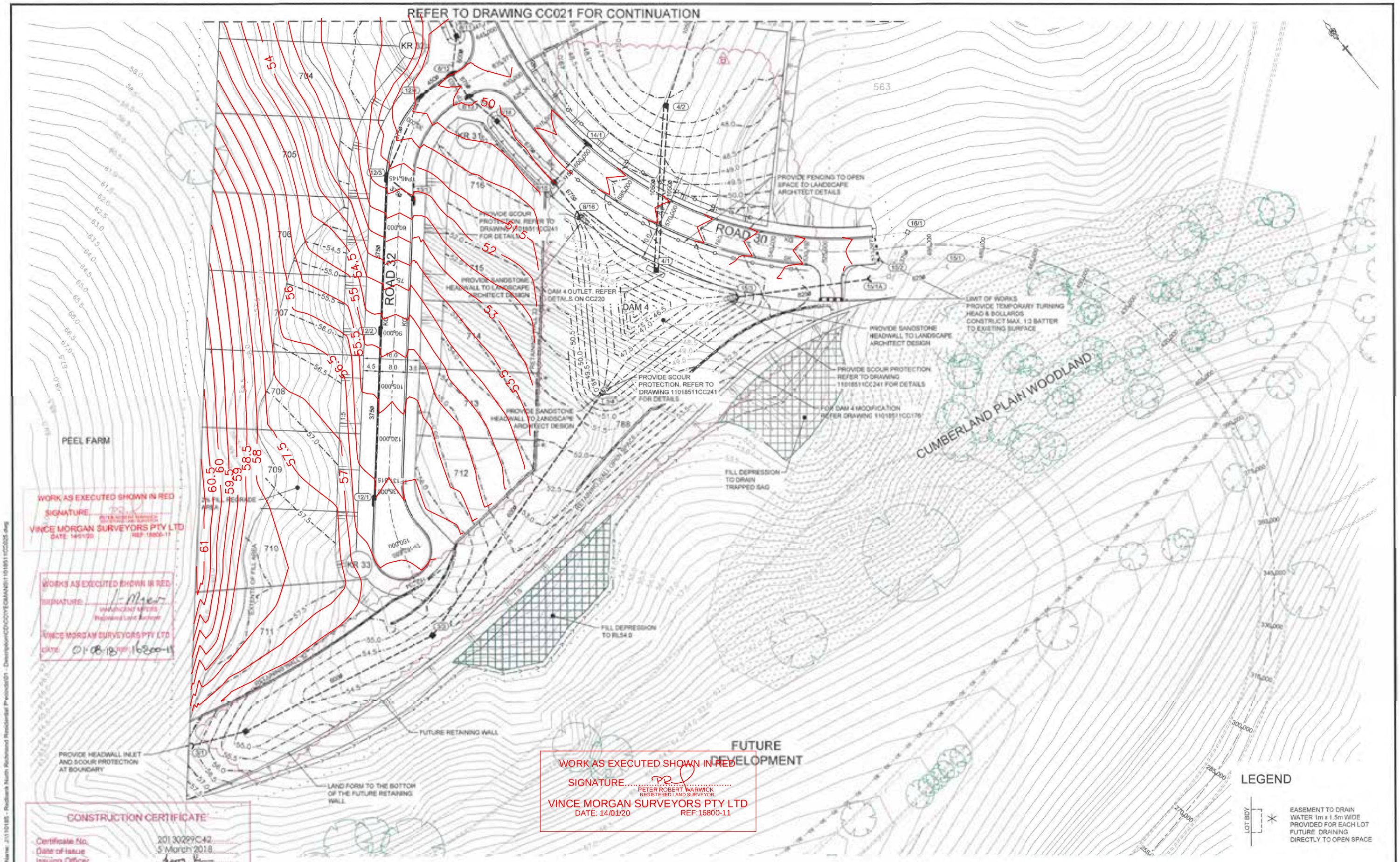
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
ENGINEERING PLAN
SHEET 4 OF 6

PLAN No: 11018511/CC024 B
FILE No: 11018511CC024
SHEET SIZE: A1 ORIGINAL

Plotted: 9 February , 2018 4:32:40 PM File Name: J\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CGVEOMANS\110185111CC024.dwg



B	OPEN SPACE AND DAM 4 REDESIGNED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

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

AZIMUTH: MGA 56
DATUM: AHD
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
ENGINEERING PLAN
SHEET 5 OF 6

PLAN No: 11018511/CC025 B
FILE No: 11018511CC025
SHEET SIZE: A1 ORIGINAL

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 160001

FUTURE DEVELOPMENT

ROAD 29

ROAD 28

ROAD 21

ROAD 21A

ROAD 25

PROVIDE FENCING TO OPEN SPACE TO LANDSCAPE ARCHITECT DETAILS

PANSY CULVERT. REFER DETAILS ON DRAWING 11018511CC242 - CC243

PROVIDE SCOUR PROTECTION. REFER DETAIL ON DRAWING 11018511CC243

REMOVE EXISTING PIPE CULVERT

PROVIDE SCOUR PROTECTION. REFER DETAIL ON DRAWING 11018511CC241

PEEL PARK BOUNDARY

PEEL PARK

PROVIDE SCOUR PROTECTION. REFER DETAIL ON DRAWING 11018511CC241

PROVIDE REMOVABLE TRASH SCREEN/ MAXIMESH OR EQUIVALENT IN FRONT OF THE PIPE OUTLET.

NOTE: FOR EARTHWORK LOCATED WITHIN PEEL PARK AREA, REFER SEPARATE CC PLANS AND APPROVAL

NO ADJUSTMENT TO NATURAL SURFACE LEVEL AROUND TRANSMISSION LINE POWER POLES

OPEN SPACE

DAM 15 OUTLET REFER DETAILS ON DRAWING 11018511CC240

PEEL PARK BOUNDARY

FOR DAM 15 MODIFICATION REFER DRAWING 11018511CC176

PROVIDE SANDSTONE HEADWALL TO LANDSCAPE ARCHITECT DESIGN

PROVIDE SCOUR PROTECTION. REFER DETAIL ON DRAWING 11018511CC241

DAM 15

734

733

732

KR 55

KR 56

KR 57

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

REFER TO DRAWING CC022 FOR CONTINUATION

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

10 0 10 20 30 40 50
METRES

B	DAM15 AND OPEN SPACE REDESIGNED PLUS BOUNDARY AMENDED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
ENGINEERING PLAN
SHEET 6 OF 6

PLAN No: 11018511/CC026 B
FILE No: 11018511CC026
SHEET SIZE: A1 ORIGINAL

Plotted: 9 February - 2018 5:28:07 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CGY\EOMANS\11018511CC026.dwg

PAVEMENT EVALUATION

PAVEMENT DESIGN (REFER TO GEOTECHNICAL REPORT BY GEOTECHNIQUE PTY LTD (Ref: 12261/18-AC -R1) DATED 7 JUNE 2017)

ROAD 1 (LOCAL ROADS) ESA $1x10^6$

AC10 (mm)	= 2x25
ONE COAT HOT BITUMEN FLUSH SEAL	
BASE COURSE (mm) DGB20	= 150
SUB-BASE COURSE (mm)	= 340
CRUSHED SANDSTONE	
TOTAL (mm)	= 540

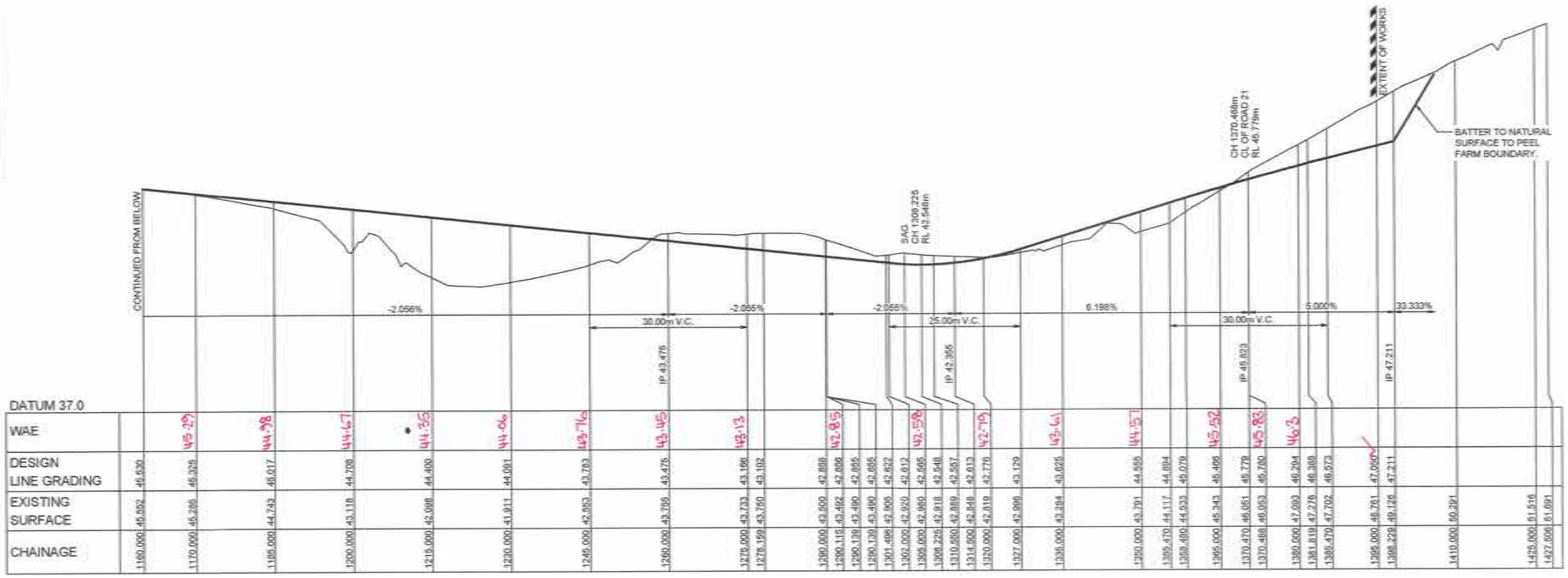
WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....

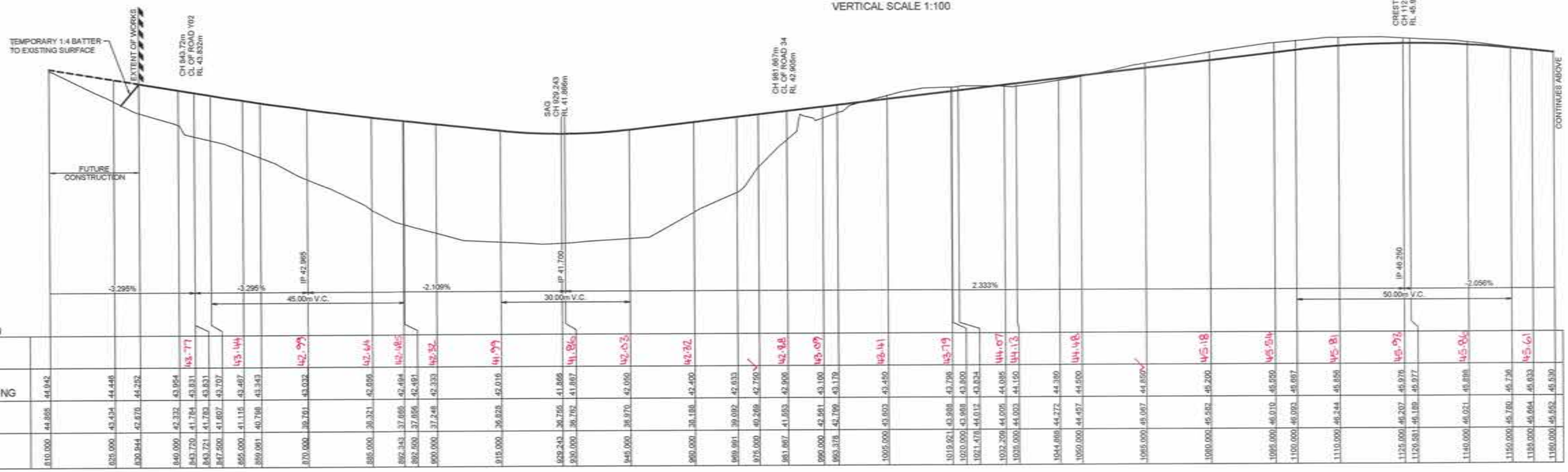
IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01·08·18 REF 16800-11



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



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

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

1:500 (AT A1) 1:1000 (AT A3) — 10 0 10 20 30 40 50 METRES

1:100 (AT A1) 1:200 (AT A3) — 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

PRINCIPAL: REDBANK

ISSUED FOR CONSTRUCTION APPROVAL

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A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
ROAD LONGITUDINAL
SHEET 1 OF 9

PLAN No: 11018511/CC041 A
FILE No: 11018511CC041
SHEET SIZE: A1 ORIGINAL

Plotted: 26 January, 2018 at 4:33:52 PM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC041.dwg

PAVEMENT EVALUATION

PAVEMENT DESIGN (REFER TO GEOTECHNICAL REPORT BY GEOTECHNIQUE PTY LTD (Ref: 12261/18-AC-R1) DATED 7 JUNE 2017)

ROAD 21 (LOCAL ROADS) ESA $2x10^5$

AC10 (mm)	= 2x25
ONE COAT HOT BITUMEN FLUSH SEAL	
BASE COURSE (mm) DGB20	= 150
SUB-BASE COURSE (mm)	= 250
CRUSHED SANDSTONE	
TOTAL (mm)	= 450

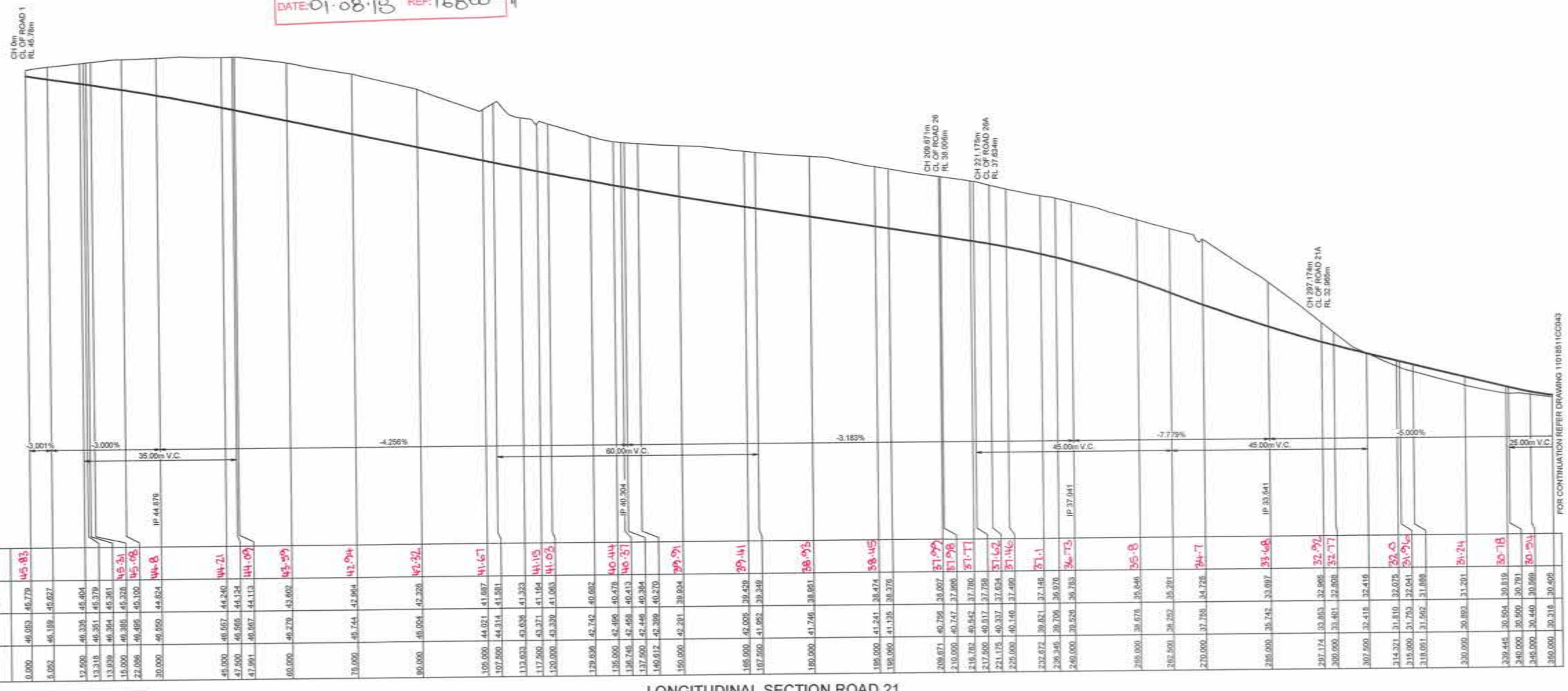
WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-14



DATUM 24.0

CHAINAGE	EXISTING SURFACE	DESIGN LINE GRADING	WAE
0.000	46.093	46.779	45.83
6.092	46.189	45.627	
12.500	46.326	45.404	
13.318	46.351	45.379	
13.939	46.364	45.361	
15.000	46.386	45.328	45.31
22.096	46.499	45.109	45.08
30.000	46.559	44.824	44.8
40.000	46.557	44.240	44.21
42.500	46.566	44.134	
42.991	46.667	44.113	44.09
60.000	46.279	43.692	43.59
78.000	45.744	42.964	42.94
80.000	46.004	42.328	42.32
100.000	44.021	41.687	41.67
107.500	44.314	41.581	
113.933	43.636	41.323	
117.500	43.321	41.164	41.15
120.000	43.330	41.063	41.05
129.836	42.742	40.682	
135.000	42.496	40.478	40.44
136.745	42.468	40.413	40.37
137.500	42.446	40.384	
140.612	42.399	40.270	
150.000	42.201	39.934	39.91
165.000	42.005	39.429	39.41
167.500	41.952	39.349	
180.000	41.746	38.981	38.93
195.000	41.241	38.474	38.45
198.060	41.135	38.376	
209.671	40.789	38.097	37.99
210.000	40.747	37.966	37.98
216.782	40.542	37.780	37.77
217.500	40.517	37.758	
221.175	40.337	37.634	37.62
225.000	40.146	37.499	37.46
232.672	39.821	37.148	37.1
236.345	39.709	36.976	
240.000	39.526	36.783	36.73
255.000	38.678	35.846	35.8
262.500	38.252	35.291	
270.000	37.758	34.728	34.7
285.000	35.742	33.697	33.68
297.174	33.853	32.995	32.99
300.000	33.401	32.808	32.77
307.500	32.418	32.416	
314.321	31.810	32.075	32.0
315.000	31.753	32.041	31.96
318.091	31.562	31.888	
330.000	30.893	31.401	31.24
339.445	30.504	30.819	30.78
340.000	30.500	30.791	
345.000	30.440	30.668	30.53
360.000	30.318	30.409	

LONGITUDINAL SECTION ROAD 21

HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

CONSTRUCTION CERTIFICATE

Certificate No. 20130229IC42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

1:500 (AT A1)
1:1000 (AT A3)
10 0 10 20 30 40 50
METRES

1:100 (AT A1)
1:200 (AT A3)
2 1 0 1 2 3 4 5 6 7 8 9 10
METRES

PRINCIPAL: REDBANK

ISSUED FOR CONSTRUCTION APPROVAL

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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

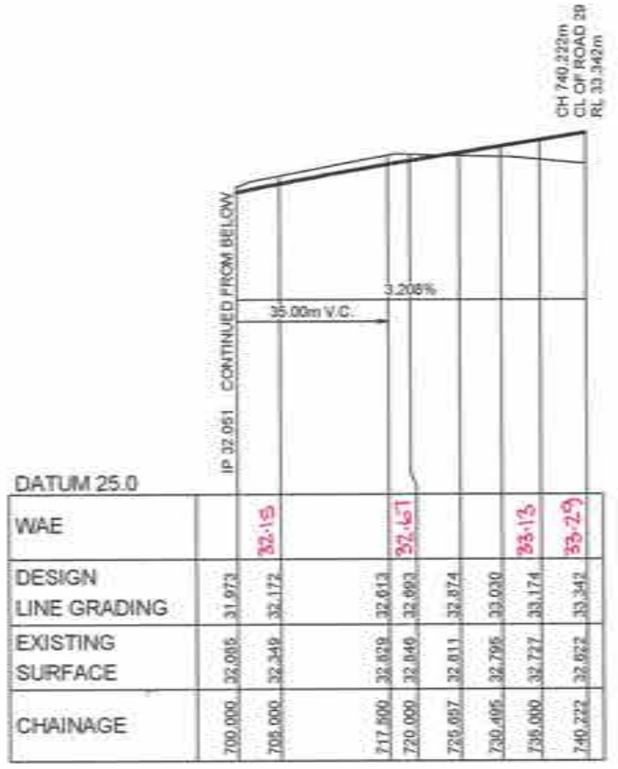
AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

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

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
ROAD LONGITUDINAL
SHEET 2 OF 9

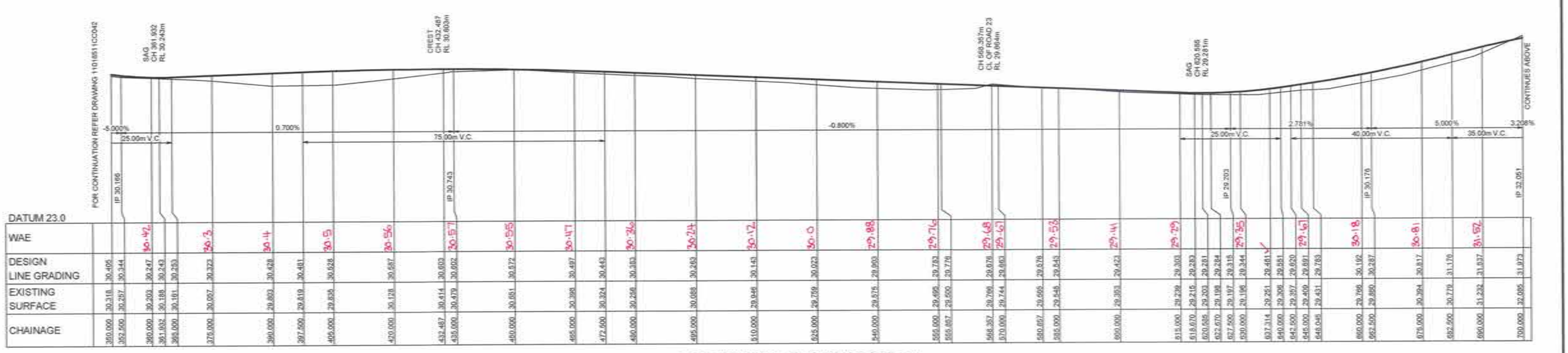
PLAN No: 11018511/CC042 A
FILE No: 11018511CC042
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:34:04 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CGYEOMANS\11018511CC042.dwg



LONGITUDINAL SECTION ROAD 21
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11



LONGITUDINAL SECTION ROAD 21
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

CONSTRUCTION CERTIFICATE
Certificate No. 20130229PC42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

1:500 (AT A1) 1:1000 (AT A3) 10 0 10 20 30 40 50 METRES
1:100 (AT A1) 1:200 (AT A3) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RD	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

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

AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
ROAD LONGITUDINAL
SHEET 3 OF 9

PLAN No: 11018511/CC043 A
FILE No: 11018511CC043
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January - 2018 4:34:17 PM File Name: J:\110185 - Redbank North Richmond Residential Precinct\01 - Description\CD\CC\YEOMANS\11018511CC043.dwg

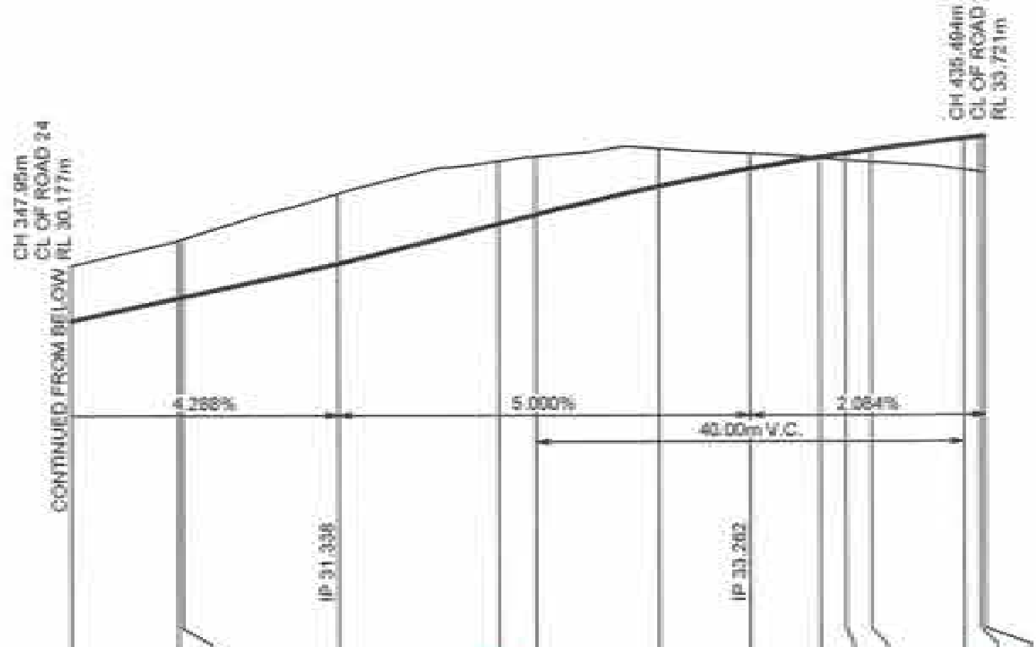
Plotted: 25 January , 2018 4:34:30 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC044.dwg

PAVEMENT EVALUATION

PAVEMENT DESIGN (REFER TO GEOTECHNICAL REPORT BY GEOTECHNIQUE PTY LTD (Ref: 12261/18-AC-R1) DATED 7 JUNE 2017)

ROAD 21A (LOCAL ROADS) ESA 2x10^5

AC10 (mm)	= 2x25
ONE COAT HOT BITUMEN FLUSH SEAL	
BASE COURSE (mm) DGB20	= 150
SUB-BASE COURSE (mm)	= 250
CRUSHED SANDSTONE	
TOTAL (mm)	= 450



DATUM 24.0

CHAINAGE	EXISTING SURFACE	DESIGN LINE GRADING	WAE
350.000	31.307	30.266	
360.000	31.778	30.695	30.67
360.450	31.805	30.714	
375.000	32.662	31.338	✓
390.000	33.254	32.088	32.07
393.495	33.341	32.263	
405.000	33.492	32.790	32.77
413.495	33.400	33.117	
420.000	33.315	33.332	33.31
422.411	33.275	33.404	
424.835	33.245	33.472	
433.495	33.097	33.679	
435.000	33.060	33.711	33.68
435.495	33.048	33.721	33.7

LONGITUDINAL SECTION ROAD 21A
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

PAVEMENT EVALUATION

PAVEMENT DESIGN (REFER TO GEOTECHNICAL REPORT BY GEOTECHNIQUE PTY LTD (Ref: 12261/18-AC-R1) DATED 7 JUNE 2017)

ROAD 23 (LOCAL ROADS) ESA 5x10^4

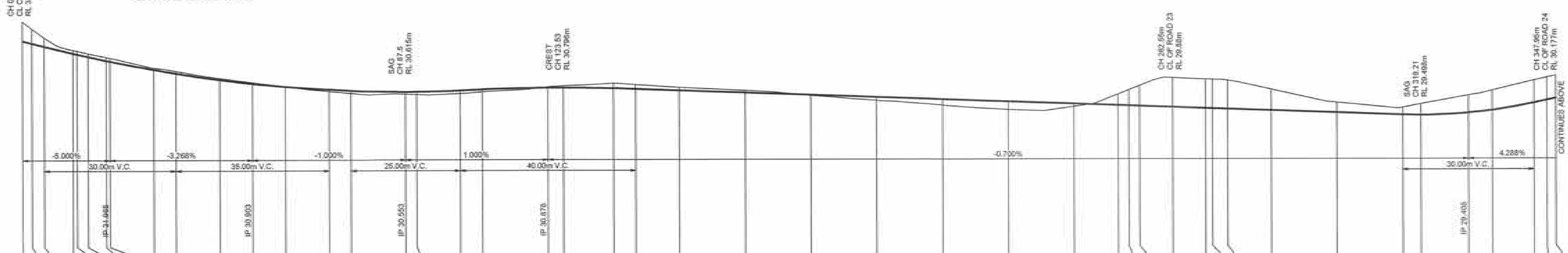
AC10 (mm)	= 2x25
ONE COAT HOT BITUMEN FLUSH SEAL	
BASE COURSE (mm) DGB20	= 150
SUB-BASE COURSE (mm)	= 200
CRUSHED SANDSTONE	
TOTAL (mm)	= 400

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01·08·18 REF: 16800-11

DATUM 23.0

CHAINAGE	EXISTING SURFACE	DESIGN LINE GRADING	WAE
0.000	29.766	29.664	29.68
3.148	30.020	29.570	
6.148	30.263	29.528	
9.148	30.505	29.570	
15.000	30.982	29.745	29.78
19.500	31.219	29.880	
21.800	31.312	29.811	
22.700	31.348	29.811	
23.150	31.366	29.834	
30.000	31.556	30.208	30.29
30.750	31.577	30.253	
40.650	31.827	30.915	
45.000	31.902	31.247	31.24
58.150	32.632	32.408	
60.000	32.750	32.587	32.58
64.748	33.041	33.048	33.04
75.000	33.876	34.043	34.02
90.000	34.936	35.500	35.47
98.500	35.483	36.326	
99.699	35.560	36.440	36.39
105.000	35.952	36.907	36.85
112.500	36.509	37.456	
118.161	36.883	37.784	
119.622	36.994	37.867	
120.000	37.022	37.876	37.87
126.500	37.492	38.132	
131.895	37.907	38.305	
134.201	38.107	38.240	
134.238	38.110	38.239	
136.000	38.176	38.222	38.3
136.123	38.274	38.212	
136.238	38.284	38.212	
138.238	38.457	38.246	
141.113	38.691	38.336	
143.418	38.868	38.409	38.43

LONGITUDINAL SECTION ROAD 23
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100



DATUM 23.0

CHAINAGE	EXISTING SURFACE	DESIGN LINE GRADING	WAE
0.000	33.853	32.965	32.92
2.169	33.614	32.857	
5.000	33.109	32.715	
11.525	32.546	32.401	32.29
12.472	32.506	32.358	
15.000	32.390	32.244	32.13
19.147	32.214	32.066	
20.000	32.178	32.030	
30.000	31.726	31.646	31.6
35.000	31.577	31.475	
45.000	31.249	31.180	31.15
52.500	31.061	31.002	
60.000	30.866	30.860	30.82
70.000	30.843	30.728	
75.000	30.555	30.676	30.65
87.500	30.511	30.615	
90.000	30.491	30.618	30.59
100.000	30.536	30.678	
105.000	30.610	30.723	30.69
120.000	30.827	30.793	30.76
123.530	30.873	30.796	
135.000	30.994	30.768	30.75
140.000	30.933	30.738	
150.000	30.810	30.668	30.65
165.000	30.659	30.563	30.53
180.000	30.422	30.458	30.43
195.000	30.192	30.353	30.33
210.000	29.974	30.248	30.24
225.000	29.768	30.143	30.13
240.000	29.907	30.038	30.03
250.050	30.469	29.968	
252.500	30.663	29.951	
255.000	30.860	29.933	✓
262.550	31.219	29.880	
270.000	31.154	29.828	29.82
271.586	31.144	29.817	
275.050	31.097	29.793	
285.000	30.682	29.723	29.71
300.000	30.079	29.618	29.61
315.000	29.843	29.513	29.5
319.210	30.002	29.498	
330.000	30.396	29.695	✓
335.450	30.623	29.718	
345.000	31.078	30.051	30.04
347.950	31.213	30.178	30.16
350.000	31.307	30.266	

LONGITUDINAL SECTION ROAD 21A
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

CONSTRUCTION CERTIFICATE

Certificate No. 20130299CC42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

1:500 (AT A1) 1:1000 (AT A3) — 10 0 10 20 30 40 50 METRES

1:100 (AT A1) 1:200 (AT A3) — 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

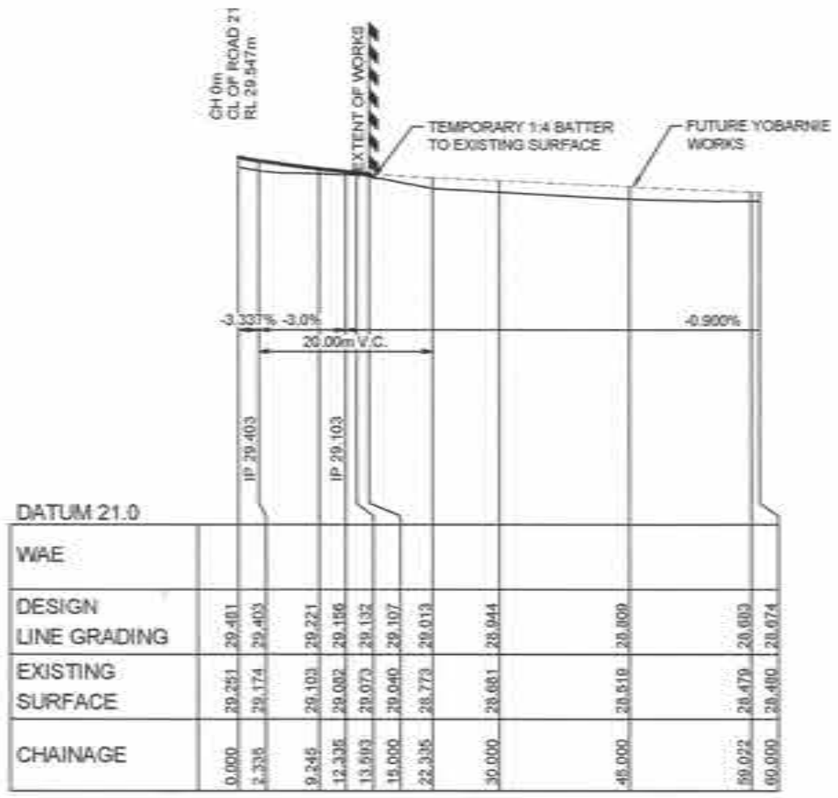
PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
ROAD LONGITUDINAL
SHEET 4 OF 9

PLAN No: 11018511/CC044 A
FILE No: 11018511CC044
SHEET SIZE: A1 ORIGINAL



LONGITUDINAL SECTION ROAD 28
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

PAVEMENT EVALUATION

PAVEMENT DESIGN (REFER TO GEOTECHNICAL REPORT BY GEOTECHNIQUE PTY LTD (Ref: 12261/18-AC-R1) DATED 7 JUNE 2017)

ROAD 28 (LOCAL ROADS) ESA $5x10^4$

AC10 (mm)	= 2x25
ONE COAT HOT BITUMEN FLUSH SEAL	
BASE COURSE (mm) DGB20	= 150
SUB-BASE COURSE (mm)	= 200
CRUSHED SANDSTONE	
TOTAL (mm)	= 400

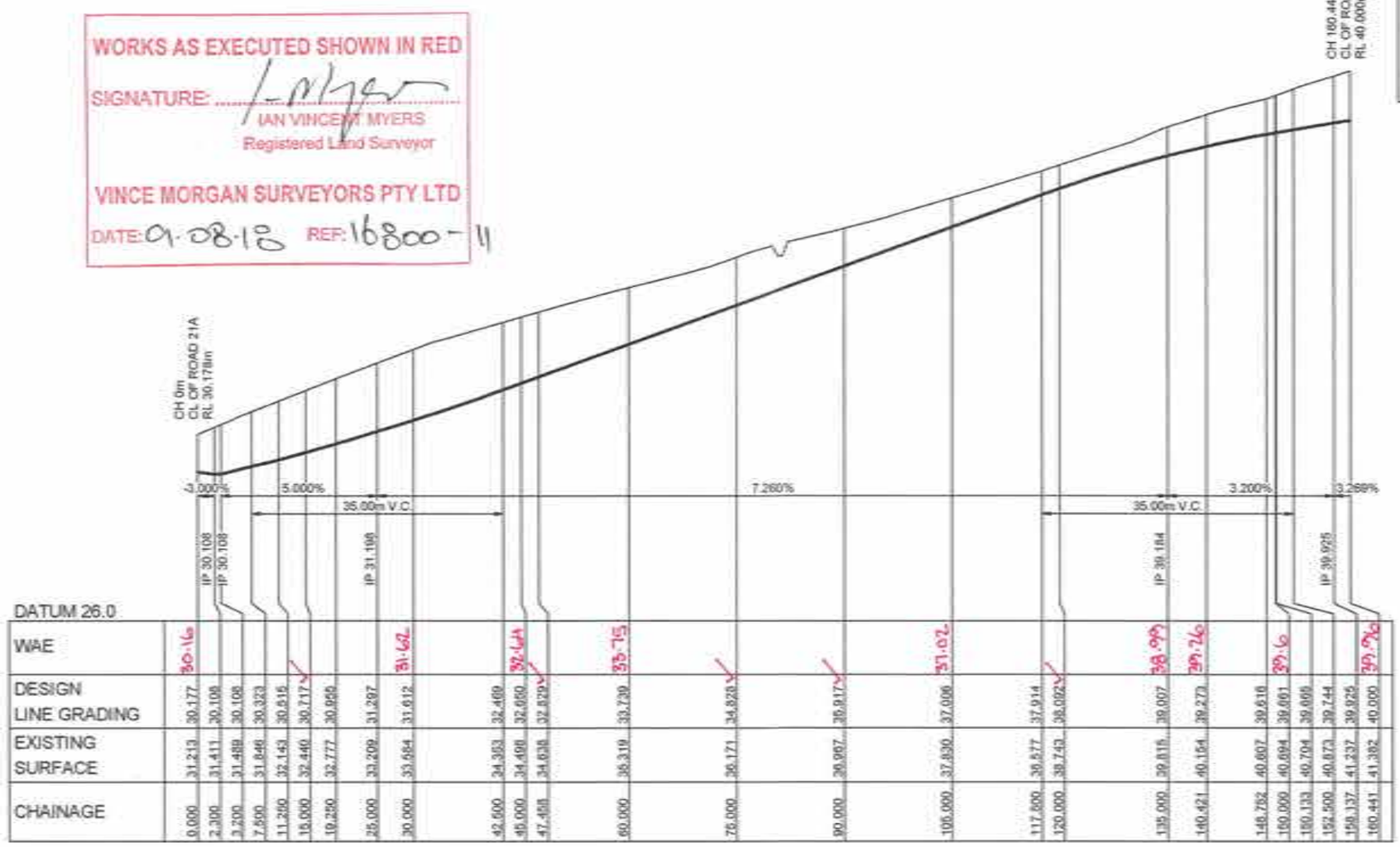
CONSTRUCTION CERTIFICATE

Certificate No. 20130229C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 09.08.18 REF: 16800-11



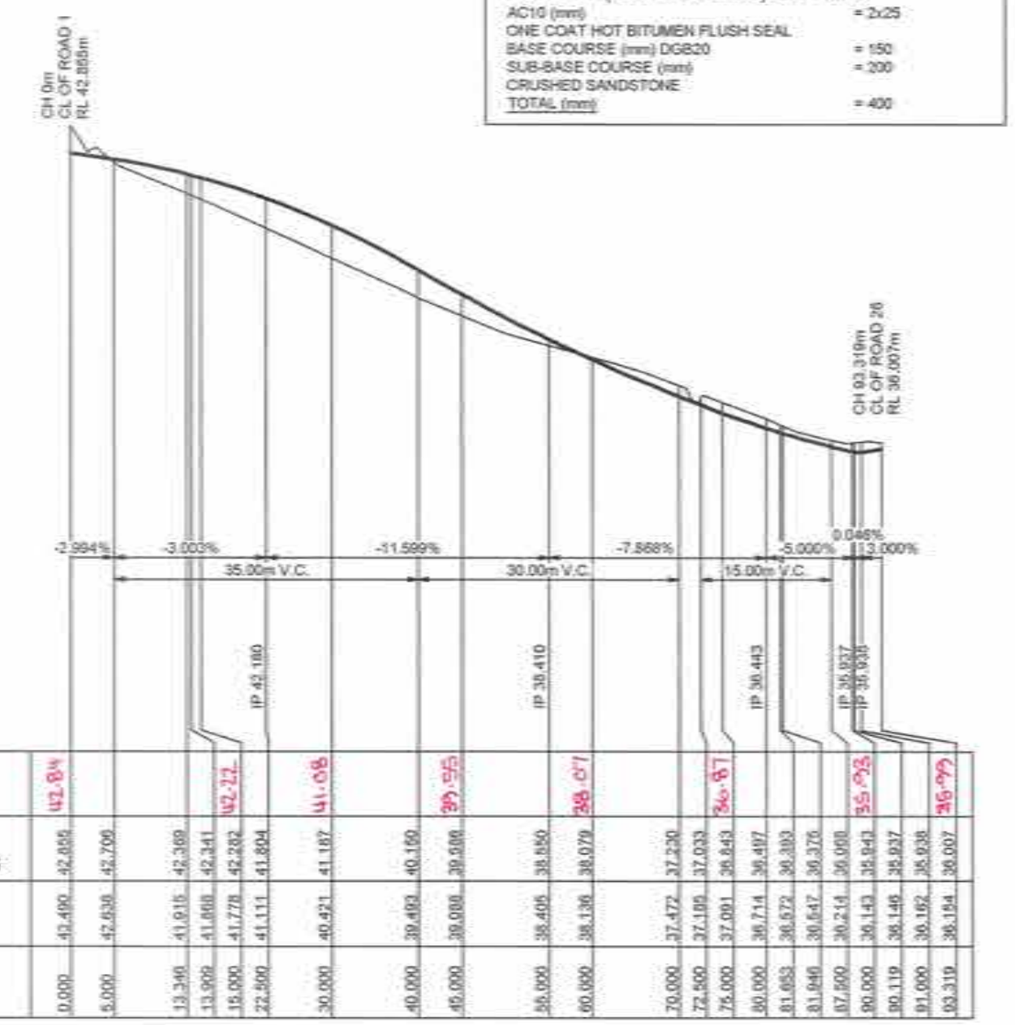
LONGITUDINAL SECTION ROAD 24
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

PAVEMENT EVALUATION

PAVEMENT DESIGN (REFER TO GEOTECHNICAL REPORT BY GEOTECHNIQUE PTY LTD (Ref: 12261/18-AC-R1) DATED 7 JUNE 2017)

ROAD 24 (LOCAL ROADS) ESA $5x10^4$

AC10 (mm)	= 2x25
ONE COAT HOT BITUMEN FLUSH SEAL	
BASE COURSE (mm) DGB20	= 150
SUB-BASE COURSE (mm)	= 200
CRUSHED SANDSTONE	
TOTAL (mm)	= 400



LONGITUDINAL SECTION ROAD 27
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

PAVEMENT EVALUATION

PAVEMENT DESIGN (REFER TO GEOTECHNICAL REPORT BY GEOTECHNIQUE PTY LTD (Ref: 12261/18-AC-R1) DATED 7 JUNE 2017)

ROAD 27 (LOCAL ROADS) ESA $5x10^4$

AC10 (mm)	= 2x25
ONE COAT HOT BITUMEN FLUSH SEAL	
BASE COURSE (mm) DGB20	= 150
SUB-BASE COURSE (mm)	= 200
CRUSHED SANDSTONE	
TOTAL (mm)	= 400

1:500 (AT A1) 1:1000 (AT A3) 10 0 10 20 30 40 50 METRES
1:100 (AT A1) 1:200 (AT A3) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

PRINCIPAL: REDBANK

ISSUED FOR CONSTRUCTION APPROVAL

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

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
ROAD LONGITUDINAL
SHEET 5 OF 9

PLAN No: 11018511/CC045 A
FILE No: 11018511CC045
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:34:42 PM File Name: J:\110185 - Redbank North Richmond Residential Precints\01 - Description\CD\CC\YEOMANS\11018511CC045.dwg

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: I. Myers

IAN VINCENT MYERS
Registered Land Surveyor

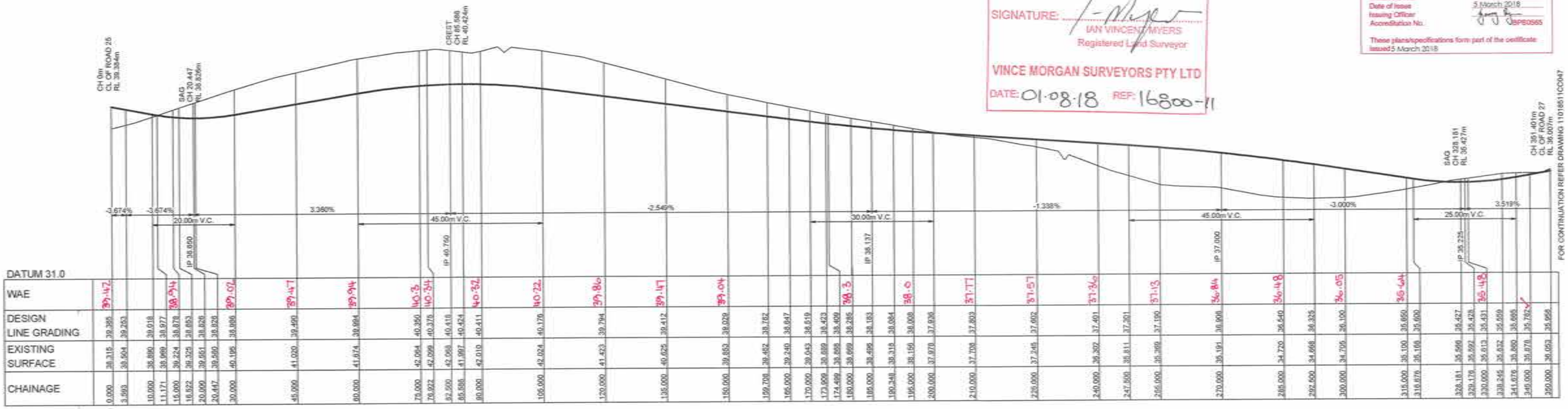
VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE

Certificate No. 20130229CA2
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018



LONGITUDINAL SECTION ROAD 26
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

PAVEMENT EVALUATION

PAVEMENT DESIGN (REFER TO GEOTECHNICAL REPORT BY GEOTECHNIQUE PTY LTD (Ref: 12261/18-AC-R1) DATED 7 JUNE 2017)

ROAD 26 (LOCAL ROADS) ESA $2x10^5$

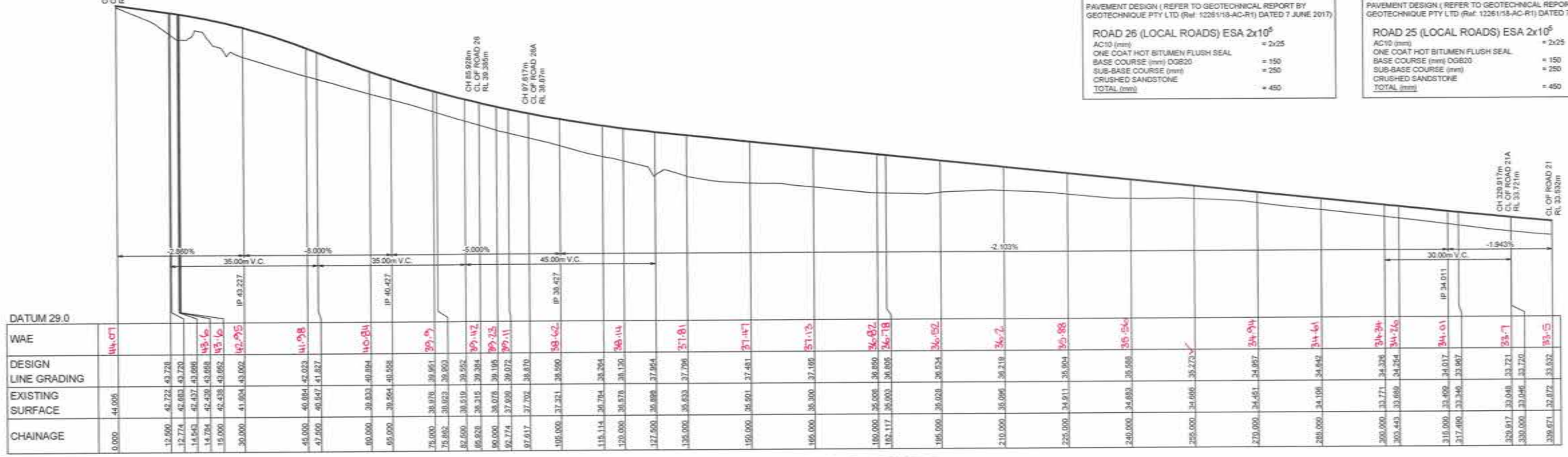
AC10 (mm)	= 2x25
ONE COAT HOT BITUMEN FLUSH SEAL	
BASE COURSE (mm) DGB20	= 150
SUB-BASE COURSE (mm)	= 250
CRUSHED SANDSTONE	
TOTAL (mm)	= 450

PAVEMENT EVALUATION

PAVEMENT DESIGN (REFER TO GEOTECHNICAL REPORT BY GEOTECHNIQUE PTY LTD (Ref: 12261/18-AC-R1) DATED 7 JUNE 2017)

ROAD 25 (LOCAL ROADS) ESA $2x10^5$

AC10 (mm)	= 2x25
ONE COAT HOT BITUMEN FLUSH SEAL	
BASE COURSE (mm) DGB20	= 150
SUB-BASE COURSE (mm)	= 250
CRUSHED SANDSTONE	
TOTAL (mm)	= 450



LONGITUDINAL SECTION ROAD 25
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

1:500 (AT A1) 1:1000 (AT A3) 10 0 10 20 30 40 50 METRES

1:100 (AT A1) 1:200 (AT A3) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/05/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

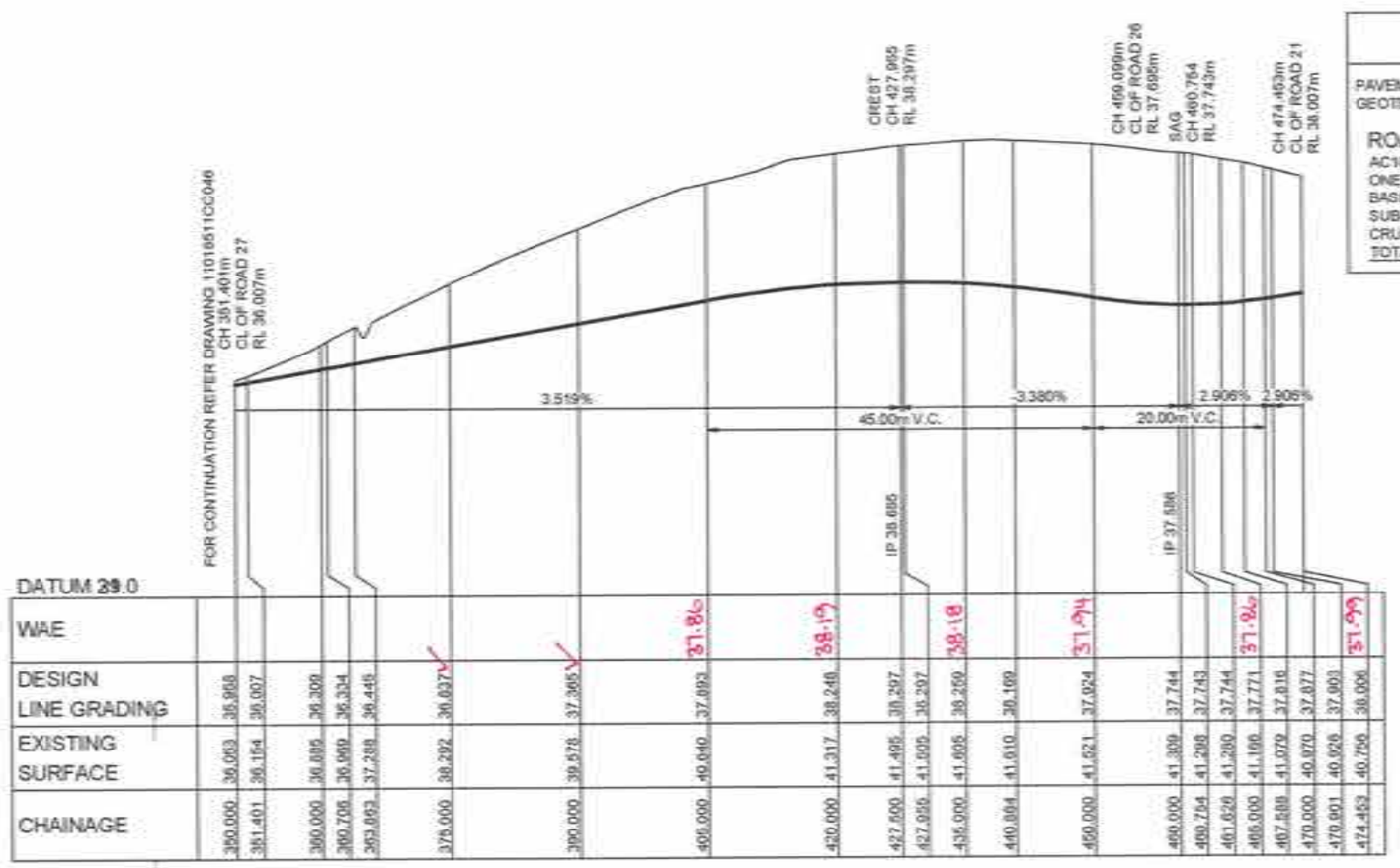
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
ROAD LONGITUDINAL
SHEET 6 OF 9

PLAN No: 11018511/CC046 A
FILE No: 11018511CC046
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:34:55 PM File Name: J:\11\10186 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC046.dwg



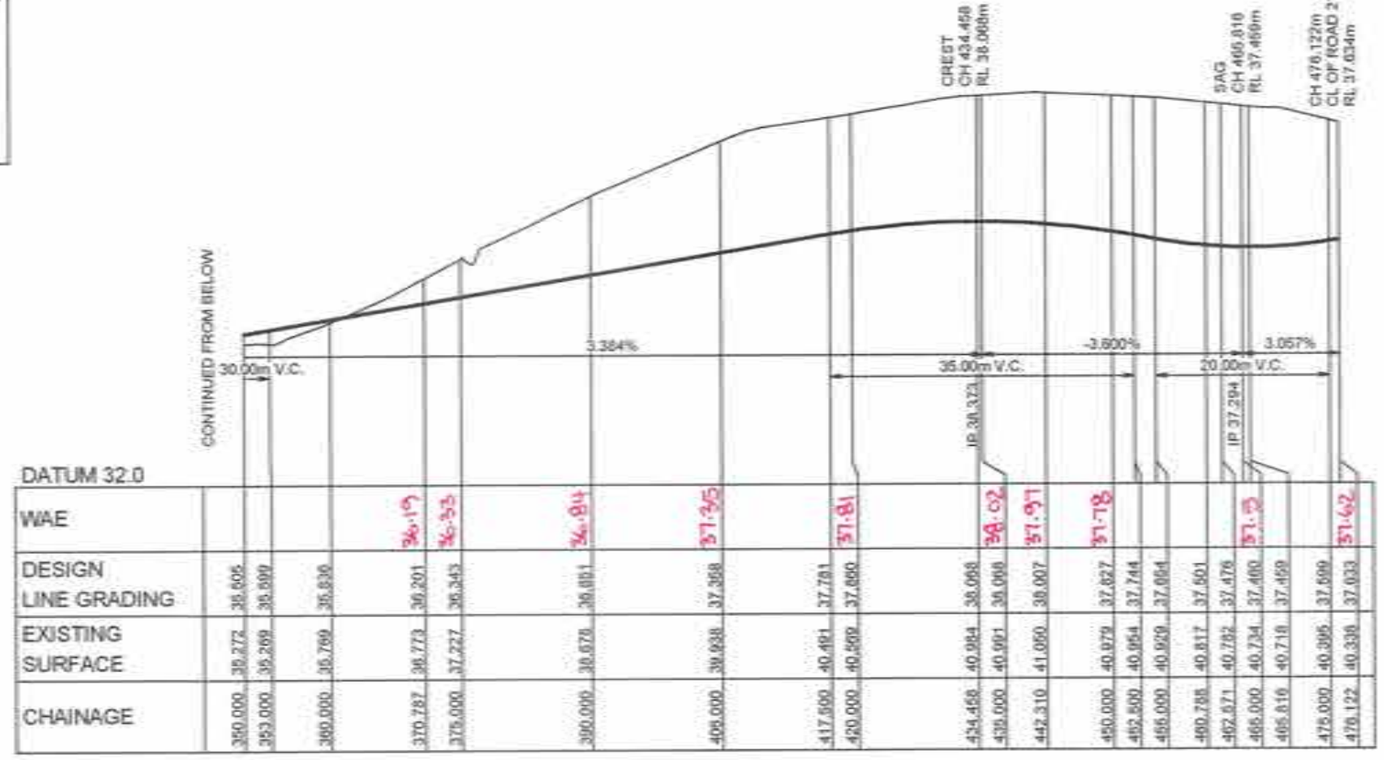
LONGITUDINAL SECTION ROAD 26
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

PAVEMENT EVALUATION

PAVEMENT DESIGN (REFER TO GEOTECHNICAL REPORT BY GEOTECHNIQUE PTY LTD (Ref: 12261/18-AC-R1) DATED 7 JUNE 2017)

ROAD 26 (LOCAL ROADS) ESA $2x10^5$

AC10 (mm)	= 2x25
ONE COAT HOT BITUMEN FLUSH SEAL	
BASE COURSE (mm) DGB20	= 150
SUB-BASE COURSE (mm)	= 250
CRUSHED SANDSTONE	
TOTAL (mm)	= 450



LONGITUDINAL SECTION ROAD 26A
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

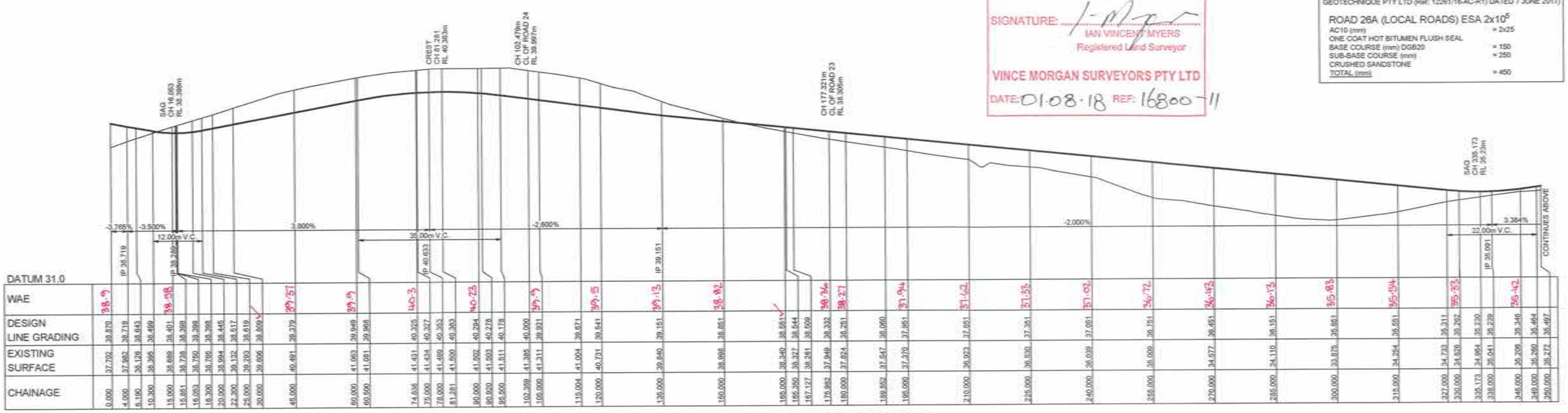
WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ...
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

PAVEMENT EVALUATION

PAVEMENT DESIGN (REFER TO GEOTECHNICAL REPORT BY GEOTECHNIQUE PTY LTD (Ref: 12261/18-AC-R1) DATED 7 JUNE 2017)

ROAD 26A (LOCAL ROADS) ESA $2x10^5$

AC10 (mm)	= 2x25
ONE COAT HOT BITUMEN FLUSH SEAL	
BASE COURSE (mm) DGB20	= 150
SUB-BASE COURSE (mm)	= 250
CRUSHED SANDSTONE	
TOTAL (mm)	= 450



LONGITUDINAL SECTION ROAD 26A
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

CONSTRUCTION CERTIFICATE

Certificate No: 20130299C42
Date of Issue: 5 March 2018
Issuing Officer:
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

1:500 (AT A1) 1:1000 (AT A3) — 10 0 10 20 30 40 50 METRES
1:100 (AT A1) 1:200 (AT A3) — 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
ROAD LONGITUDINAL
SHEET 7 OF 9

PLAN No: 11018511/CC047 A
FILE No: 11018511CC047
SHEET SIZE: A1 ORIGINAL

Plotted: 29 January, 2018 4:35:08 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Design\CD\CC\YEOMANS\11018511CC047.dwg

WORK AS EXECUTED SHOWN IN RED

SIGNATURE.....

PETER ROBERT WARWICK
REGISTERED LAND SURVEYOR

VINCE MORGAN SURVEYORS PTY LTD

DATE: 14/01/20 REF:16800-11

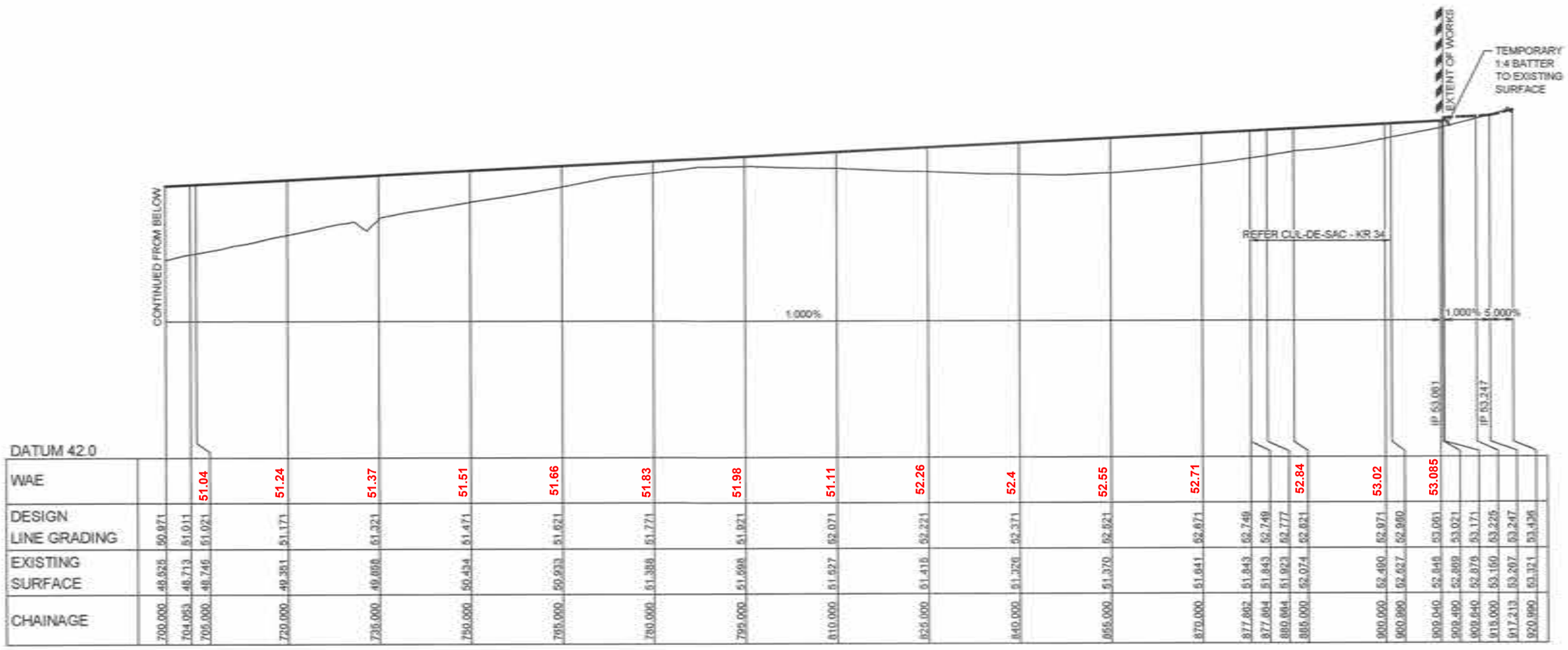
WORKS AS EXECUTED SHOWN IN RED

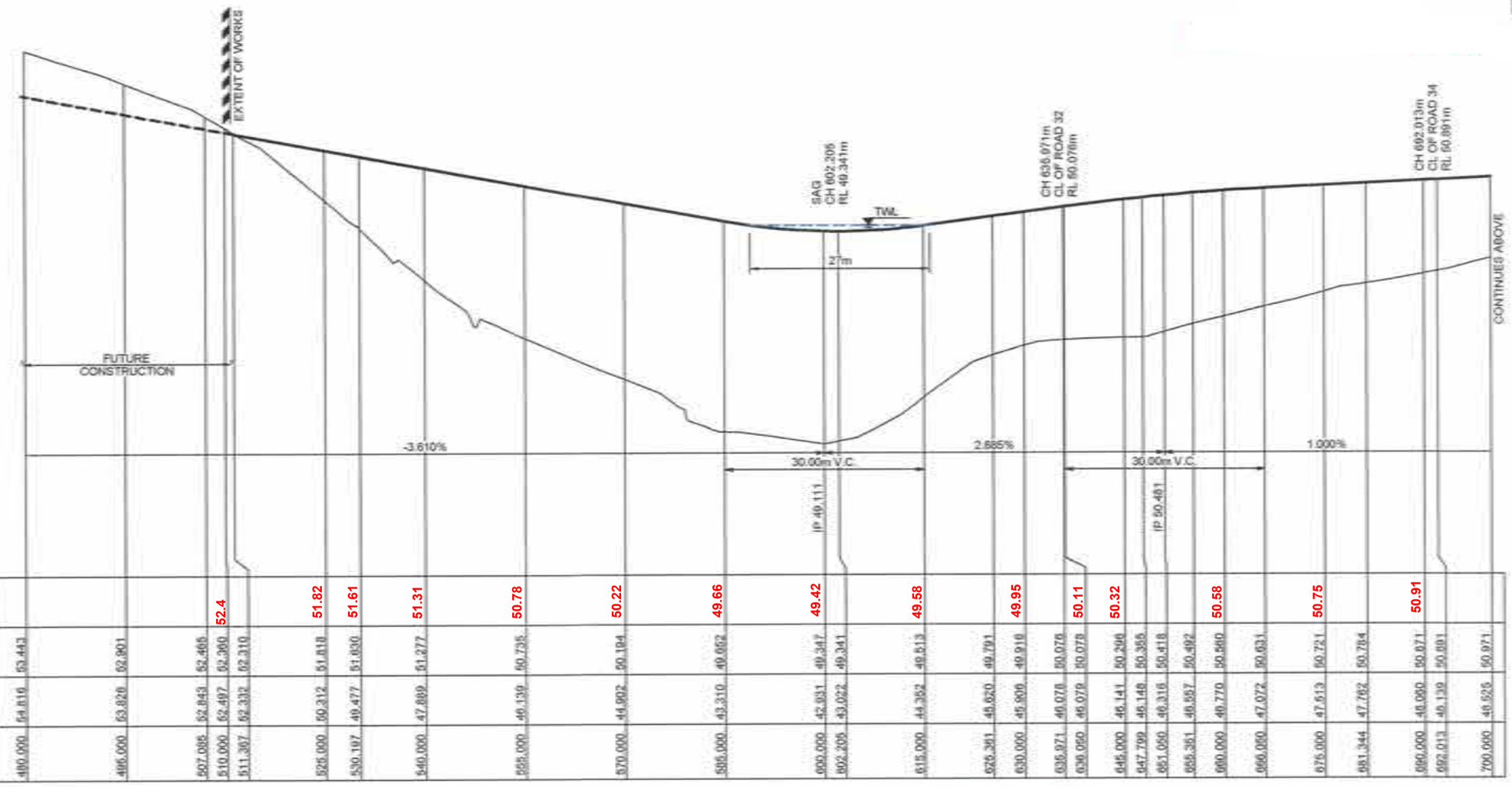
SIGNATURE:.....

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01-08-18 REF: 16800-11





BASIN 4 OVERLAND FLOW :

BASIN OUTLET 2x900Ø Q_{100} = 5.4 m³ / s
ASSUME 50% BLOCKAGE
OVERFLOW = 2.7 m³ / s
TOP RL 49.52 ; LENGTH = 27m
MAX DEPTH = 0.28m

PAVEMENT EVALUATION

PAVEMENT DESIGN (REFER TO GEOTECHNICAL REPORT BY GEOTECHNIQUE PTY LTD (Ref: 12261/18-AC-R1) DATED 7 JUNE 2017)

ROAD 30 (LOCAL ROADS) ESA $2x10^6$

AC10 (mm)	= 2x25
ONE COAT HOT BITUMEN FLUSH SEAL	
BASE COURSE (mm) DGB20	= 150
SUB-BASE COURSE (mm)	= 250
CRUSHED SANDSTONE	
TOTAL (mm)	= 450

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

1:500 (AT A1) 1:1000 (AT A3) 10 0 10 20 30 40 50 METRES

1:100 (AT A1) 1:200 (AT A3) 3 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RD	MS	15/05/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

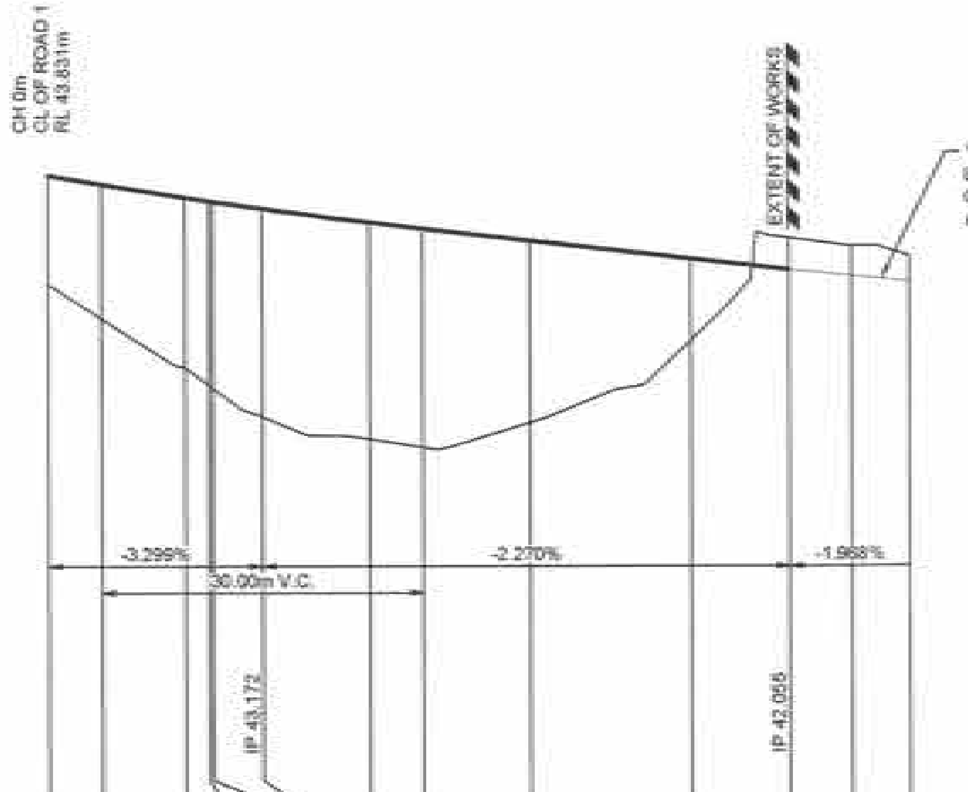
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
ROAD LONGITUDINAL
SHEET 8 OF 9

PLAN No: 11018511/CC048 A
FILE No: 11018511CC048
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:35:20 PM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC048.dwg

Plotted: 25 January , 2018 4:35:33 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC049.dwg



DATUM 32.0

CHAINAGE	EXISTING SURFACE	DESIGN LINE GRADING	WAE
0.000	41.784	43.832	43.77
5.000	41.137	43.667	
12.777	40.228	43.420	
15.000	39.889	43.384	43.37
15.341	39.838	43.344	
20.000	39.300	43.210	
30.000	38.884	42.949	42.92
35.000	38.732	42.831	
45.000	39.186	42.604	42.59
60.000	40.724	42.264	42.24
69.200	42.652	42.056	
75.000	42.504	41.941	
80.467	42.318	41.833	

LONGITUDINAL SECTION ROAD Y02
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

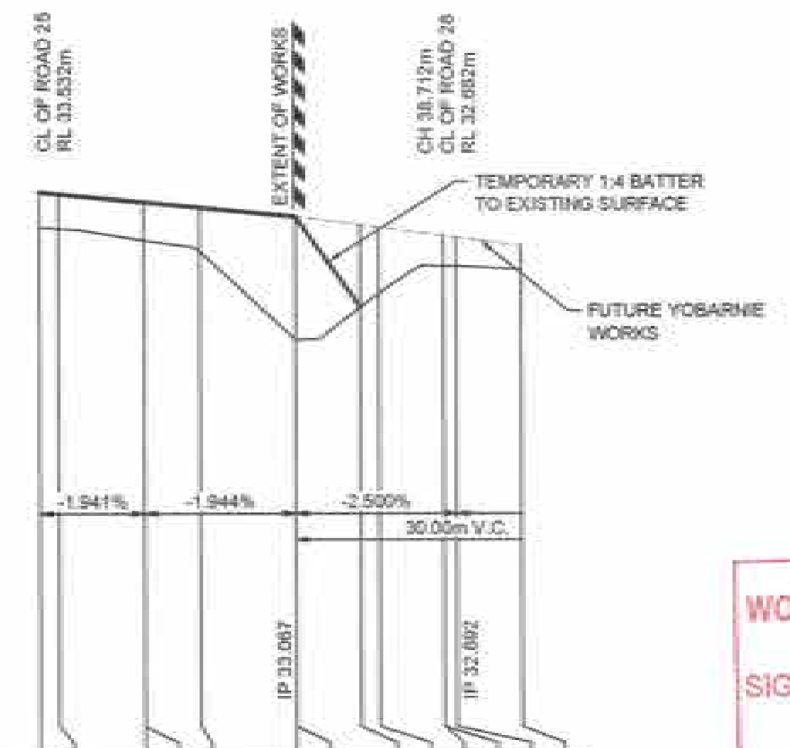
PAVEMENT EVALUATION

PAVEMENT DESIGN (REFER TO GEOTECHNICAL REPORT BY GEOTECHNIQUE PTY LTD (Ref: 12261/18-AC-R1) DATED 7 JUNE 2017)

ROAD YO2 & 29 (LOCAL ROADS) ESA $2x10^5$

AC10 (mm)	= 2x25
ONE COAT HOT BITUMEN FLUSH SEAL	
BASE COURSE (mm) DGB20	= 150
SUB-BASE COURSE (mm)	= 250
CRUSHED SANDSTONE	
TOTAL (mm)	= 450

WORK AS EXECUTED SHOWN IN RED
SIGNATURE..
PETER ROBERT WARWICK
REGISTERED LAND SURVEYOR
VINCE MORGAN SURVEYORS PTY LTD
DATE: 14/01/20 REF:16800-11



DATUM 23.0

CHAINAGE	EXISTING SURFACE	DESIGN LINE GRADING	WAE
0.000	32.872	33.532	
1.791	32.847	33.497	
8.789	32.622	33.342	
9.789	32.622	33.342	
15.000	32.412	33.240	
23.903	30.761	33.067	
23.938	30.757	33.066	
30.000	31.367	32.912	
31.737	31.625	32.867	
37.712	32.137	32.709	
37.712	32.137	32.709	
38.903	32.132	32.677	
45.000	32.072	32.510	

LONGITUDINAL SECTION ROAD 29
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

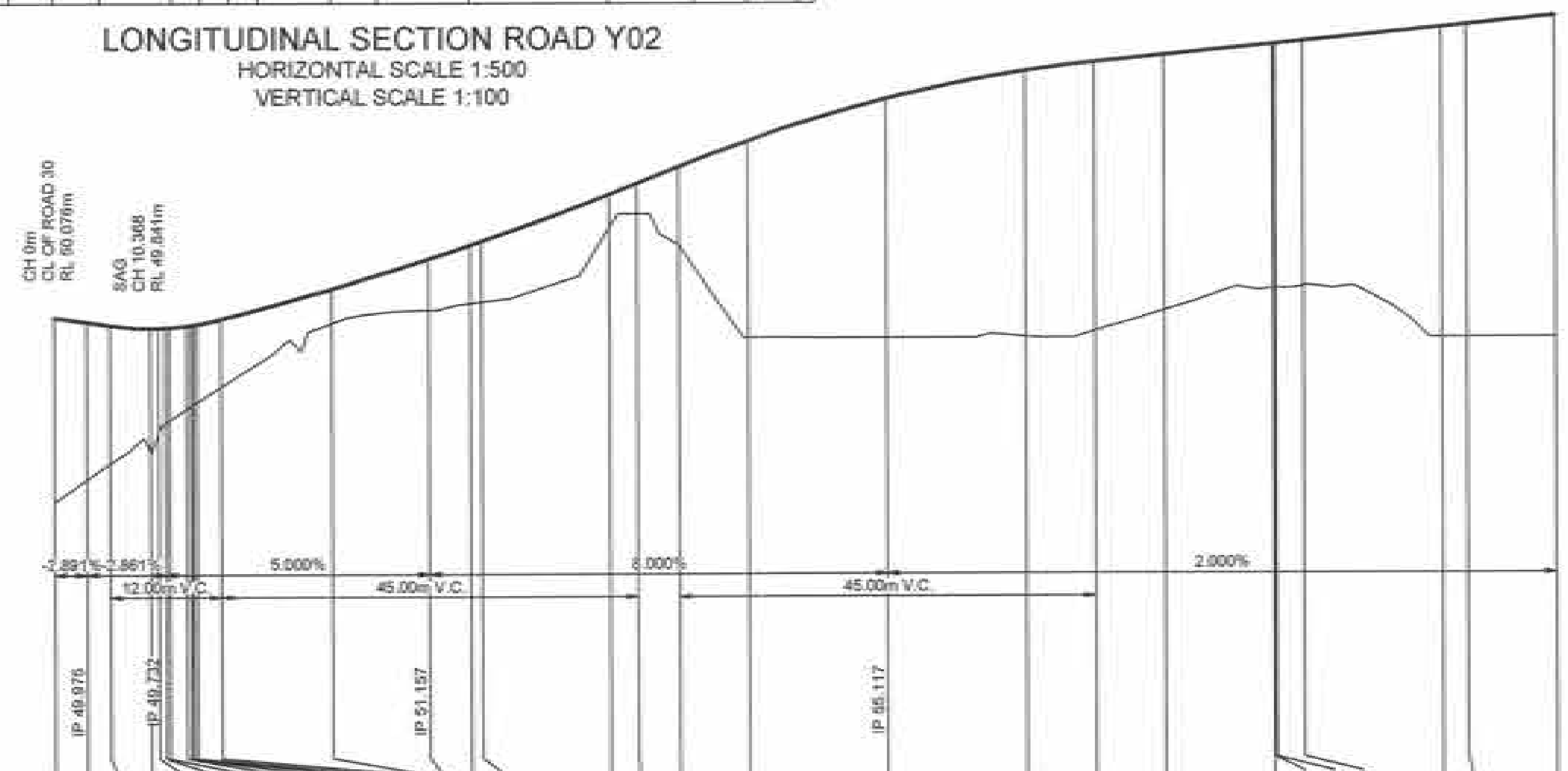
NOT BUILT AT TIME OF SURVEY

CONSTRUCTION CERTIFICATE

Certificate No.	20130299C42
Date of Issue	5 March 2018
Issuing Officer	[signature]
Accreditation No.	BPB0085

These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01-08-18 REF: 16800-11



DATUM 40.0

CHAINAGE	EXISTING SURFACE	DESIGN LINE GRADING	WAE
0.000	46.078	50.077	50.11
3.518	46.569	49.975	50.02
6.000	46.912	49.904	49.97
10.368	47.186	49.841	
11.272	47.550	49.844	
12.000	47.771	49.850	
12.436	47.834	49.855	
14.273	48.082	49.891	
14.803	48.150	49.906	50.02
15.000	48.176	49.912	50.02
15.405	48.228	49.924	
18.000	48.561	50.032	
30.000	49.938	50.680	50.72
40.500	50.218	51.326	
45.000	50.367	51.625	51.69
46.145	50.397	51.703	51.77
60.000	51.981	52.720	52.78
63.000	52.296	52.957	
67.500	51.629	53.317	
75.000	49.817	53.880	53.9
90.000	49.600	54.780	54.78
105.000	49.623	55.380	55.38
112.500	49.739	55.567	
120.000	50.183	55.717	55.75
131.780	50.647	55.953	
131.815	50.648	55.953	
132.018	50.651	55.957	56.01
135.000	50.712	56.017	56.07
150.000	49.602	56.317	56.38
152.680	49.602	56.371	56.44
162.234	49.603		

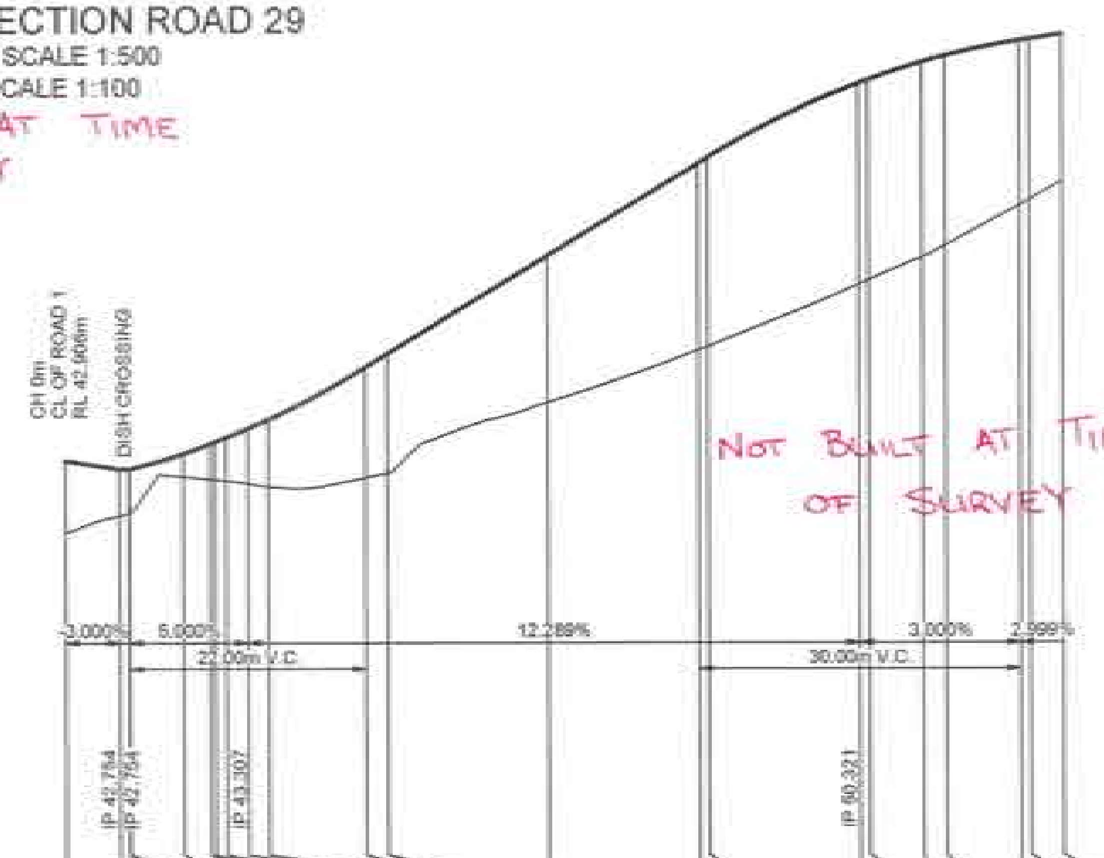
LONGITUDINAL SECTION ROAD 32
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

PAVEMENT EVALUATION

PAVEMENT DESIGN (REFER TO GEOTECHNICAL REPORT BY GEOTECHNIQUE PTY LTD (Ref: 12261/18-AC-R1) DATED 7 JUNE 2017)

ROAD 32 & 34 (LOCAL ROADS) ESA $5x10^4$

AC10 (mm)	= 2x25
ONE COAT HOT BITUMEN FLUSH SEAL	
BASE COURSE (mm) DGB20	= 150
SUB-BASE COURSE (mm)	= 250
CRUSHED SANDSTONE	
TOTAL (mm)	= 400



NOT BUILT AT TIME OF SURVEY

DATUM 35.0

CHAINAGE	EXISTING SURFACE	DESIGN LINE GRADING	WAE
0.000	41.553	42.906	42.88
5.050	41.885	42.754	
5.950	41.930	42.754	
6.015	41.933	42.757	
10.949	42.611	43.044	✓
13.479	42.565	43.223	
13.930	42.557	43.257	
15.000	42.538	43.340	43.35
17.015	42.491	43.508	
18.905	42.421	43.677	
28.015	42.587	44.659	
30.000	42.671	44.903	44.89
46.000	43.989	46.746	✓
59.093	44.982	48.476	
60.000	45.051	48.588	
74.093	46.207	49.973	
75.000	46.288	50.041	
79.992	46.716	50.370	
82.183	46.938	50.490	
89.093	47.689	50.771	
90.000	47.791	50.799	
93.070	48.139	50.891	

LONGITUDINAL SECTION ROAD 34
HORIZONTAL SCALE 1:500
VERTICAL SCALE 1:100

1:500 (AT A1) 1:1000 (AT A3) METRES
1:100 (AT A1) 1:200 (AT A3) METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

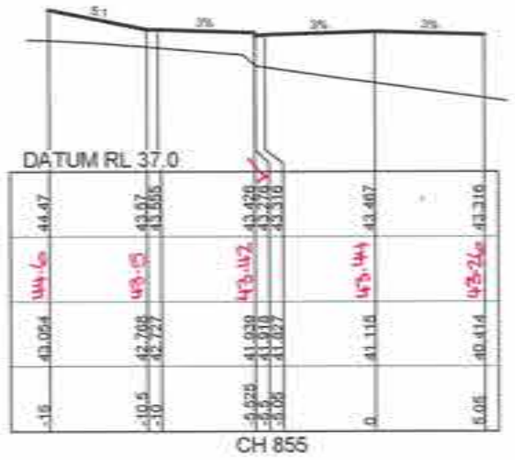
PRINCIPAL: REDBANK

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

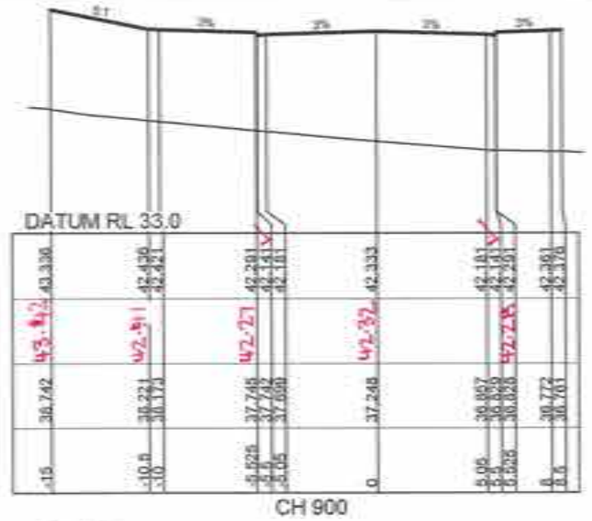
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
ROAD LONGITUDINAL
SHEET 9 OF 9

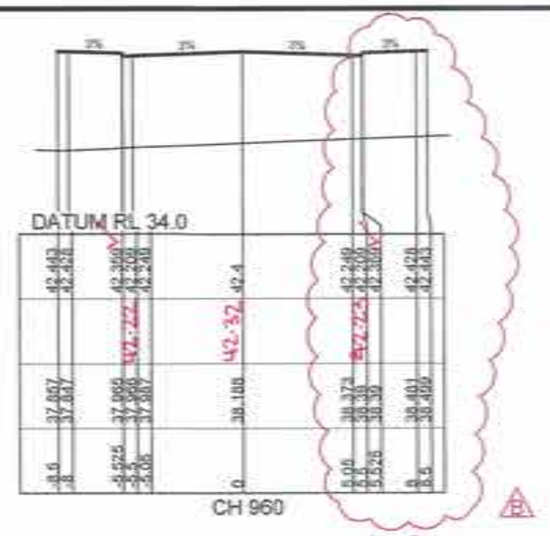
PLAN No: 11018511/CC049 A
FILE No: 11018511CC049
SHEET SIZE: A1 ORIGINAL



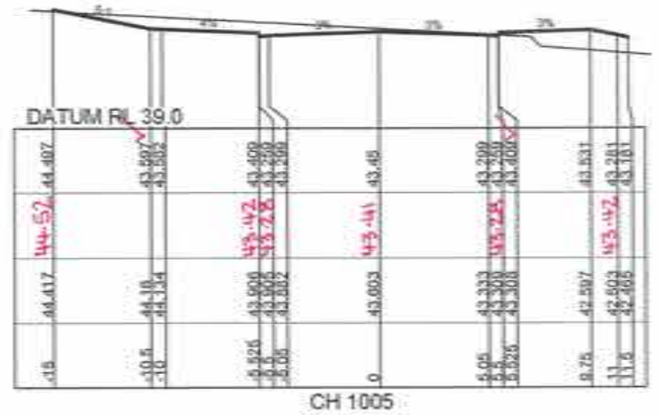
CH 855



CH 900



CH 960



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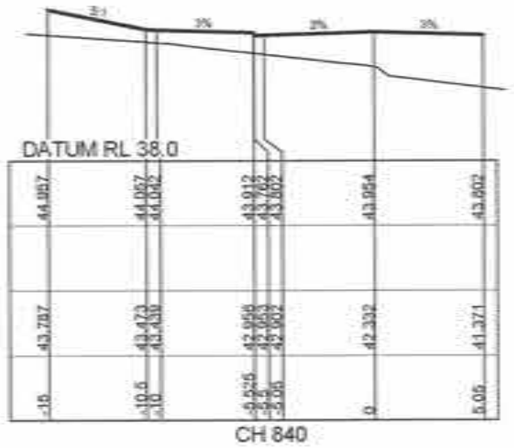

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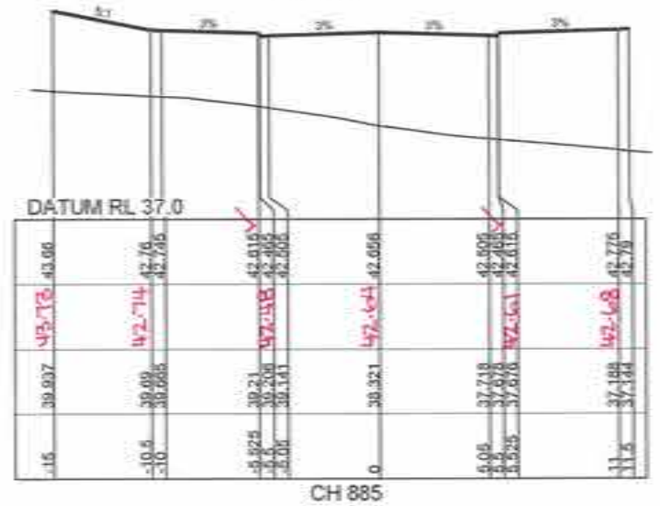

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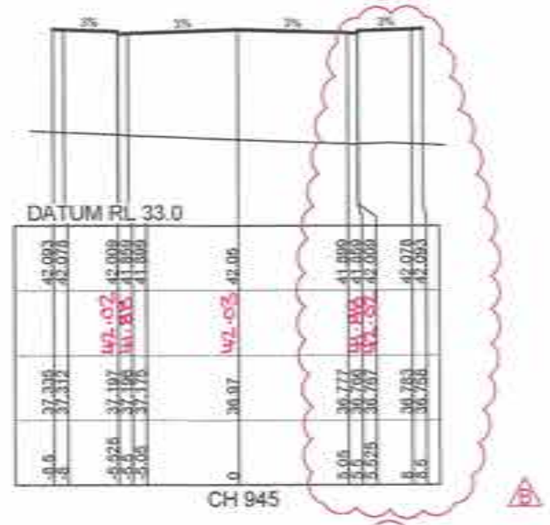

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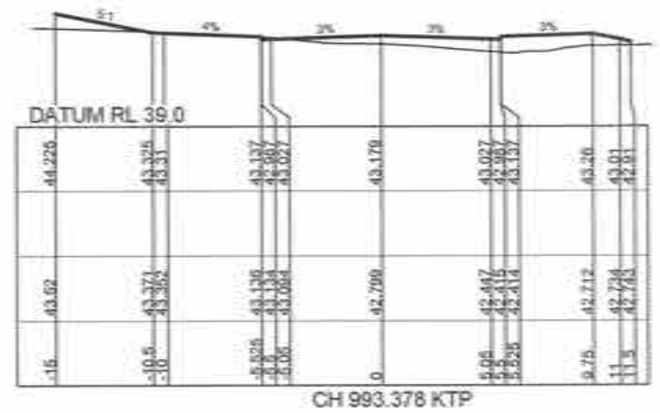
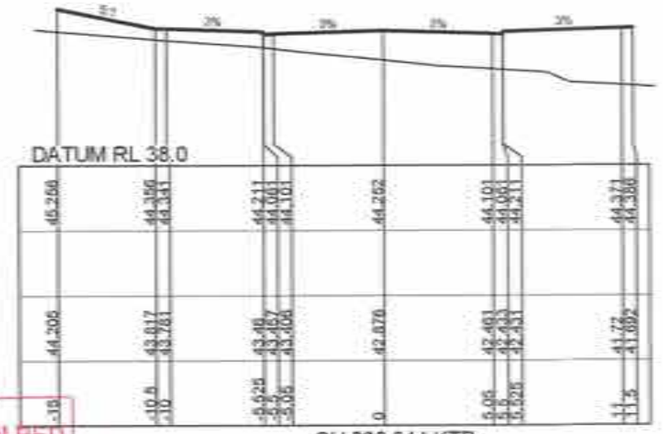
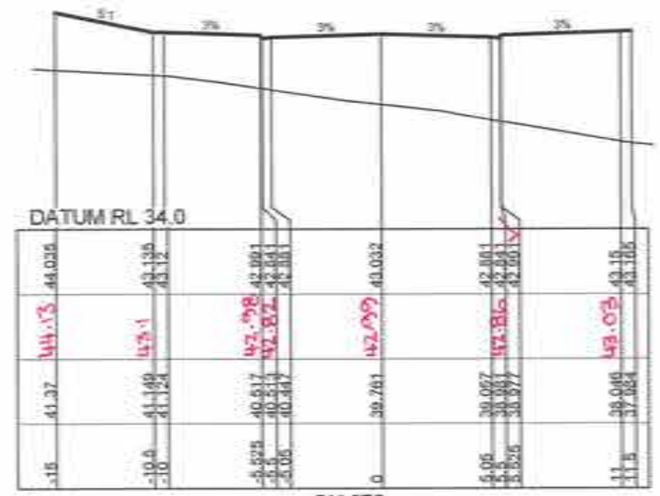


CH 993.378 KTP



CH 830.944 KTP



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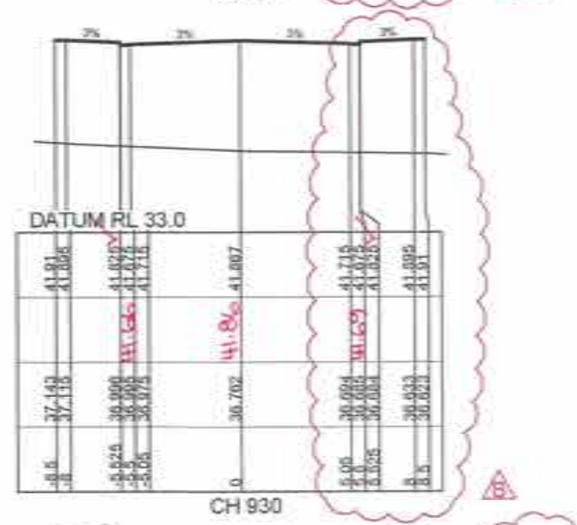
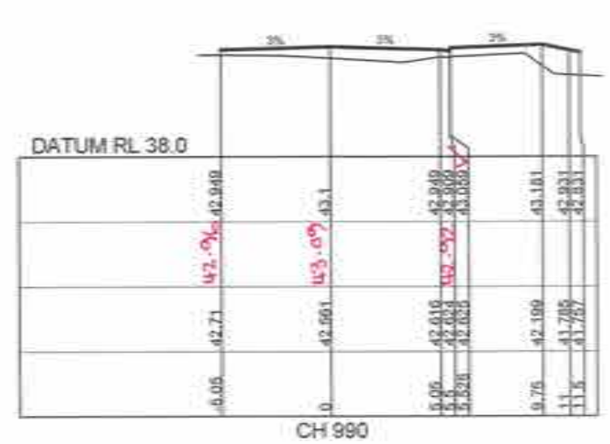
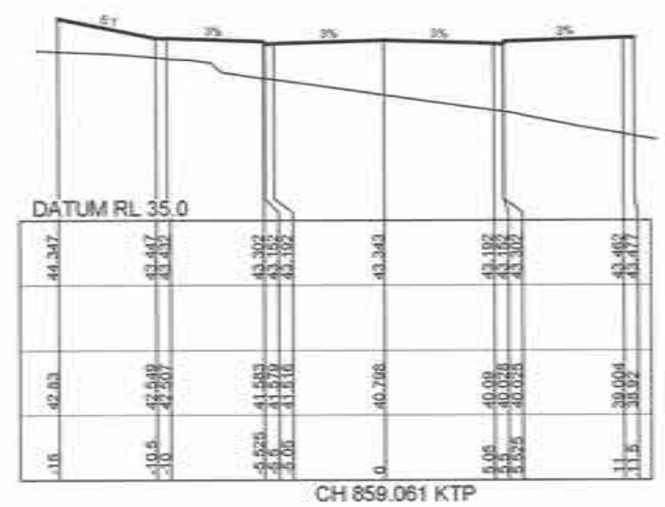


CH 930



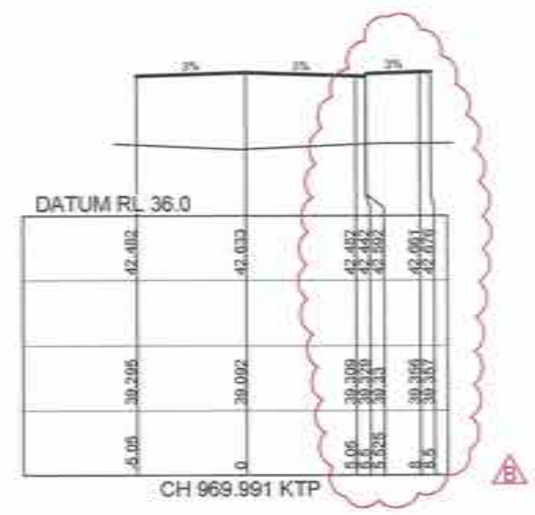
CH 990

CH 825 FUTURE



CH 859.061 KTP

CH 915



CH 969.991 KTP

CROSS SECTIONS ROAD 1

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE

Certificate No. 20130099C42
Date of Issue: 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

1:200 (AT A1)
1:400 (AT A3)

4 2 0 4 8 12 16 20
METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	BOUNDARY AMENDED	MP	LF	RO	RO	12/02/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/09/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 1 OF 19

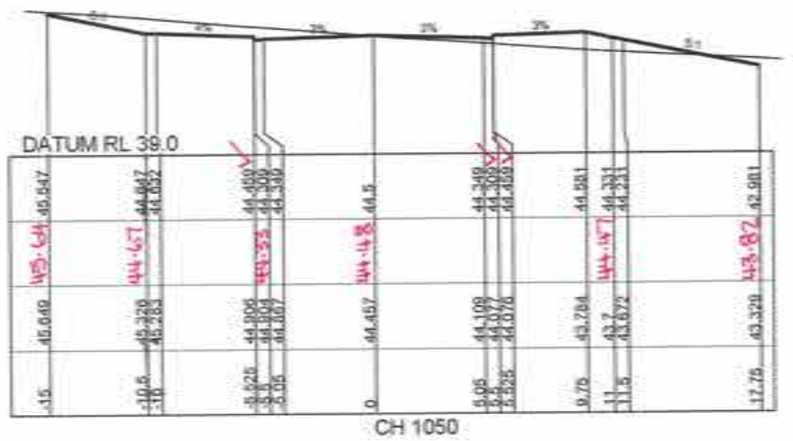
PLAN No: 11018511/CC061 B
FILE No: 11018511CC061
SHEET SIZE: A1 ORIGINAL

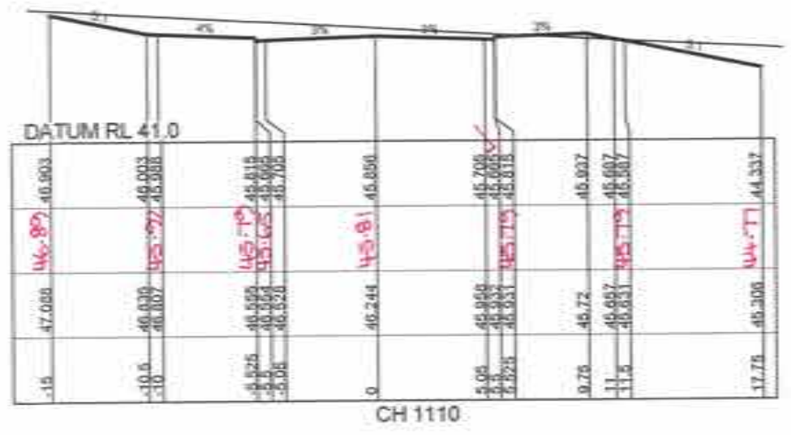
Plotted: 12 February , 2018 2:08:56 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CGYEOMANS\11018511CC061.dwg

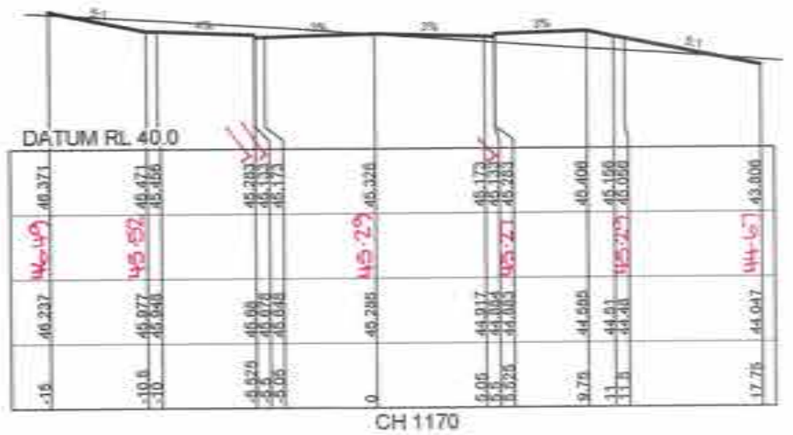
CONSTRUCTION CERTIFICATE

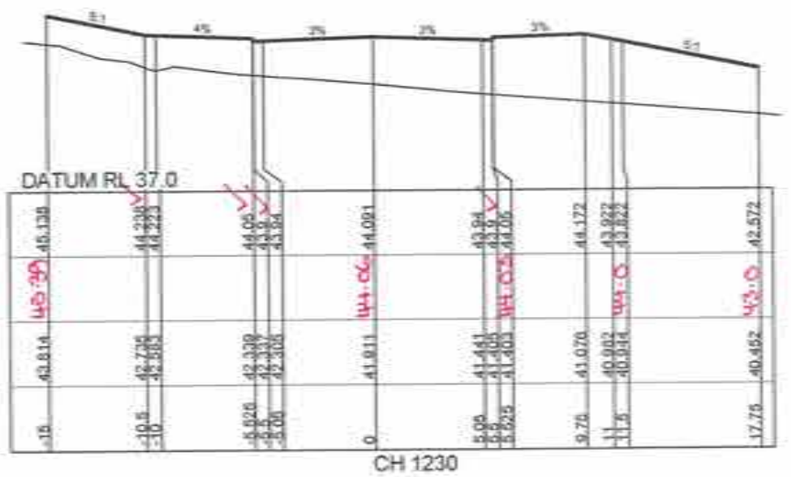
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

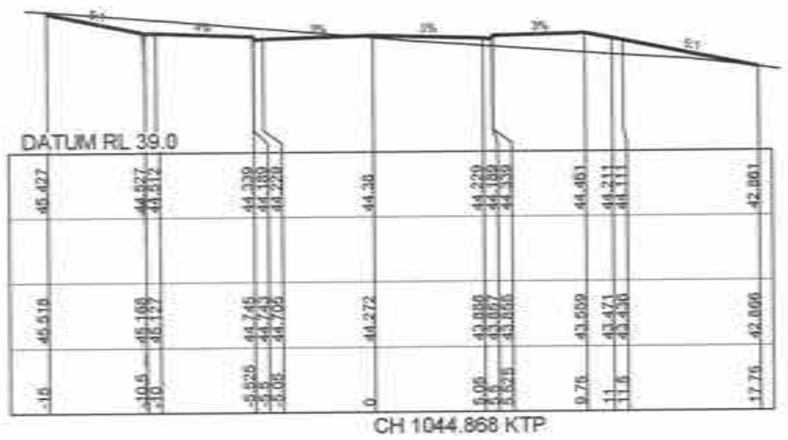
These plans/specifications form part of the certificate issued 5 March 2018

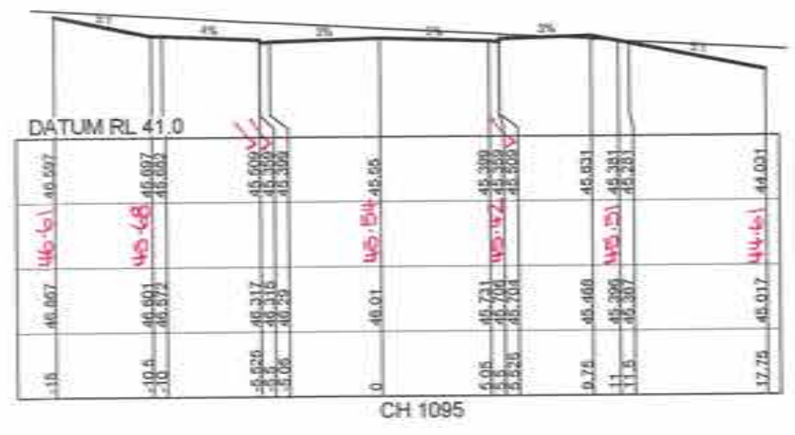


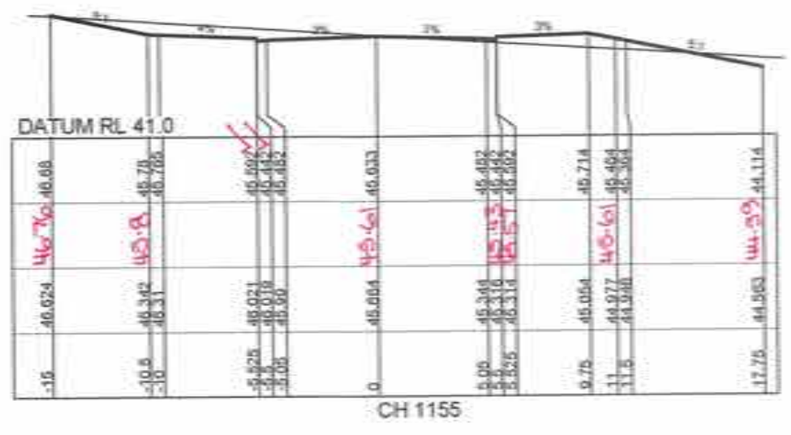


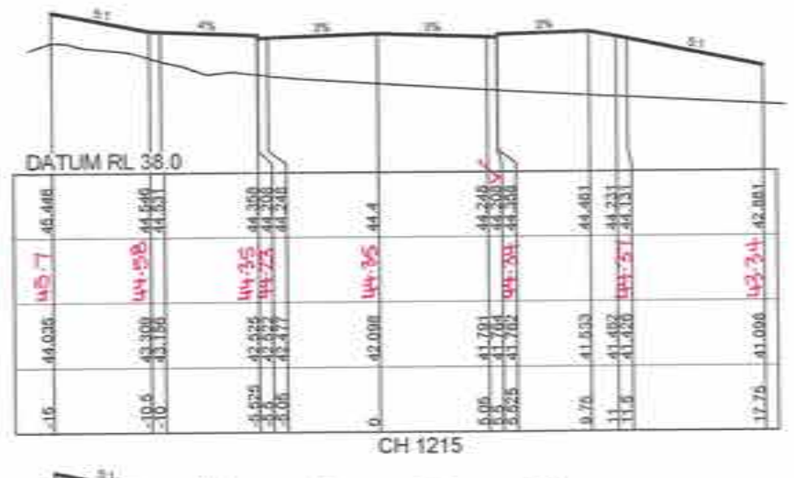


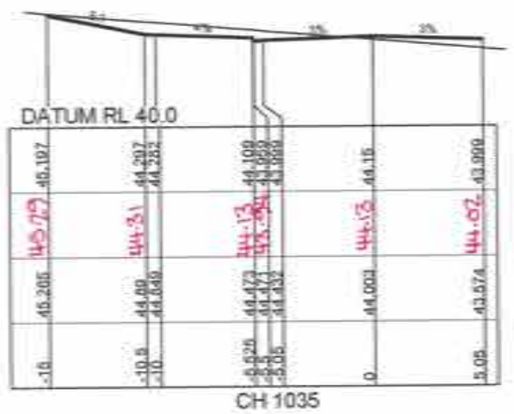


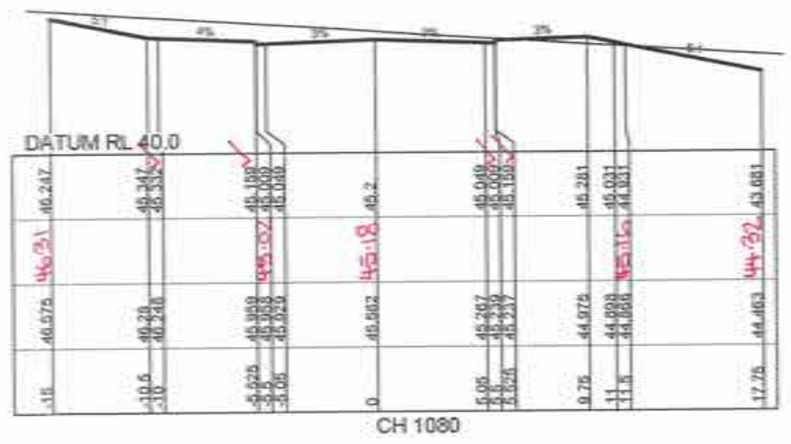


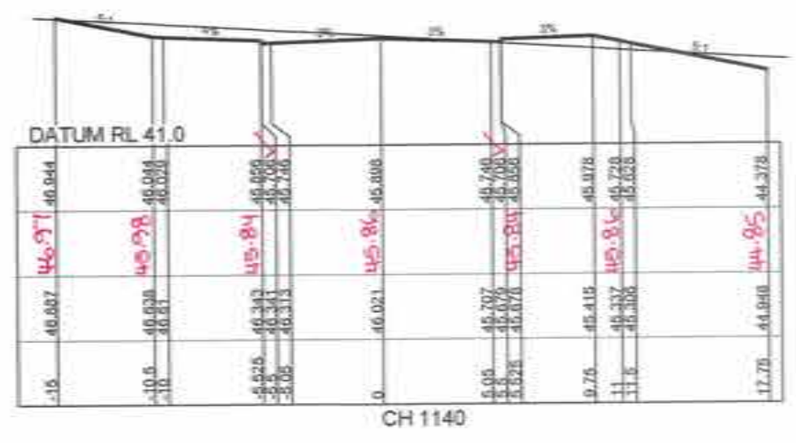


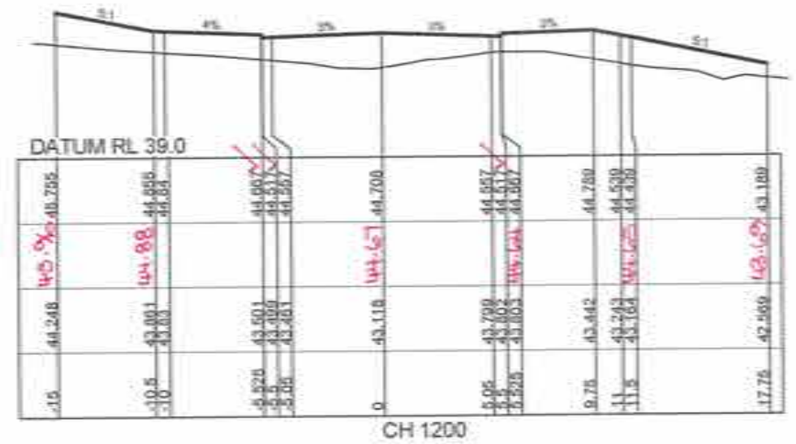


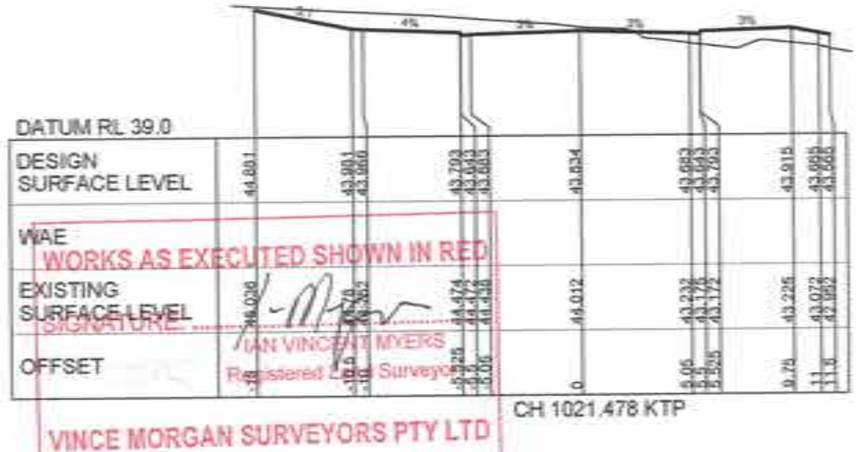


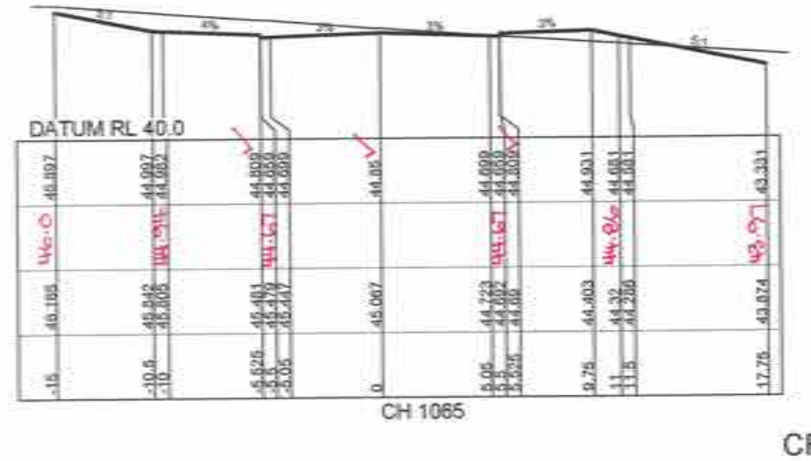


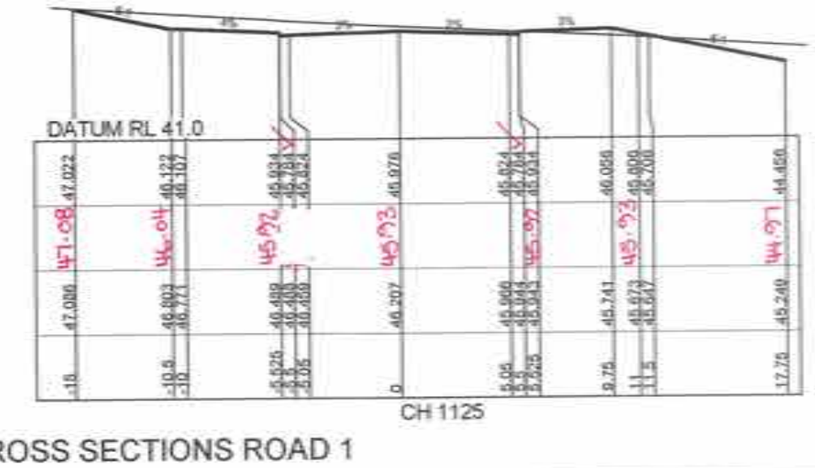


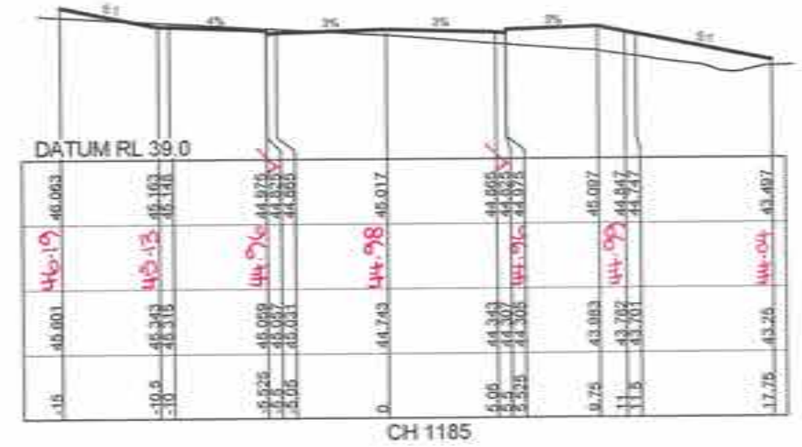












WORKS AS EXECUTED SHOWN IN RED
SIGNATURE
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 11800-11

CROSS SECTIONS ROAD 1

1:200 (AT A1)
1:400 (AT A3)
4 2 0 4 8 12 16 20
METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 2 OF 19

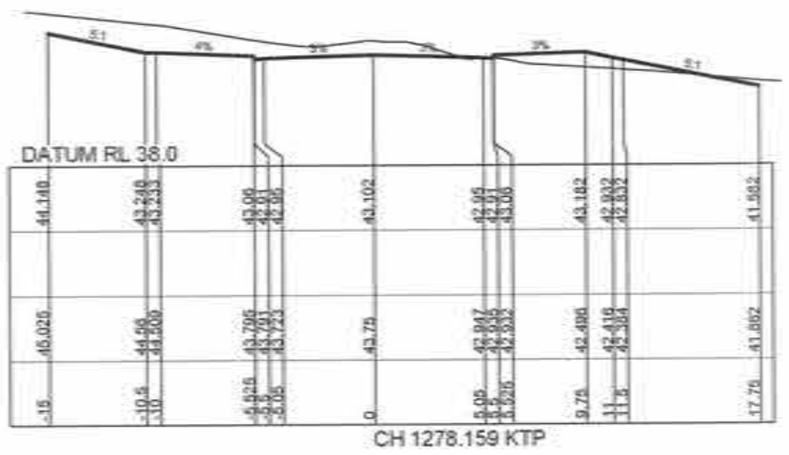
PLAN No: 11018511/CC062 A
FILE No: 11018511CC062
SHEET SIZE: A1 ORIGINAL

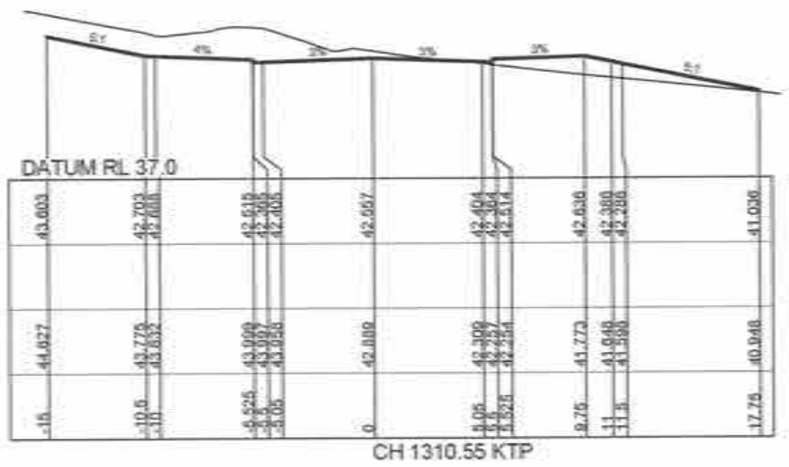
Plotted: 26 January, 2018 4:36:59 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CIDCC\YEOMANS\11018511CC062.dwg

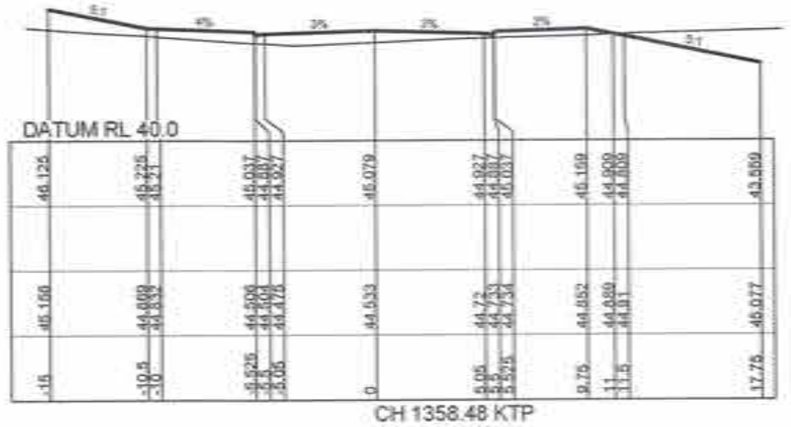
CONSTRUCTION CERTIFICATE

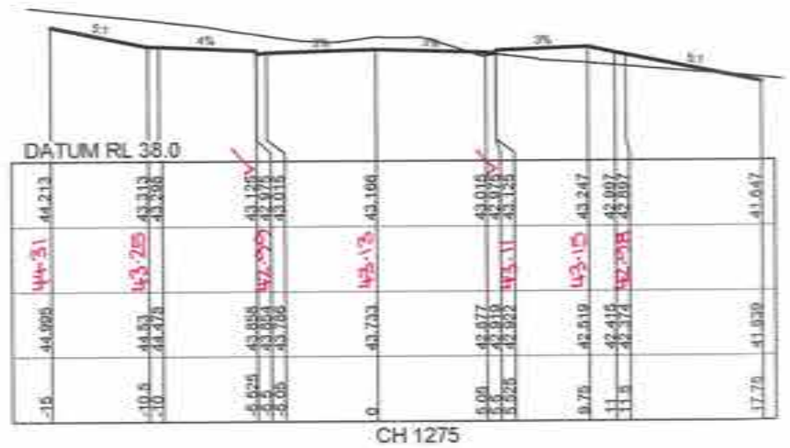
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. DSP80565

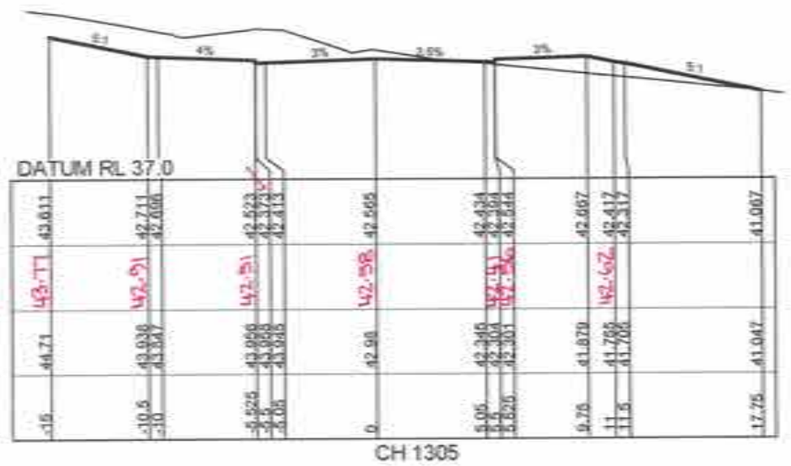
These plans/specifications form part of the certificate issued5 March 2018

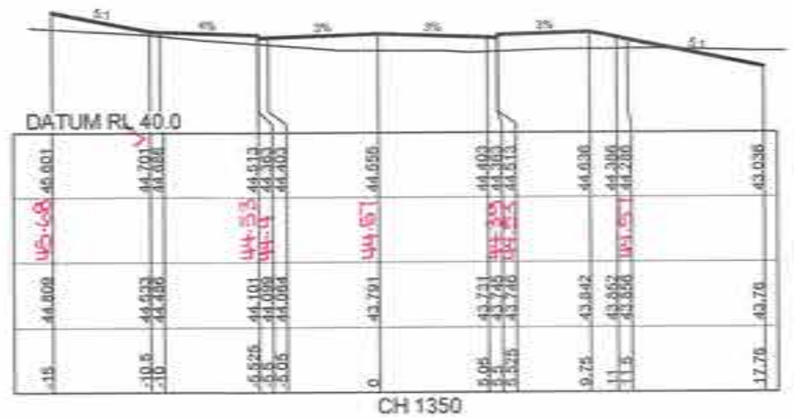


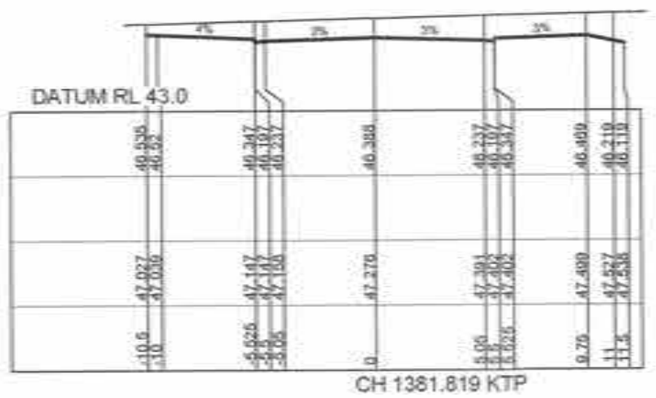


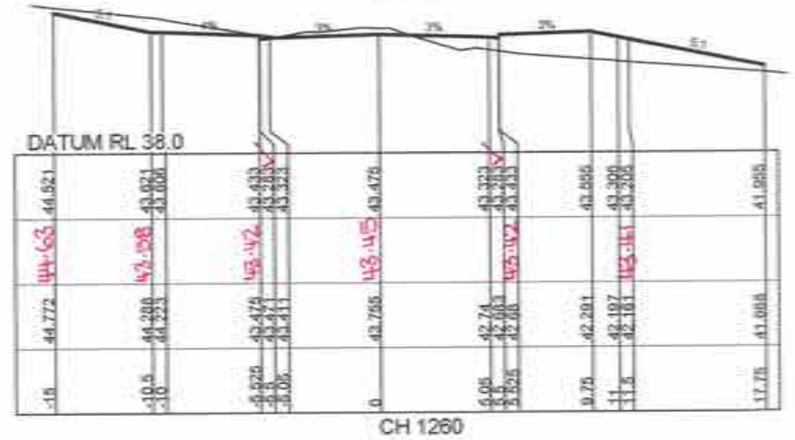


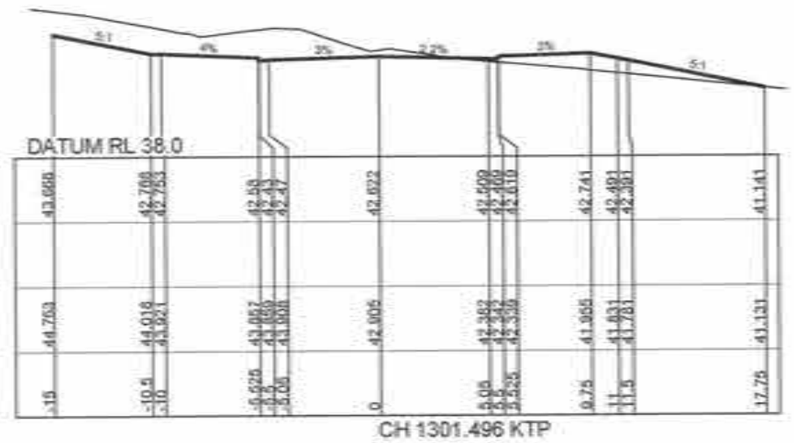


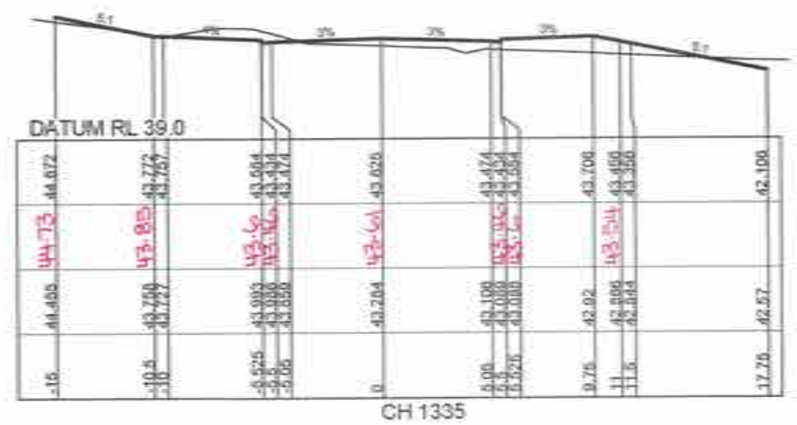


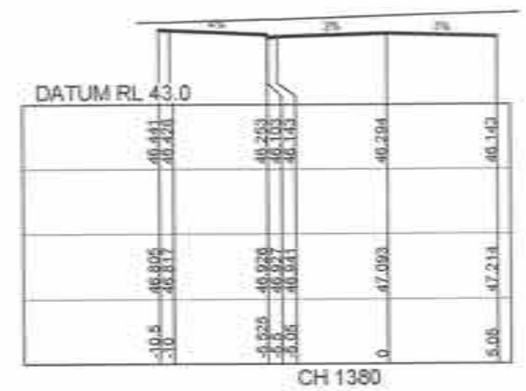


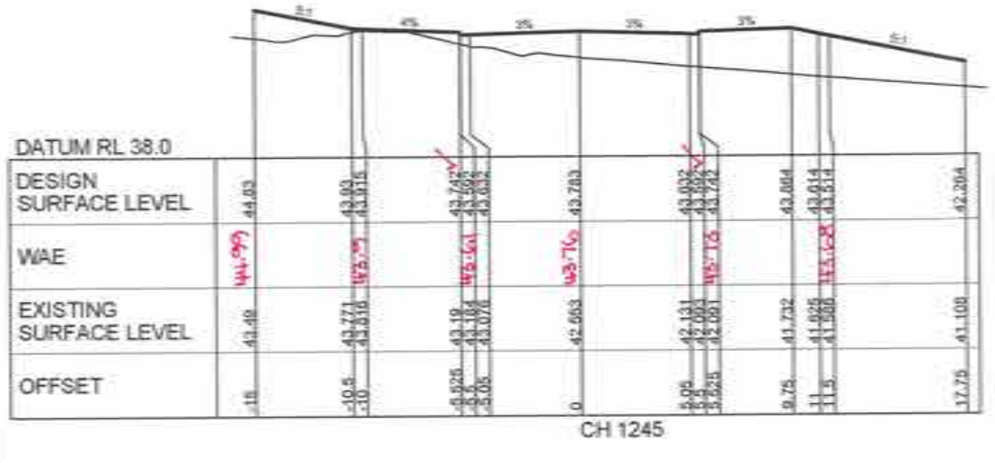


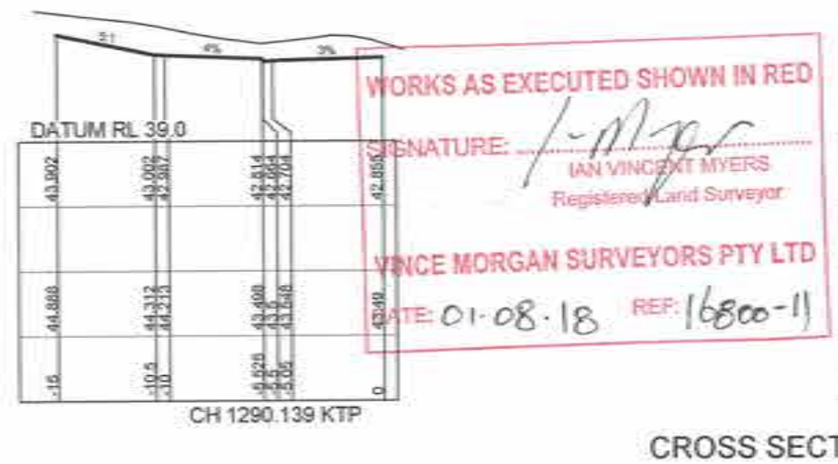




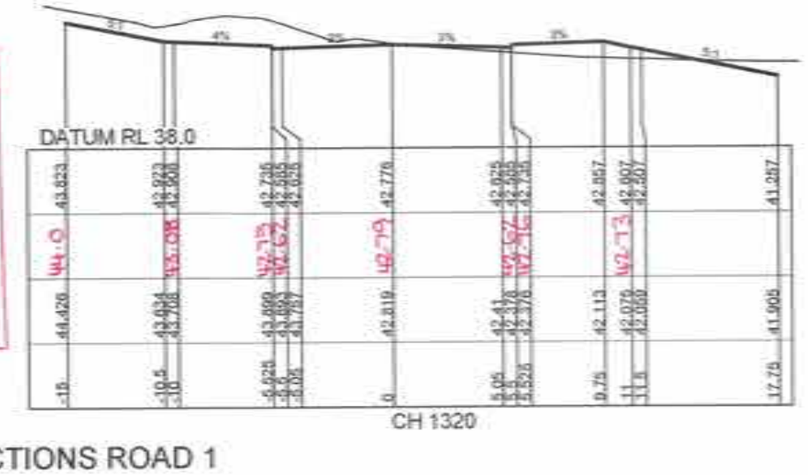


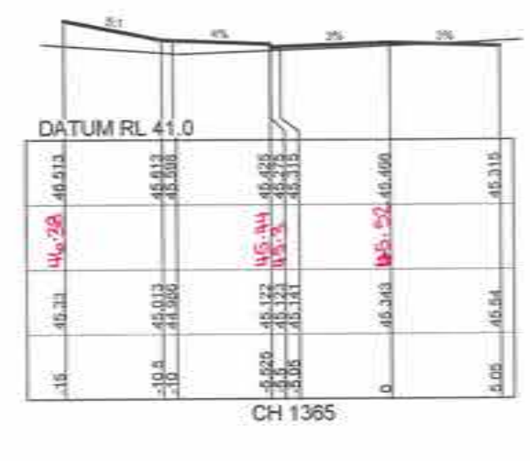






WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01-08-18 REF: 16800-11





CROSS SECTIONS ROAD 1

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1:400 (AT A3)
4 2 0 4 8 12 16 20
METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/05/17
	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 pwp@jwprince.com.au

AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

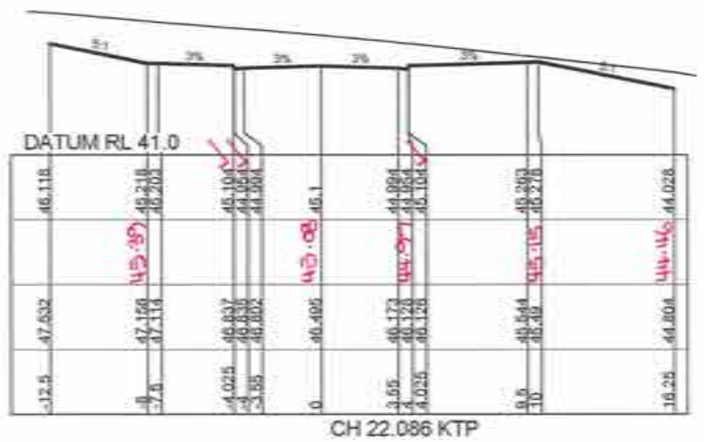
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

ISSUED FOR CONSTRUCTION APPROVAL

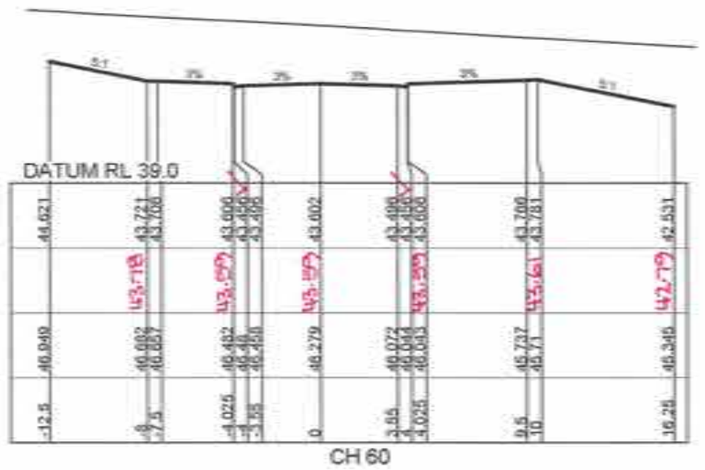
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 3 OF 19

PLAN No: 11018511/CC063 A
FILE No: 11018511CC063
SHEET SIZE: A1 ORIGINAL

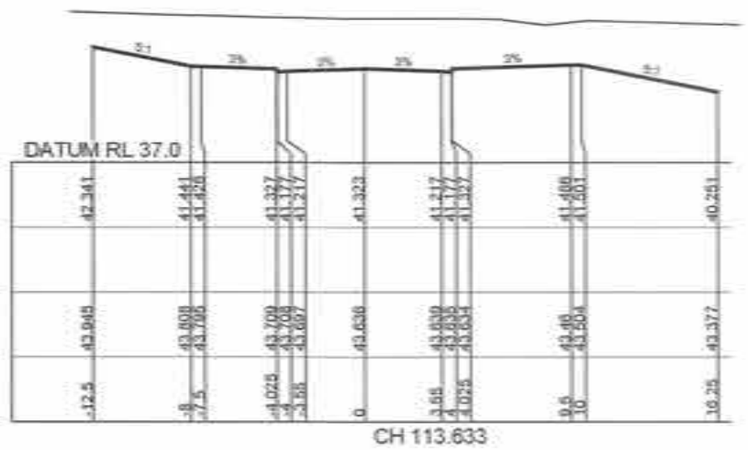
Plotted: 25 January, 2018 4:36:11 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Design\plan\CD\CC\YEOMANS\11018511CC063.dwg



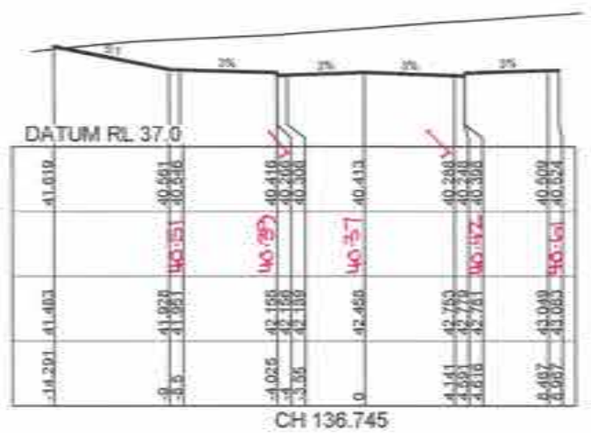
CH 22.086 KTP



CH 60



CH 113.633



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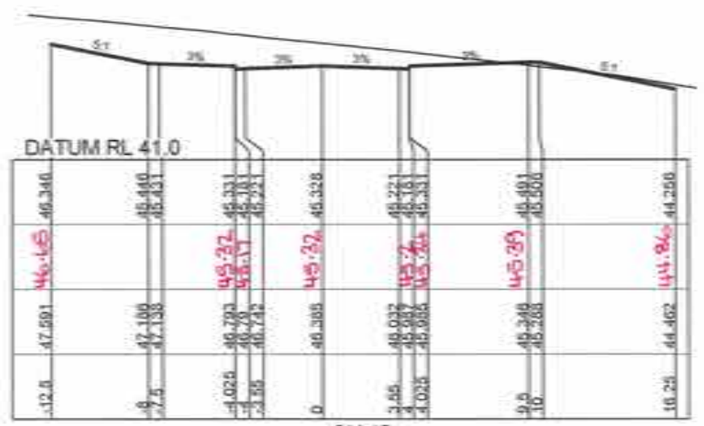

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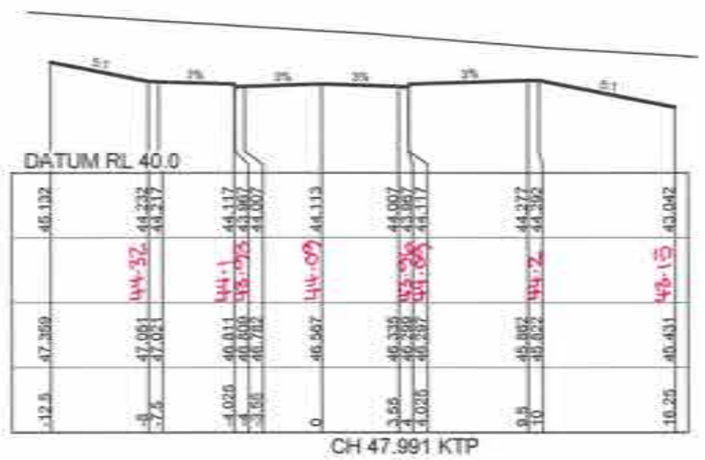

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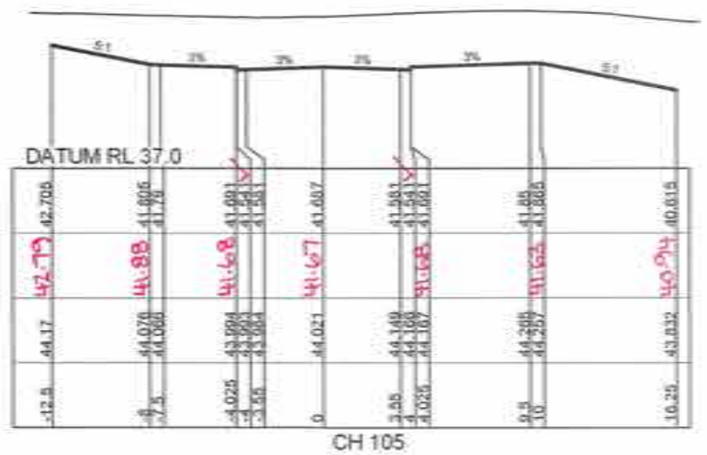
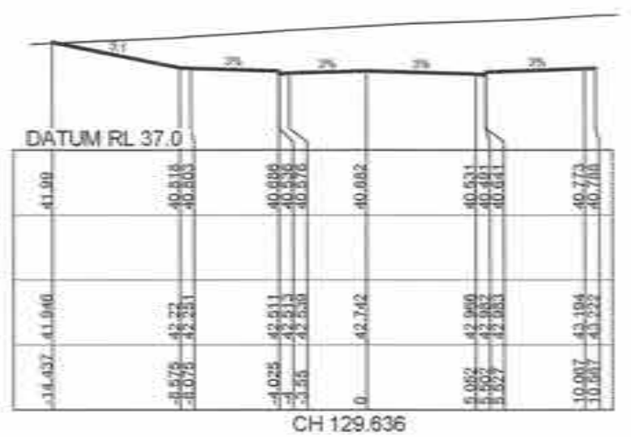


CH 105



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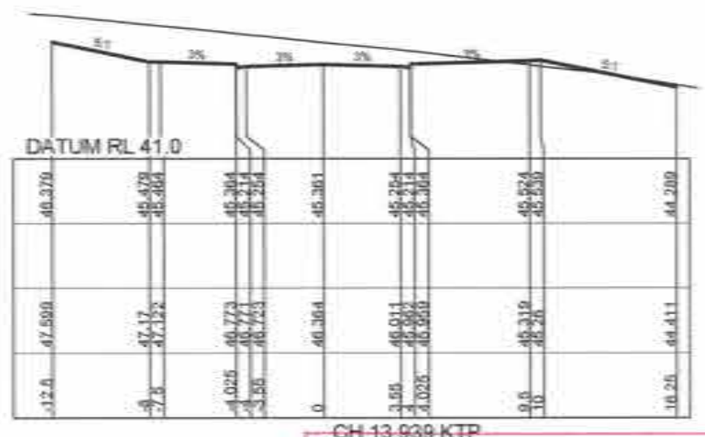

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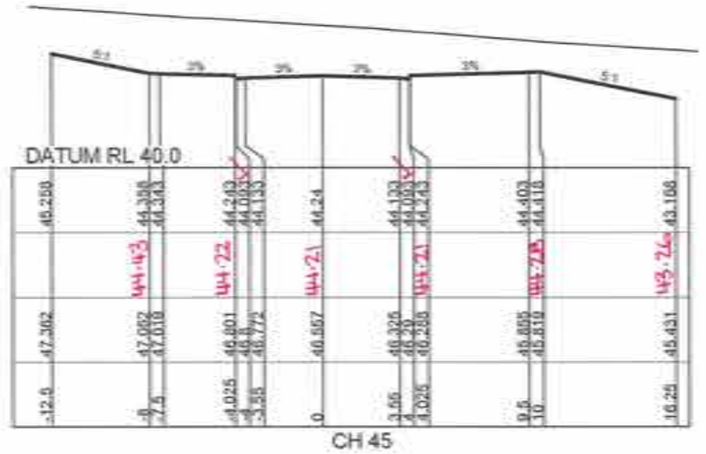
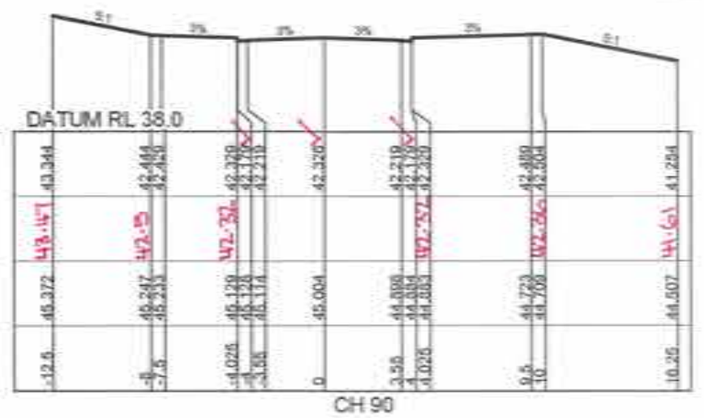


CH 45



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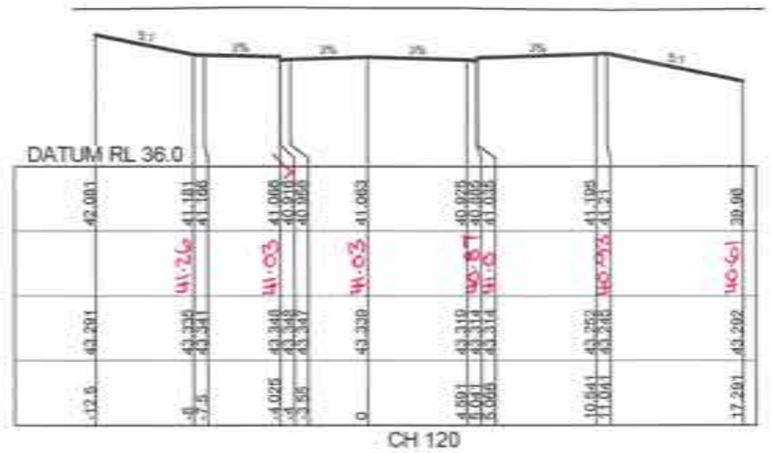

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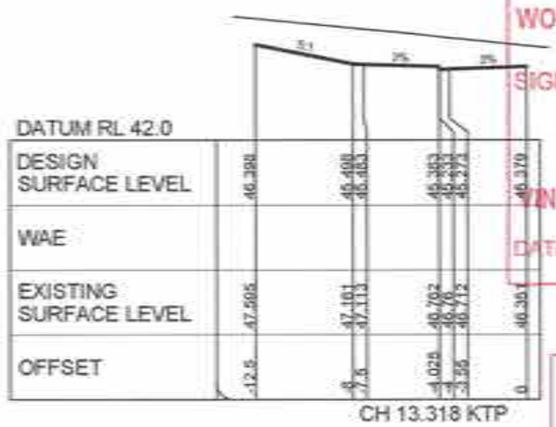

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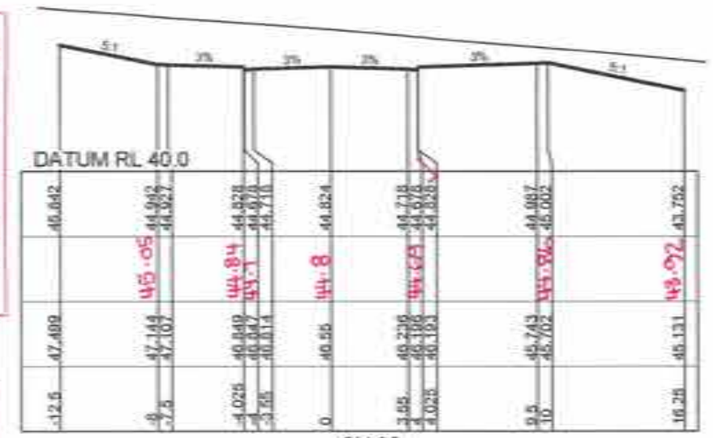

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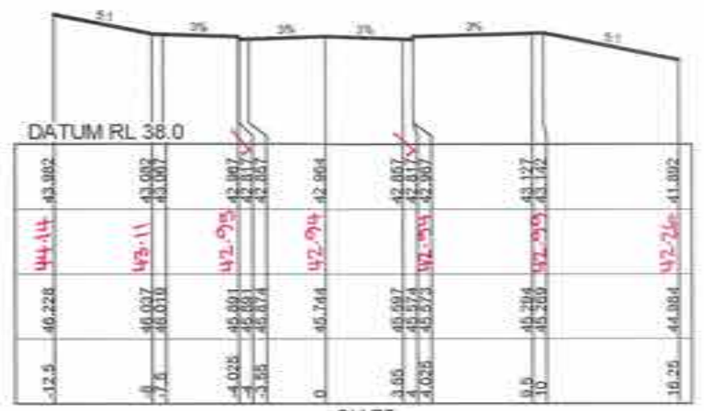

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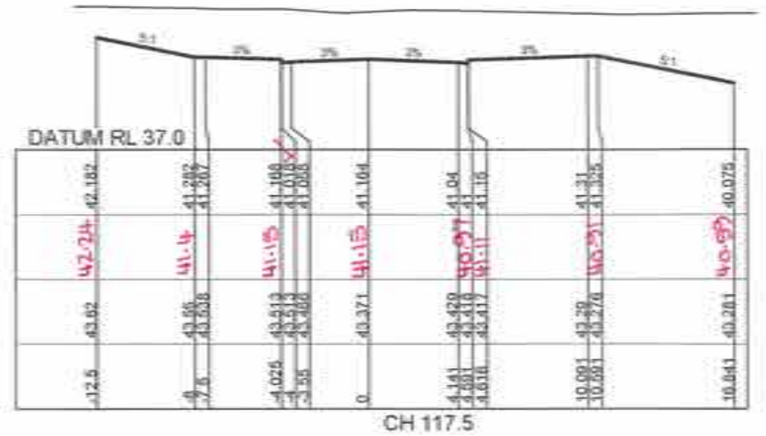


CH 117.5

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0665

These plans/specifications form part of the certificate issued 5 March 2018

CROSS SECTIONS ROAD 21

1:200 (AT A1)
1:400 (AT A3)

4 2 0 4 8 12 16 20
METRES

PRINCIPAL: REDBANK

ISSUED FOR CONSTRUCTION APPROVAL

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

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 4 OF 19

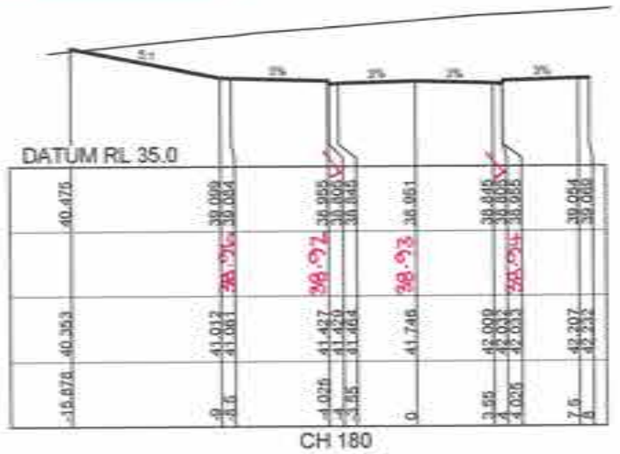
PLAN No: 11018511/CC064 A
FILE No: 11018511CC064
SHEET SIZE: A1 ORIGINAL

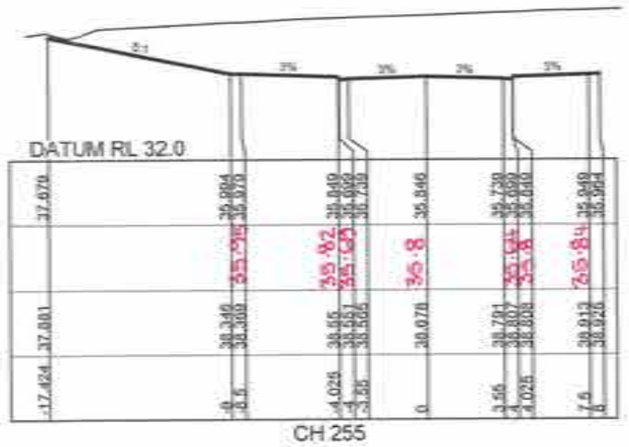
Plotted: 29 January, 2018 4:36:24 PM File Name: J:\11018S - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\VEOMAN\811018511CC064.dwg

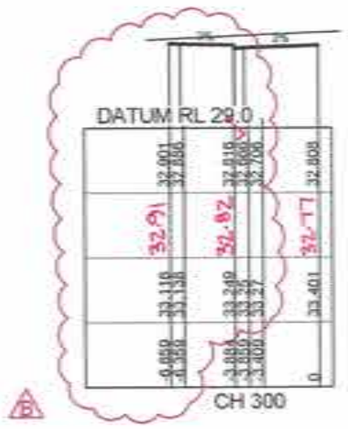
CONSTRUCTION CERTIFICATE

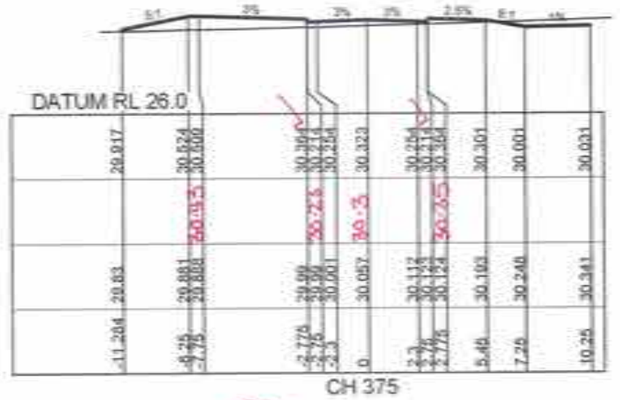
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

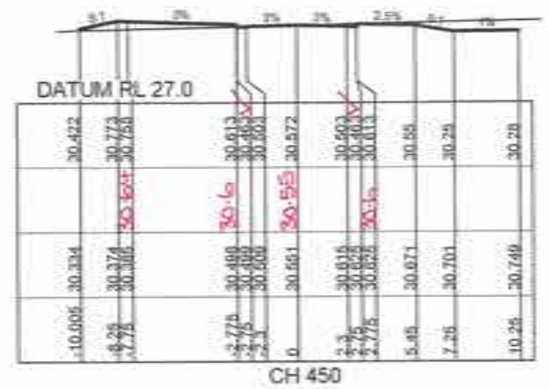
These plans/specifications form part of the certificate issued 5 March 2018

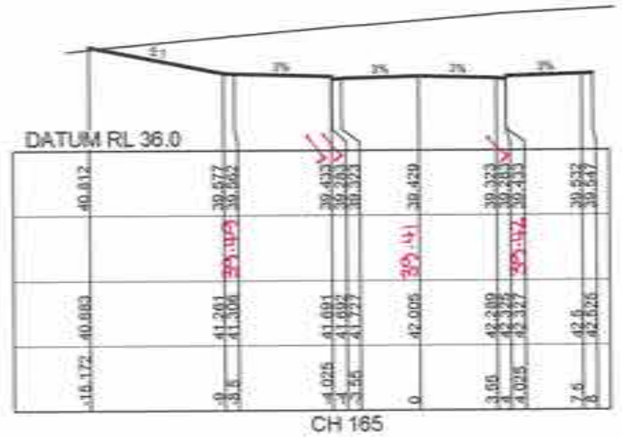


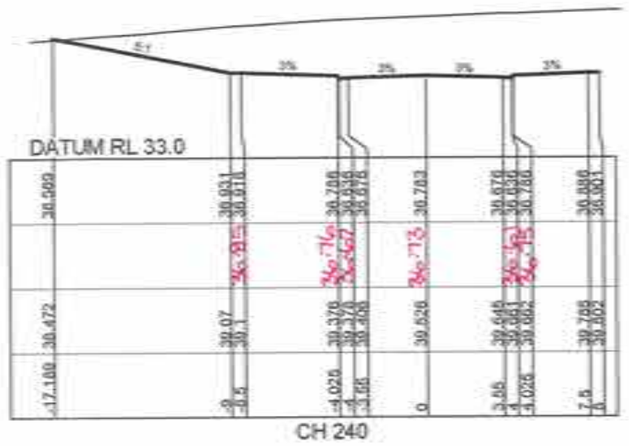


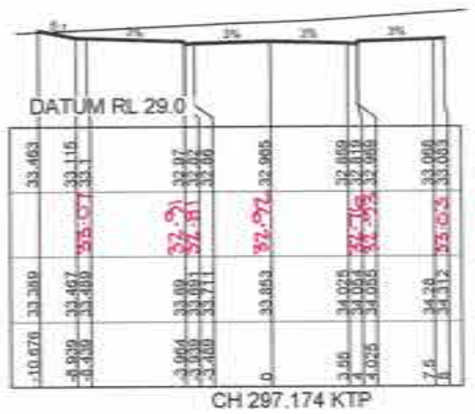


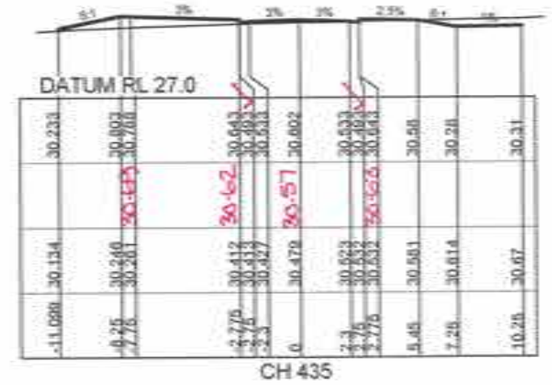


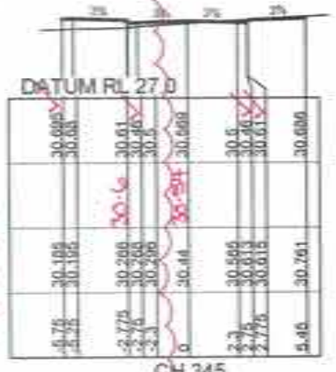


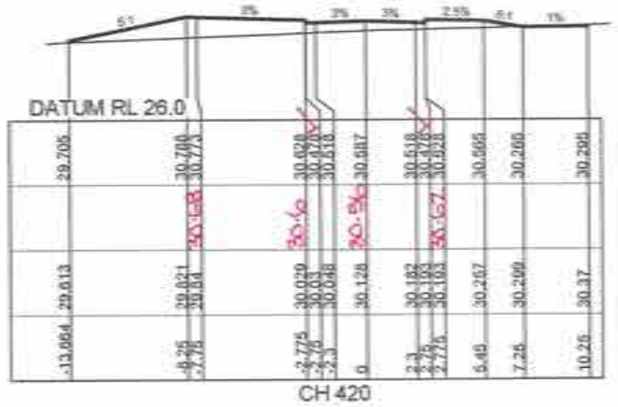


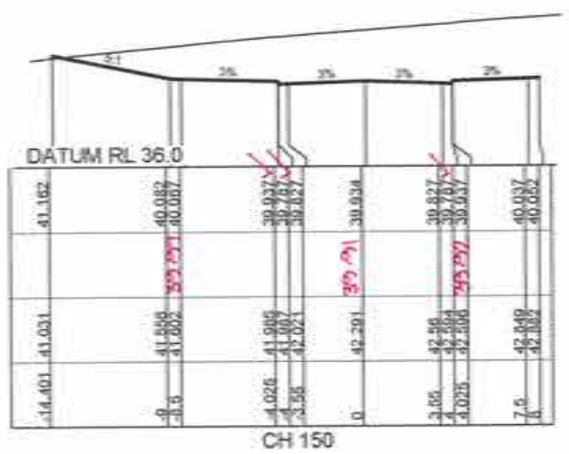


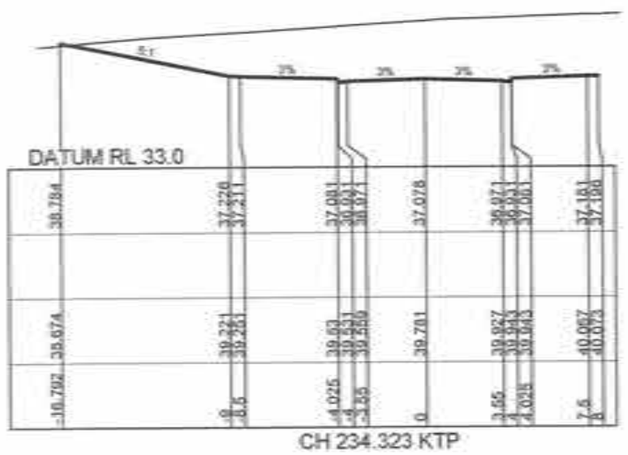


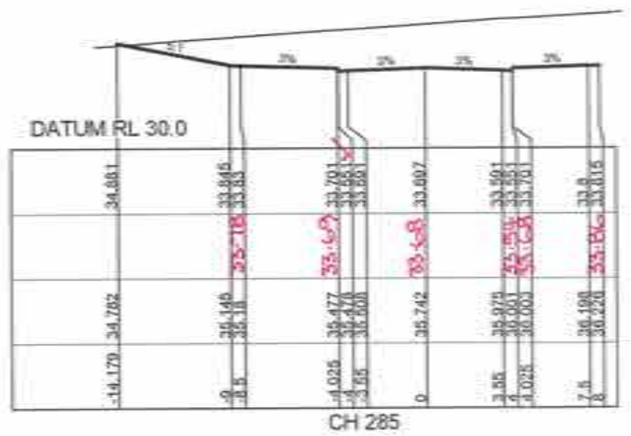


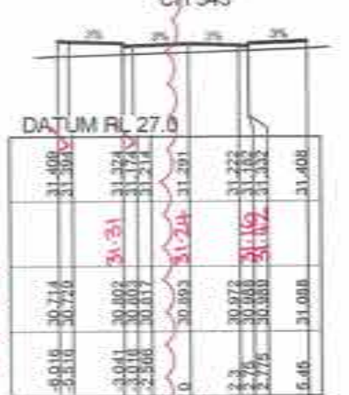


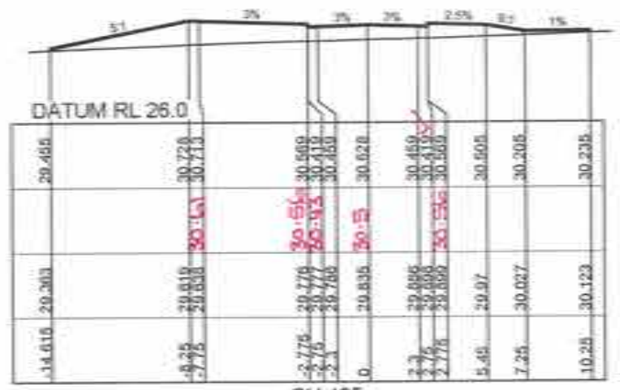


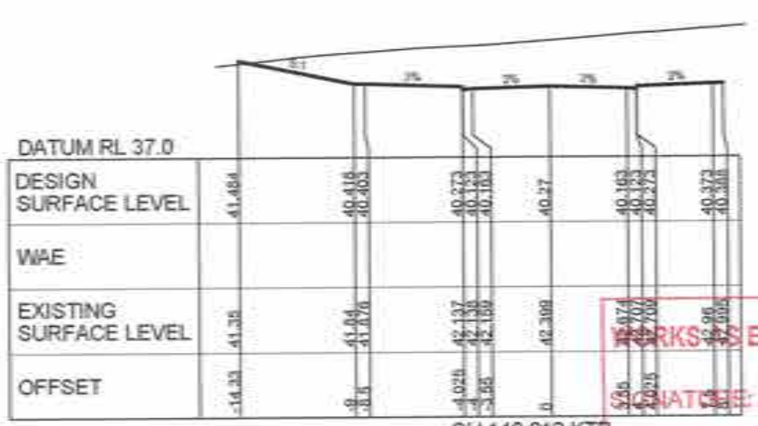


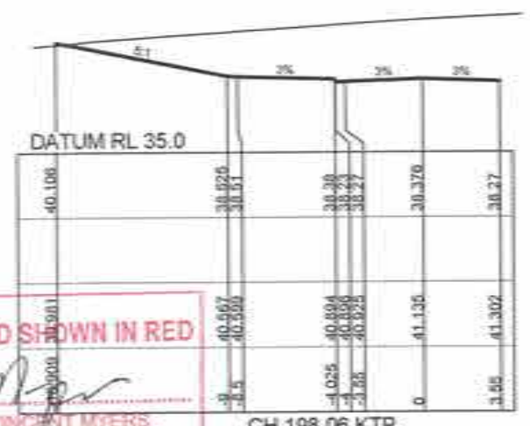


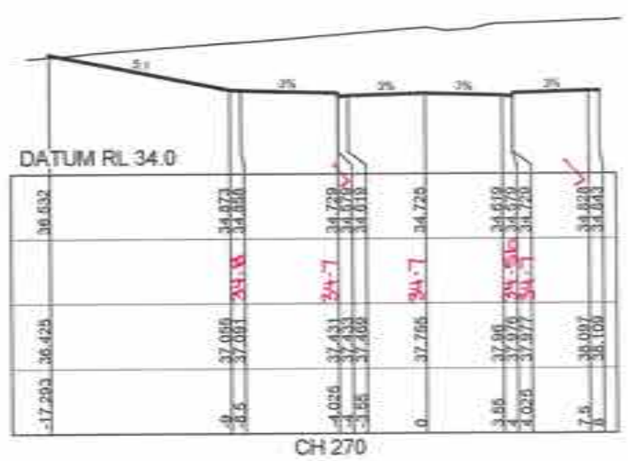


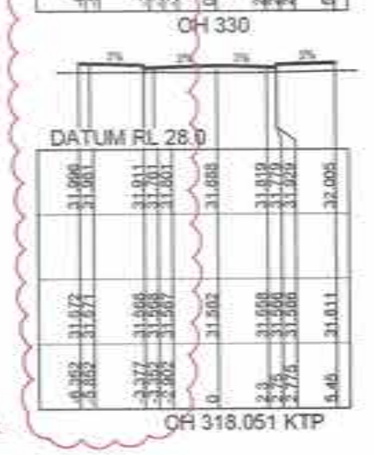


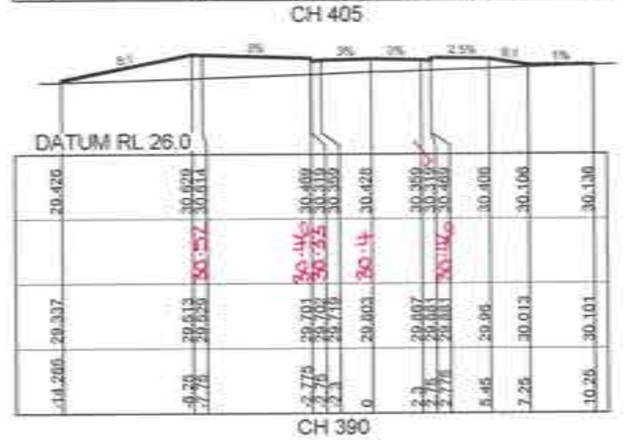












WORKS AS EXECUTED SHOWN IN RED
DATE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CROSS SECTIONS ROAD 21

1:200 (AT A1)
1:400 (AT A3)
4 2 0 4 8 12 16 20
METRES

B	BOUNDARY AMENDED	MP	UF	RO	RO	12/02/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

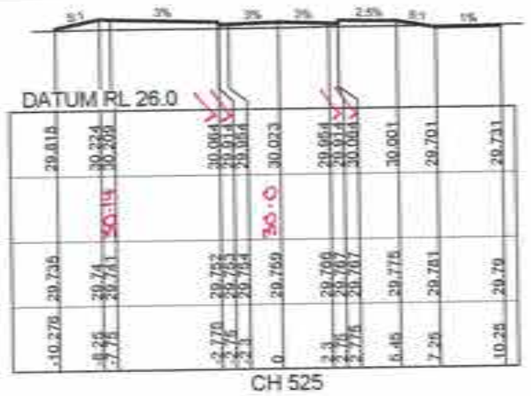
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

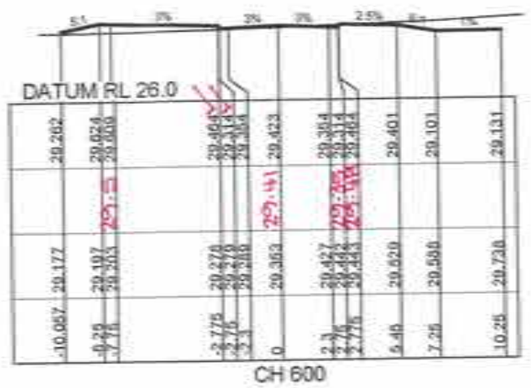
ISSUED FOR CONSTRUCTION APPROVAL

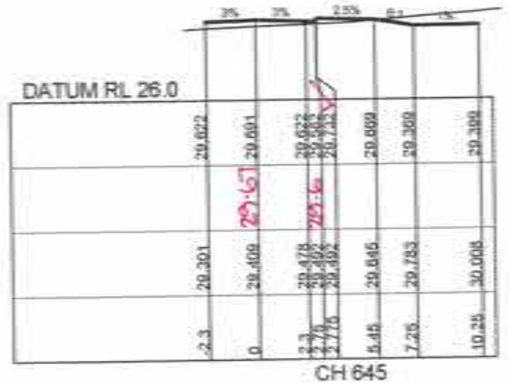
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 5 OF 19

PLAN No: 11018511/CC065 B
FILE No: 11018511CC065
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February, 2018 2:09:08 PM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Design\dwg\CIVIL\CC\YEOMANS\11018511CC065.dwg







WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....

IAN VINCENT MYERS
Registered Land Surveyor

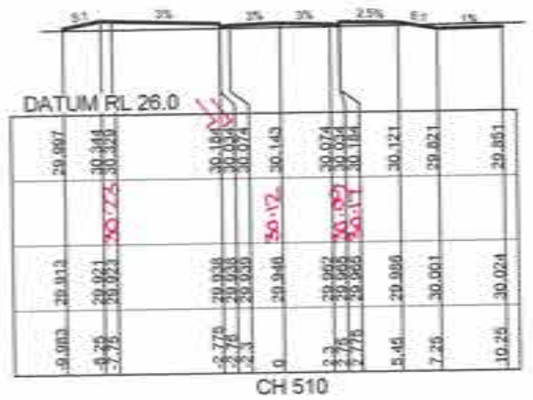
VINCE MORGAN SURVEYORS PTY LTD

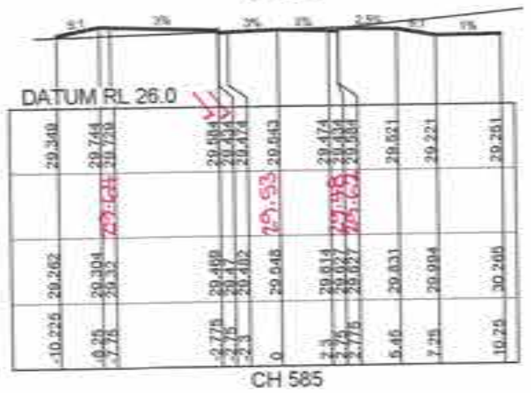
DATE: 01-08-18 REF: 16800-11

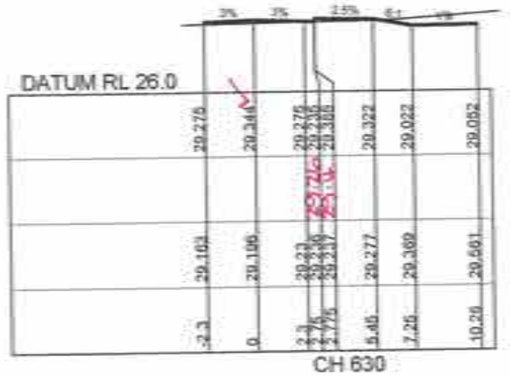
CONSTRUCTION CERTIFICATE

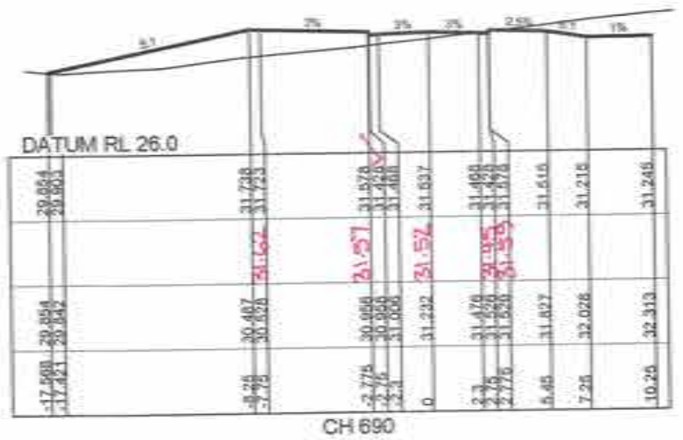
Certificate No. 20130295C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

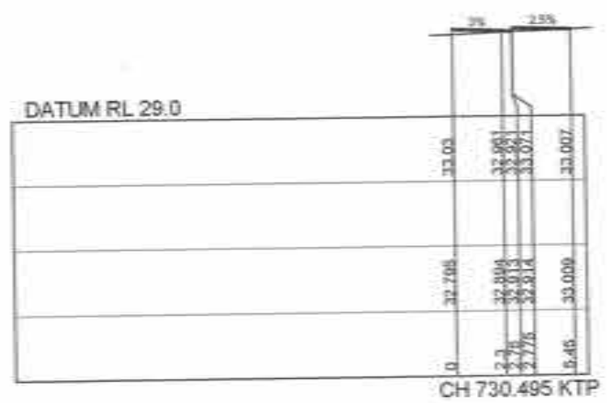
These plans/specifications form part of the certificate issued 5 March 2018

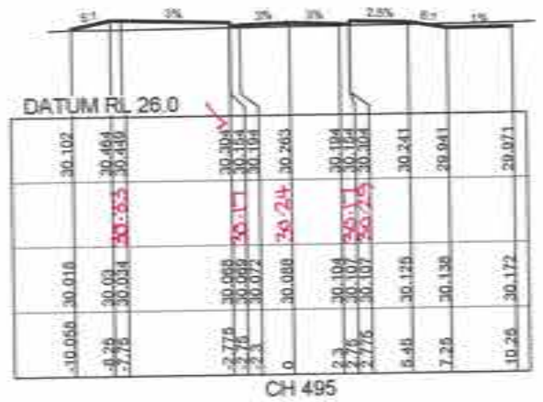


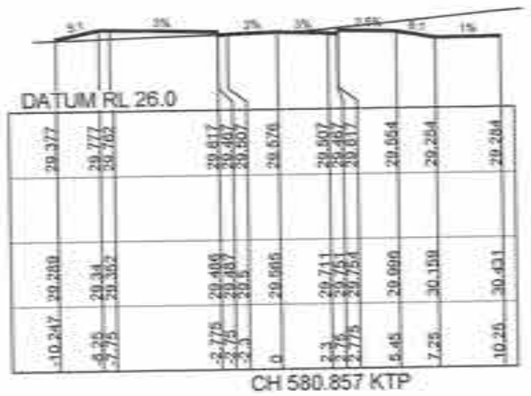


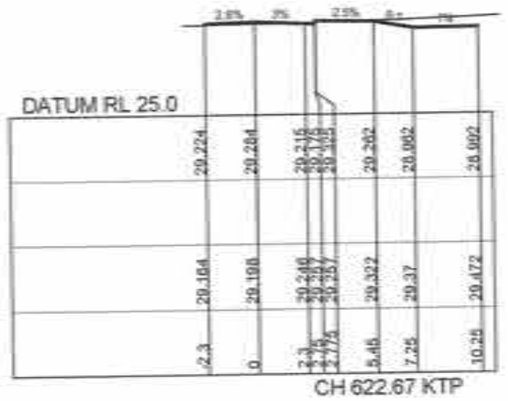


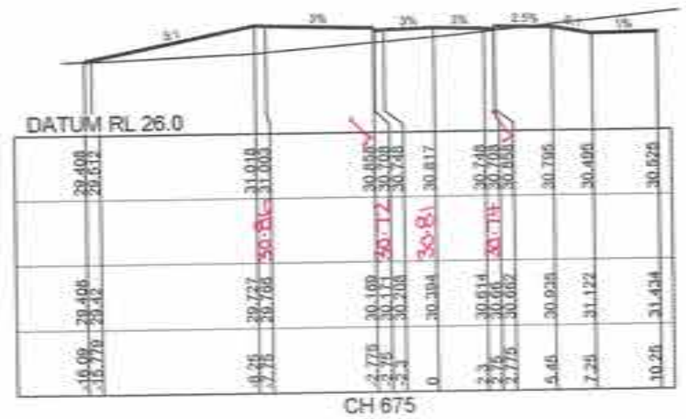


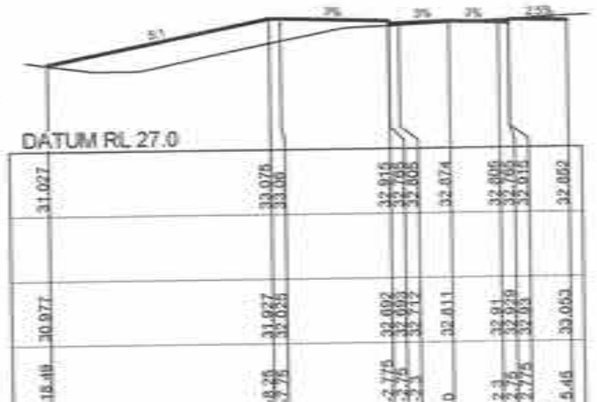


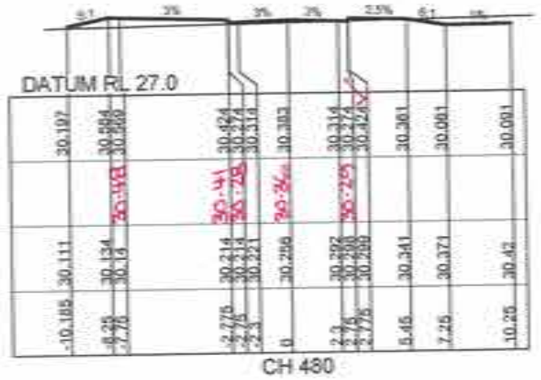


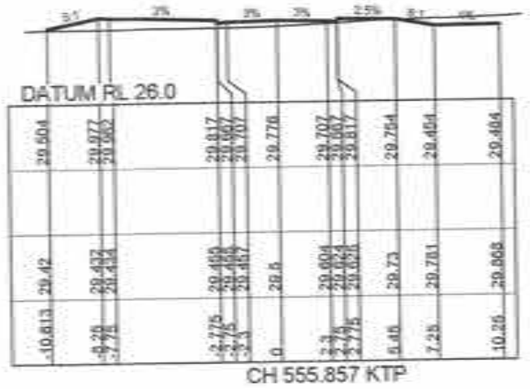


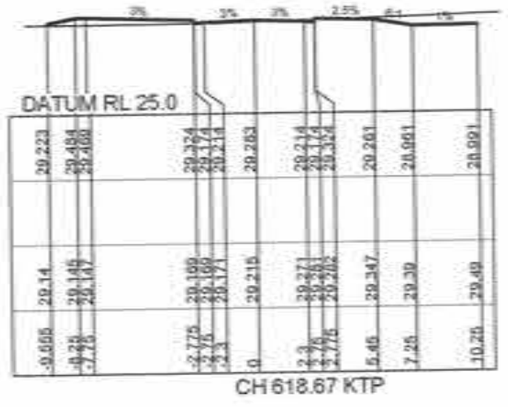


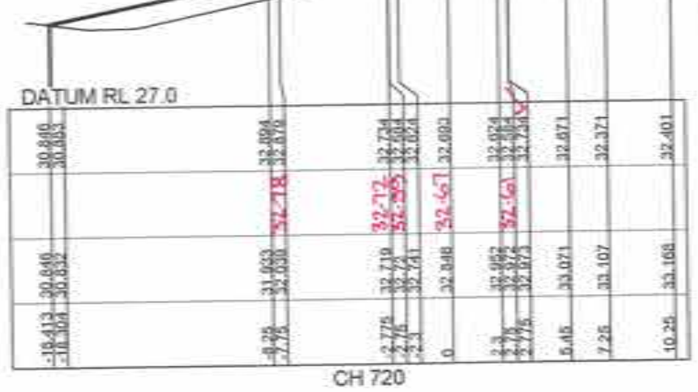


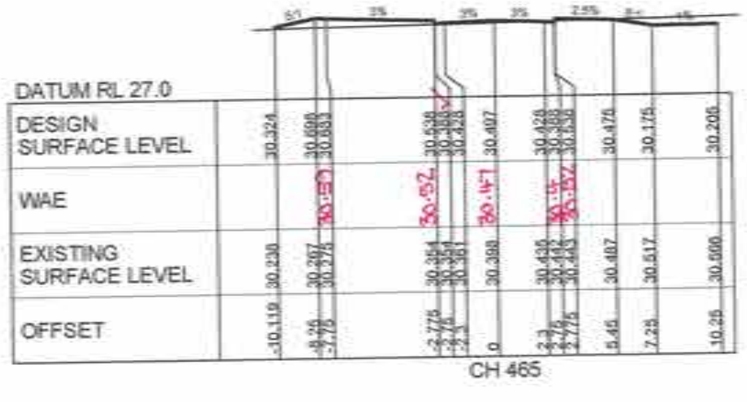


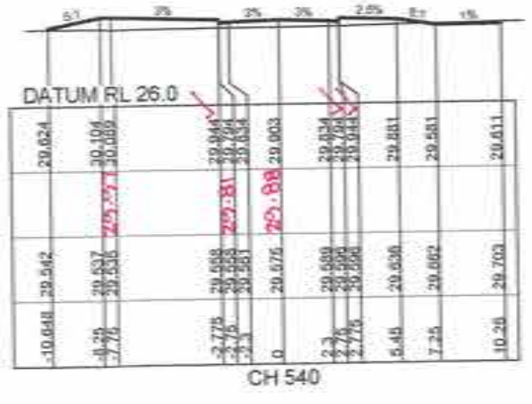


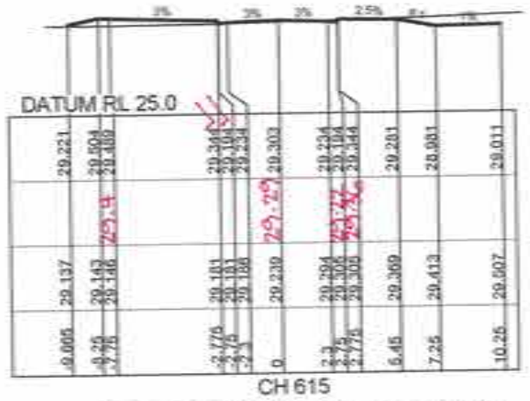




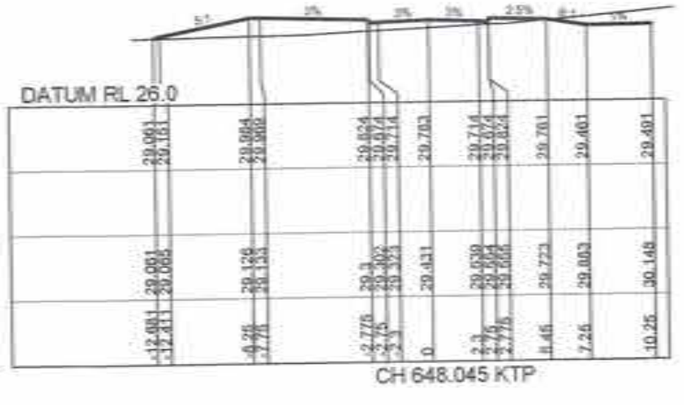


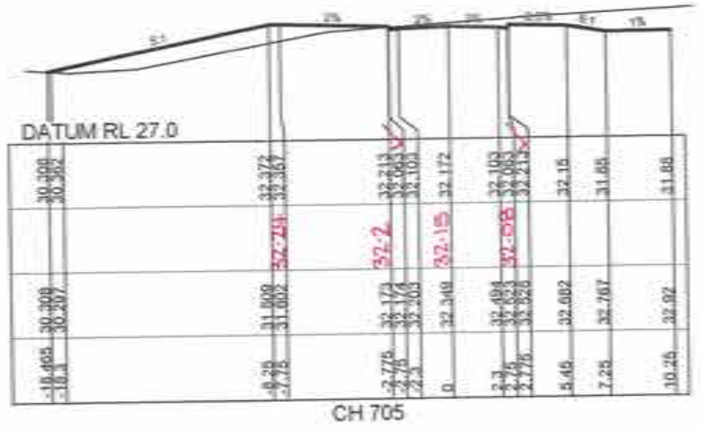






CROSS SECTIONS ROAD 21





1:200 (AT A1)
1:400 (AT A3)

4 2 0 4 8 12 16 20
METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RD	MS	15/06/17
	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: MGA 56
DATUM: AHD
ORIGIN:

PRINCIPAL: REDBANK

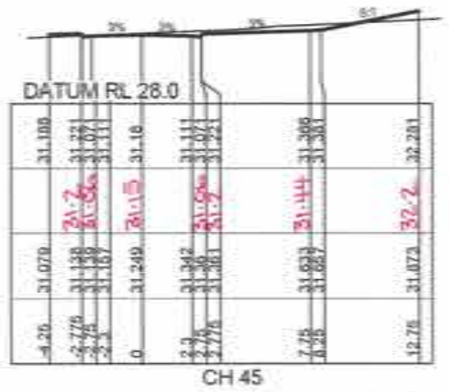
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

ISSUED FOR CONSTRUCTION APPROVAL

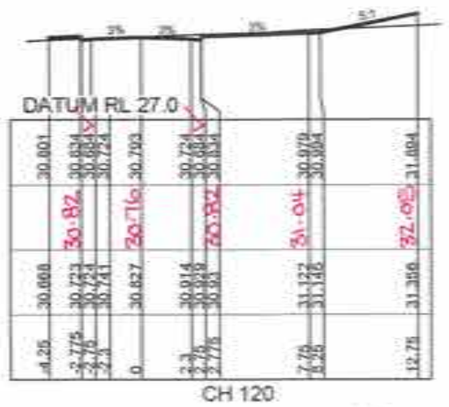
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 6 OF 19

PLAN No: 11018511/CC066 A
FILE No: 11018511CC066
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January, 2018 4:36:50 PM File Name: J:\11\0185 - Redbank North Richmond Residential Precinct\01 - Description\CD\CC\YEOMANS\11018511CC066.dwg



CH 45



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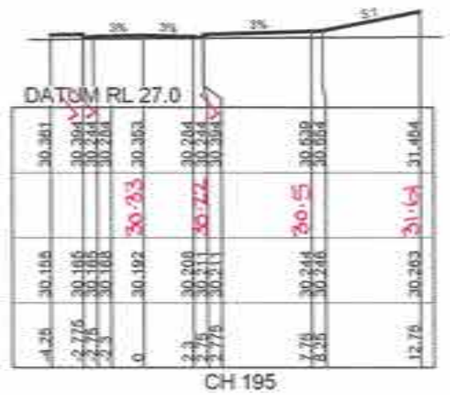
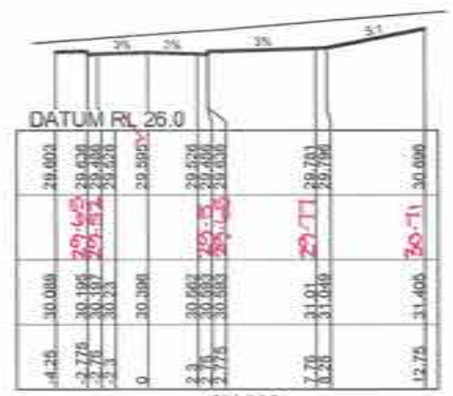


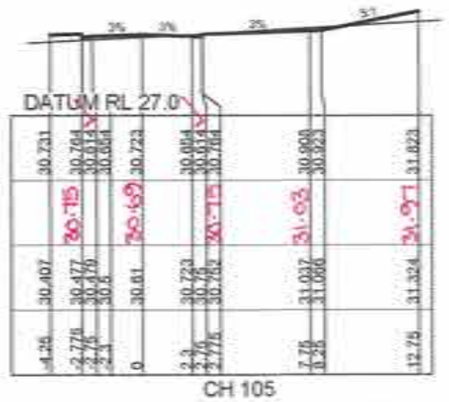
CH 195

CH 271.586 KTP



CH 330

CH 30



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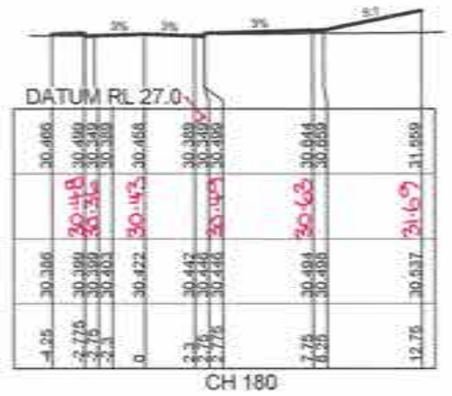
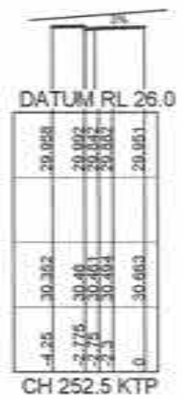


CH 180



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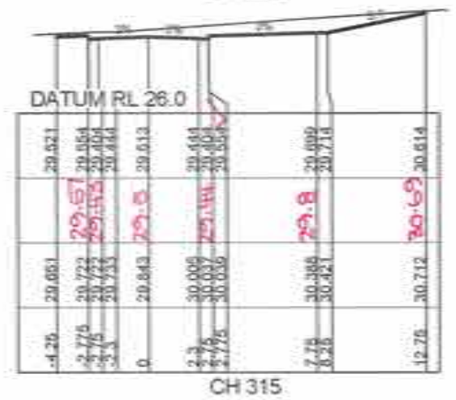

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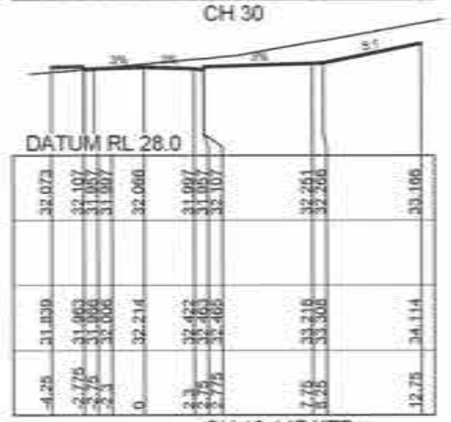

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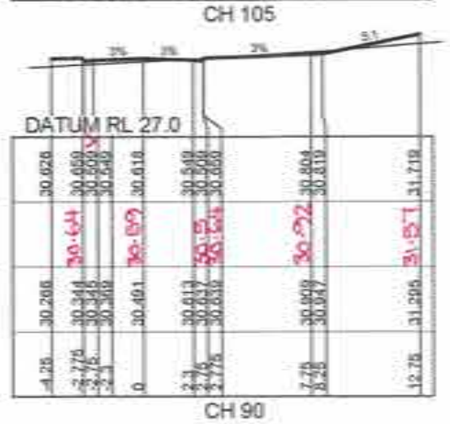
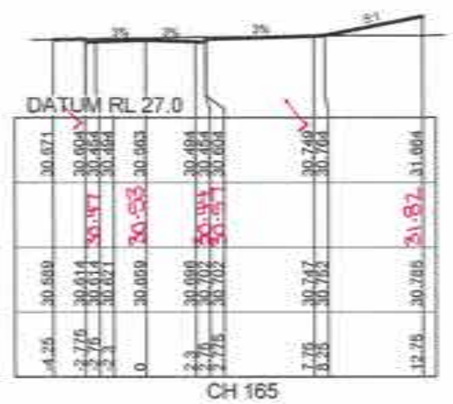
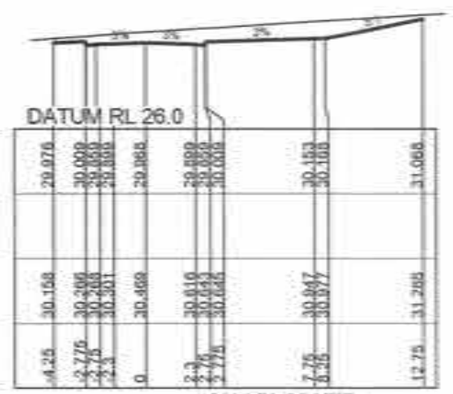


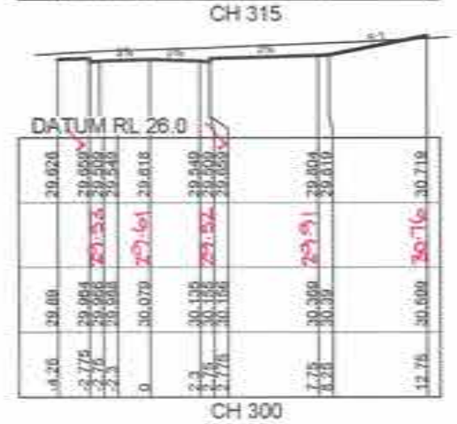
CH 90



CH 165



CH 250.05 KTP



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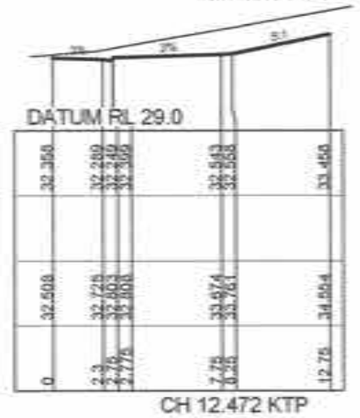

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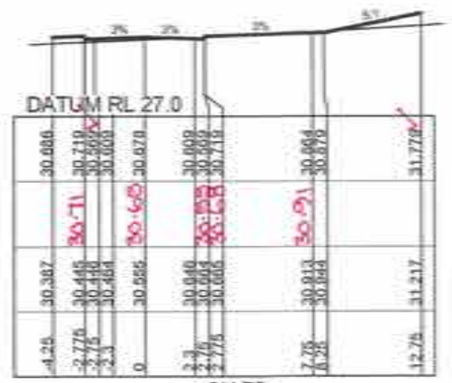

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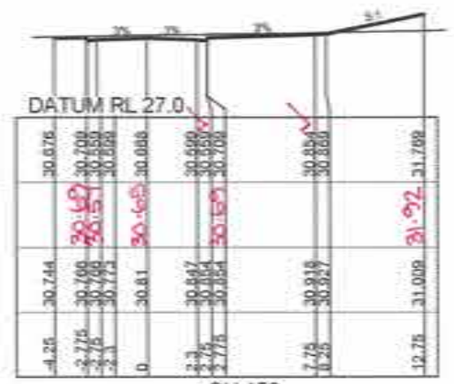

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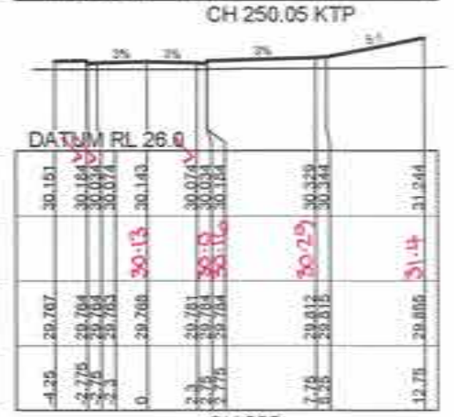
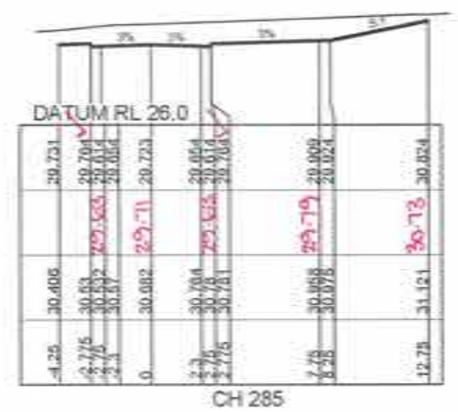
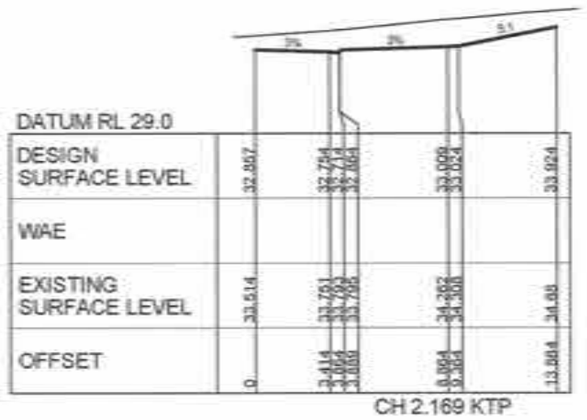


CH 225



CH 285

CH 360.45 KTP



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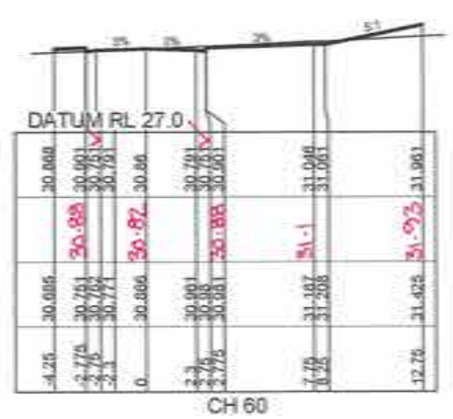
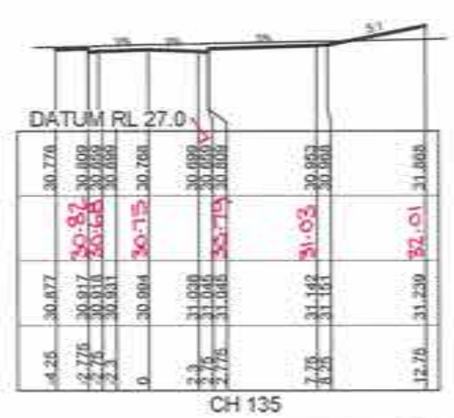
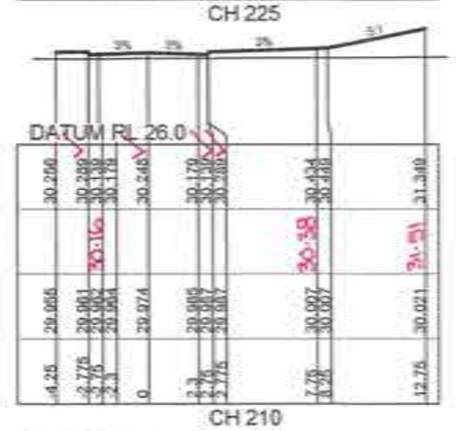


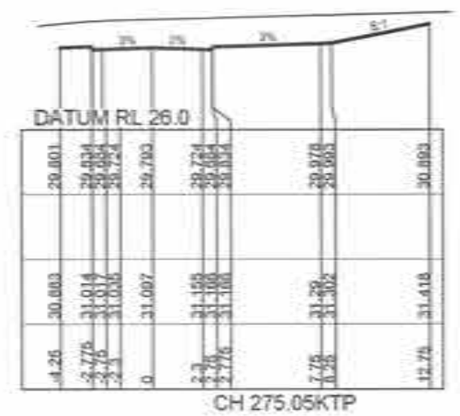
CH 60



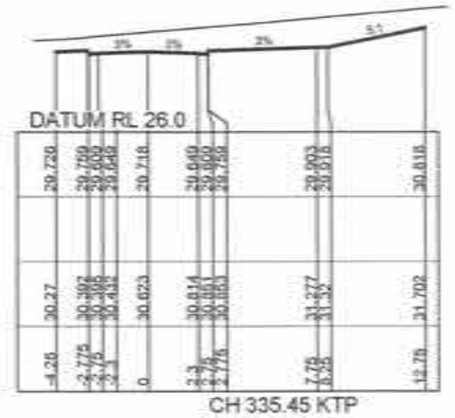
CH 135



CH 210



CH 275.05KTP



CH 335.45 KTP

CROSS SECTIONS ROAD 21A

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1:400 (AT A2)

4 2 0 4 8 12 16 20
METRES

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No: 20130099C42
Date of Issue: 5 March 2018
Issuing Officer:
Accreditation No.: BPB0585
These plans/specifications form part of the certificate issued 5 March 2018.

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/08/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 7 OF 19

PLAN No: 11018511/CC067 A
FILE No: 11018511CC067
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:37:04 PM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC067.dwg

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

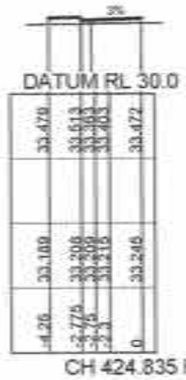
WORKS AS EXECUTED SHOWN IN RED

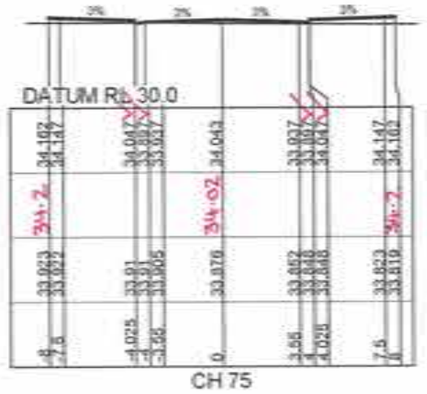
SIGNATURE:

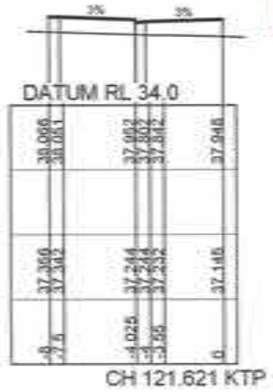
IAN VINCENT MYERS
Registered Land Surveyor

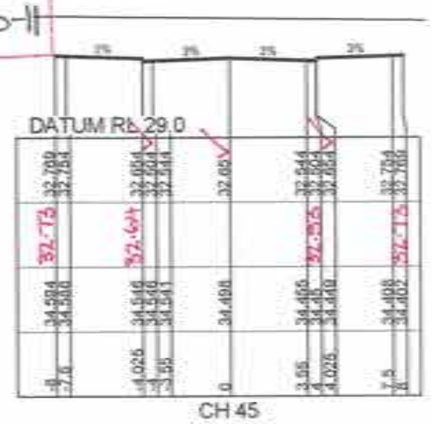
VINCE MORGAN SURVEYORS PTY LTD

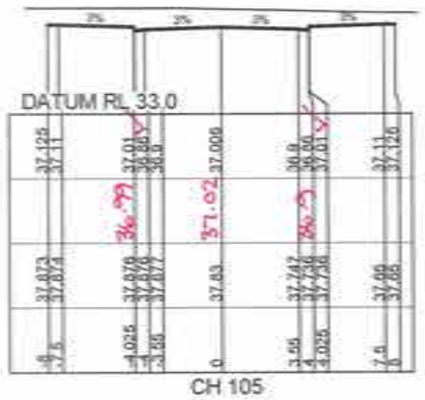
DATE: 01.08.18 REF: 16820-11

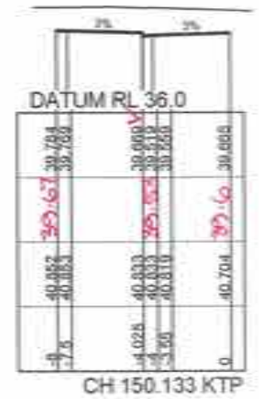


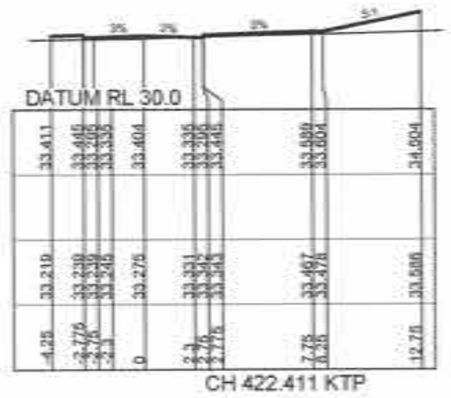


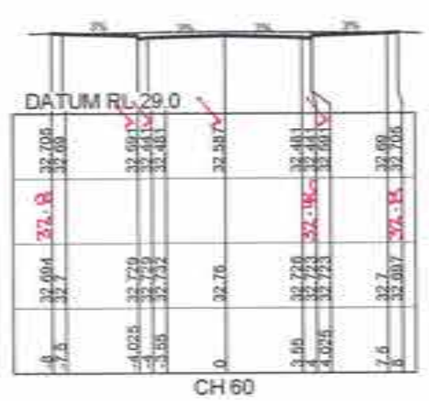


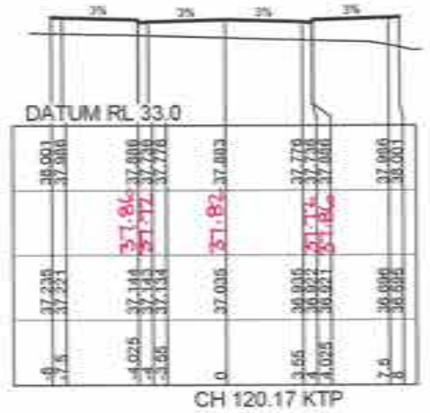


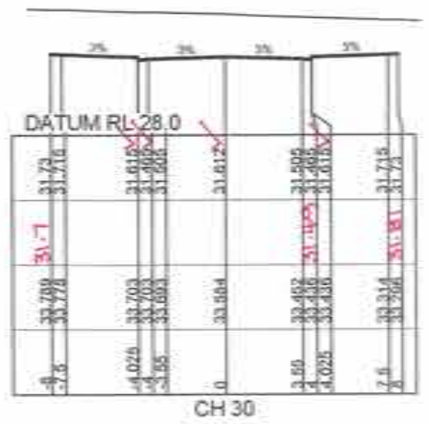


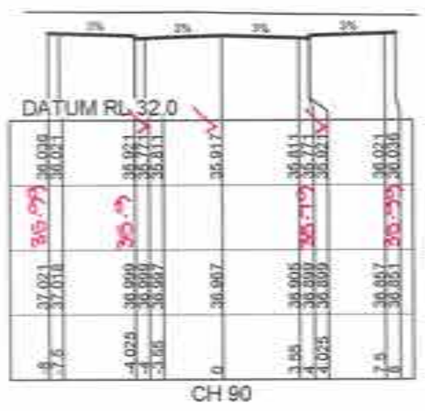


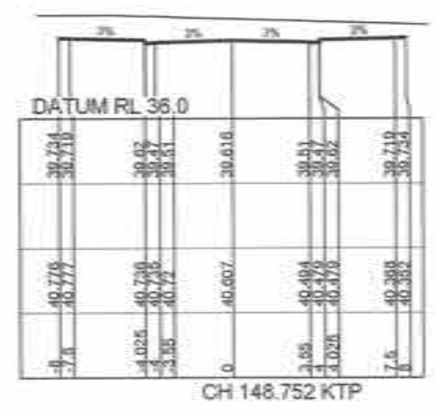


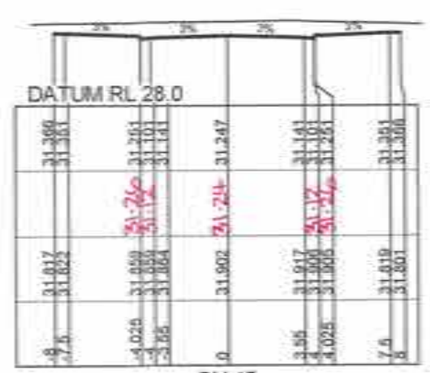


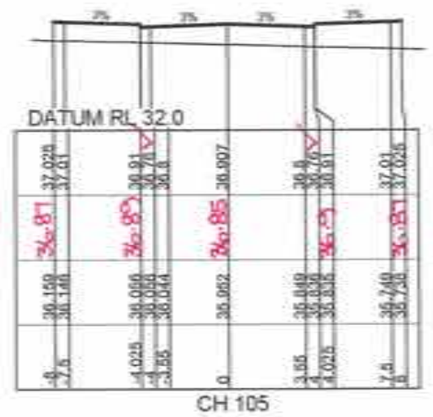


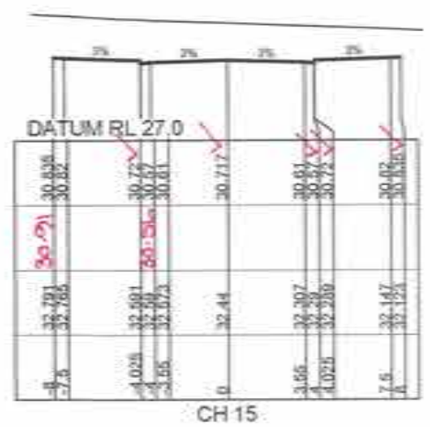


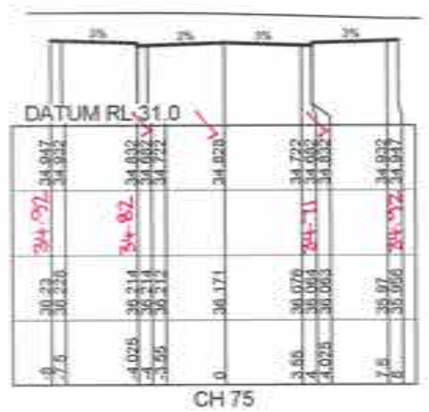


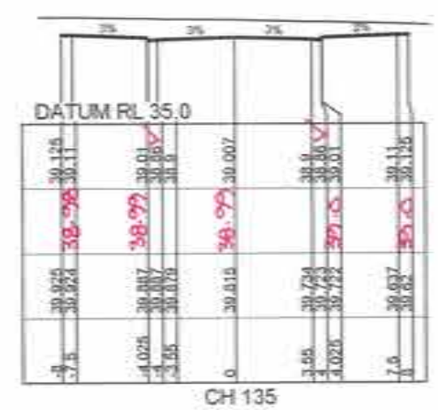


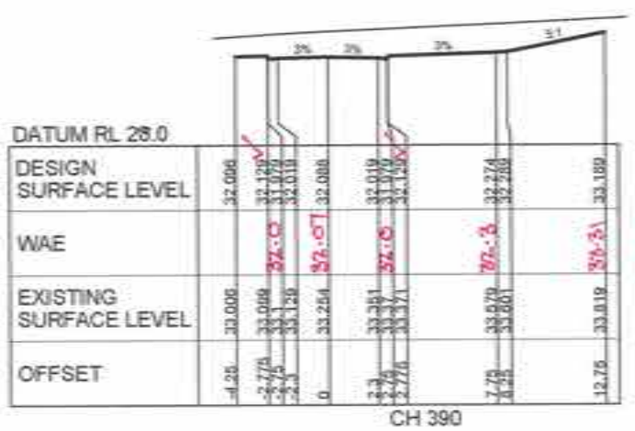




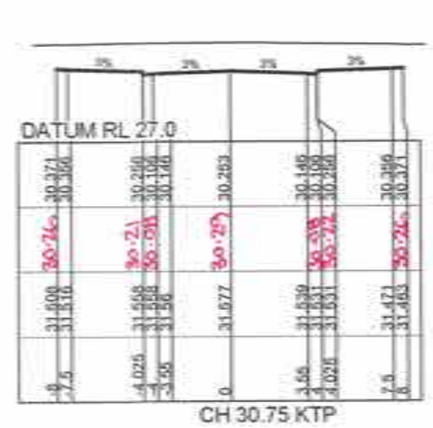


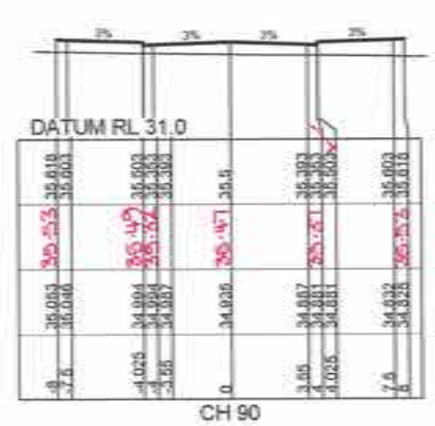




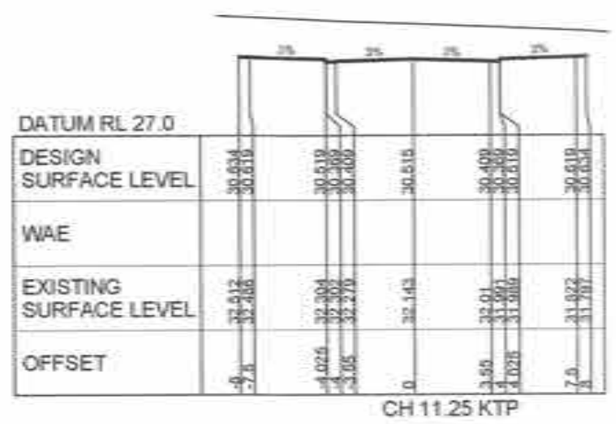


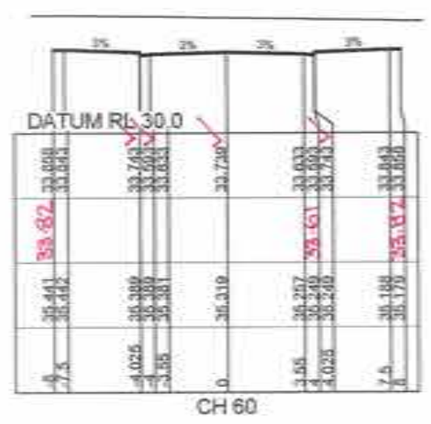
CROSS SECTIONS ROAD 21A

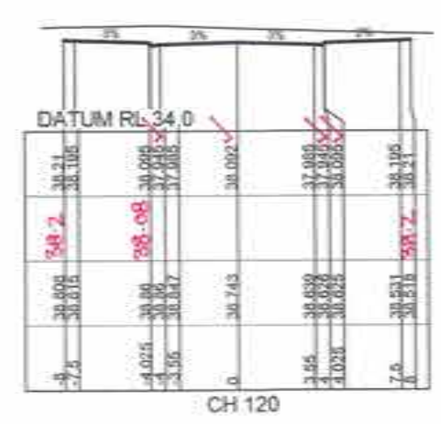




CROSS SECTIONS ROAD 23







CROSS SECTIONS ROAD 24

1:200 (AT A1)
1:400 (AT A3)

4 2 0 4 8 12 16 20
METRES

PRINCIPAL: REDBANK

ISSUED FOR CONSTRUCTION APPROVAL

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

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/05/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4966 PENRITH WESTFIELD NSW 2750
P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 8 OF 19

PLAN No: 11018511/CC068 A
FILE No: 11018511CC068
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:37:17 PM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Design\dgn\CDC\CC\YEOMANS\11018511CC068.dwg

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

DATUM RL 37.0
CH 45

DATUM RL 32.0
CH 118.731 KTP

DATUM RL 31.0
CH 165

DATUM RL 30.0
CH 225

DATUM RL 30.0
CH 285

DATUM RL 29.0
CH 330

CH 339.671 KTP

DATUM RL 38.0
CH 30

DATUM RL 33.0
CH 105

DATUM RL 31.0
CH 150

DATUM RL 31.0
CH 210

DATUM RL 31.0
CH 270

DATUM RL 30.0
CH 317.49 KTP

DATUM RL 39.0
CH 14.543 KTP

DATUM RL 35.0
CH 75.862 KTP

DATUM RL 31.0
CH 135

DATUM RL 30.0
CH 195

DATUM RL 31.0
CH 255

DATUM RL 30.0
CH 315

DATUM RL 39.0

DESIGN SURFACE LEVEL	
WAE	
EXISTING SURFACE LEVEL	
OFFSET	

CH 12.774 KTP

DATUM RL 36.0
CH 60

DATUM RL 32.0
CH 120

DATUM RL 30.0
CH 180

DATUM RL 30.0
CH 240

DATUM RL 30.0
CH 300

CROSS SECTIONS ROAD 25

1:200 (AT A1)
1:400 (AT A3)
4 2 0 4 8 12 16 20
METRES

B	BOUNDARY AMENDED	MP	UF	RO	RO	12/02/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/05/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 9 OF 19

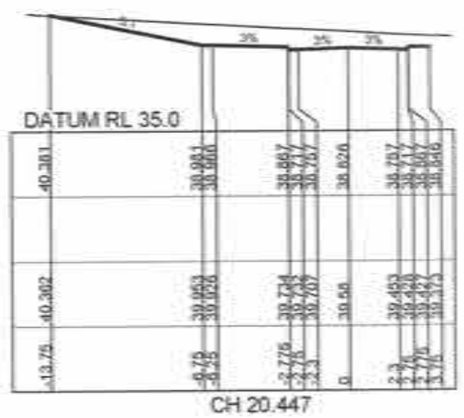
PLAN No: 11018511/CC069 B
FILE No: 11018511CC069
SHEET SIZE: A1 ORIGINAL

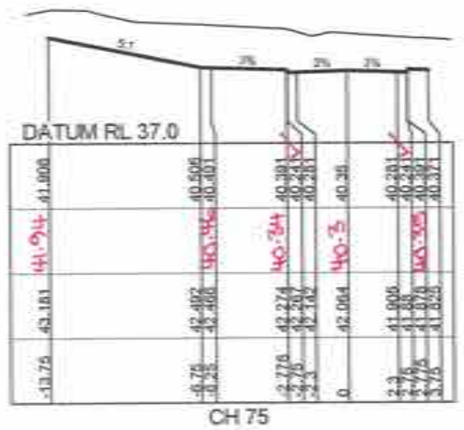
Plotted: 12 February, 2018 2:09:21 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC069.dwg

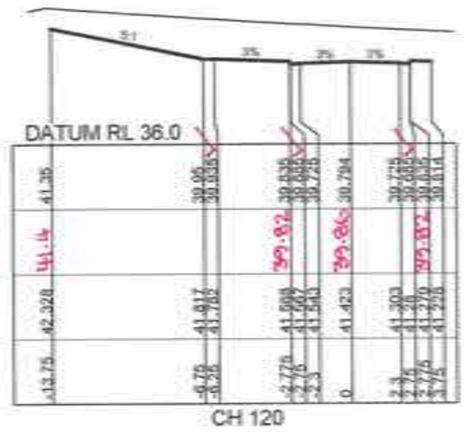
CONSTRUCTION CERTIFICATE

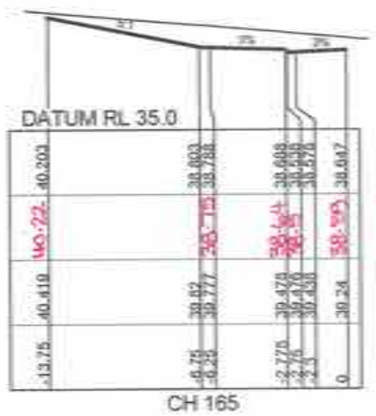
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0665

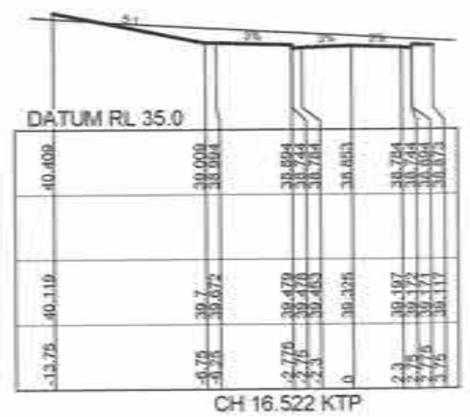
These plans/specifications form part of the certificate issued 5 March 2018.

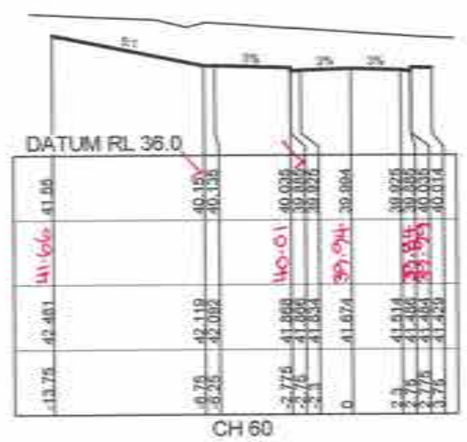


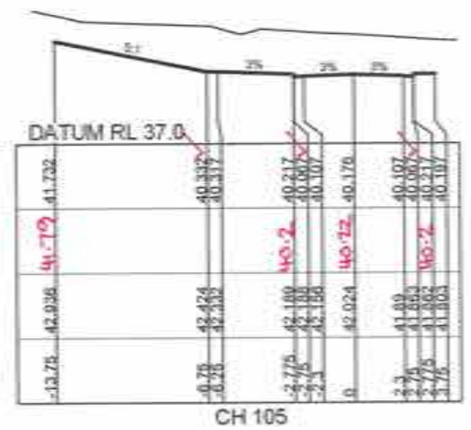


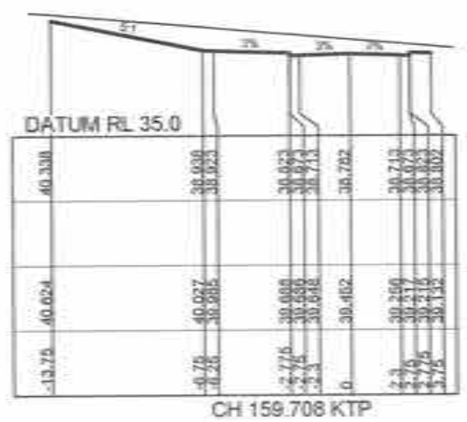




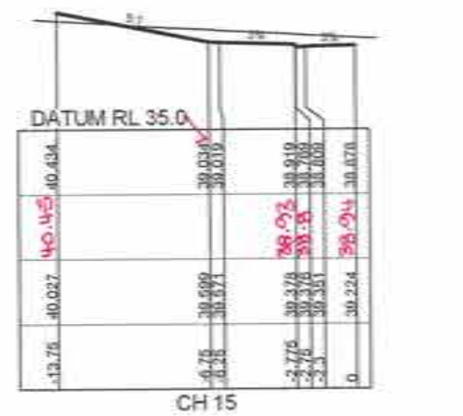


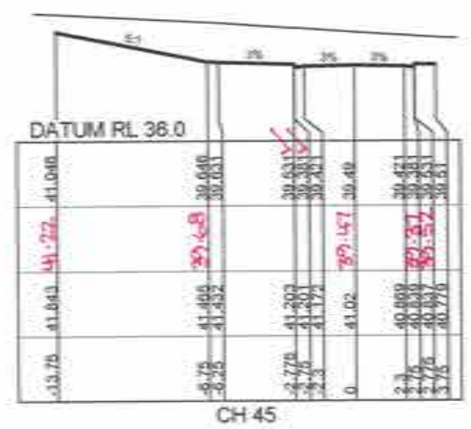


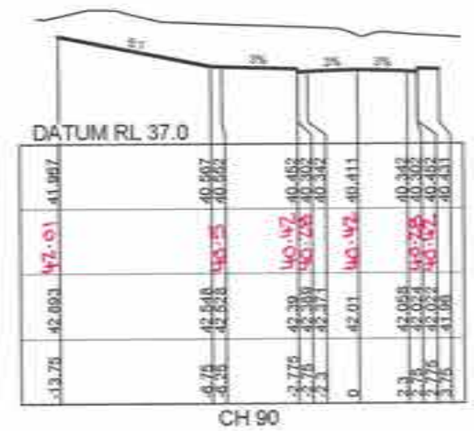


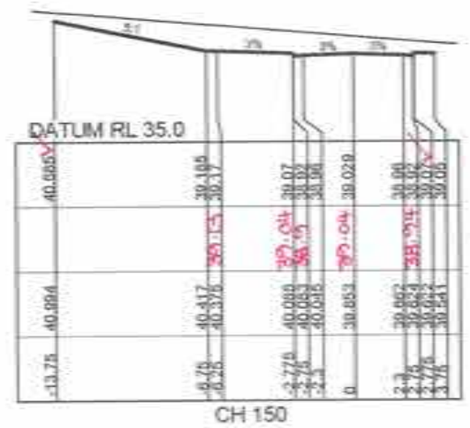


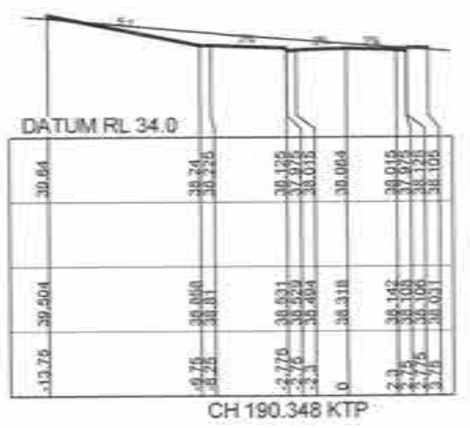
WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

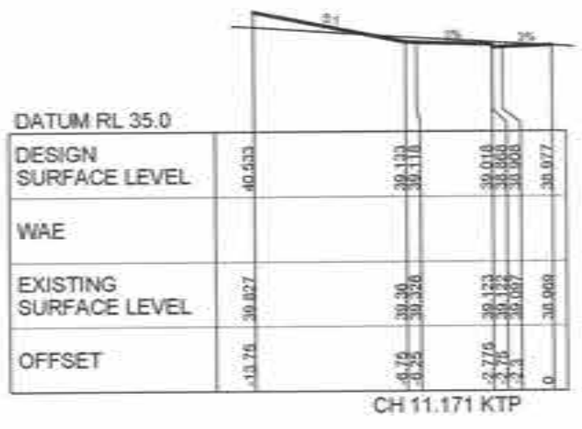


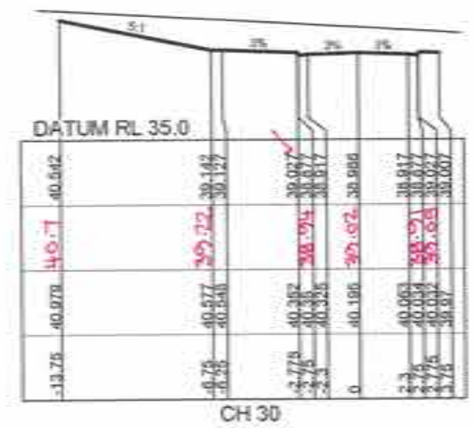


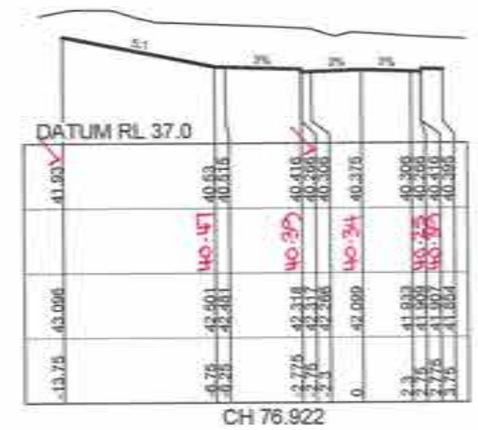


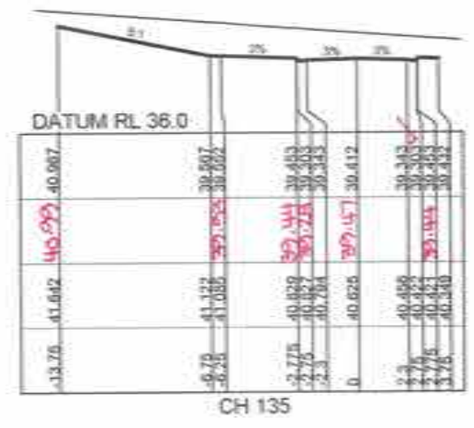


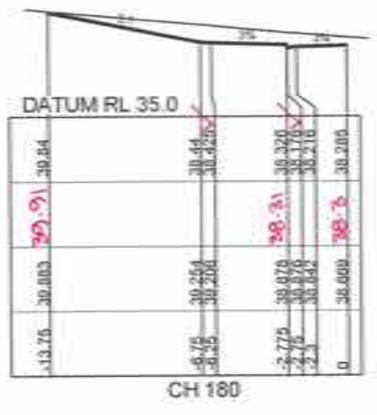












CROSS SECTIONS ROAD 26

1:200 (AT A1)
1:400 (AT A3)
4 2 0 4 8 12 16 20
METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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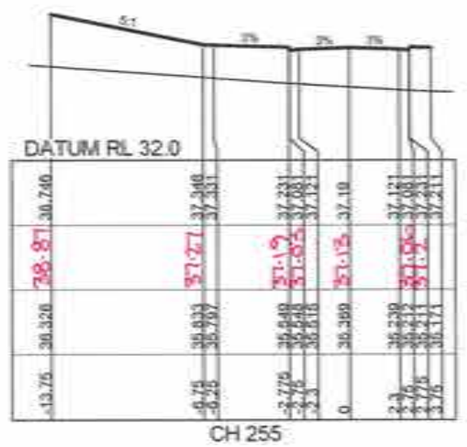
ISSUED FOR CONSTRUCTION APPROVAL

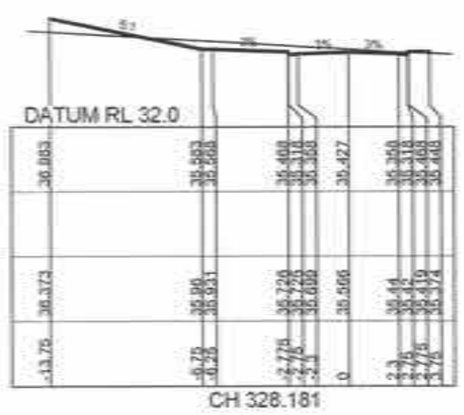
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 10 OF 19

PLAN No: 11018511/CC070 A
FILE No: 11018511CC070
SHEET SIZE: A1 ORIGINAL

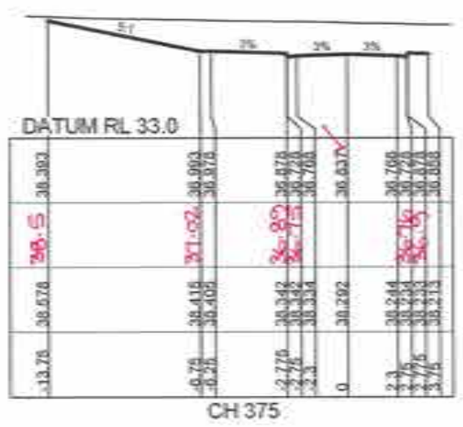
Plotted: 25 January 2018 4:37:43 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMAN\11018511CC070.dwg



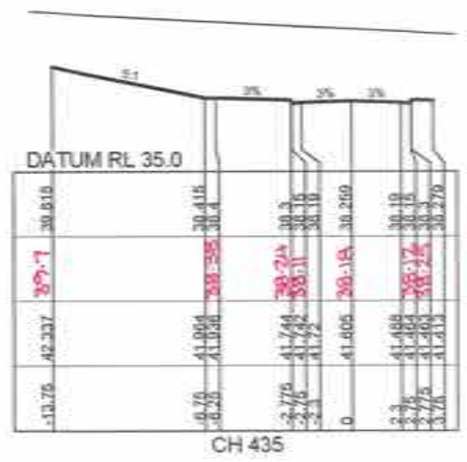
CH 255



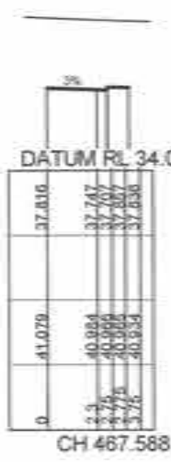
CH 328.181



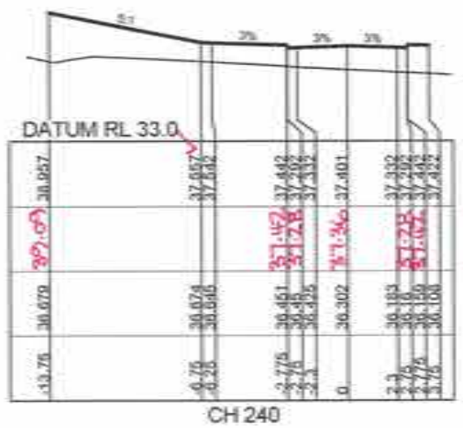
CH 375



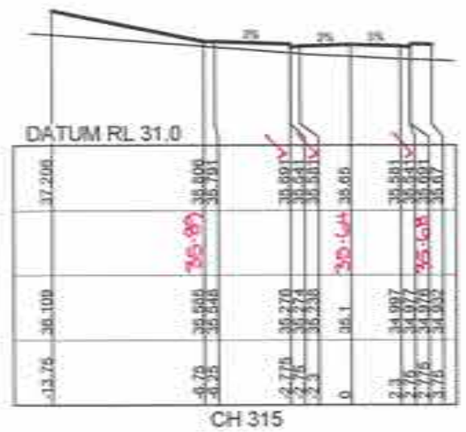
CH 435



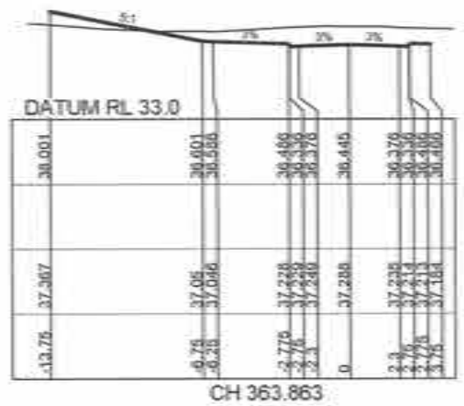
CH 467.588 KTP



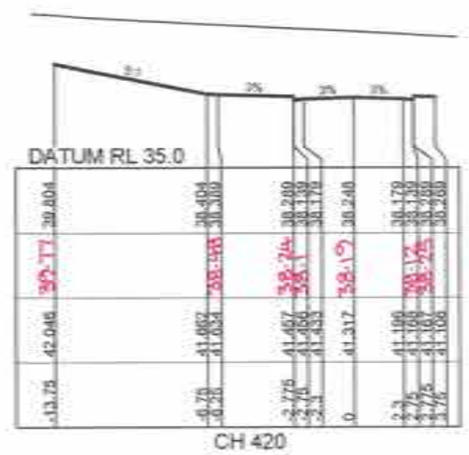
CH 240



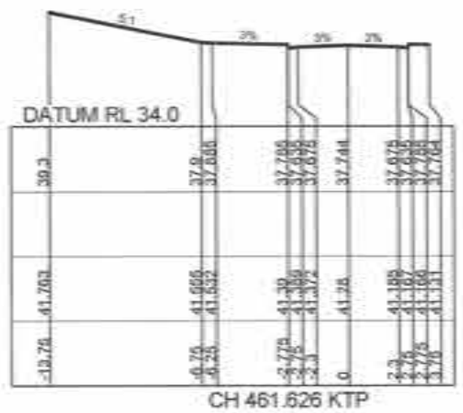
CH 315



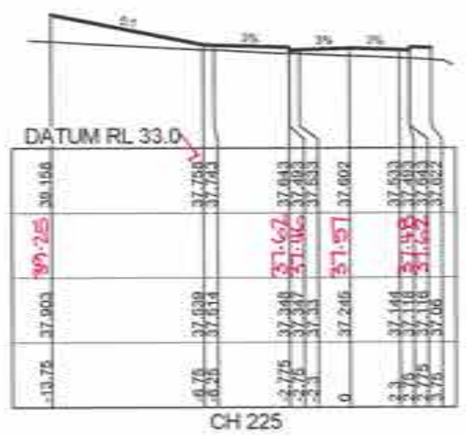
CH 363.863



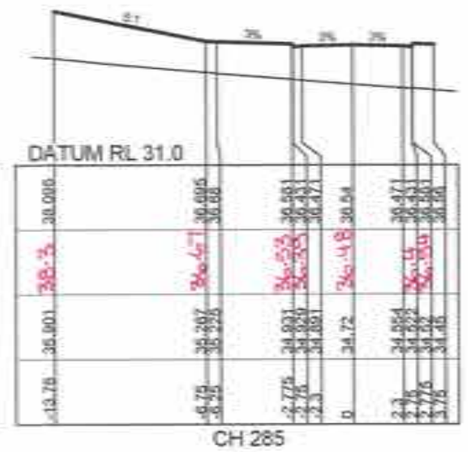
CH 420



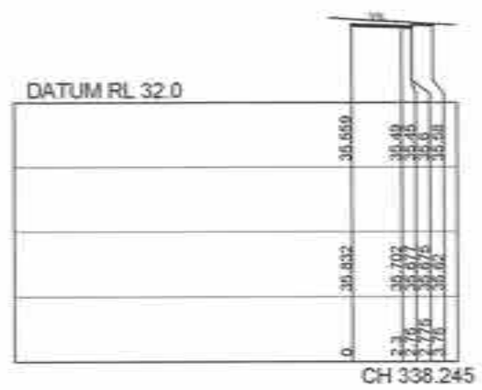
CH 461.626 KTP



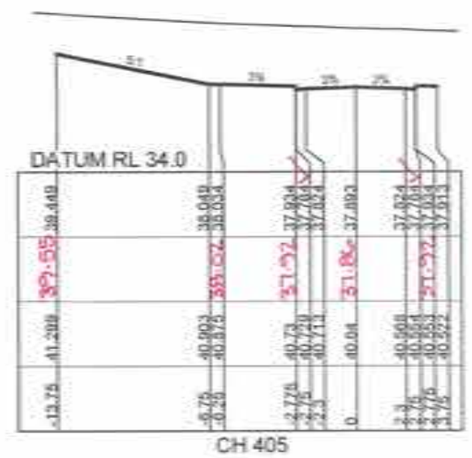
CH 225



CH 285



CH 338.245



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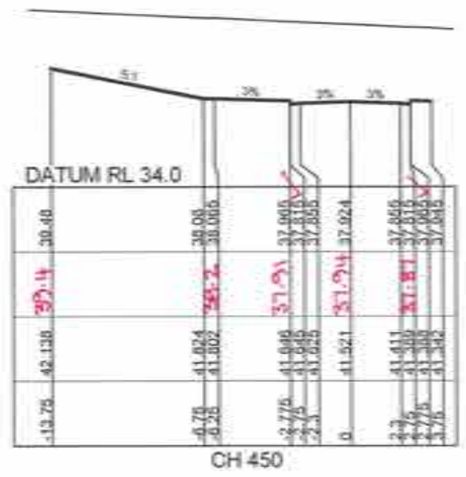

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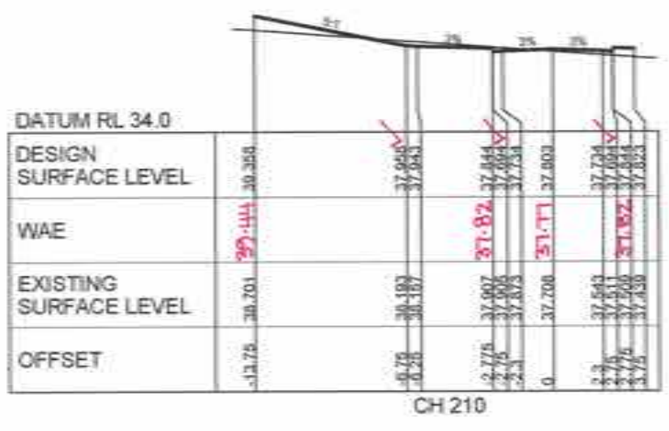
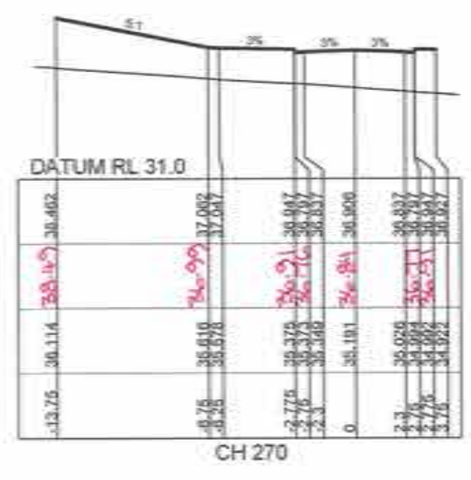


CH 210



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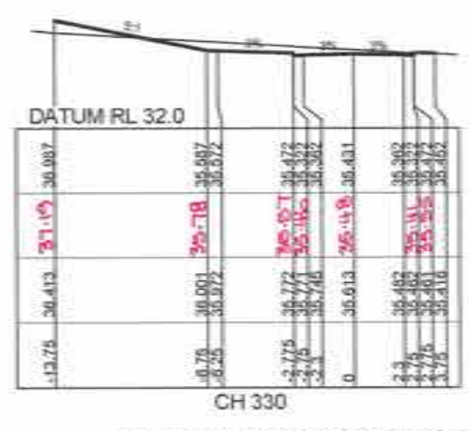

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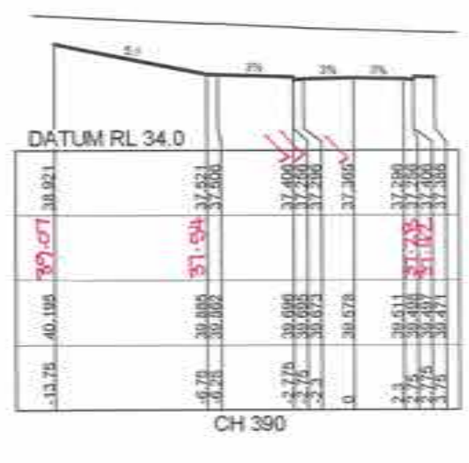

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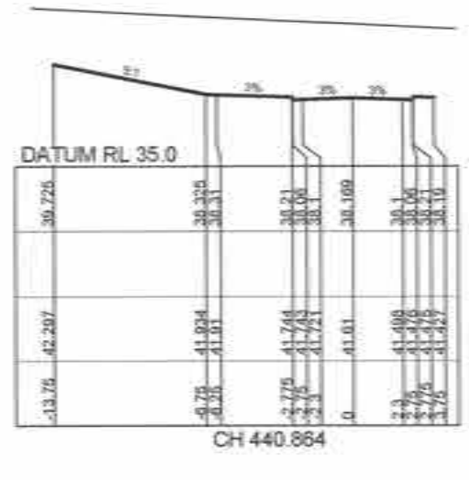

CH 440.864

CROSS SECTIONS ROAD 26

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1:400 (AT A3)

4 2 0 4 8 12 16 20
METRES

CONSTRUCTION CERTIFICATE
Certificate No. 20180299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0065
These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RD	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

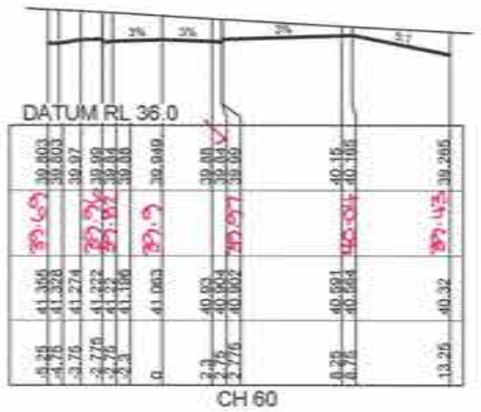
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE

ISSUED FOR CONSTRUCTION APPROVAL

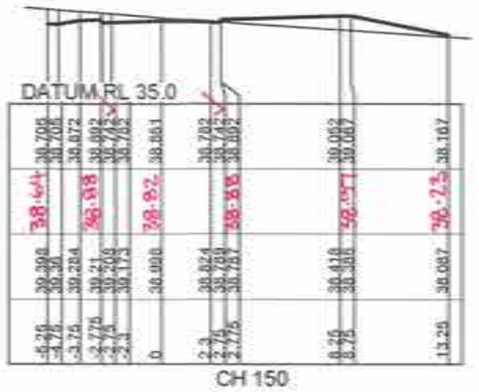
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 11 OF 19

PLAN No: 11018511/CC071 A
FILE No: 11018511CC071
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January, 2018 4:37:56 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CDC\CC\YEOMANS\11018511CC071.dwg



CH 60



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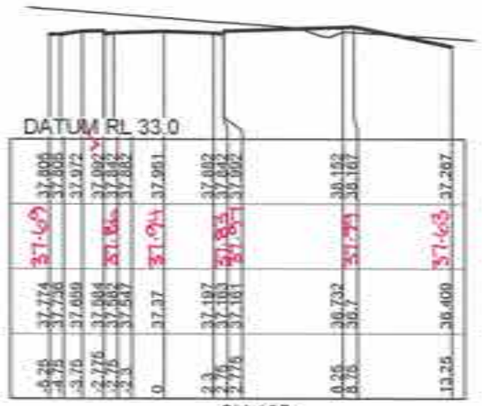

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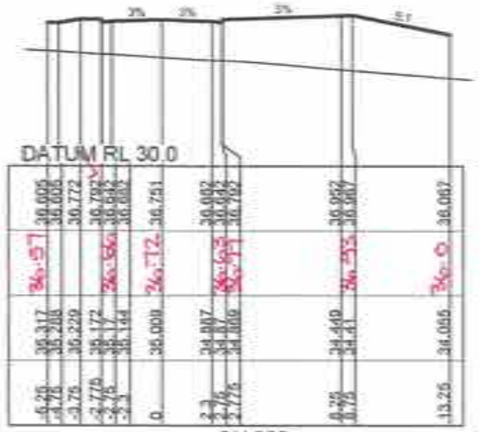

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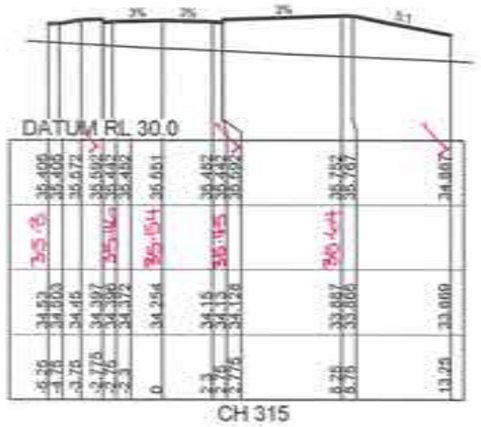

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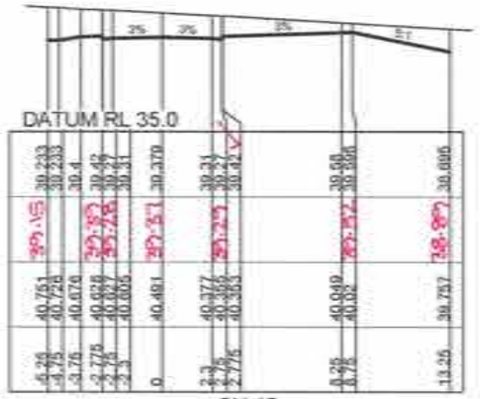

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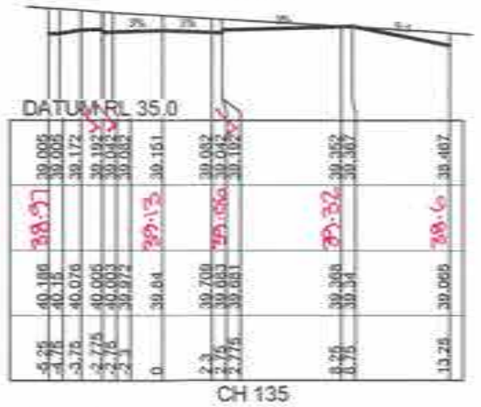

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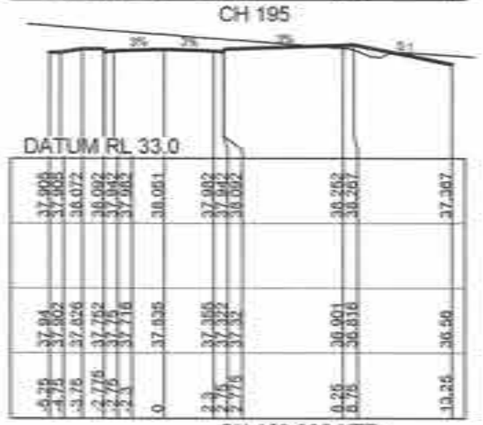
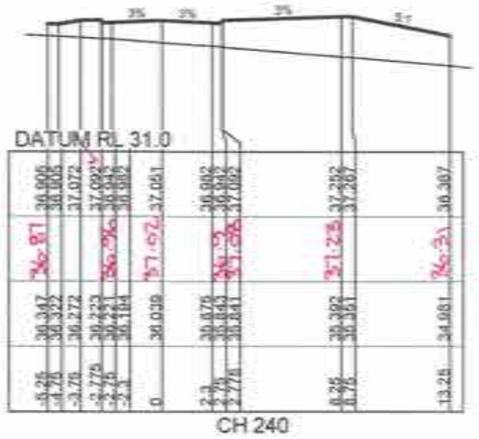


CH 189.999 KTP



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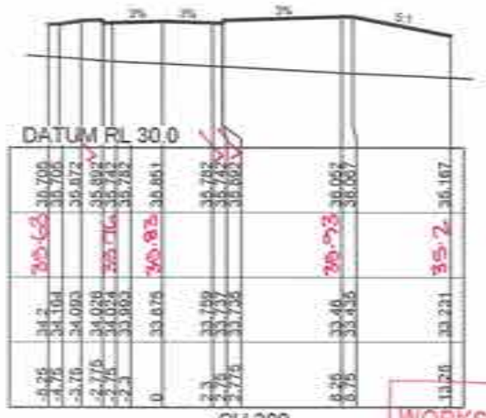

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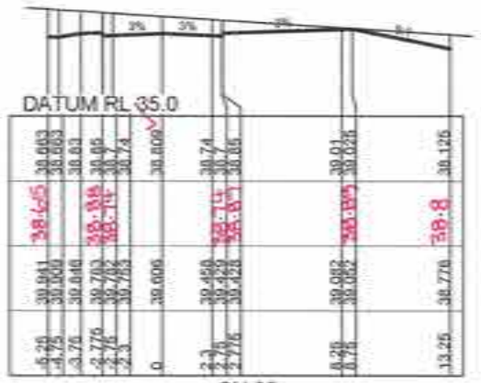

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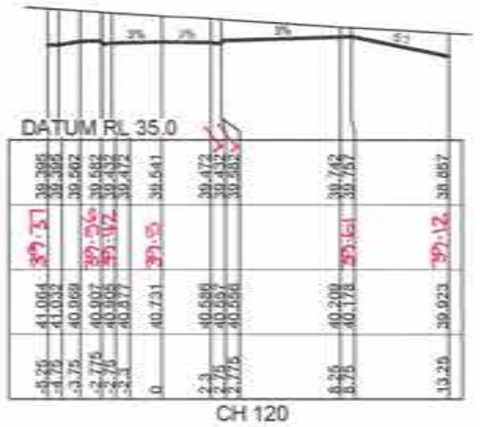

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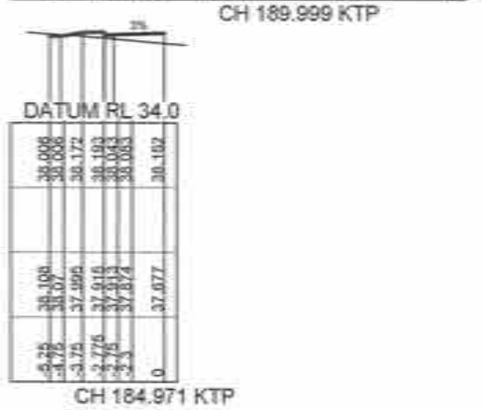
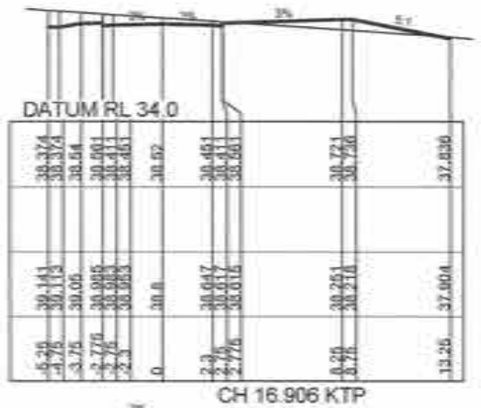
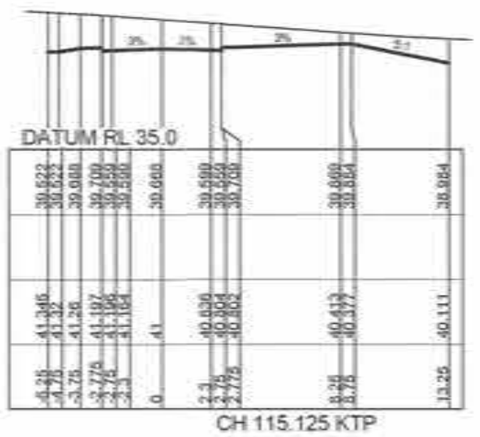


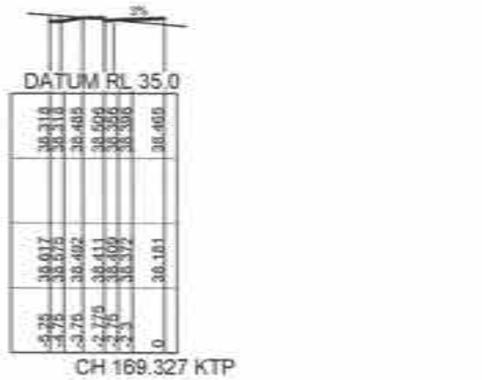
CH 184.971 KTP



CH 16.906 KTP



CH 115.125 KTP



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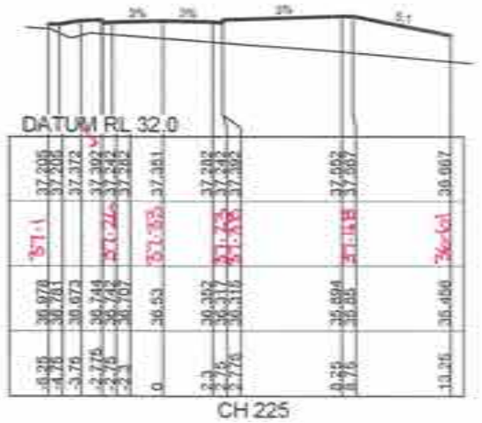

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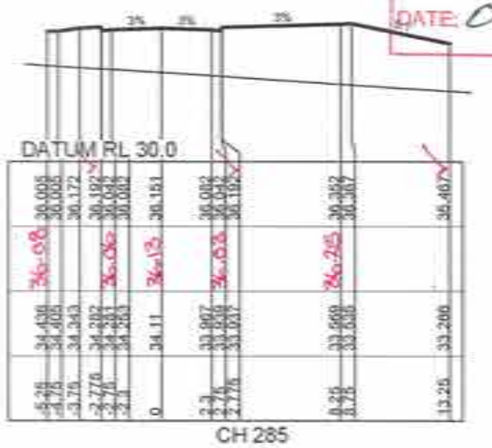

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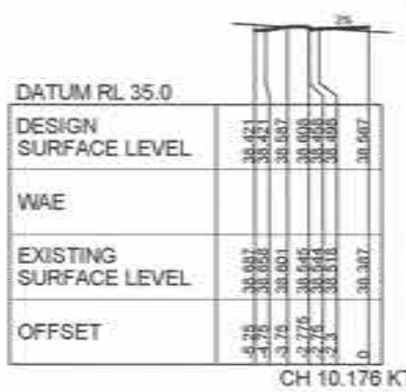

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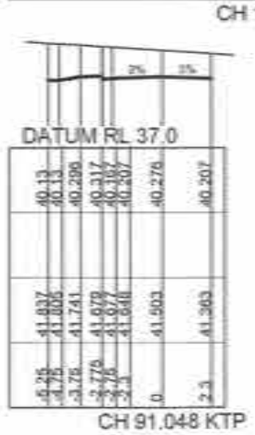

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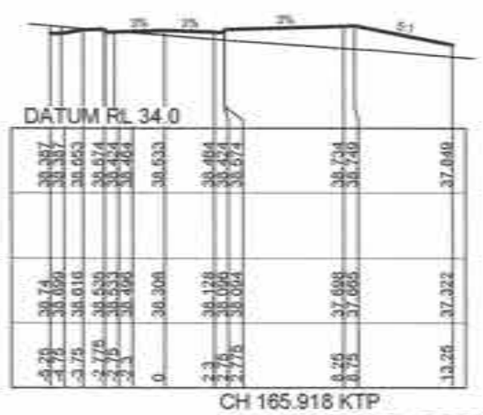
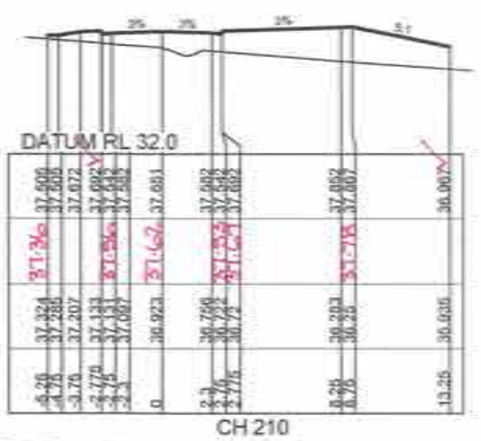
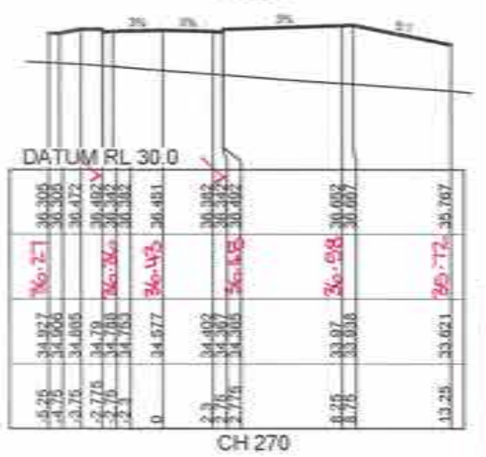


CH 165.918 KTP



CH 210



CH 270

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 2018/0299/C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0065
These plans/specifications form part of the certificate issued 5 March 2018.

CROSS SECTIONS ROAD 26A

1:200 (AT A1)
1:400 (AT A3)
4 2 0 4 8 12 16 20
METRES

PRINCIPAL: REDBANK

ISSUED FOR CONSTRUCTION APPROVAL

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

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

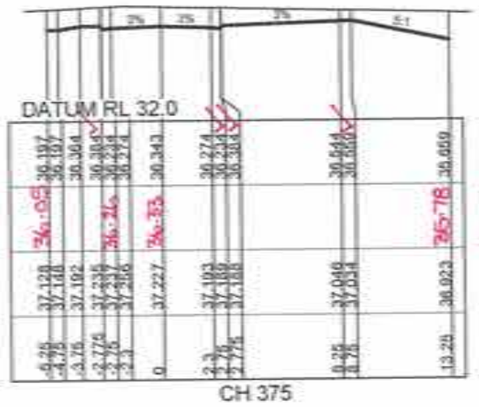
J. WYNDHAM PRINCE
CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
PO Box 4366 PENRITH WESTFIELD NSW 2750
P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

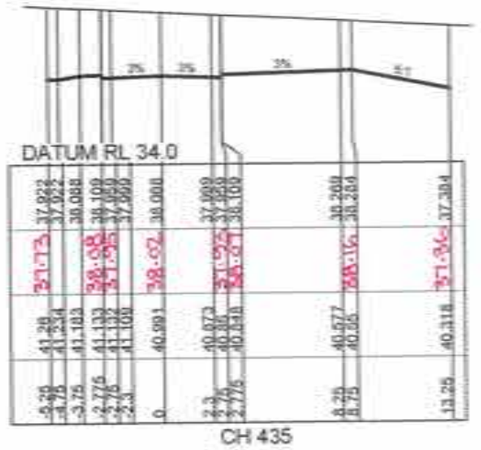
AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

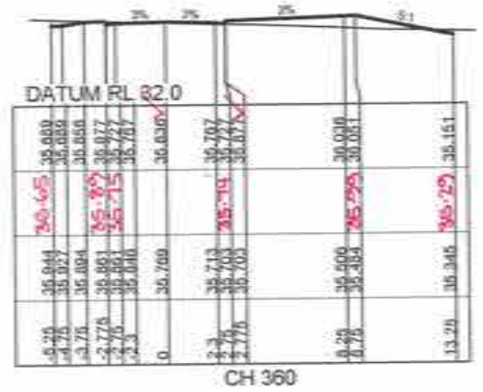
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 12 OF 19

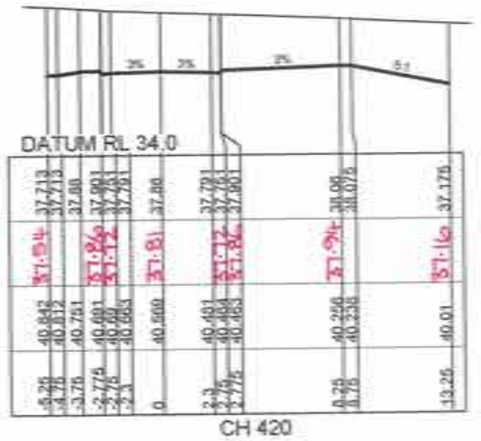
PLAN No: 11018511/CC072 A
FILE No: 11018511CC072
SHEET SIZE: A1 ORIGINAL

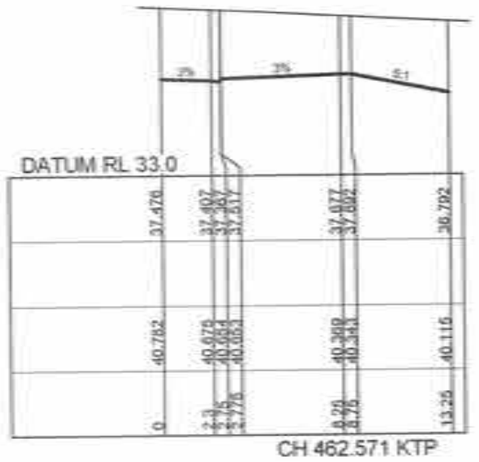
Plotted: 25 January , 2018 4:38:09 PM File Name: J:\11\10185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC072.dwg

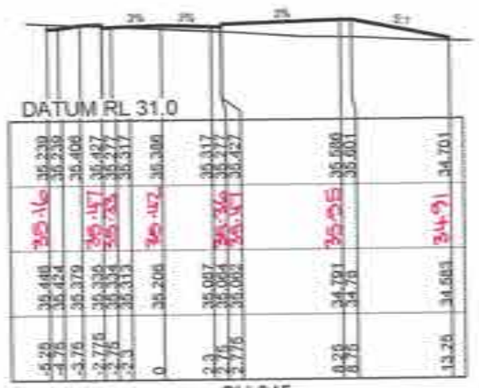


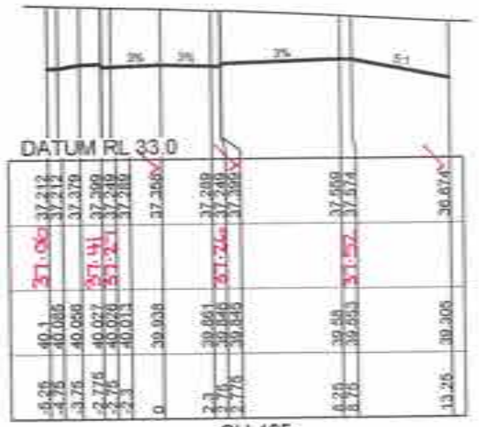


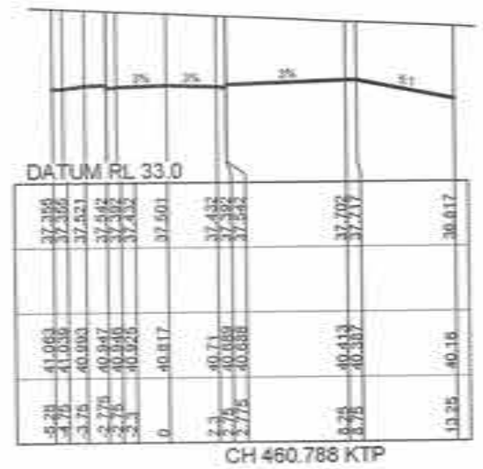


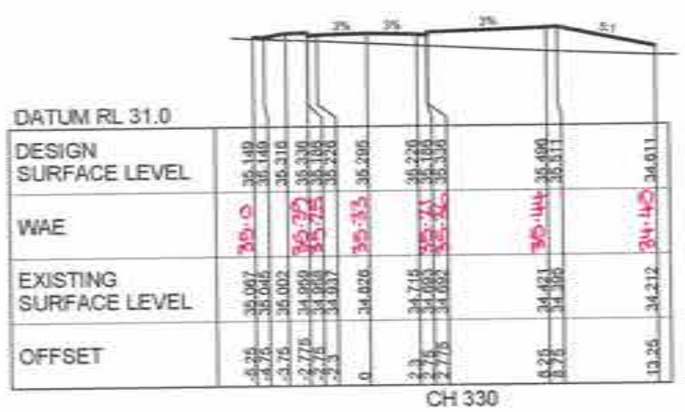


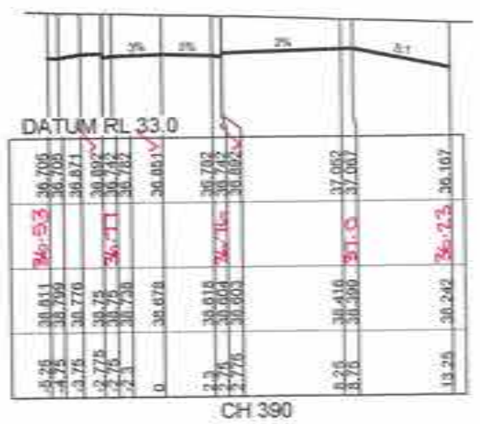


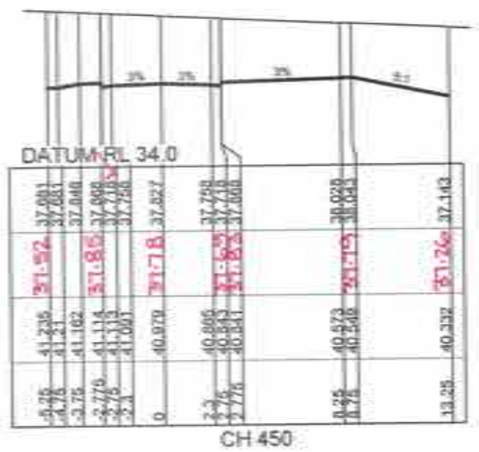












WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130229/C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0585
These plans/specifications form part of the certificate issued5 March 2018

CROSS SECTIONS ROAD 26A

1:200 (AT A1)
1:400 (AT A3)
4 2 0 4 8 12 16 20
METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 13 OF 19

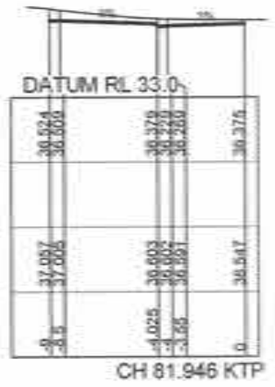
PLAN No: 11018511/CC073 A
FILE No: 11018511CC073
SHEET SIZE: A1 ORIGINAL

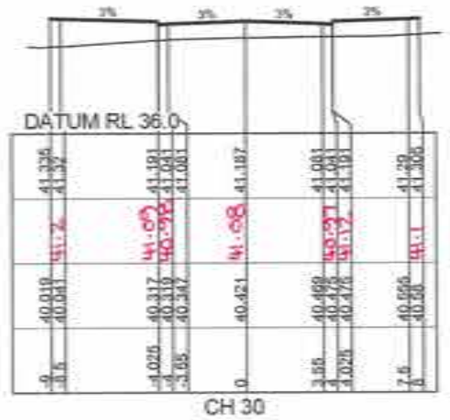
Plotted: 26 January, 2018 4:38:22 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC073.dwg

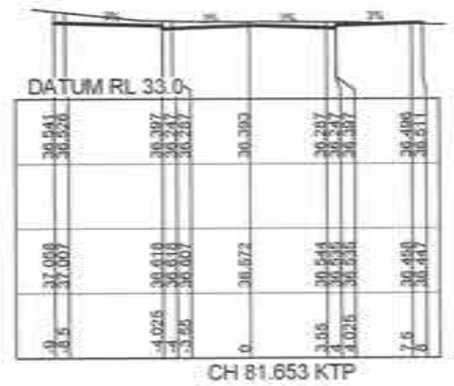
CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

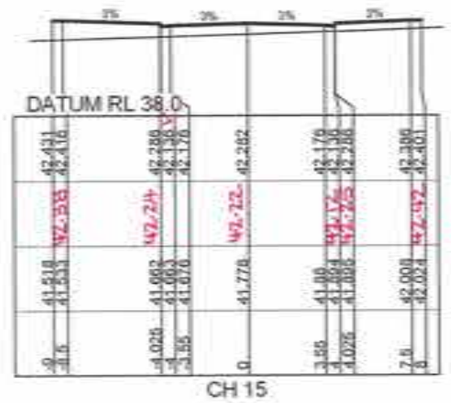
These plans/specifications form part of the certificate issued5 March 2018

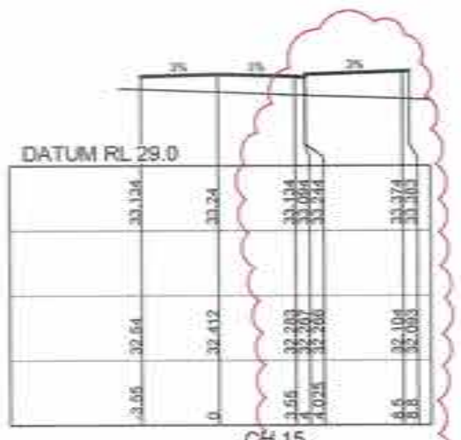


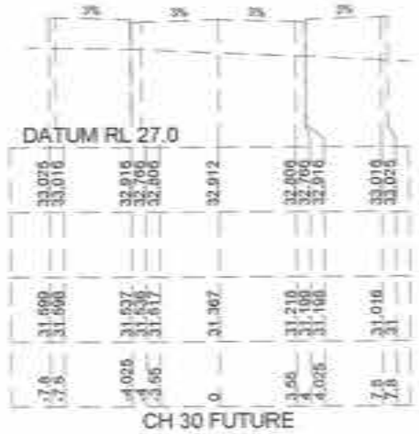


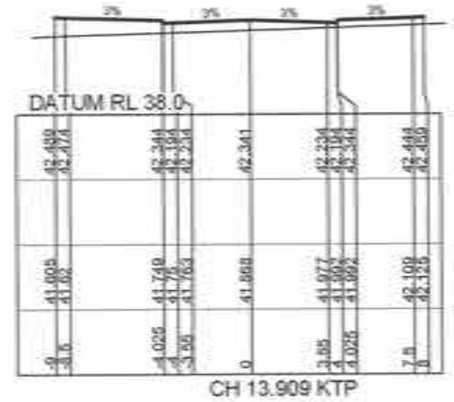


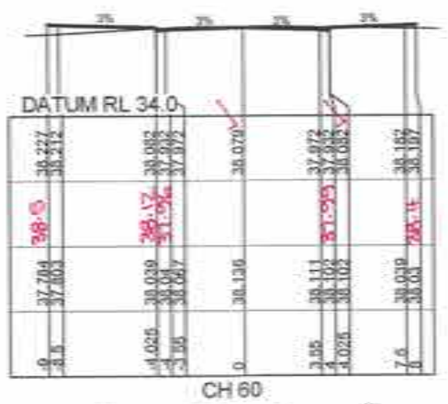
WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01·08·18 REF: 16800-11

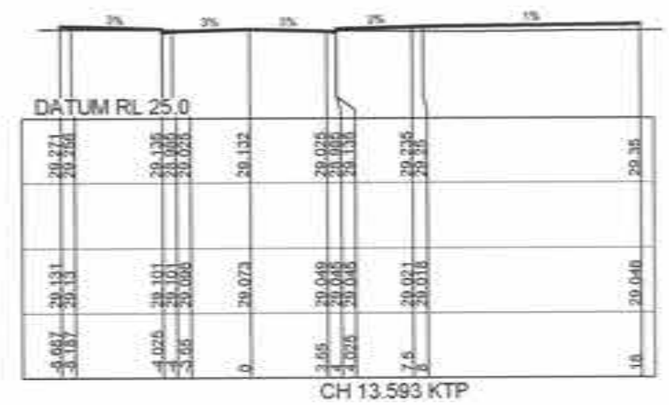


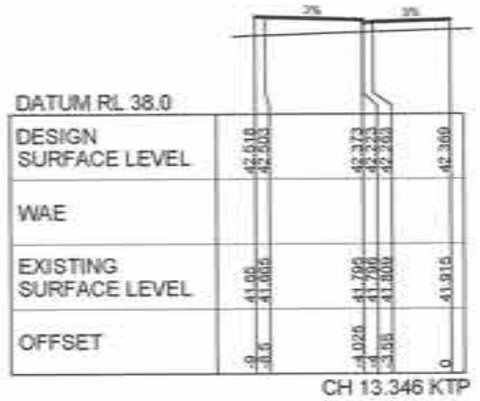


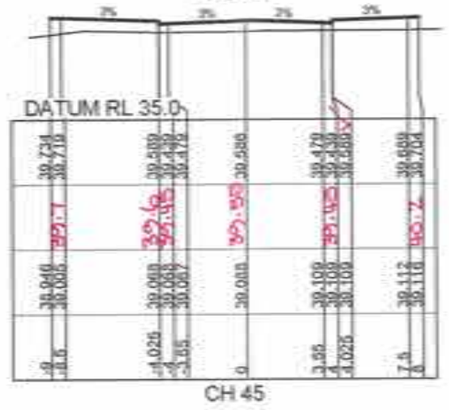


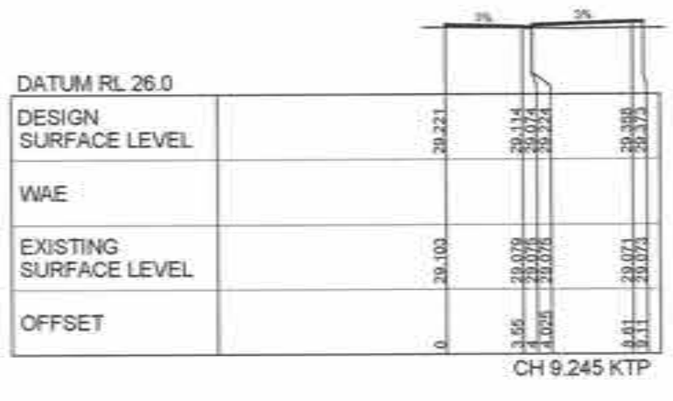


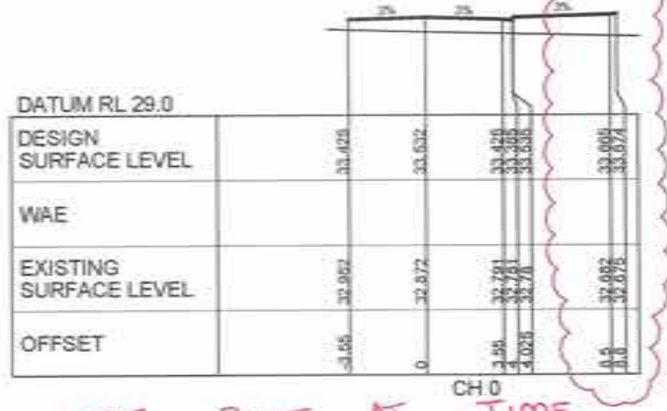


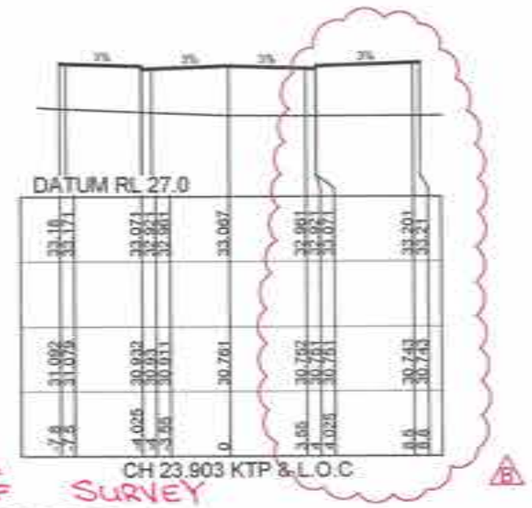












NOT BUILT AT TIME OF SURVEY

CROSS SECTIONS ROAD 27

CROSS SECTIONS ROAD 28

CROSS SECTIONS ROAD 29

1:200 (AT A1)
1:400 (AT A3)
4 2 0 4 8 12 16 20
METRES

B	BOUNDARY AMENDED	MP	UF	RO	RO	12/02/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: AHD
ORIGIN:

PRINCIPAL: REDBANK

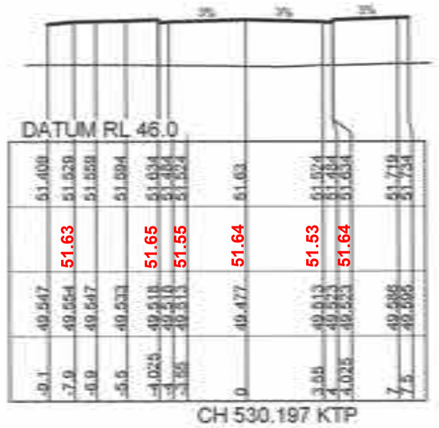
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

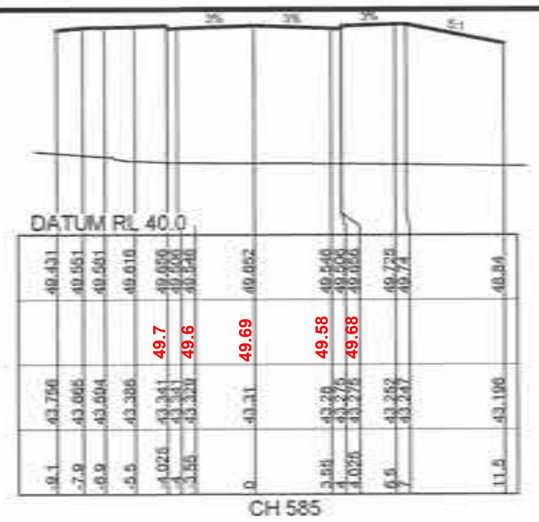
ISSUED FOR CONSTRUCTION APPROVAL

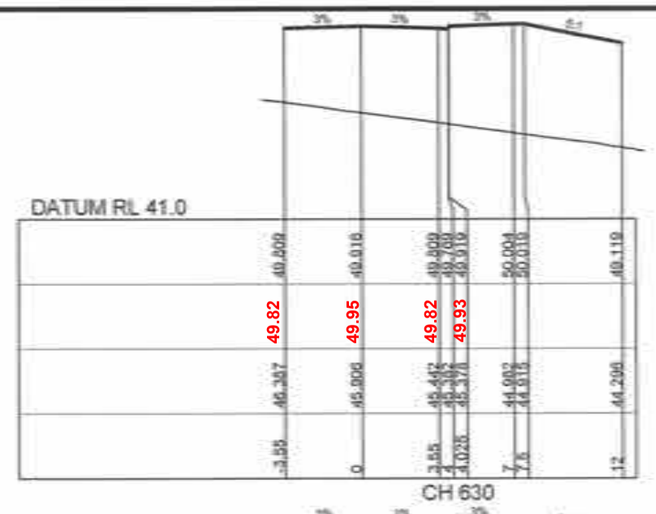
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 14 OF 19

PLAN No: 11018511/CC074 B
FILE No: 11018511CC074
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February, 2018 2:09:33 PM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC074.dwg



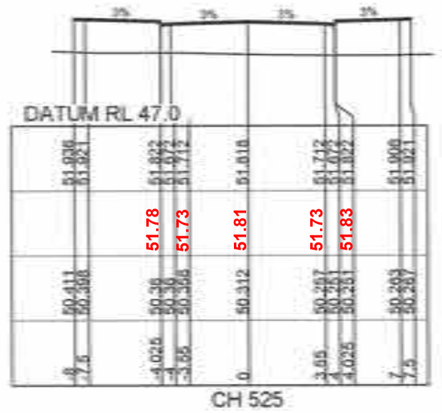


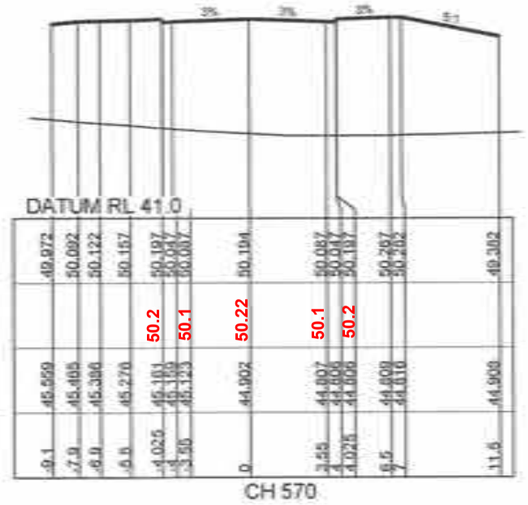


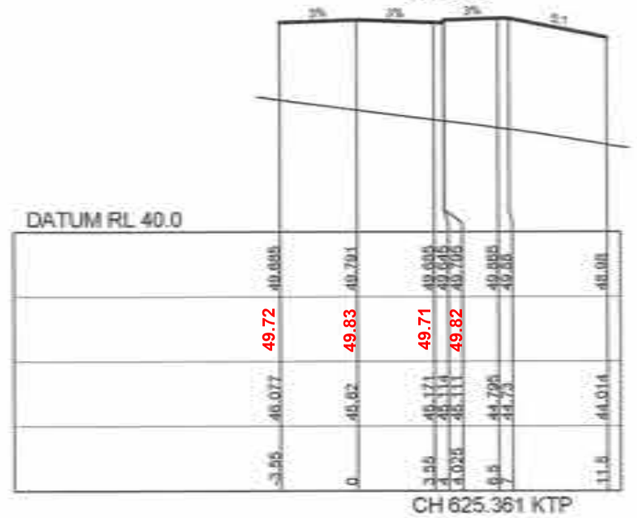
WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

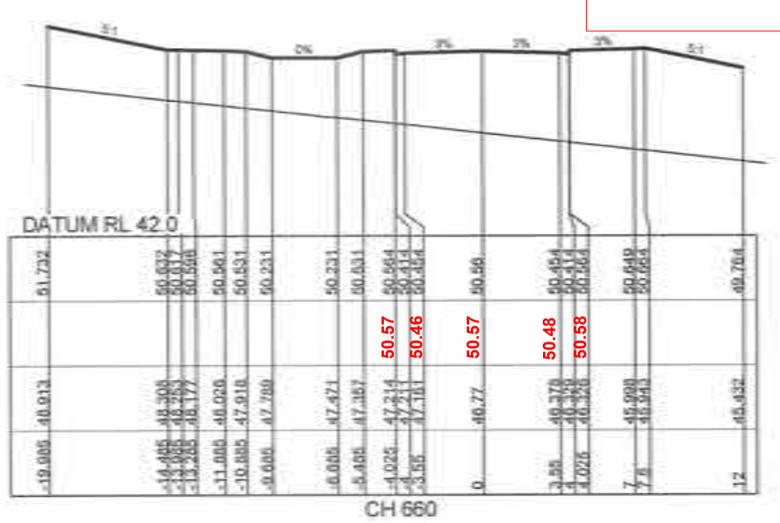
CONSTRUCTION CERTIFICATE
Certificate No. 2013029PC42
Date of issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

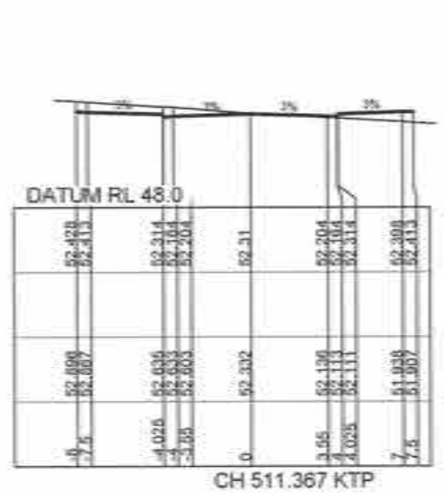
WORK AS EXECUTED SHOWN IN RED
SIGNATURE.....
PETER ROBERT WARWICK
REGISTERED LAND SURVEYOR
VINCE MORGAN SURVEYORS PTY LTD
DATE: 14/01/20 REF:16800-11

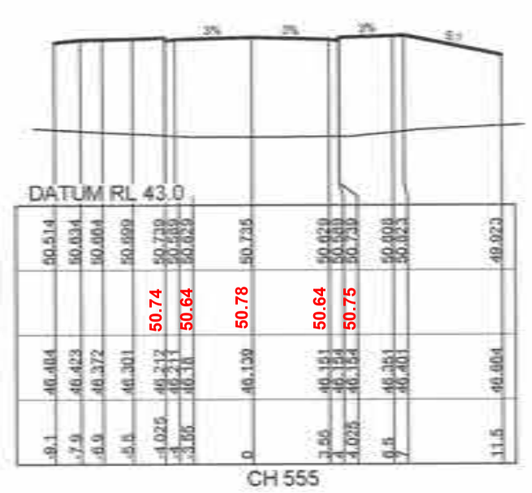


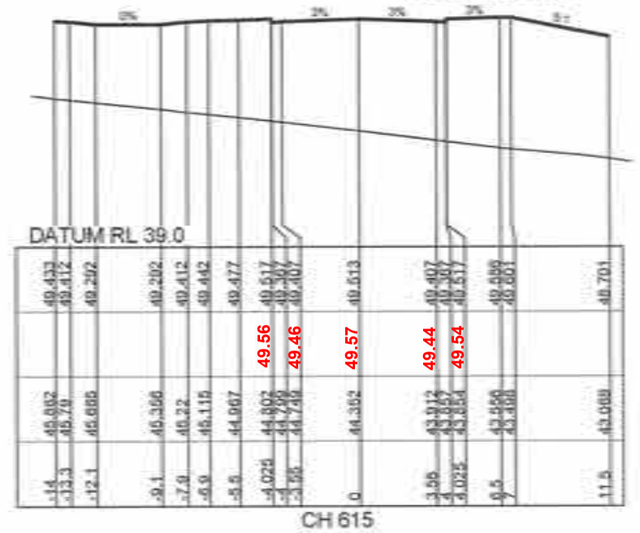


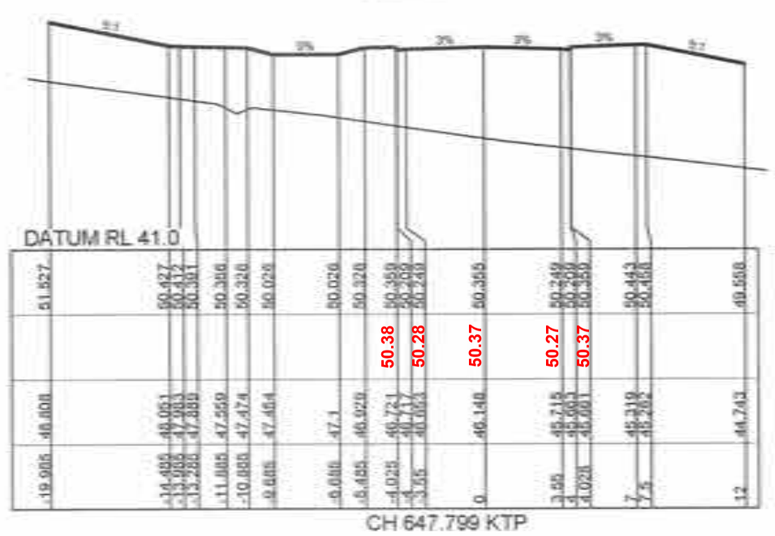


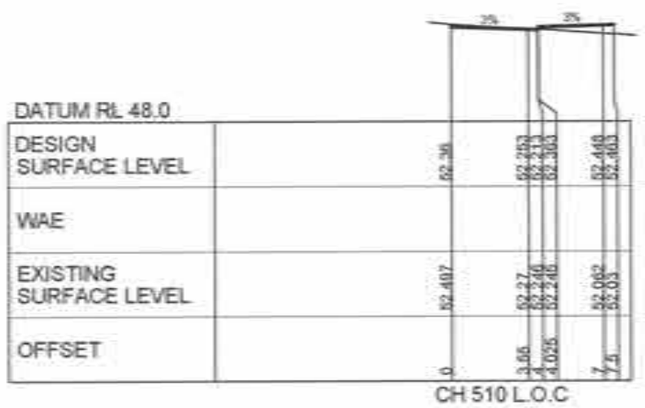


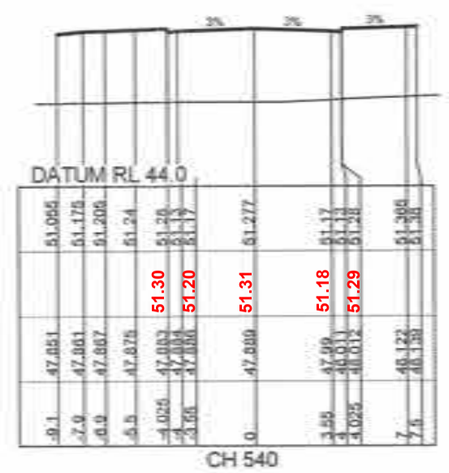


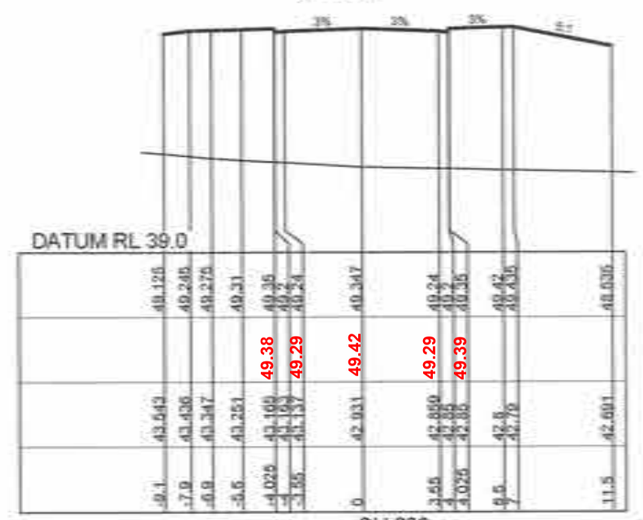


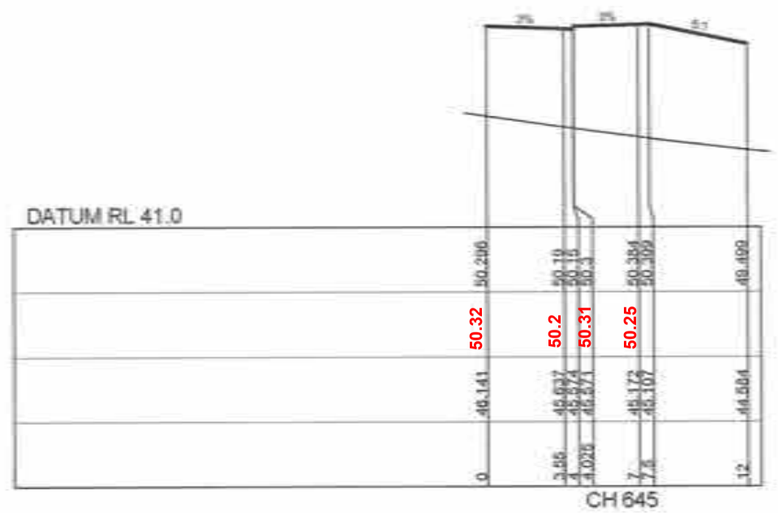












CROSS SECTIONS ROAD 30

1:200 (AT A1)
1:400 (AT A3)
4 2 0 4 8 12 16 20
METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 15 OF 19

PLAN No: 11018511/CC075 A
FILE No: 11018511CC075
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January, 2018 4:38:47 PM File Name: J:\11\0185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC075.dwg

CONSTRUCTION CERTIFICATE

Certificate No: 20130299C42
Date of Issue: 5 March 2018
Issuing Officer:
Accreditation No: BPB0585

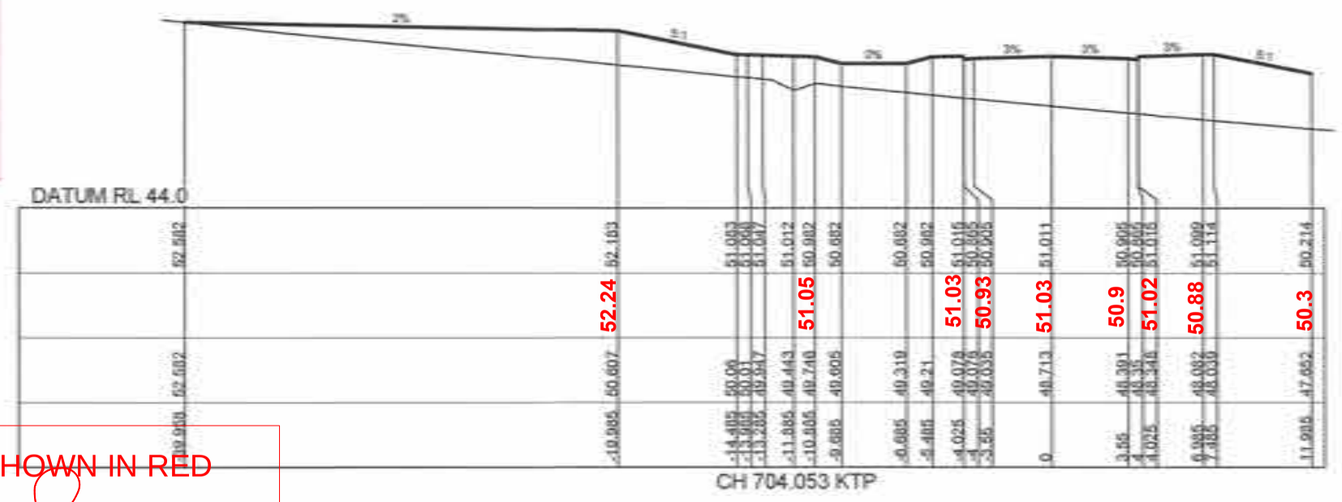
These plans/specifications form part of the certificate issued 5 March 2018

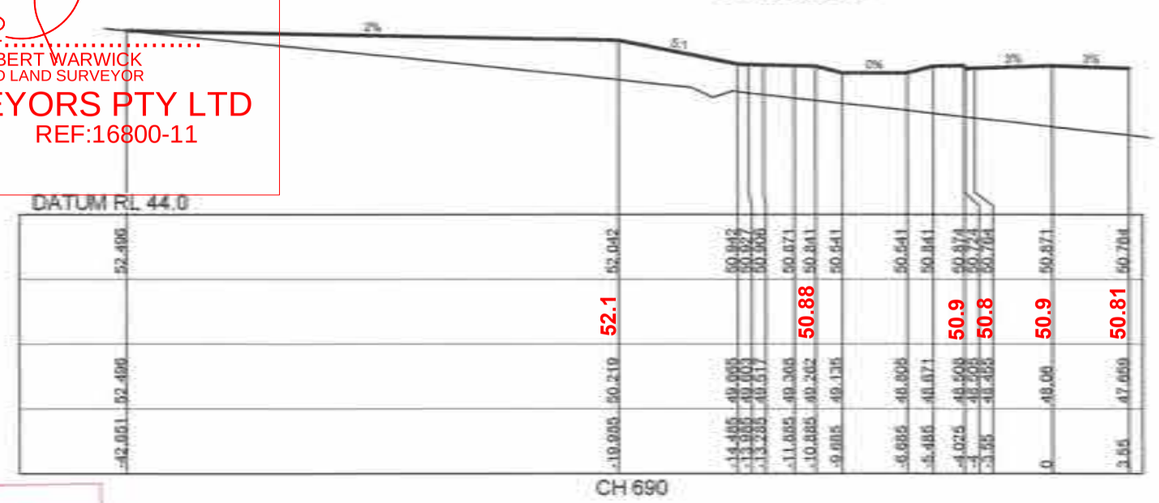
WORK AS EXECUTED SHOWN IN RED

SIGNATURE.....

PETER ROBERT WARWICK
REGISTERED LAND SURVEYOR

VINCE MORGAN SURVEYORS PTY LTD
DATE: 14/01/20 REF:16800-11



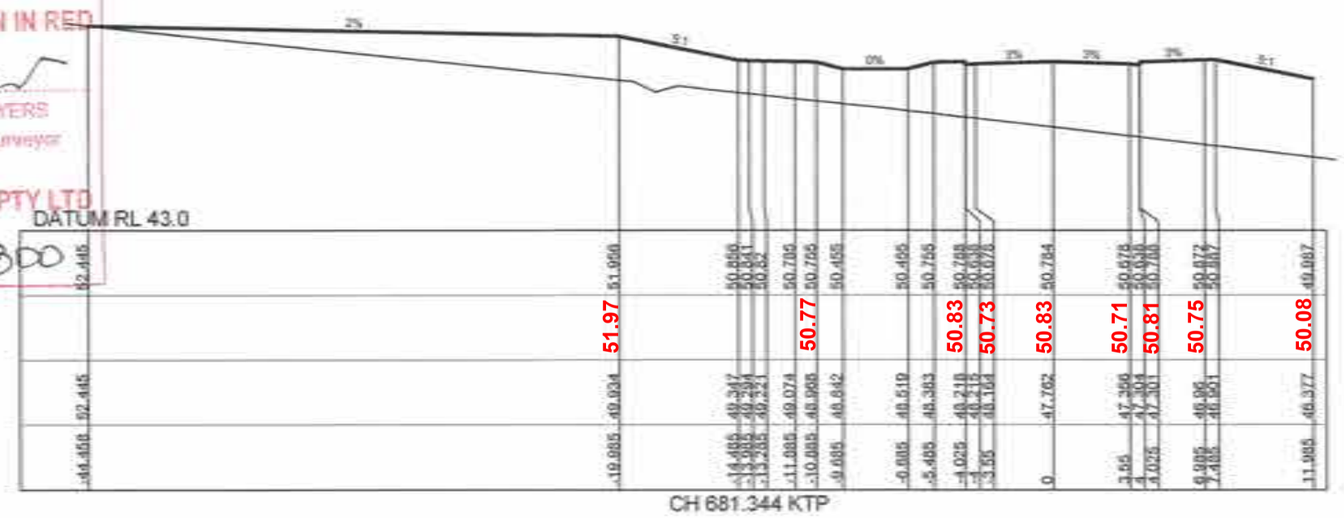


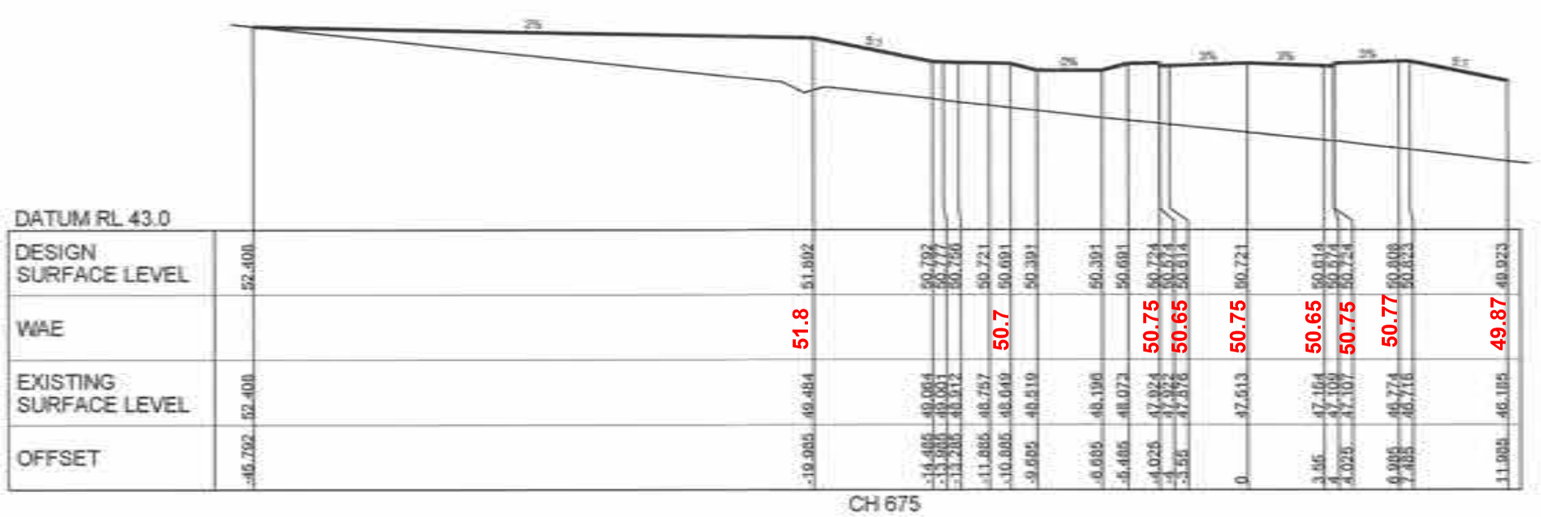
WORKS AS EXECUTED SHOWN IN RED

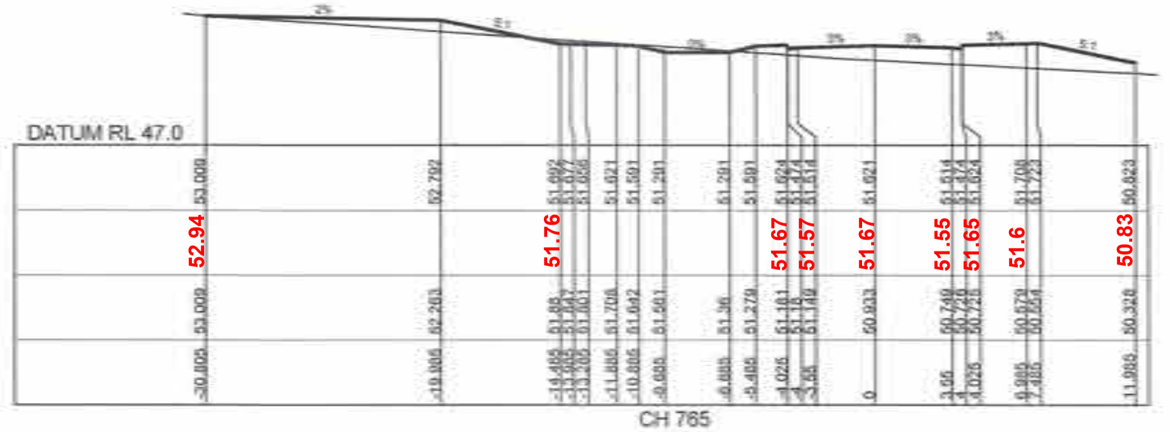
SIGNATURE:

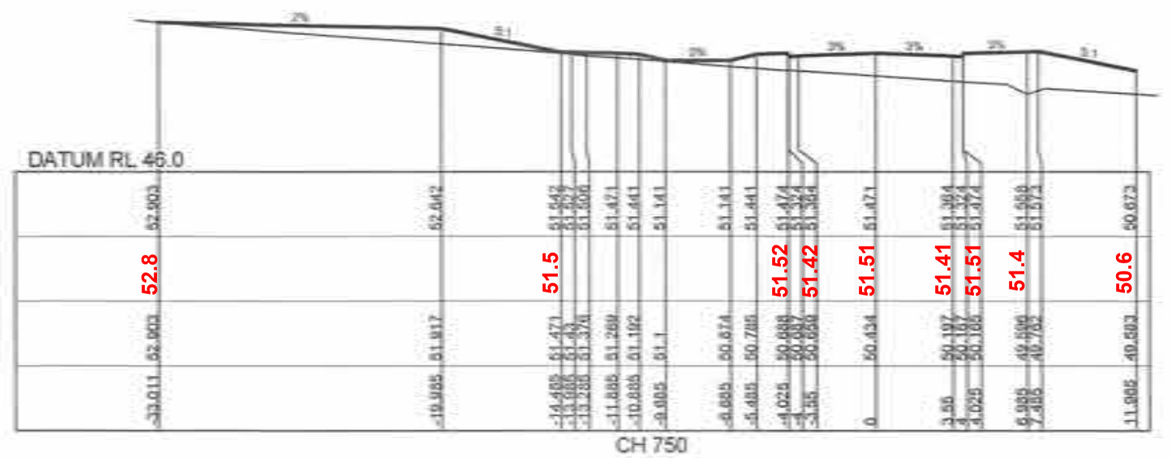
IAN VINCENT MYERS
Registered Land Surveyor

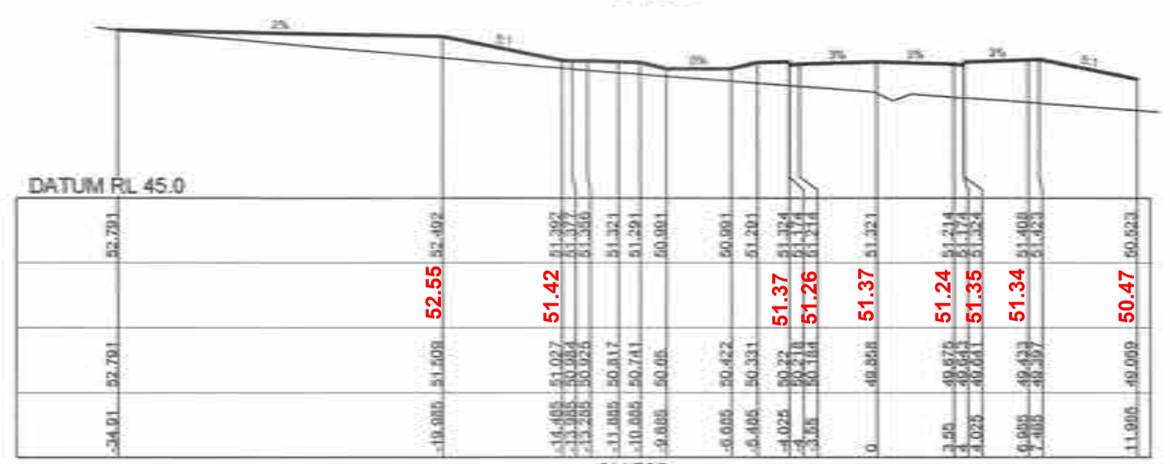
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800

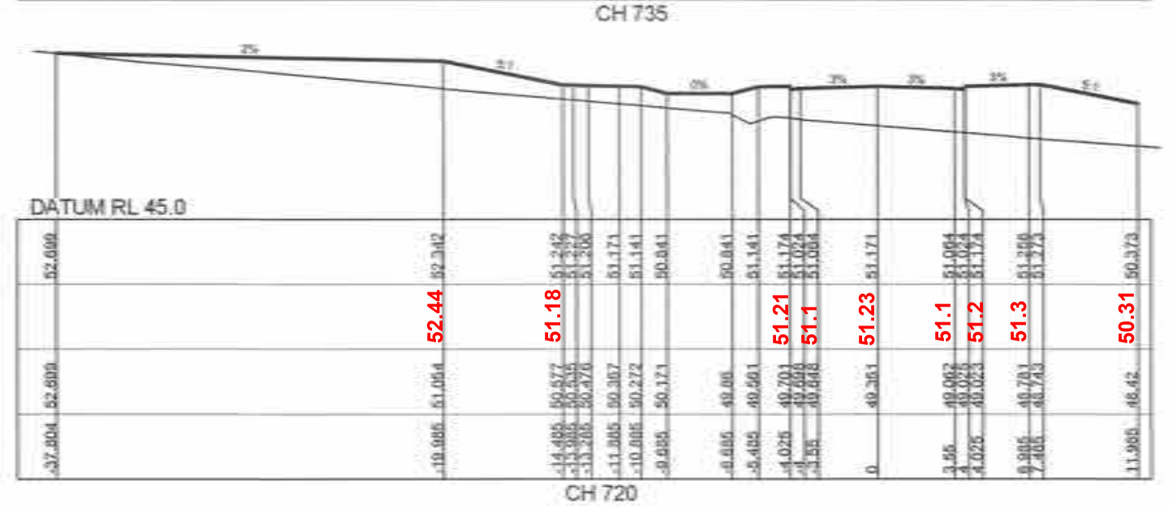












CROSS SECTIONS ROAD 30

1:200 (AT A1)
1:400 (AT A3)

4 2 0 4 8 12 16 20
METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

J. WYNDHAM PRINCE
CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
PO Box 4966 PENRITH WESTFIELD NSW 2750
P 02 4720 3300 F 01 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 16 OF 19

PLAN No: 11018511/CC076 A
FILE No: 11018511CC076
SHEET SIZE: A1 ORIGINAL

Plotted: 29 January, 2018 4:39:00 PM File Name: J:\110185 - Redbank North Richmond Residential Precinct\03 - Description\CD\CC\YEOMANS\11018511CC076.dwg

CONSTRUCTION CERTIFICATE

Certificate No: 20130299C42
Date of Issue: 5 March 2018
Issuing Officer
Accreditation No: BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

WORK AS EXECUTED SHOWN IN RED

SIGNATURE.....

PETER ROBERT WARWICK
REGISTERED LAND SURVEYOR

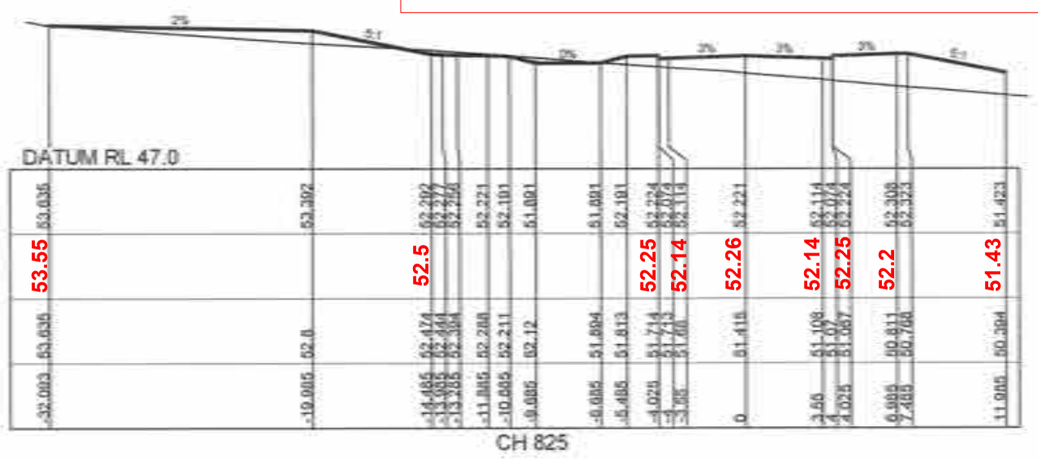
VINCE MORGAN SURVEYORS PTY LTD
DATE: 14/01/20 REF:16800-11

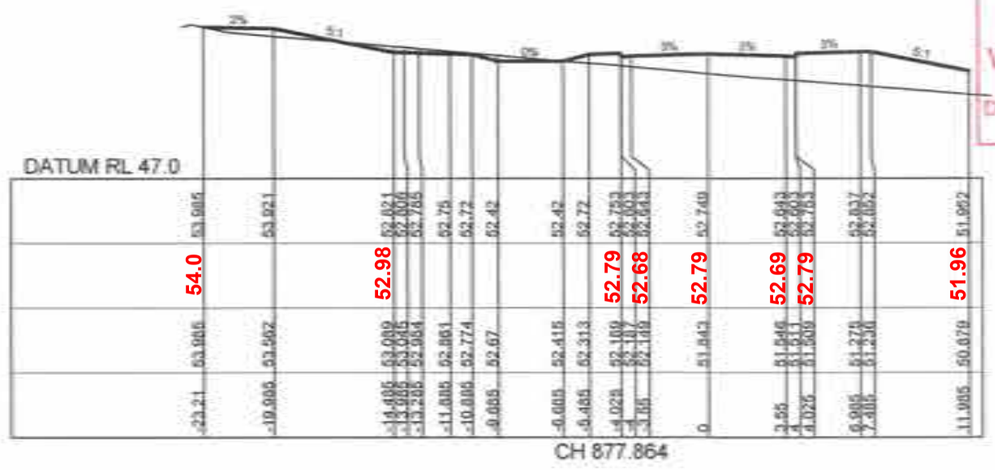
WORKS AS EXECUTED SHOWN IN RED

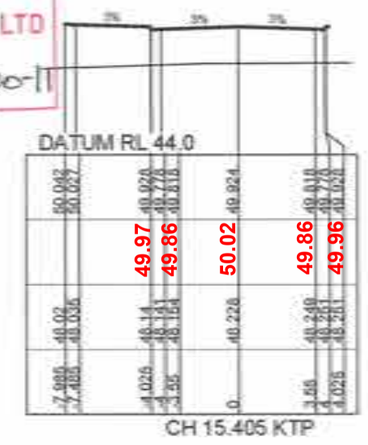
SIGNATURE.....

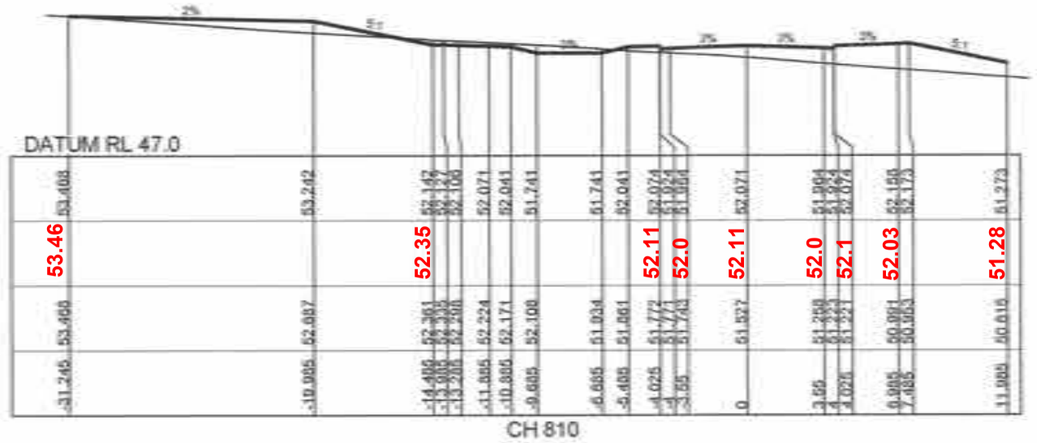
IAN VINCENT MYERS
Registered Land Surveyor

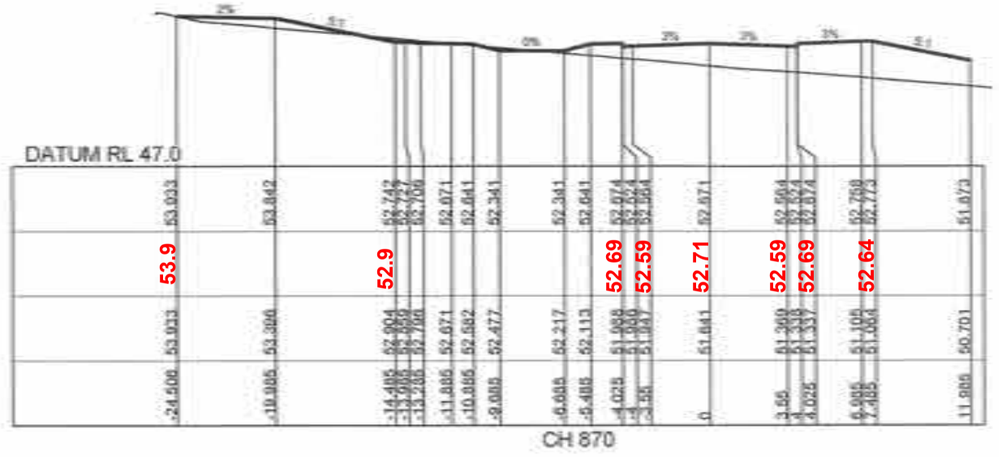
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01-08-18 REF: 16800-11

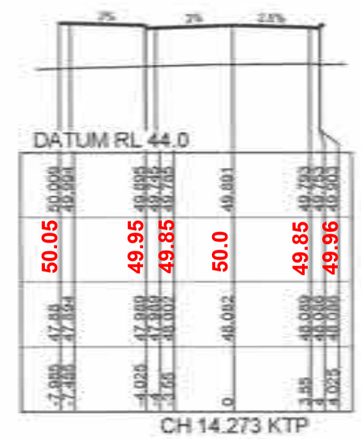


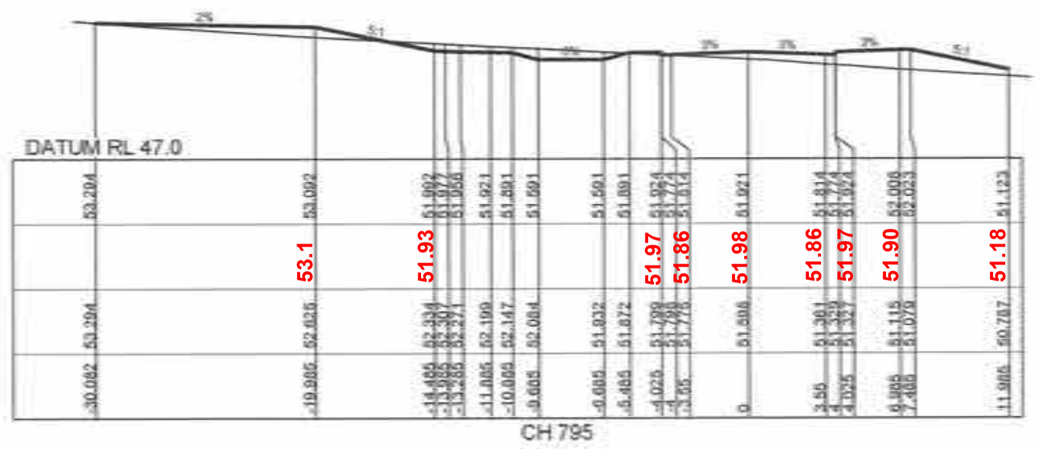


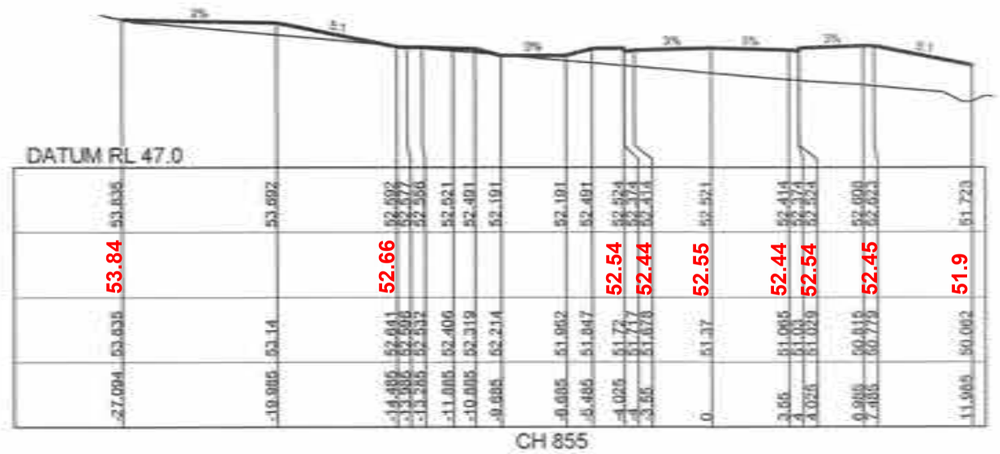


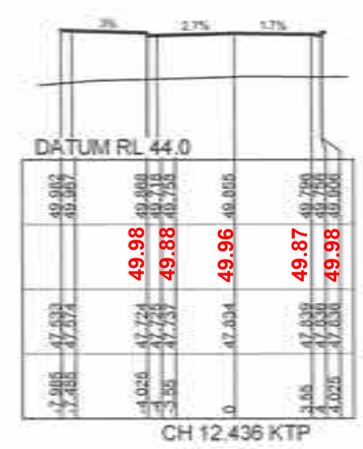


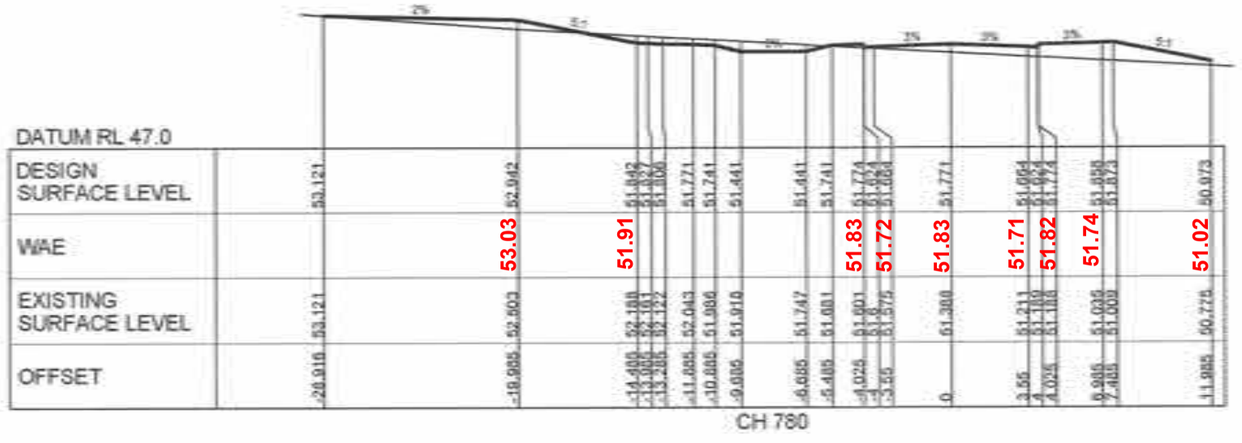


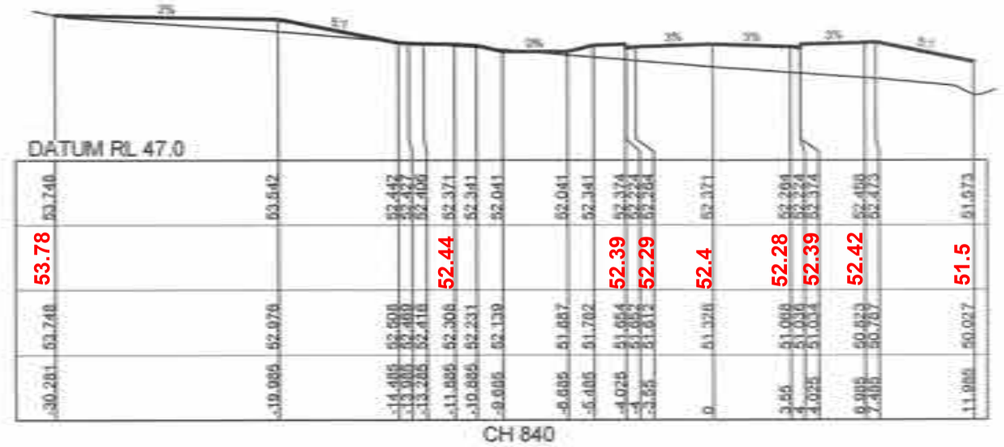


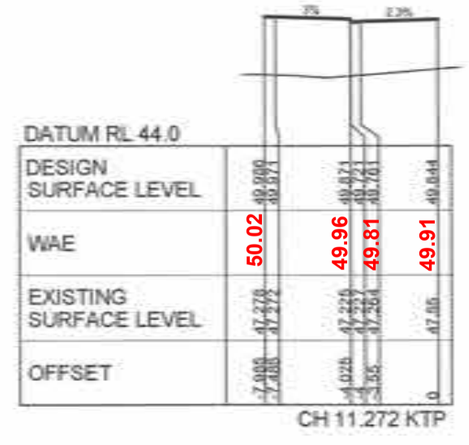












CROSS SECTIONS ROAD 30

CROSS SECTIONS ROAD 32

1:200 (AT A1)
1:400 (AT A3)
4 2 0 4 8 12 16 20
METRES

PRINCIPAL: REDBANK

ISSUED FOR CONSTRUCTION APPROVAL

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

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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 4729 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 17 OF 19

PLAN No: 11018511/CC077 A
FILE No: 11018511CC077
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:39:13 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CDOC\YEOMANS\11018511CC077.dwg

WORK AS EXECUTED SHOWN IN RED

SIGNATURE.....

PETER ROBERT WARWICK
REGISTERED LAND SURVEYOR

VINCE MORGAN SURVEYORS PTY LTD

DATE: 14/01/20 REF:16800-11

CONSTRUCTION CERTIFICATE

Certificate No: 20180299C42
Date of Issue: 5 March 2018
Issuing Officer:
Accreditation No: DEP80565

These plans/specifications form part of the certificate issued 5 March 2018

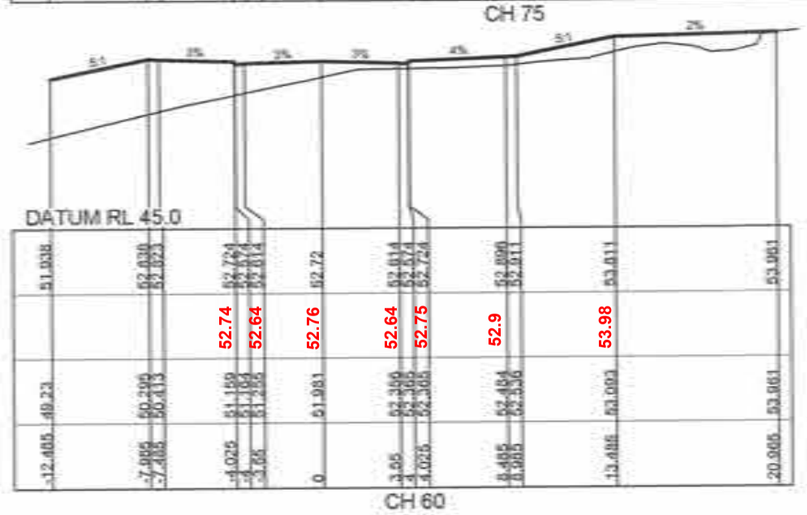
WORKS AS EXECUTED SHOWN IN RED

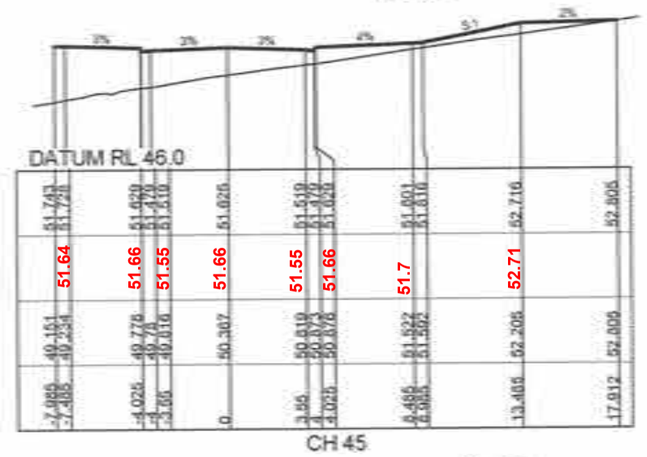
SIGNATURE:

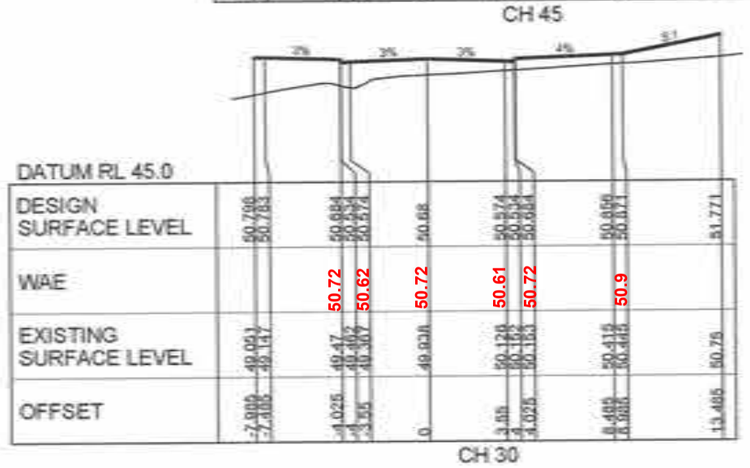
IAN VINCENT MYERS
Registered Land Surveyor

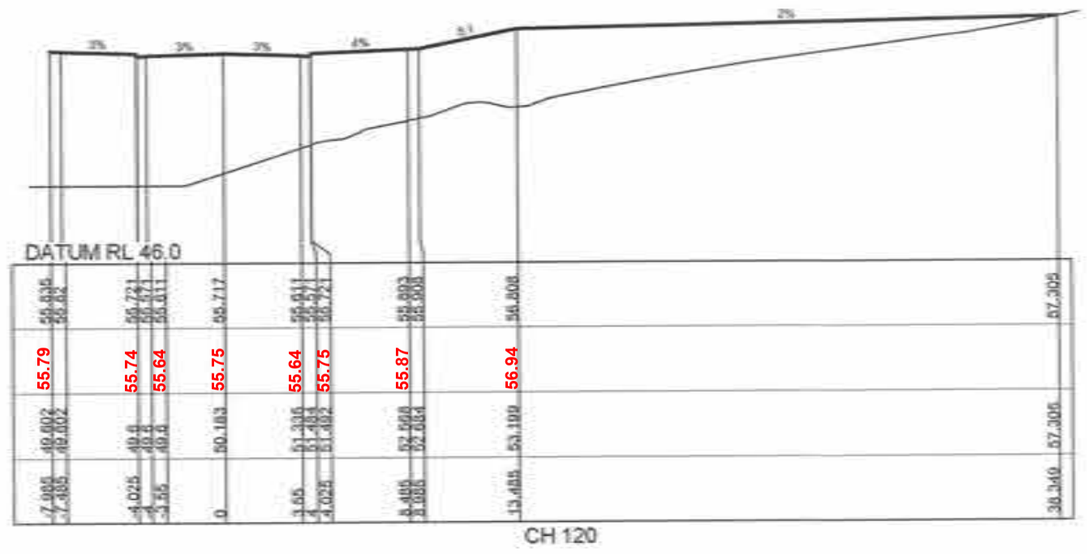
VINCE MORGAN SURVEYORS PTY LTD

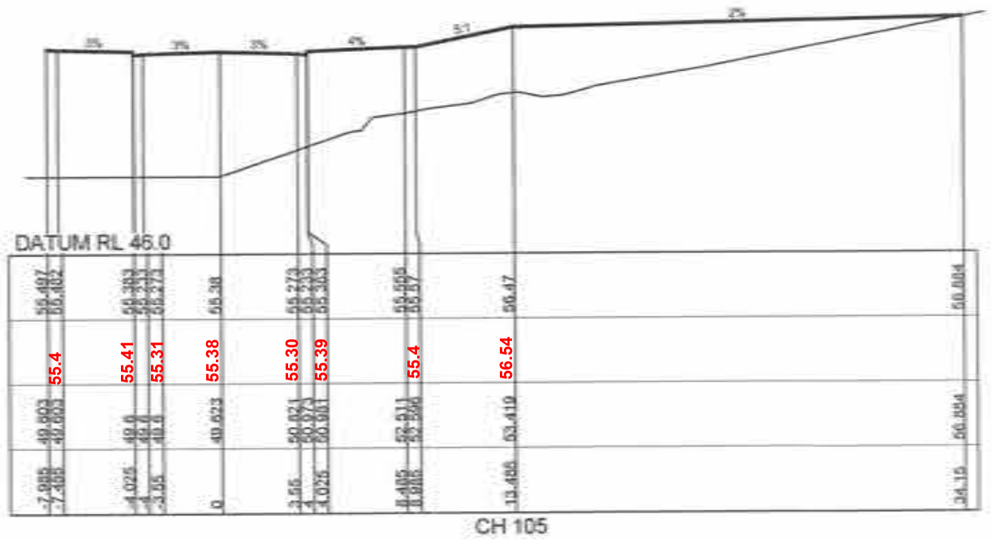
DATE: 01.08.18 REF: 16800 - 11

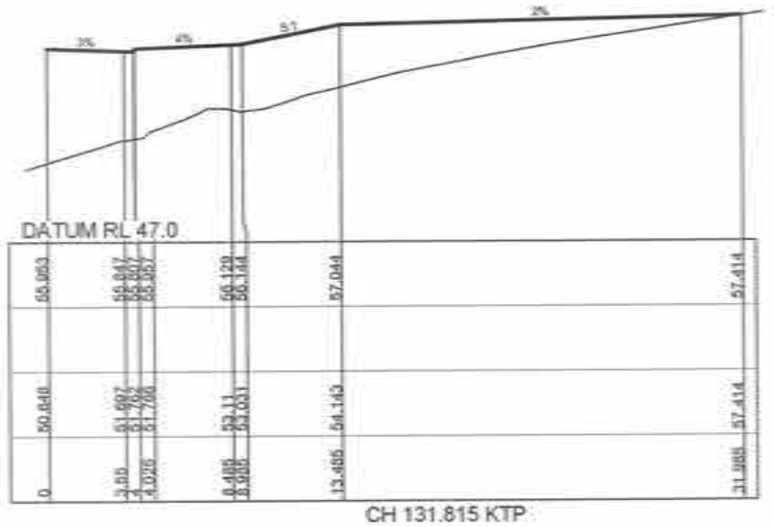


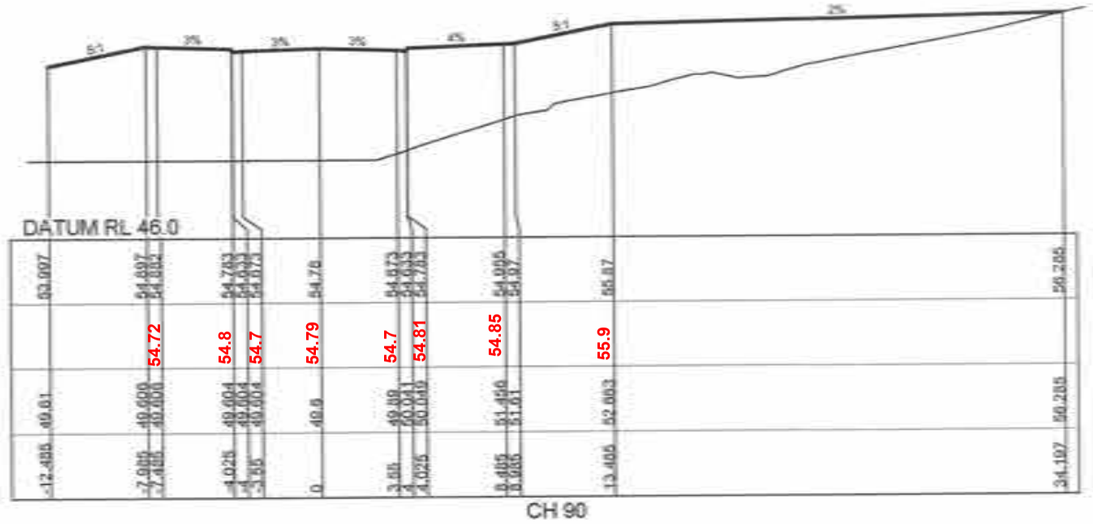


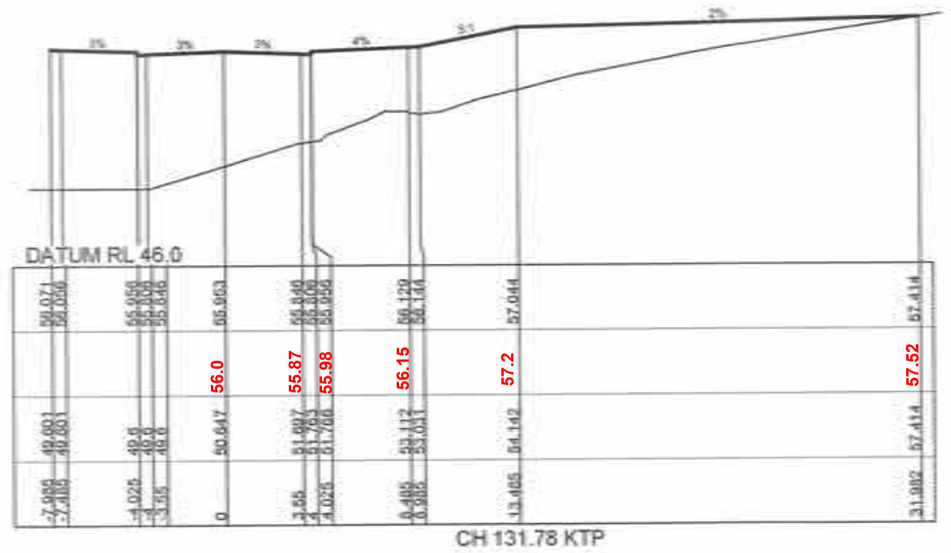












CROSS SECTIONS ROAD 32

1:200 (AT A1)
1:400 (AT A3)

4 2 0 4 8 12 16 20
METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

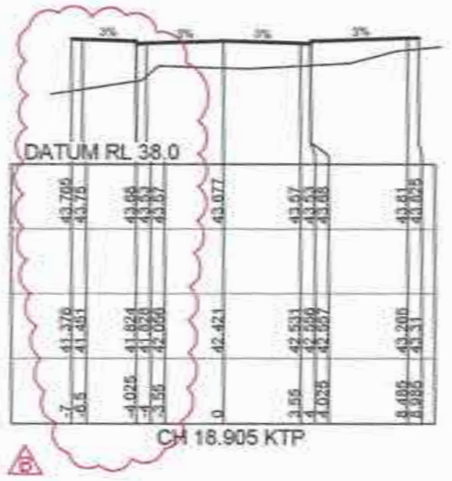
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE

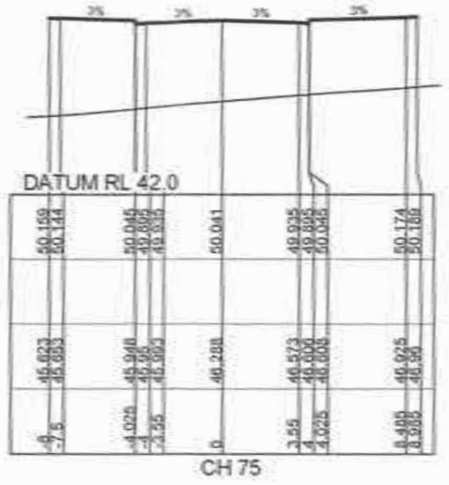
ISSUED FOR CONSTRUCTION APPROVAL

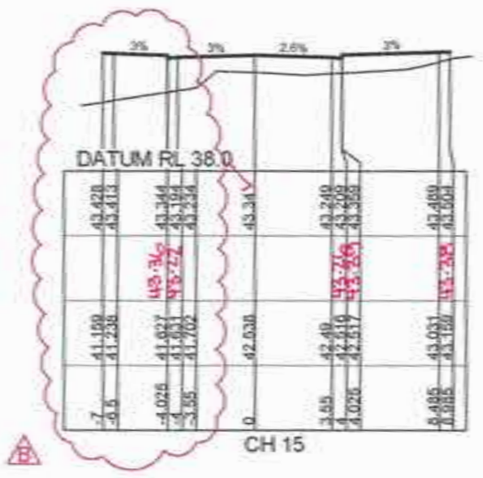
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 18 OF 19

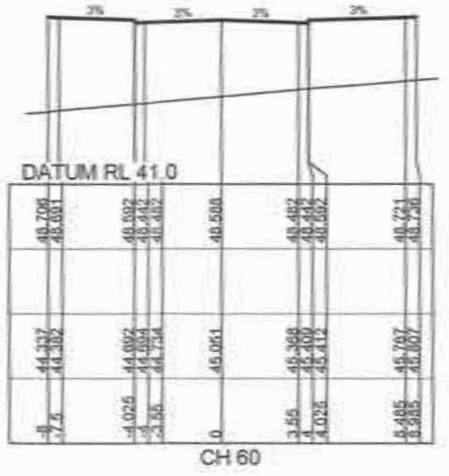
PLAN No: 11018511/CC078 A
FILE No: 11018511CC078
SHEET SIZE: A1 ORIGINAL

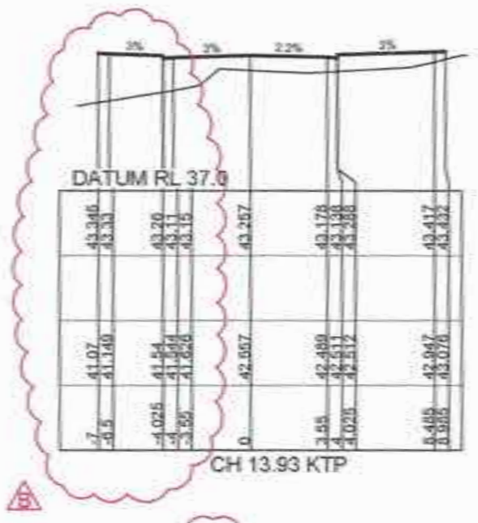
Plotted: 25 January, 2018 4:39:26 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC078.dwg

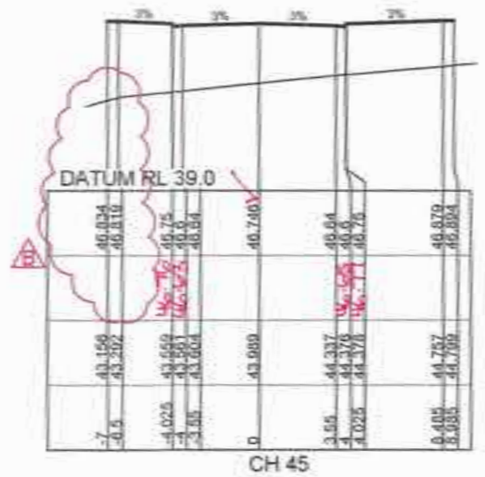


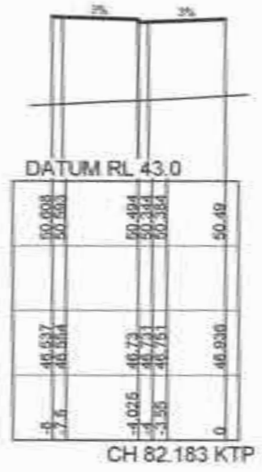


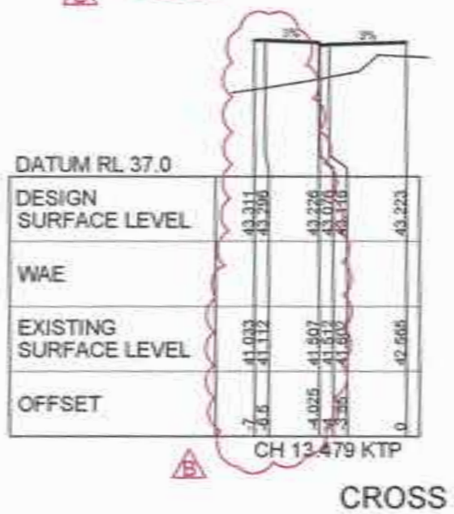


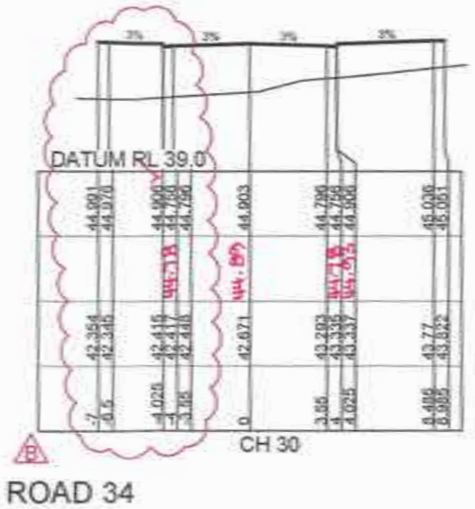


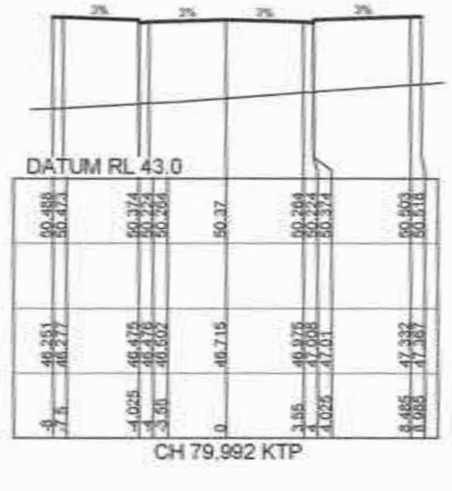




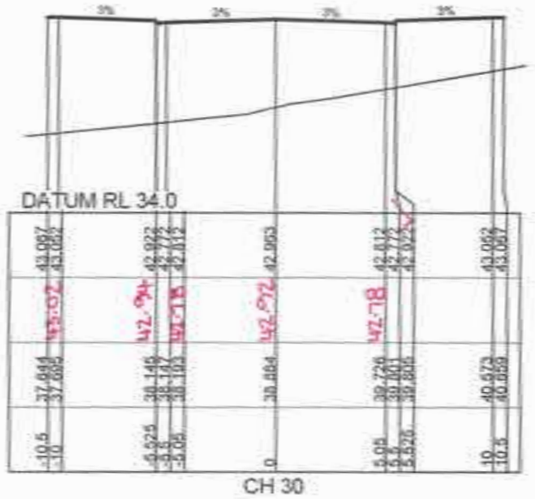


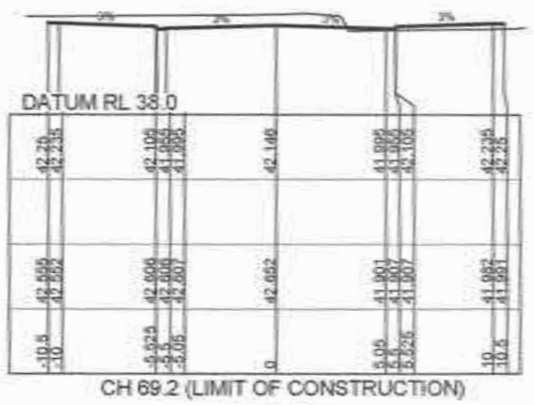


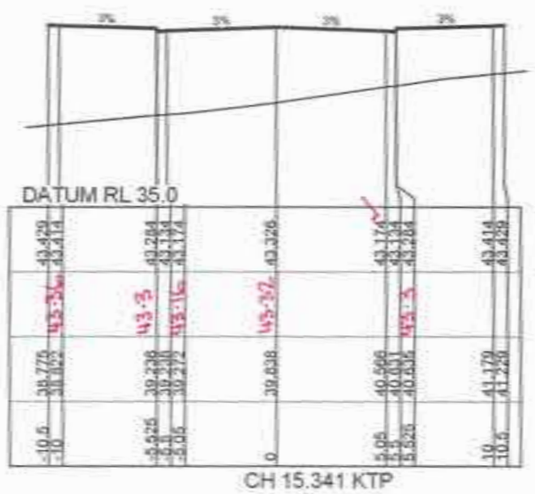


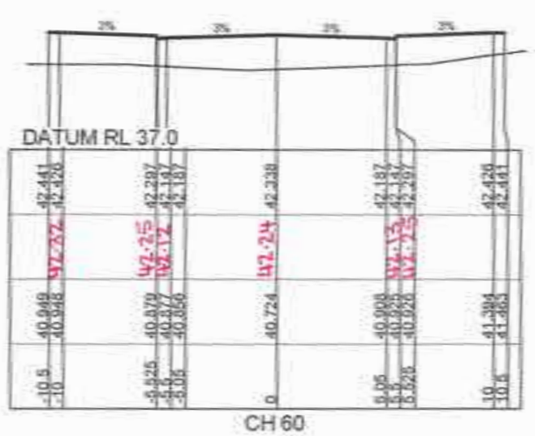


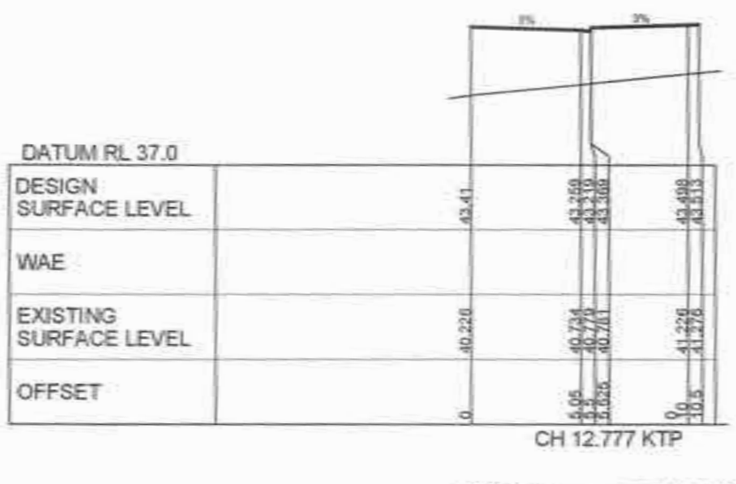
CROSS SECTIONS ROAD 34

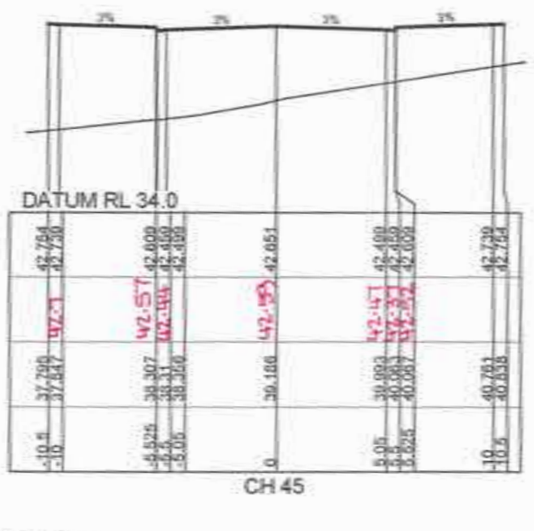












CROSS SECTIONS ROAD Y02

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BSPB0585

These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01·08·18 REF: 16800-11

1:200 (AT A1)
1:400 (AT A3)

4 2 0 4 8 12 16 20
METRES

B	BOUNDARY AMENDED	MP	UF	RO	RO	12/02/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CROSS SECTIONS
SHEET 19 OF 19

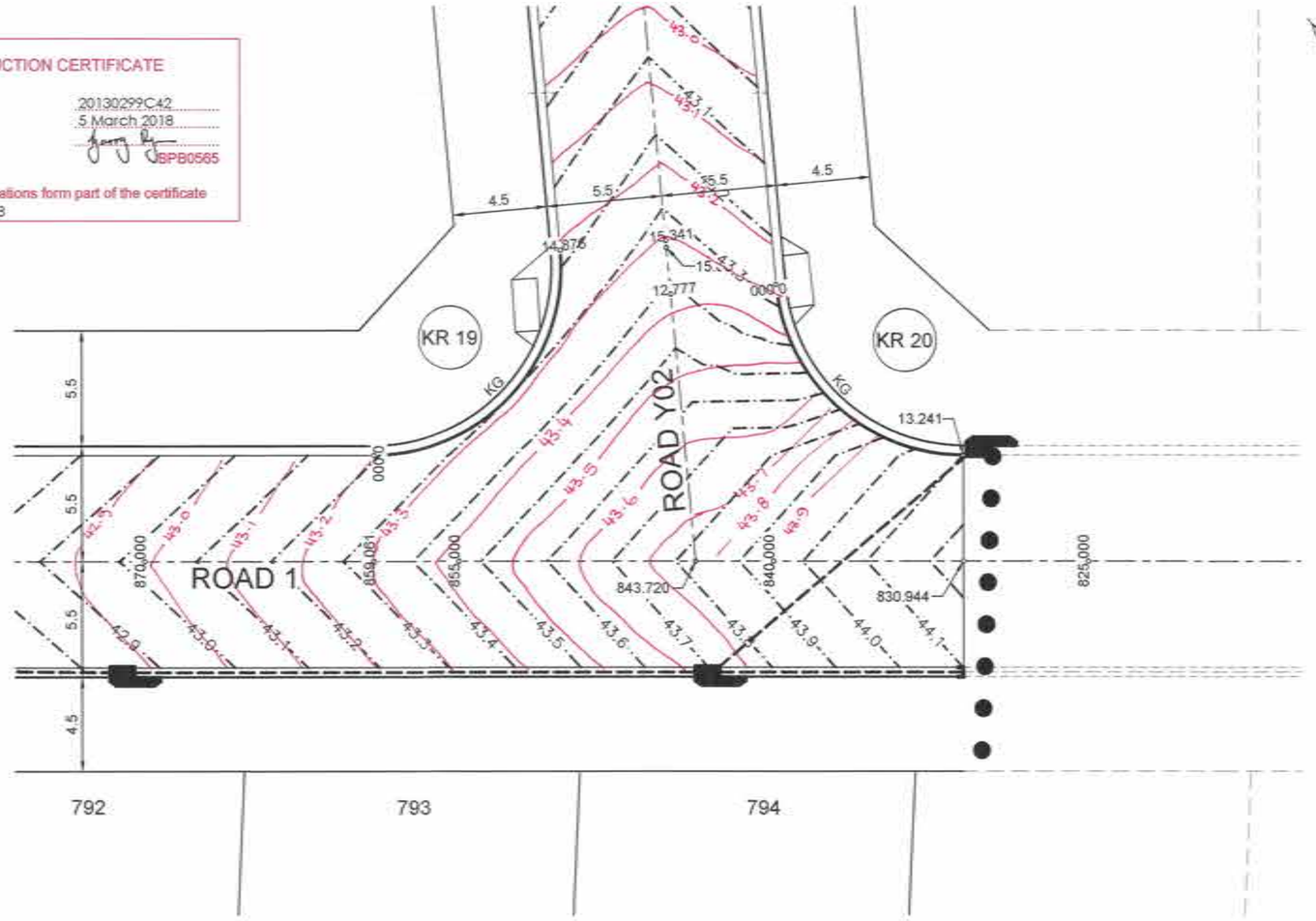
PLAN No: 11018511/CC079 B
FILE No: 11018511CC079
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February, 2018 2:23:08 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC079.dwg

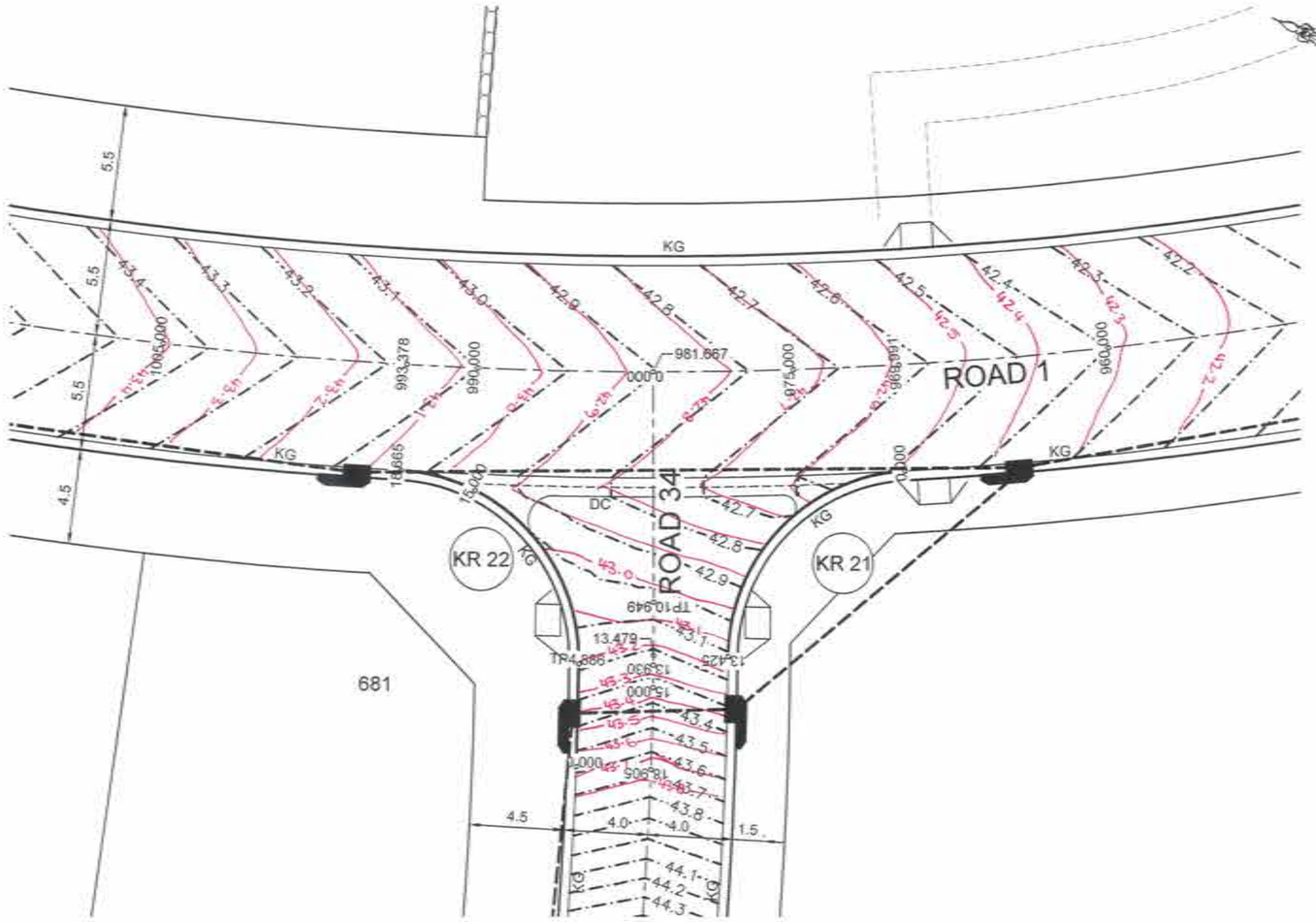
CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018



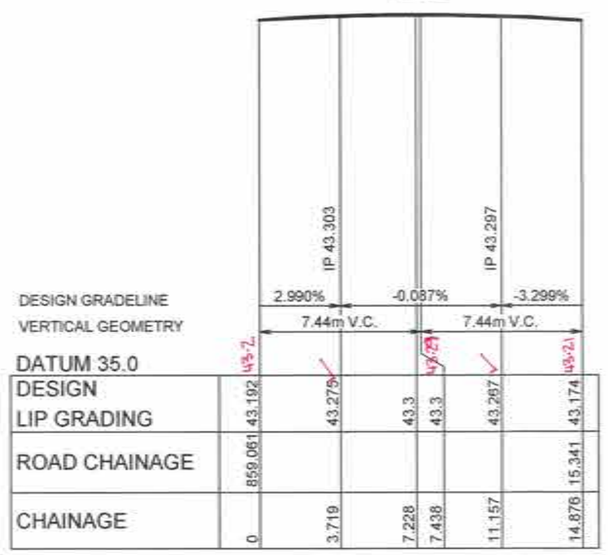
PLAN
SCALE 1:200



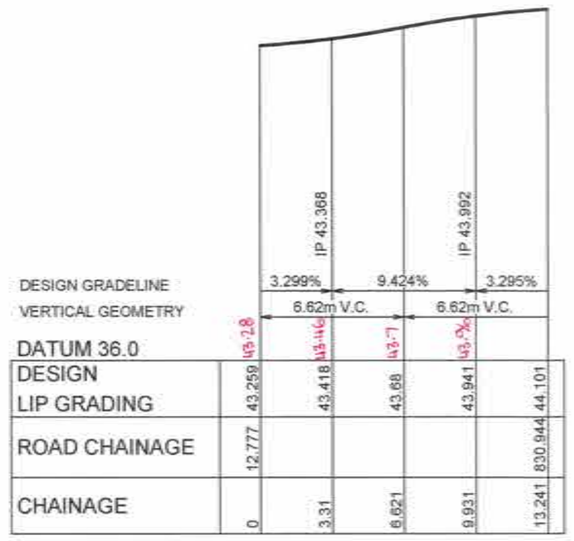
PLAN
SCALE 1:200

NOTE:
KERB RETURN SETOUT AND LEVELS ARE LIP OF GUTTER UNLESS SHOWN OTHERWISE

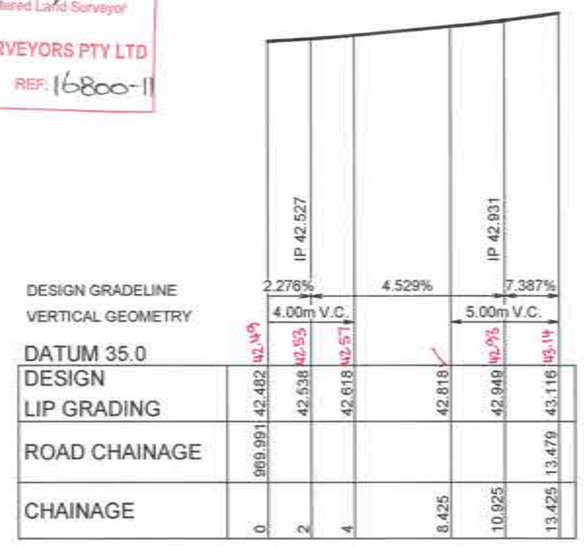
WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01-08-18 REF: 16800-11



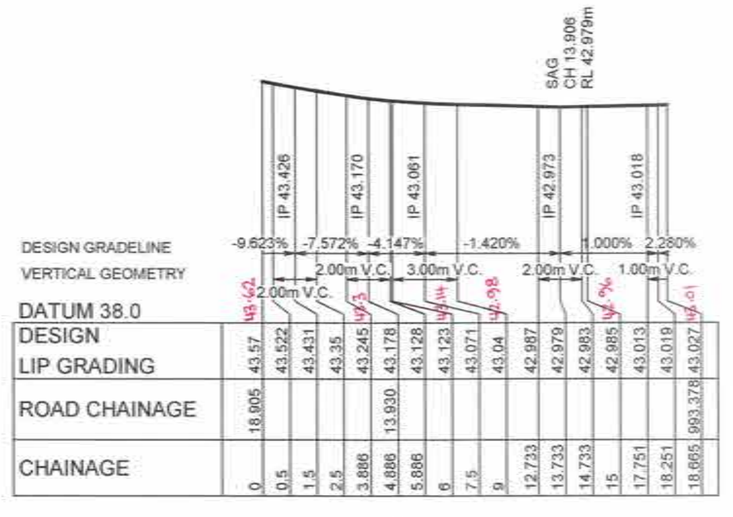
KR 19
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 20
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 21
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 22
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 19

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286449.12	6281908.13	129°37'51.36"		
7.44	286456.67	6281901.87		-8.95	14.88
14.88	286462.21	6281909.97	34°23'56.56"		

KR 20

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286469.1	6281902.14	214°23'56.56"		
6.62	286464.48	6281895.4		-8.95	13.24
13.24	286470.77	6281890.19	129°37'51.36"		

KR 29

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286287.97	6281969.49	265°30'01.39"		
6.23	286280.52	6281968.9		-8.95	12.46
12.46	286279.77	6281961.46	185°45'24.96"		

KR 21

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286366.94	6281982.79	331°45'52.73"		
6.71	286362.99	6281990.14		-8.95	13.43
13.43	286355.39	6281986.72	245°49'05.12"		

V 1:100 (AT A1) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

1:200 (AT A1)
1:400 (AT A3) 4 2 0 4 8 12 16 20 METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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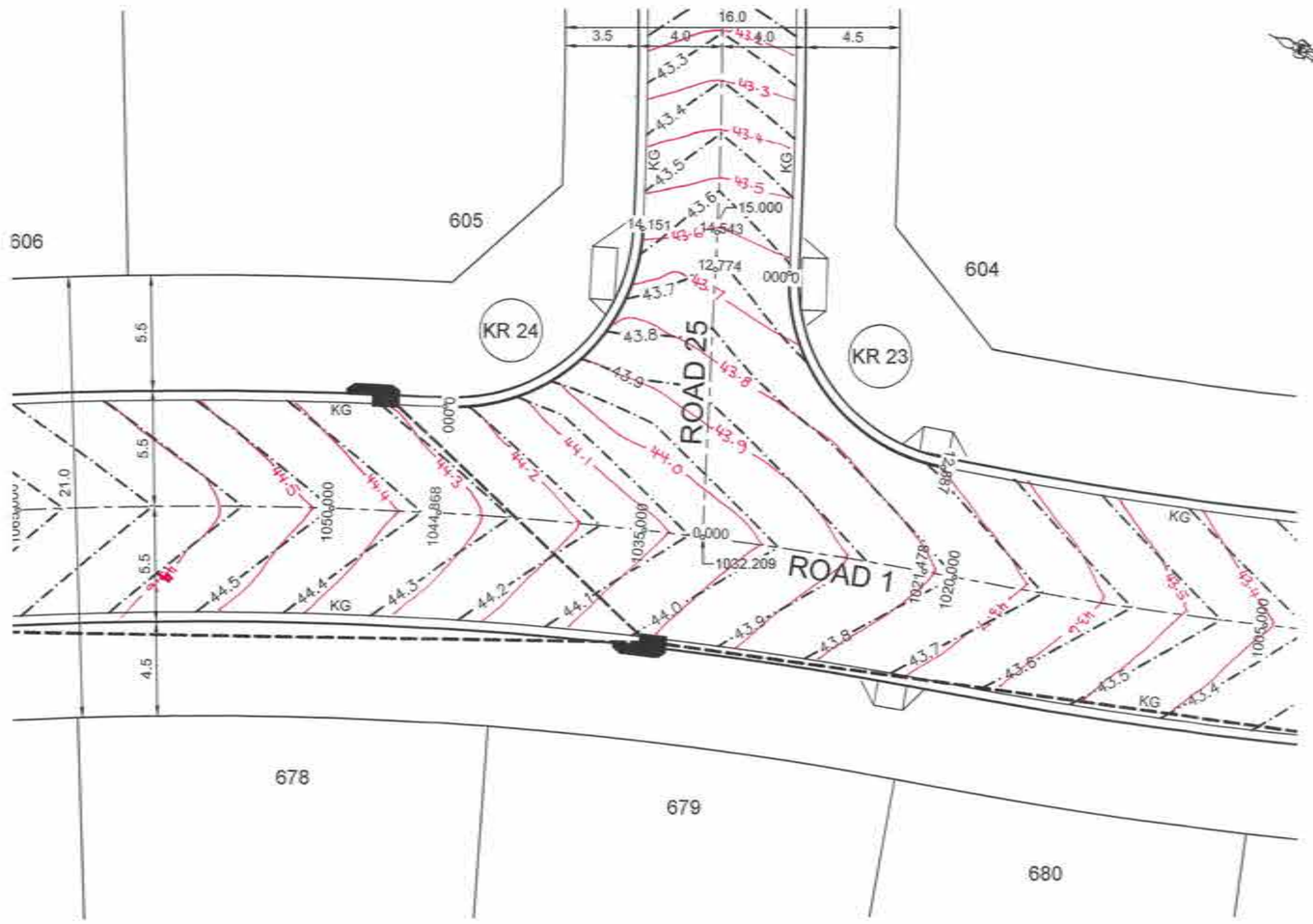
ISSUED FOR CONSTRUCTION APPROVAL

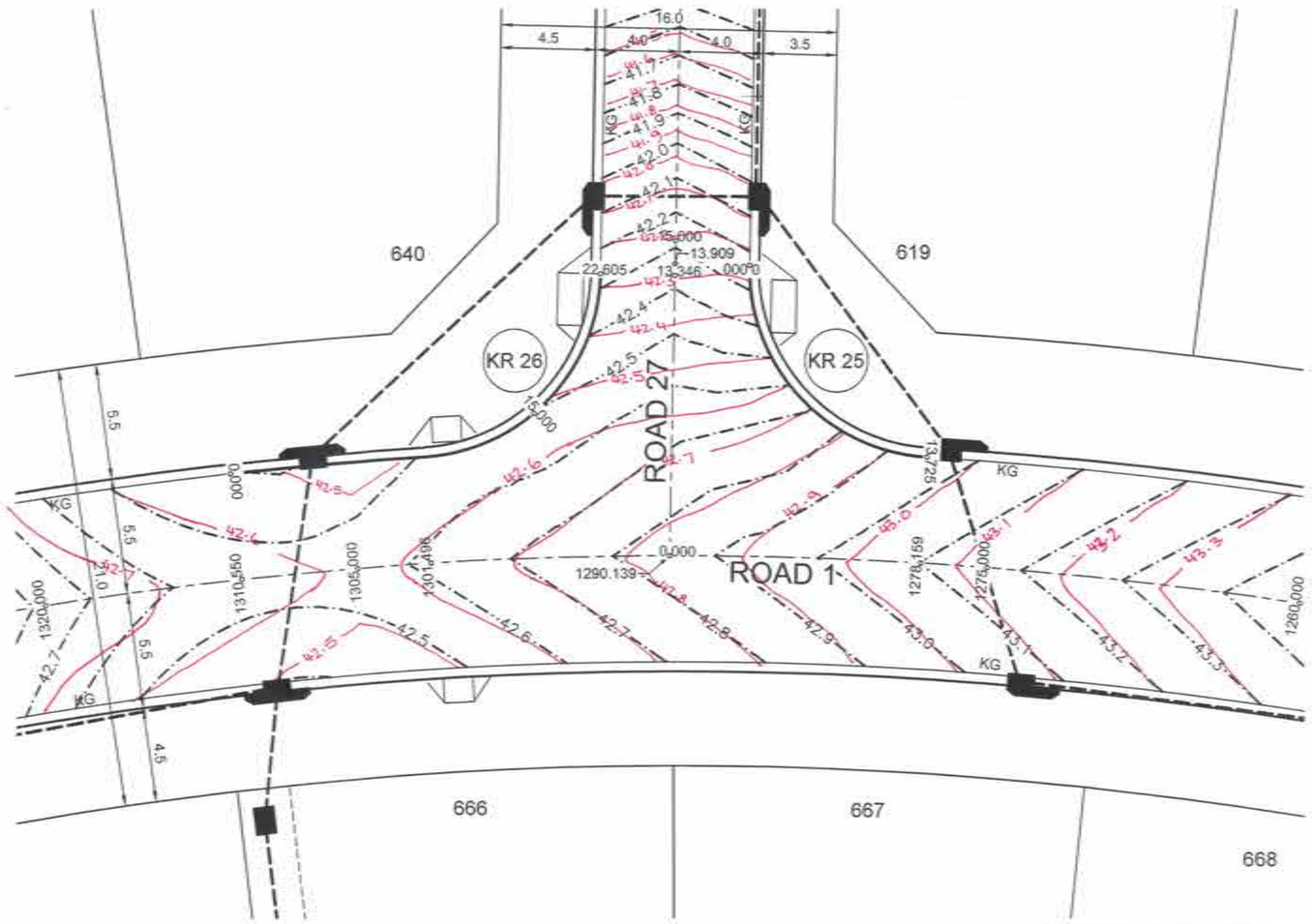
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
KERB RETURN PLANS AND SECTIONS
SHEET 1 OF 16

PLAN No: 11018511/CC081 A
FILE No: 11018511CC081
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:40:15 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC081.dwg



PLAN
SCALE 1:200



PLAN
SCALE 1:200

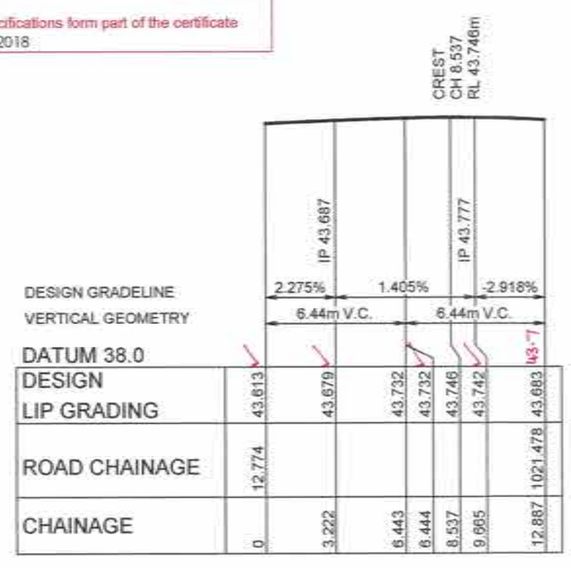
NOTE:
KERB RETURN SETOUT AND LEVELS ARE LIP OF GUTTER UNLESS SHOWN OTHERWISE

CONSTRUCTION CERTIFICATE

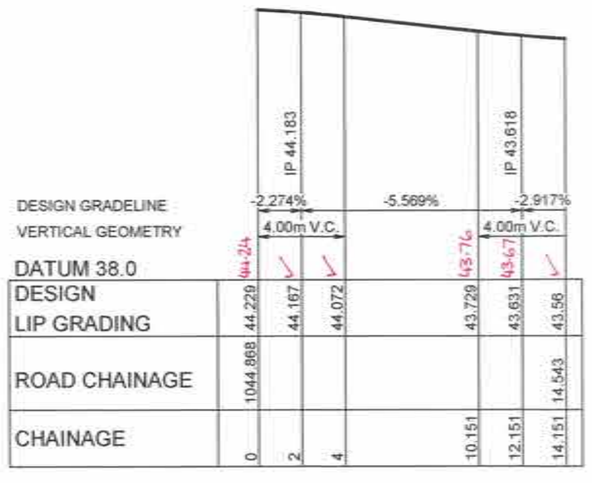
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0585

These plans/specifications form part of the certificate issued 5 March 2018

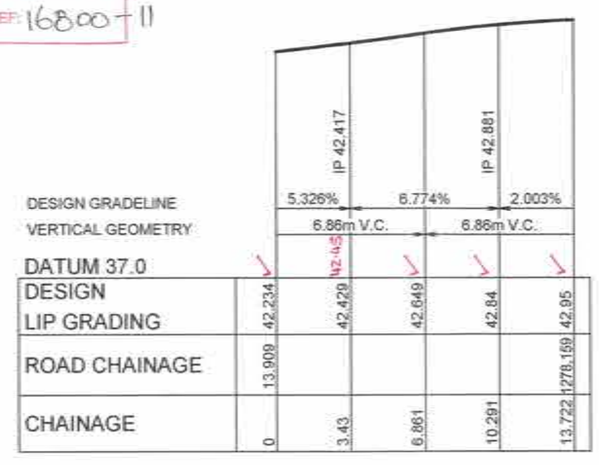
WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11



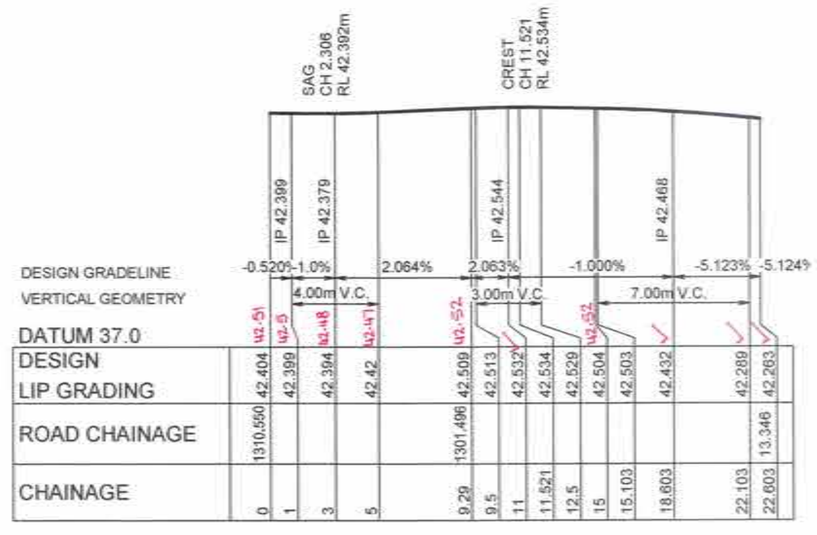
KR 23
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 24
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 25
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 26
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 23

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286363.27	6282044.94	248°02'07.07"		
6.44	286355.99	6282042.01		-8.95	12.89
12.89	286357.95	6282034.41	165°32'15.14"		

KR 24

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286350.57	6282057.23	158°37'46.63"		
7.08	286353.87	6282048.81		-8.95	14.15
14.15	286362.25	6282052.19	68°02'07.07"		

KR 25

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286155.28	6282192.31	177°34'15.34"		
6.86	286155.64	6282183.7		-8.95	13.72
13.72	286164.26	6282183.74	89°43'41.40"		

KR 26

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286131.2	6282180.82	80°09'47.82"		
4.64	286135.78	6282181.61		199.05	9.28
9.28	286140.38	6282182.19	82°50'08.72"		
15.94	286148.56	6282183.22		-8.95	13.32
22.6	286148.21	6282191.45	357°34'15.35"		

V 1:100 (AT A1)
2 1 0 1 2 3 4 5 6 7 8 9 10
METRES

1:200 (AT A1)
1:400 (AT A3)
4 2 0 4 8 12 16 20
METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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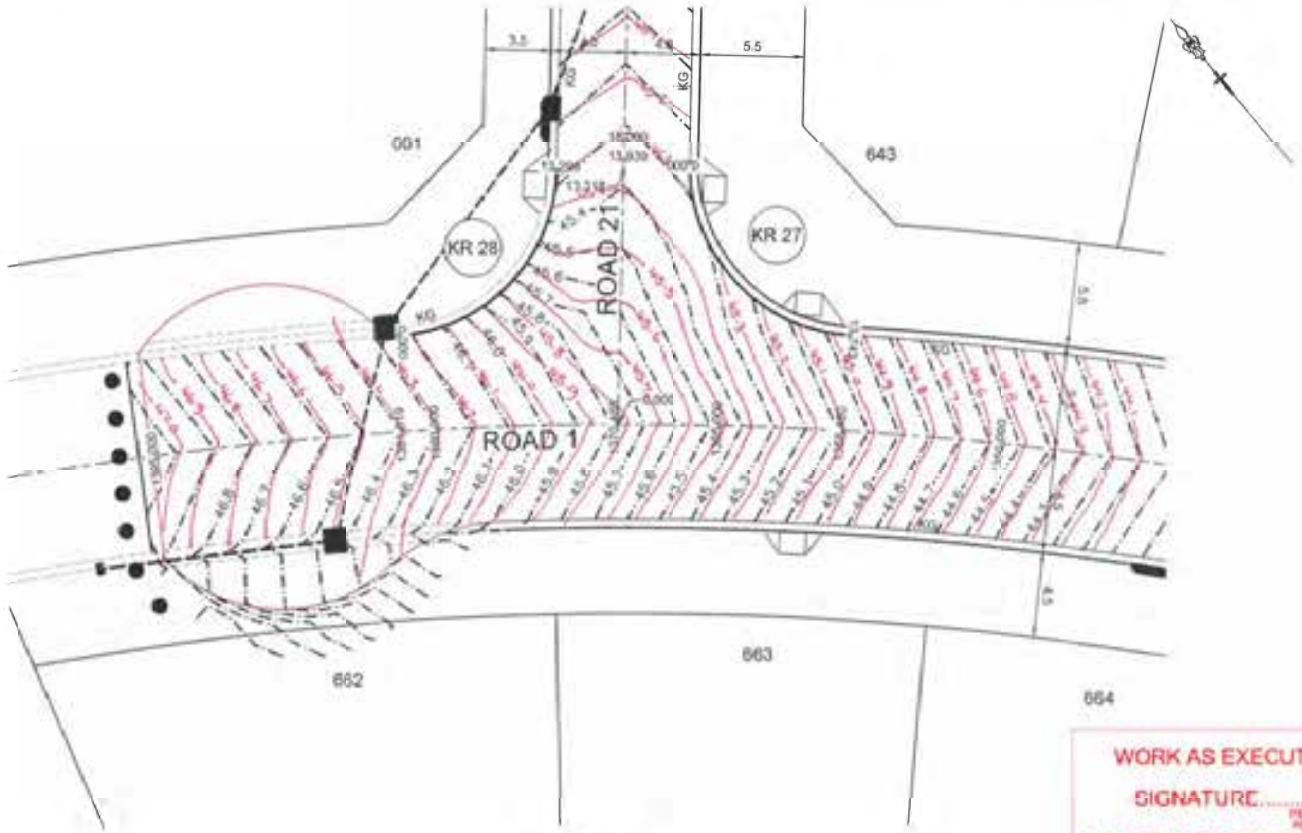
ISSUED FOR CONSTRUCTION APPROVAL

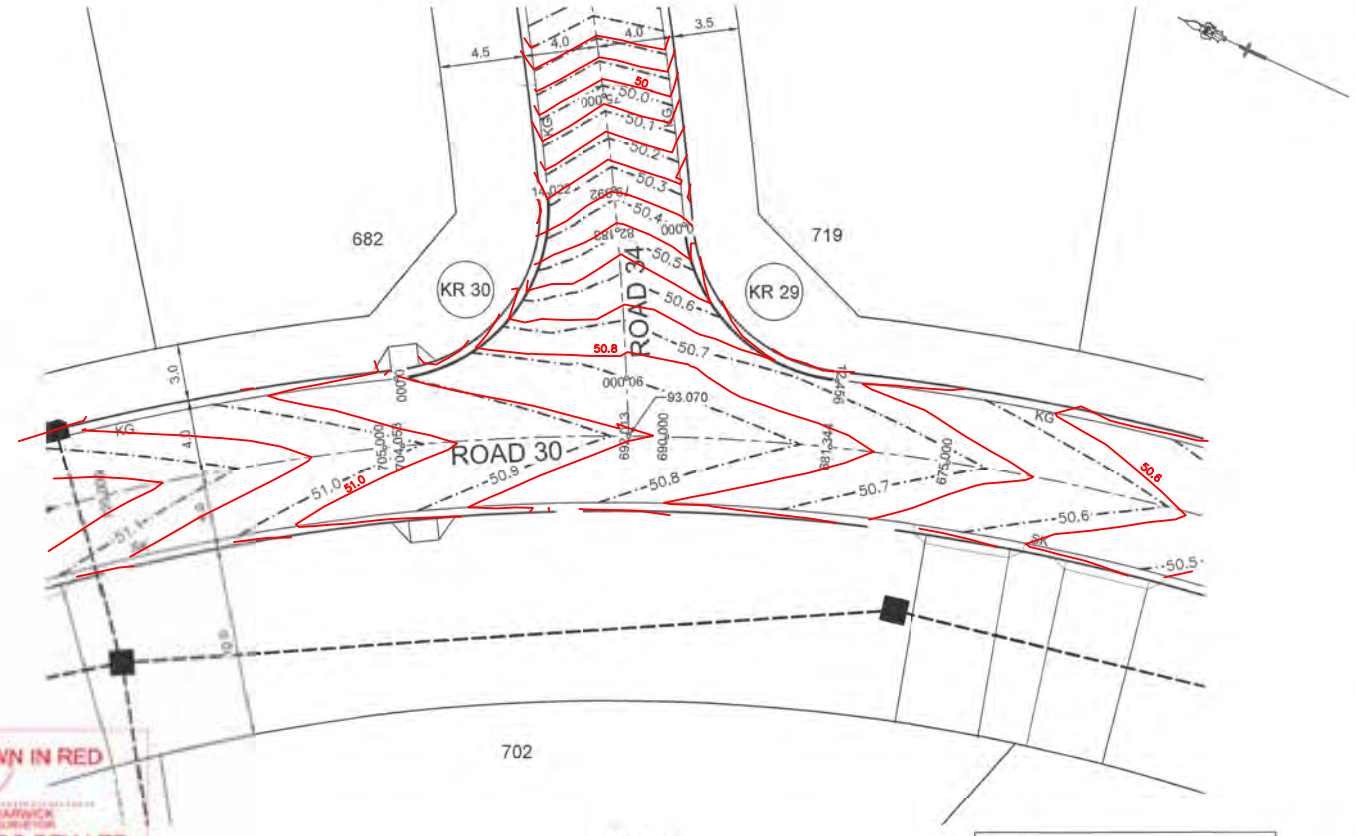
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
KERB RETURN PLANS AND SECTIONS
SHEET 2 OF 16

PLAN No: 11018511/CC082 A
FILE No: 11018511CC082
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:40:56 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CIVEOMANS\11018511CC082.dwg



PLAN
SCALE 1:200

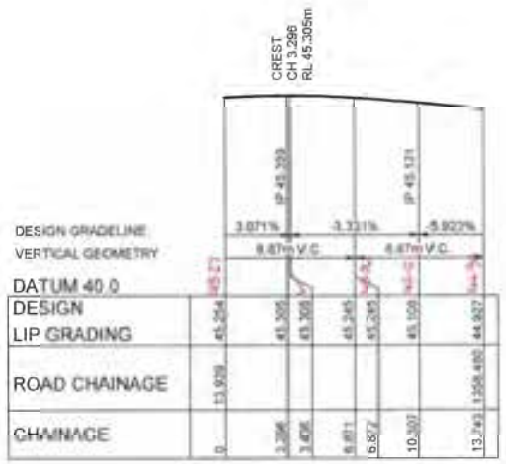


PLAN
SCALE 1:200

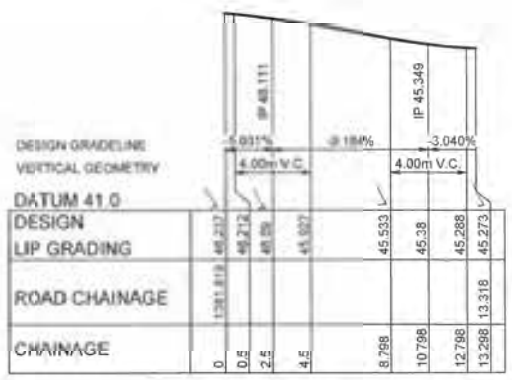
NOTE:
KERB RETURN SETOUT AND LEVELS ARE LIP OF GUTTER UNLESS SHOWN OTHERWISE

WORK AS EXECUTED SHOWN IN RED
SIGNATURE.....
PETER ROBERT WARWICK
REGISTERED LAND SURVEYOR
VINCE MORGAN SURVEYORS PTY LTD
DATE: 14/01/20 REF:16800-11

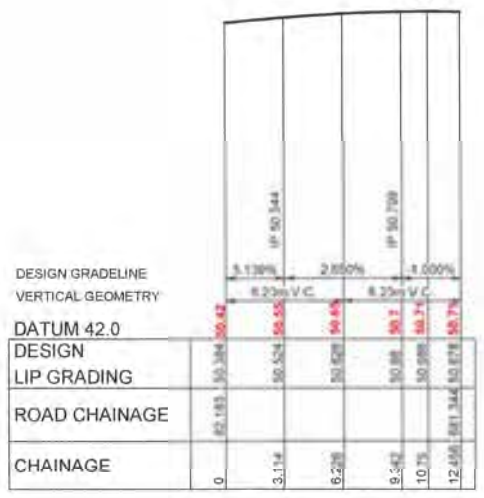
WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MORGAN
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11



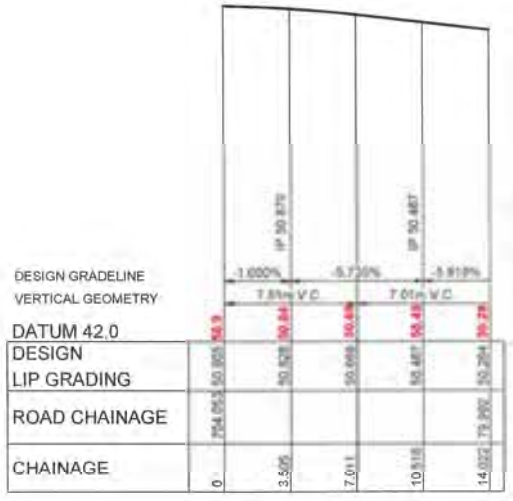
KR 27
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 28
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 29
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 30
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 27					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286097.43	6282179.8	153°59'07.29"		
8.67	286016.58	6282163.94		8.95	13.74
13.74	286064.27	6282196.53	66°00'27.89"		

KR 28					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286063.03	6282155.52	59°06'53.82"		
6.65	286070.09	6282159.74		-8.95	13.3
13.3	286066.48	6282167.13	333°59'07.29"		

KR 29					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286287.97	6281969.49	265°30'01.39"		
6.23	286280.52	6281968.9		-8.95	12.46
12.46	286279.77	6281961.46	185°45'24.96"		

KR 30					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286279.85	6281984.62	174°38'10.56"		
7.01	286280.65	6281975.95		-8.95	14.02
14.02	286289.56	6281976.75	84°52'21.08"		

CONSTRUCTION CERTIFICATE
Certificate No: 20130299C42
Date of Issue: 5 March 2018
Issuing Officer:
Accreditation No: OPS0505
These plans/specifications form part of the certificate issued 5 March 2018

V 1:100 (AT A1)
1:200 (AT A1)
1:400 (AT A3)
METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MD	RD	MS	15/05/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

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

AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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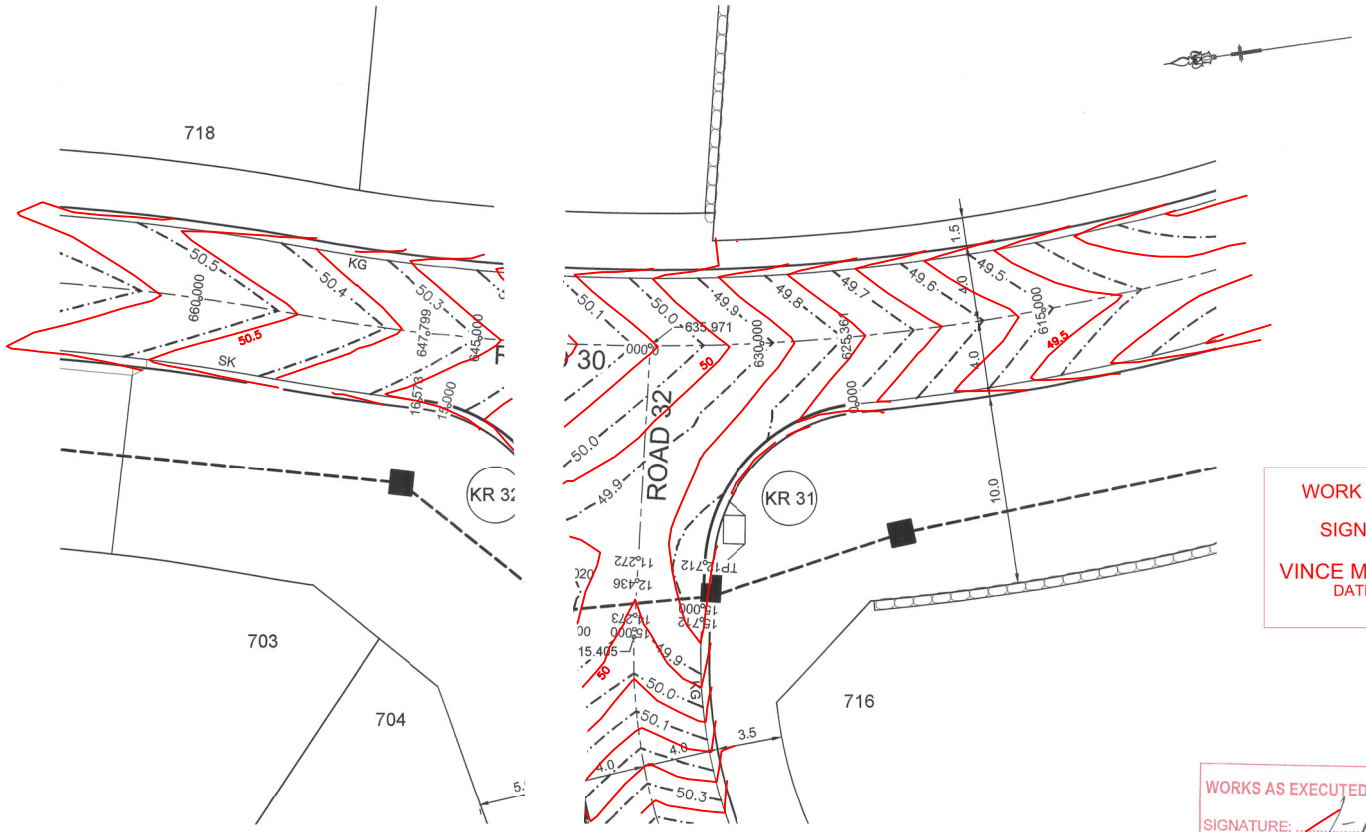
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
KERB RETURN PLANS AND SECTIONS
SHEET 3 OF 16

PLAN No: 11018511/CC083 A
FILE No: 11018511CC083
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:41:48 PM File Name: J:\11\0185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CIVIL\YEOMANS\11018511CC083.dwg



WORK AS EXECUTED SHOWN IN RED

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

VINCE MORGAN SURVEYORS PTY LTD

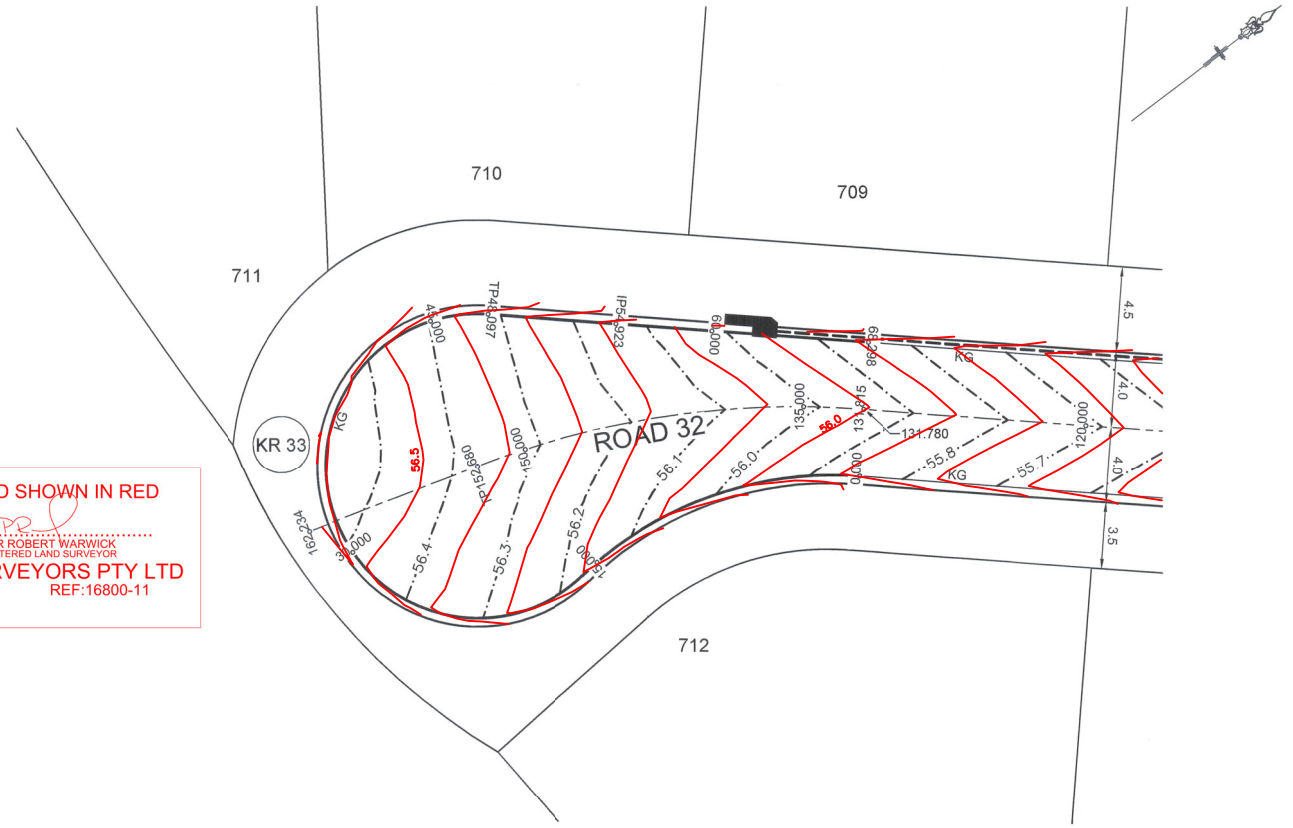
DATE: 14/01/20 REF:16800-11

WORKS AS EXECUTED SHOWN IN RED

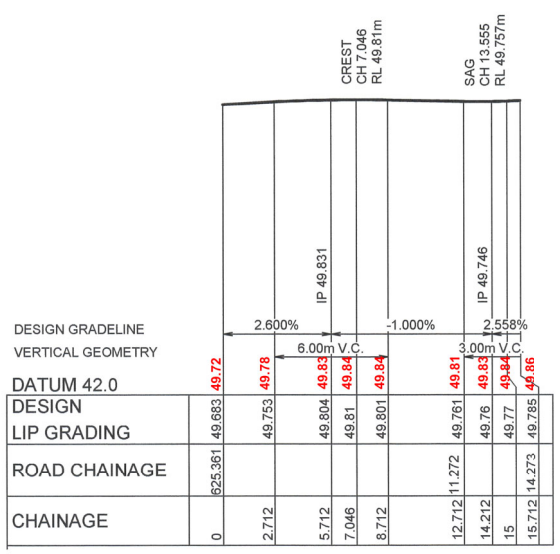
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01·08·18 REF: 16800-11

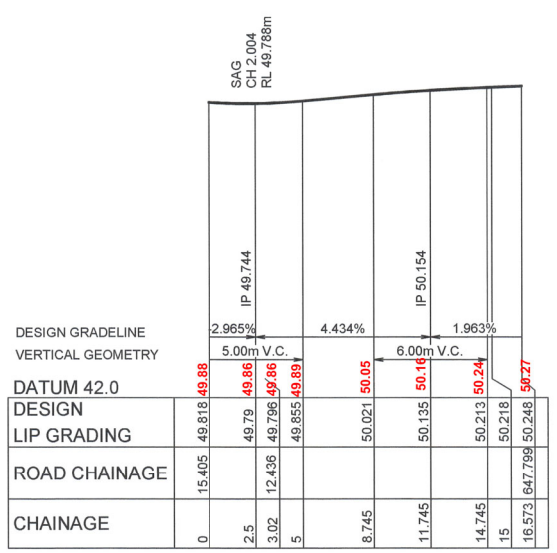


NOTE:
KERB RETURN SETOUT AND LEVELS ARE LIP OF GUTTER UNLESS SHOWN OTHERWISE



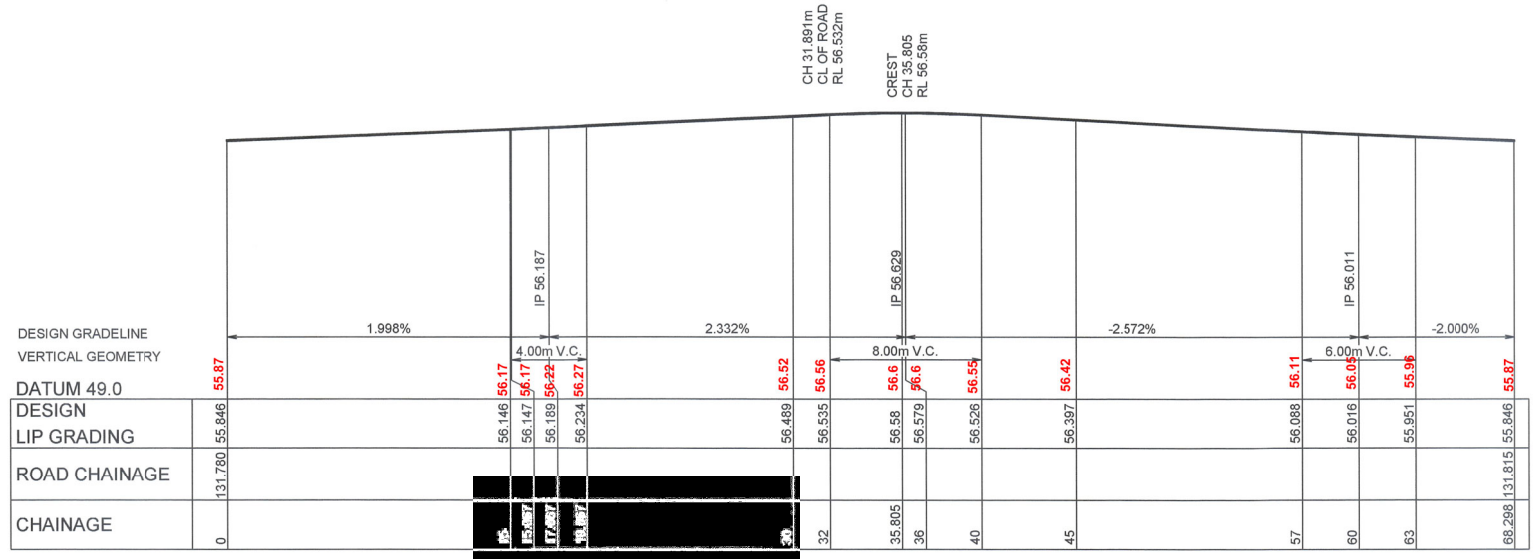
KR 31

HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 32

HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 33

HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 31

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286261.71	6281907.18	2°49'31.09"		
6.36	286262.08	6281914.86		-8.95	12.71
12.71	286254.54	6281916.39	281°26'43.77"		
15.71	286251.6	6281916.98	281°26'43.77"		

KR 32

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286251.83	6281924.18	101°19'00.03"		
3.02	286254.79	6281923.58	101°19'00.03"		
9.8	286263.08	6281921.92		-8.95	13.55
16.57	286265.21	6281930.11	14°33'11.16"		

KR 33

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
[illegible]	[illegible]	[illegible]	221°35'10.19"		
[illegible]	[illegible]	[illegible]	[illegible]	-19.2	16.07
[illegible]	[illegible]	[illegible]	173°37'55.16"		
[illegible]	[illegible]	[illegible]	[illegible]	8.05	16.01
[illegible]	[illegible]	[illegible]	287°36'32.67"		
[illegible]	[illegible]	[illegible]	[illegible]	8.05	16.01
[illegible]	[illegible]	[illegible]	41°35'10.19"		
[illegible]	[illegible]	[illegible]	[illegible]		
68.3	286163.88	6281849.36	41°35'11.07"		

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

V 1:100 (AT A1)

2 1 0 1 2 3 4 5 6 7 8 9 10
METRES

1:200 (AT A1)
1:400 (AT A3)

4 2 0 4 8 12 16 20
METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL:

REDBANK NORTH RICHMOND

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
KERB RETURN PLANS AND SECTIONS
SHEET 4 OF 16

PLAN No: 11018511/CC084 A
FILE No: 11018511CC084
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January 2018 4:42:33 PM File Name: J:\1101\85 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC084.dwg

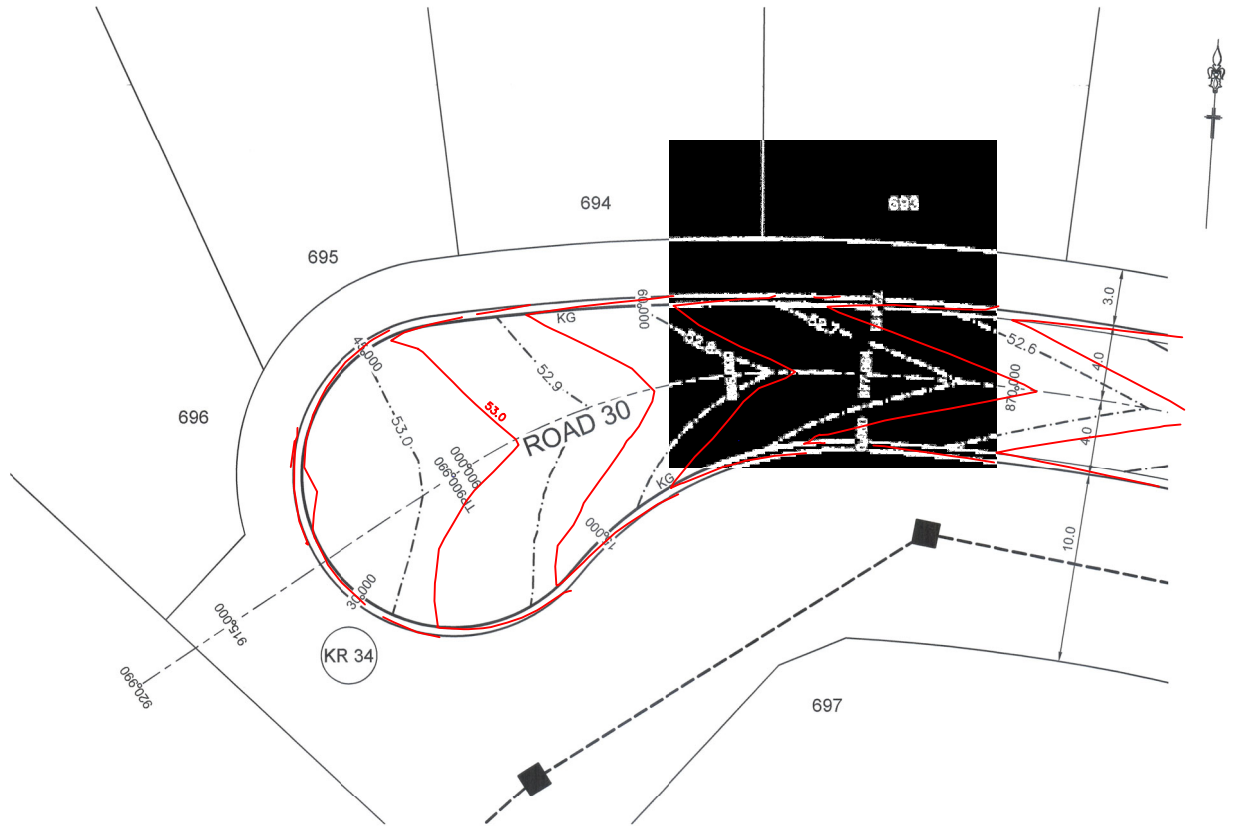
WORK AS EXECUTED SHOWN IN RED

SIGNATURE.....

PETER ROBERT WARWICK
REGISTERED LAND SURVEYOR

VINCE MORGAN SURVEYORS PTY LTD

DATE: 14/01/20 REF:16800-11



PLAN
SCALE 1:200

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE:

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11

NOTE:
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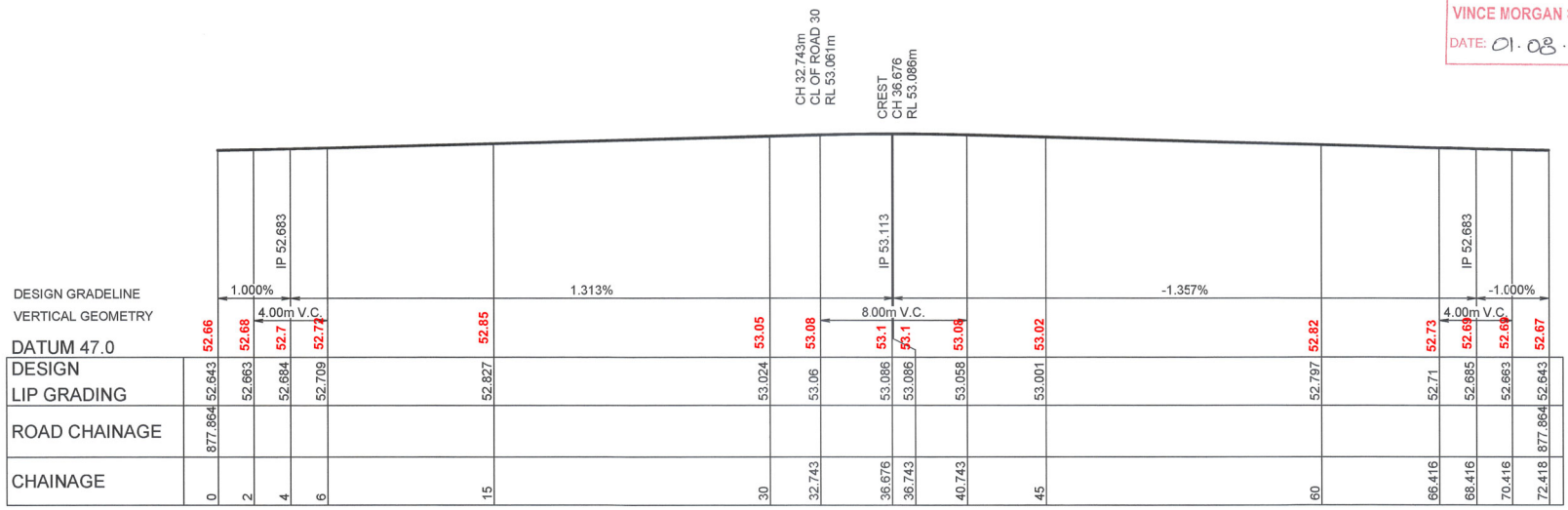

KR 34

HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 34

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286158.88	6282087	269°31'10.38"		
8.84	286149.31	6282086.92		-18.67	17.68
17.68	286143.79	6282079.11	215°16'05.69"		
25.52	286136.96	6282069.45		8.05	15.68
33.36	286130.48	6282079.35	326°50'11.39"		
41.19	286124	6282089.26		8.05	15.68
49.03	286135.6	6282091.64	78°24'17.10"		
49.93	286136.48	6282091.83		120.55	1.8
50.83	286137.37	6282091.99	79°15'42.14"		
61.63	286148	6282094.01		120.55	21.58
72.42	286158.82	6282094.1	89°31'14.67"		

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
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Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

V 1:100 (AT A1)

2 1 0 1 2 3 4 5 6 7 8 9 10
METRES

1:200 (AT A1)
1:400 (AT A3)

4 2 0 4 8 12 16 20
METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL:

REDBANK NORTH RICHMOND

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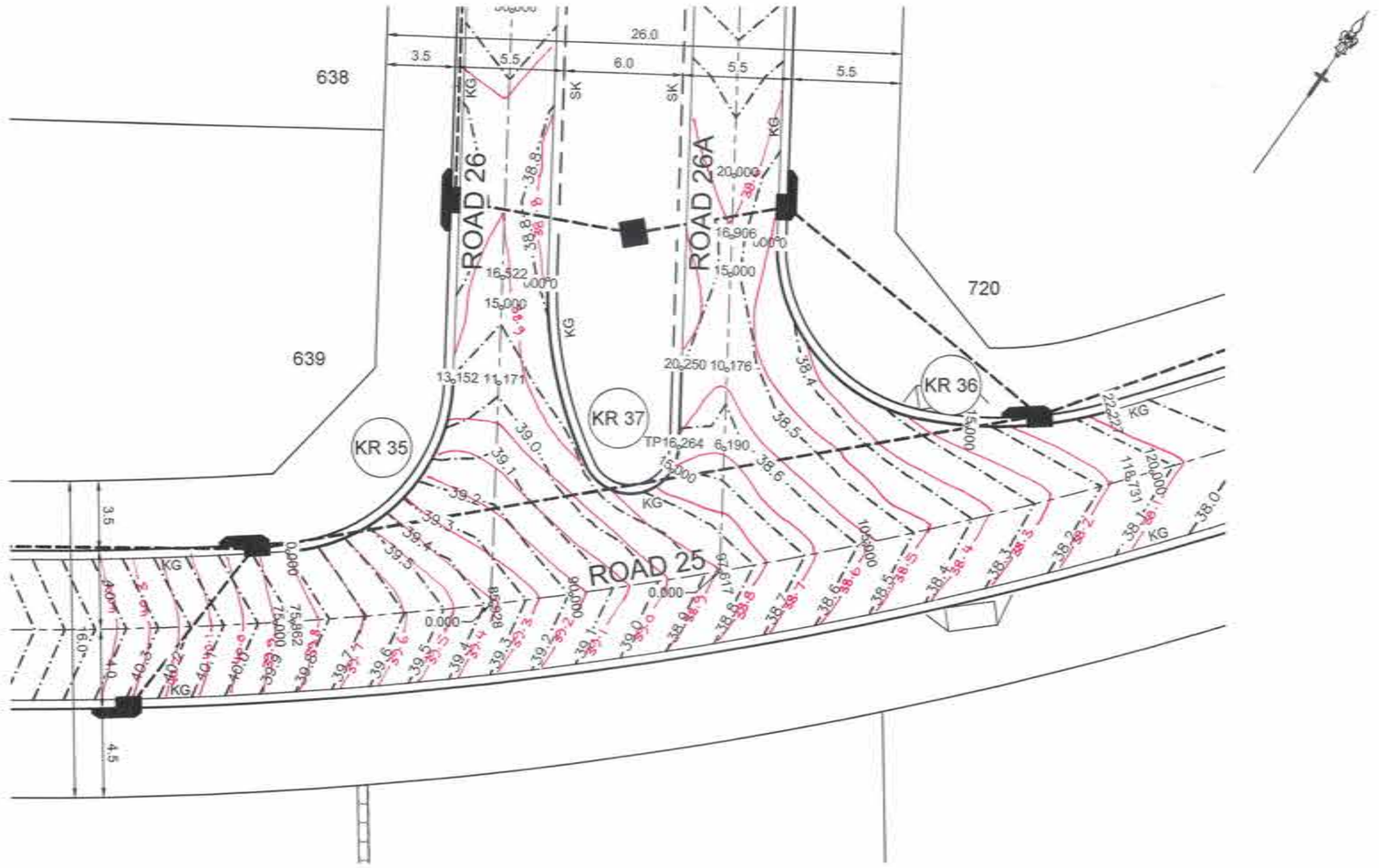
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
KERB RETURN PLANS AND SECTIONS
SHEET 5 OF 16

PLAN No: 11018511/CC085 A
FILE No: 11018511CC085
SHEET SIZE: A1 ORIGINAL

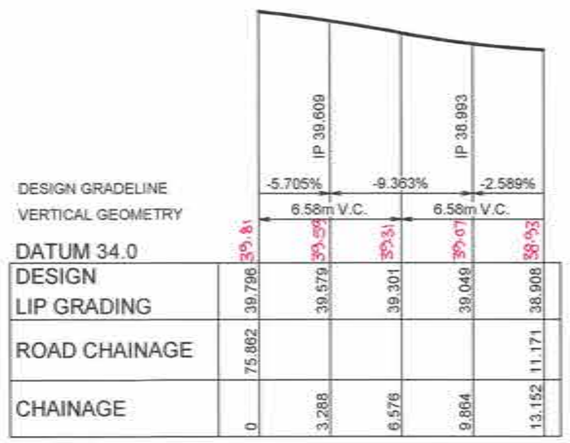
Plotted: 25 January , 2018 4:43:05 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC085.dwg



PLAN
SCALE 1:200

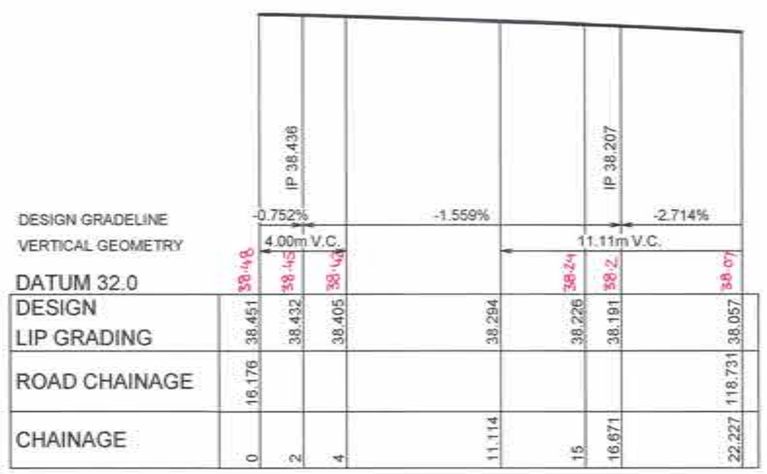
NOTE:
KERB RETURN SETOUT AND LEVELS ARE LIP OF GUTTER UNLESS SHOWN OTHERWISE

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: L Myers
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11



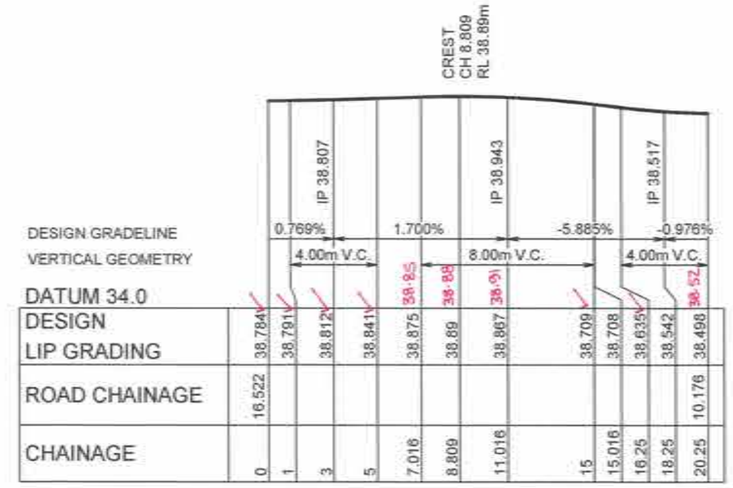
KR 35						
DESIGN GRADELINE		39.81	39.59	39.31	39.07	38.93
VERTICAL GEOMETRY						
DATUM 34.0						
DESIGN LIP GRADING		39.796	39.579	39.301	39.049	38.908
ROAD CHAINAGE		75.862				11.171
CHAINAGE	0		3.288	6.576	9.864	13.152

KR 35
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 36						
DESIGN GRADELINE		38.49	38.45	38.42	38.24	38.2
VERTICAL GEOMETRY						
DATUM 32.0						
DESIGN LIP GRADING		38.451	38.432	38.405	38.294	38.226
ROAD CHAINAGE		16.176				118.731
CHAINAGE	0		2	4	11.114	15

KR 36
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 37								
DESIGN GRADELINE		38.78	38.79	38.81	38.84	38.85	38.89	38.89
VERTICAL GEOMETRY								
DATUM 34.0								
DESIGN LIP GRADING		38.784	38.791	38.812	38.841	38.875	38.89	38.867
ROAD CHAINAGE		16.522						
CHAINAGE	0		1	3	5	7.016	8.809	11.016

KR 37								
DESIGN GRADELINE		38.85	38.91	38.71	38.71	38.64	38.54	38.54
VERTICAL GEOMETRY								
DATUM 34.0								
DESIGN LIP GRADING		38.709	38.708	38.635	38.542	38.498		
ROAD CHAINAGE						10.176		
CHAINAGE	15	15.016	16.25	18.25	20.25			

KR 37
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 35					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286413.97	6282082.66	50°52'51.24"		
6.58	286420.25	6282087.77		-8.95	13.15
13.15	286415.81	6282094.52	326°41'12.22"		

KR 36					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286424.97	6282109.9	146°41'12.22"		
6.33	286429.17	6282103.51		-8.95	12.66
12.66	286436.14	6282106.66	65°39'00.41"		
17.44	286440.58	6282108.67		-20.45	9.57
22.23	286443.63	6282112.47	38°50'25.82"		

KR 37					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286416.71	6282101.52	146°41'21.22"		
4.87	286419.43	6282097.38		-20.45	9.73
9.73	286423.76	6282094.94	119°25'06.60"		
11.37	286425.43	6282093.99		-2.45	3.27
13	286426.75	6282095.4	43°03'09.41"		
14.63	286428.06	6282096.81		-2.45	3.27
16.26	286427.01	6282098.42			
20.25	286424.82	6282101.75	326°41'12.24"		

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

V 1:100 (AT A1)
1:200 (AT A1)
1:400 (AT A3)
METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/08/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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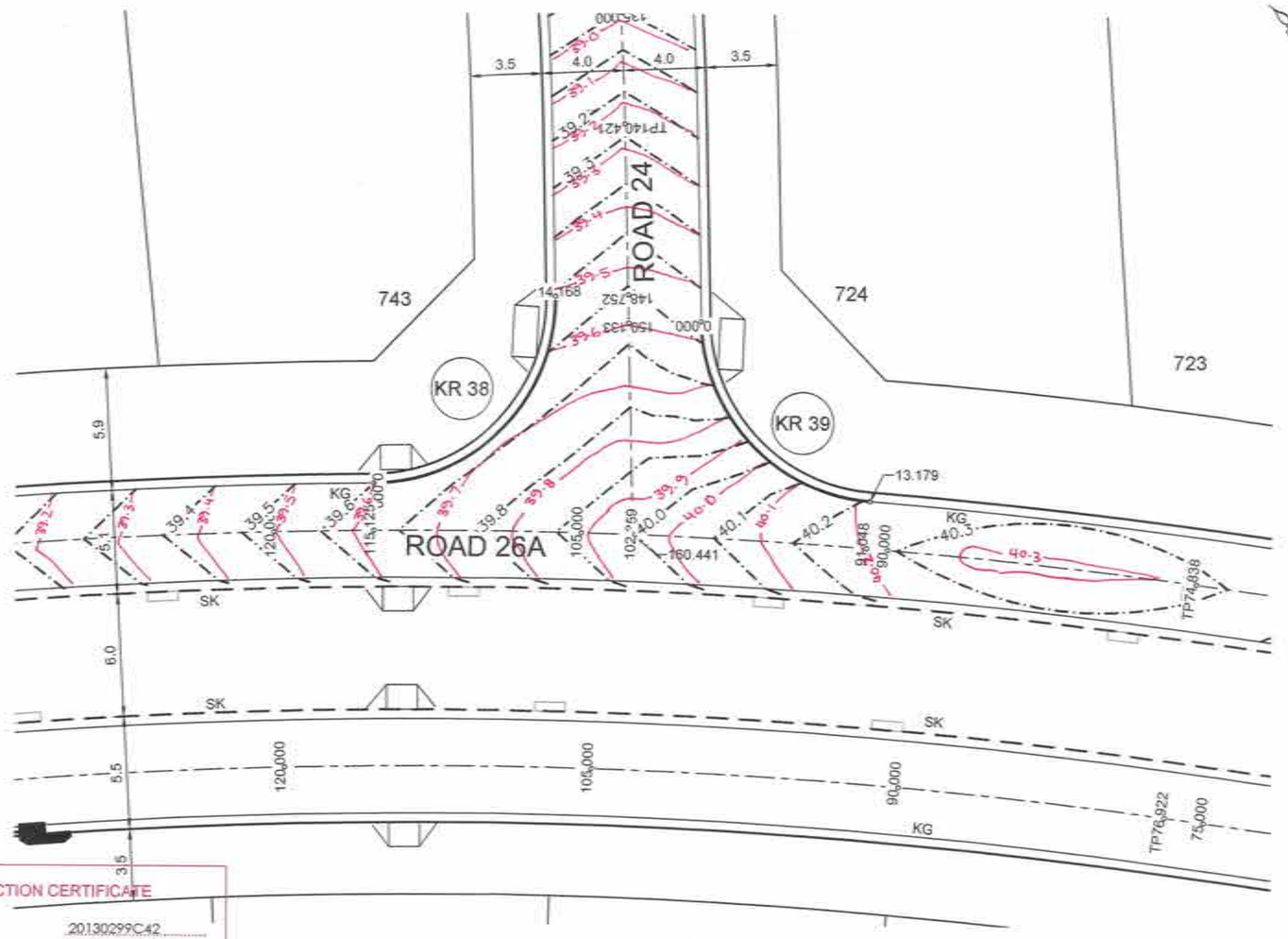
ISSUED FOR CONSTRUCTION APPROVAL

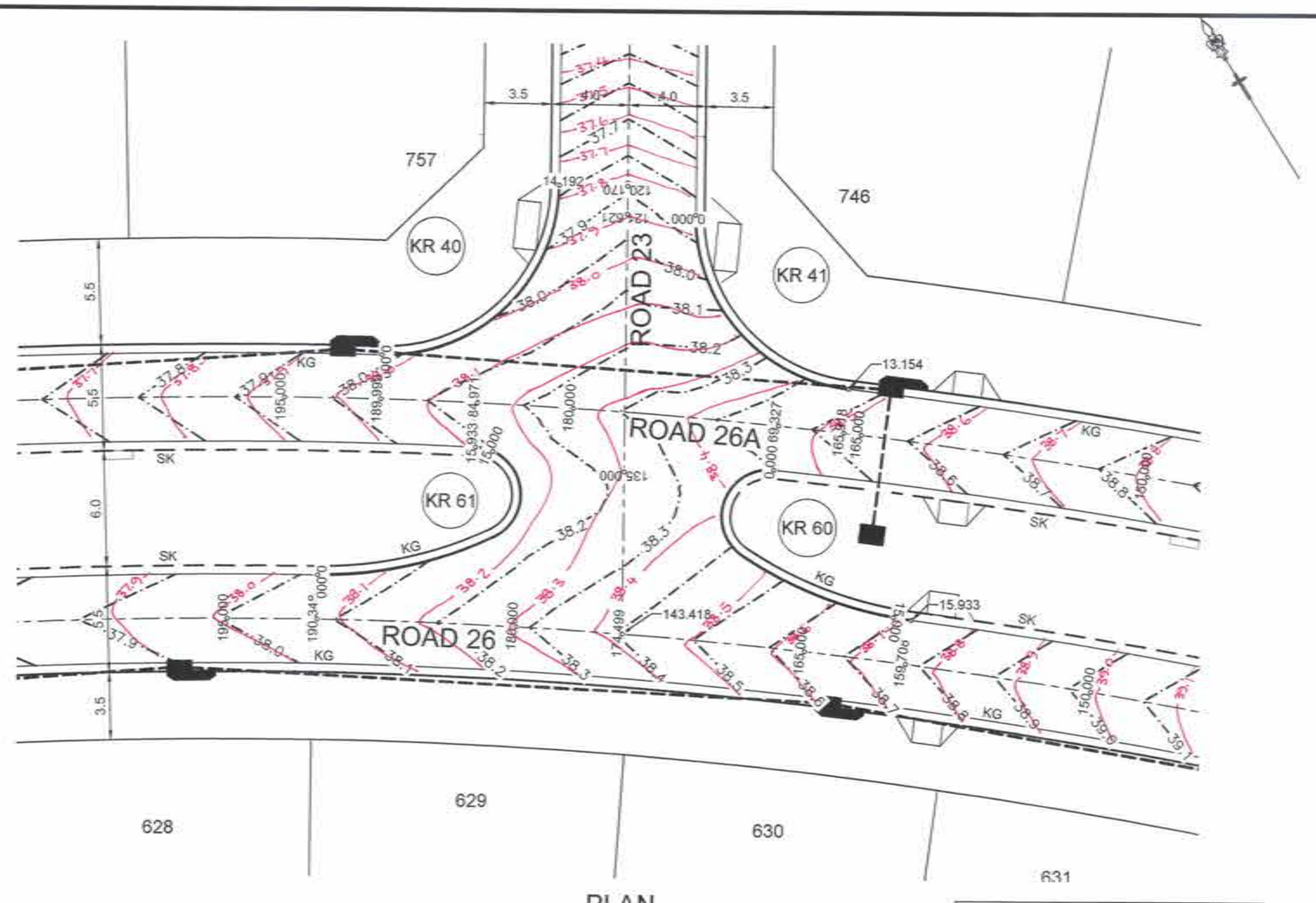
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
KERB RETURN PLANS AND SECTIONS
SHEET 6 OF 16

PLAN No: 11018511/CC086 A
FILE No: 11018511CC086
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:43:43 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CGYEOMANS\11018511CC086.dwg



PLAN
SCALE 1:200

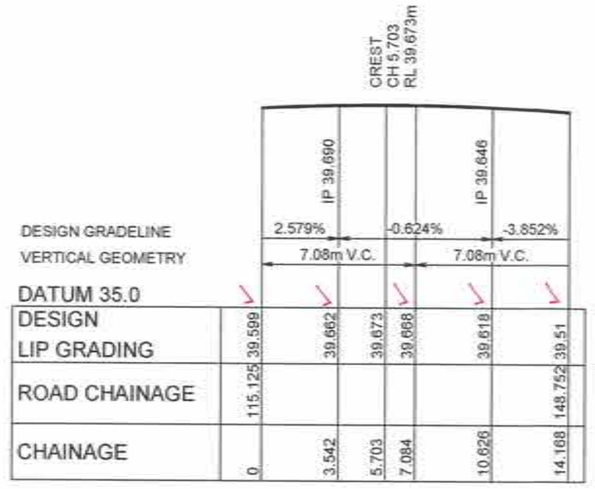


PLAN
SCALE 1:200

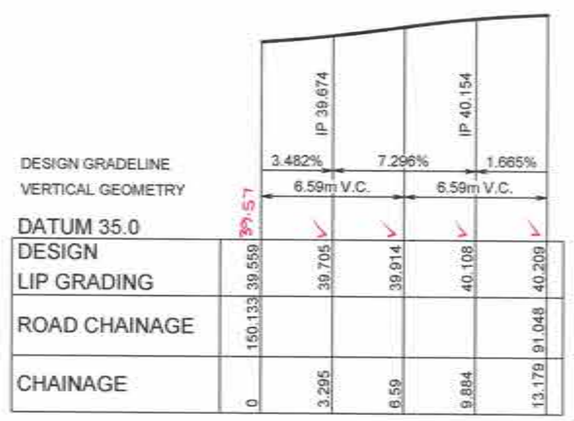
NOTE:
KERB RETURN SETOUT AND LEVELS ARE LIP OF GUTTER UNLESS SHOWN OTHERWISE

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

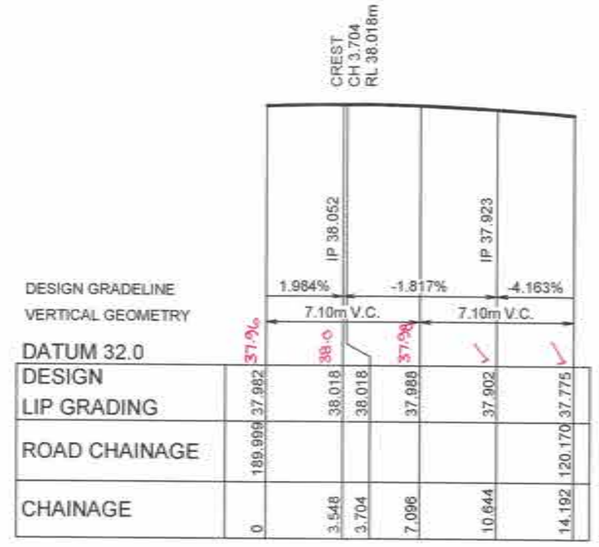
WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01-08-18 REF: 16800-11



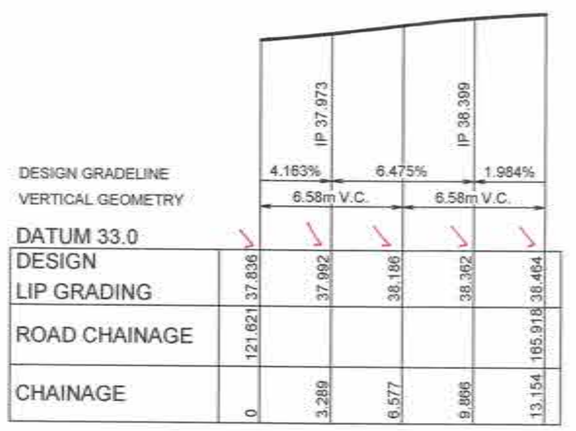
KR 38
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 39
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 40
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 41
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 38

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286368.48	6282190.54	138°26'07.65"		
7.08	286374.49	6282183.76		-8.95	14.17
14.17	286381.19	6282189.85	47°44'15.09"		

KR 39

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286384.94	6282183.67	227°44'15.09"		
6.59	286378.94	6282178.21		-8.95	13.18
13.18	286383.78	6282171.7	143°22'00.52"		

KR 40

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286311.47	6282239.68	123°06'01.52"		
7.1	286319.08	6282234.72		-8.95	14.19
14.19	286323.93	6282242.41	32°14'39.94"		

KR 41

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286329.16	6282237.39	212°14'39.94"		
6.58	286324.85	6282230.55		-8.95	13.15
13.15	286331.22	6282225.57	128°01'57.18"		

V 1:100 (AT A1) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

1:200 (AT A1) 1:400 (AT A3) 4 2 0 4 8 12 16 20 METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
PO Box 4366 PENRITH WESTFIELD NSW 2750
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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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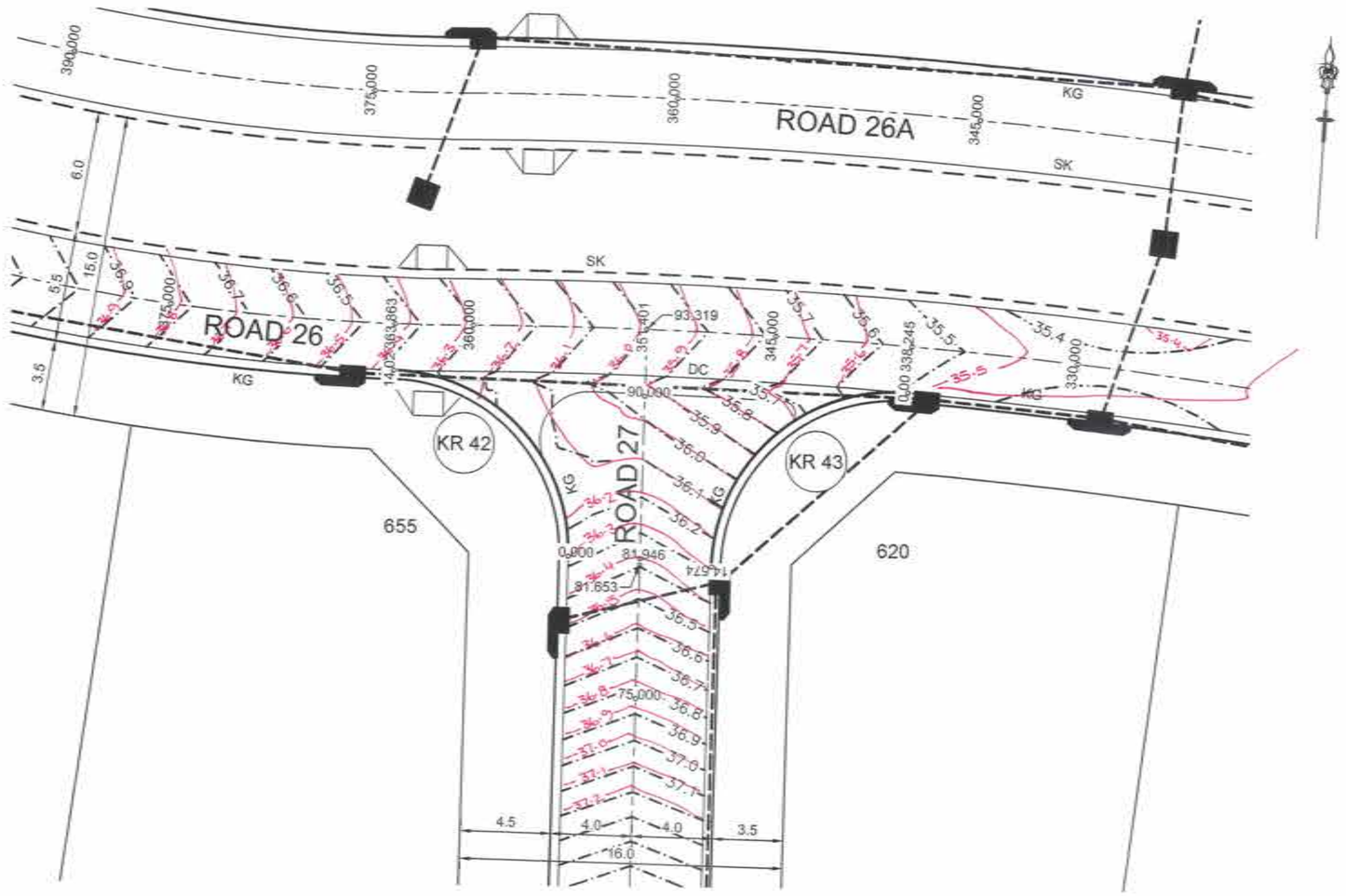
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
KERB RETURN PLANS AND SECTIONS
SHEET 7 OF 16

PLAN No: 11018511/CC087 A
FILE No: 11018511CC087
SHEET SIZE: A1 ORIGINAL

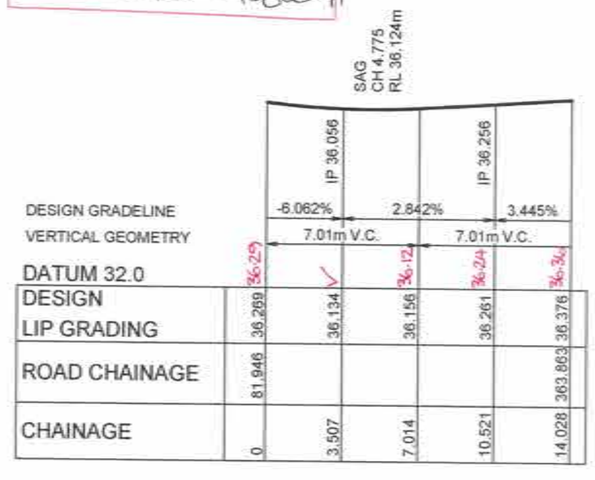
Plotted: 25 January , 2018 4:44:33 PM File Name: J:\110185 - Redbank North Richmond Residential Presincts\01 - Description\CD\CC\YEOMANS\11018511CC087.dwg



PLAN
SCALE 1:200

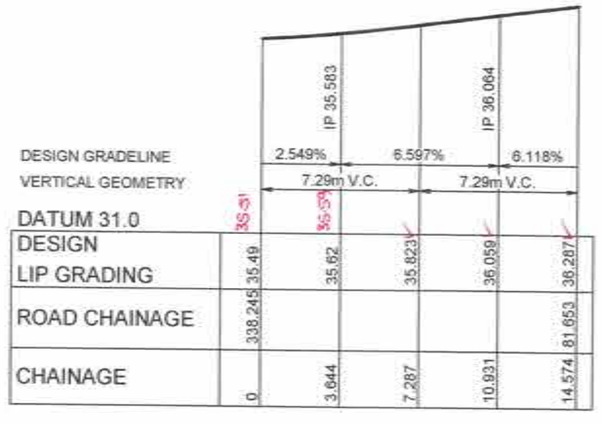
NOTE:
KERB RETURN SETOUT AND LEVELS ARE LIP OF GUTTER UNLESS SHOWN OTHERWISE

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11



DESIGN GRADELINE		36.056		36.256	
VERTICAL GEOMETRY			7.01m V.C.		7.01m V.C.
DATUM 32.0	36.229		36.172	36.224	36.304
DESIGN LIP GRADING	36.269	36.134	36.156	36.261	36.376
ROAD CHAINAGE	81.946				363.863
CHAINAGE	0	3.507	7.014	10.521	14.028

KR 42
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



DESIGN GRADELINE		35.583		36.064	
VERTICAL GEOMETRY			7.29m V.C.		7.29m V.C.
DATUM 31.0	35.451	35.578			
DESIGN LIP GRADING	35.49	35.62	35.823	36.059	36.287
ROAD CHAINAGE	338.245				81.653
CHAINAGE	0	3.644	7.287	10.931	14.574

KR 43
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 42					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286145.3	6282259.99	357°34'15.34"		
7.01	286144.92	6282268.91		-8.95	14.03
14.03	286136.01	6282268.56	267°46'03.99"		

KR 43					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286161.49	6282269.33	270°52'14.52"		
7.29	286152.01	6282269.47		-8.95	14.57
14.57	286152.41	6282260	177°34'15.34"		

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

V 1:100 (AT A1)
2 1 0 1 2 3 4 5 6 7 8 9 10
METRES

1:200 (AT A1)
1:400 (AT A3)
4 2 0 4 8 12 16 20
METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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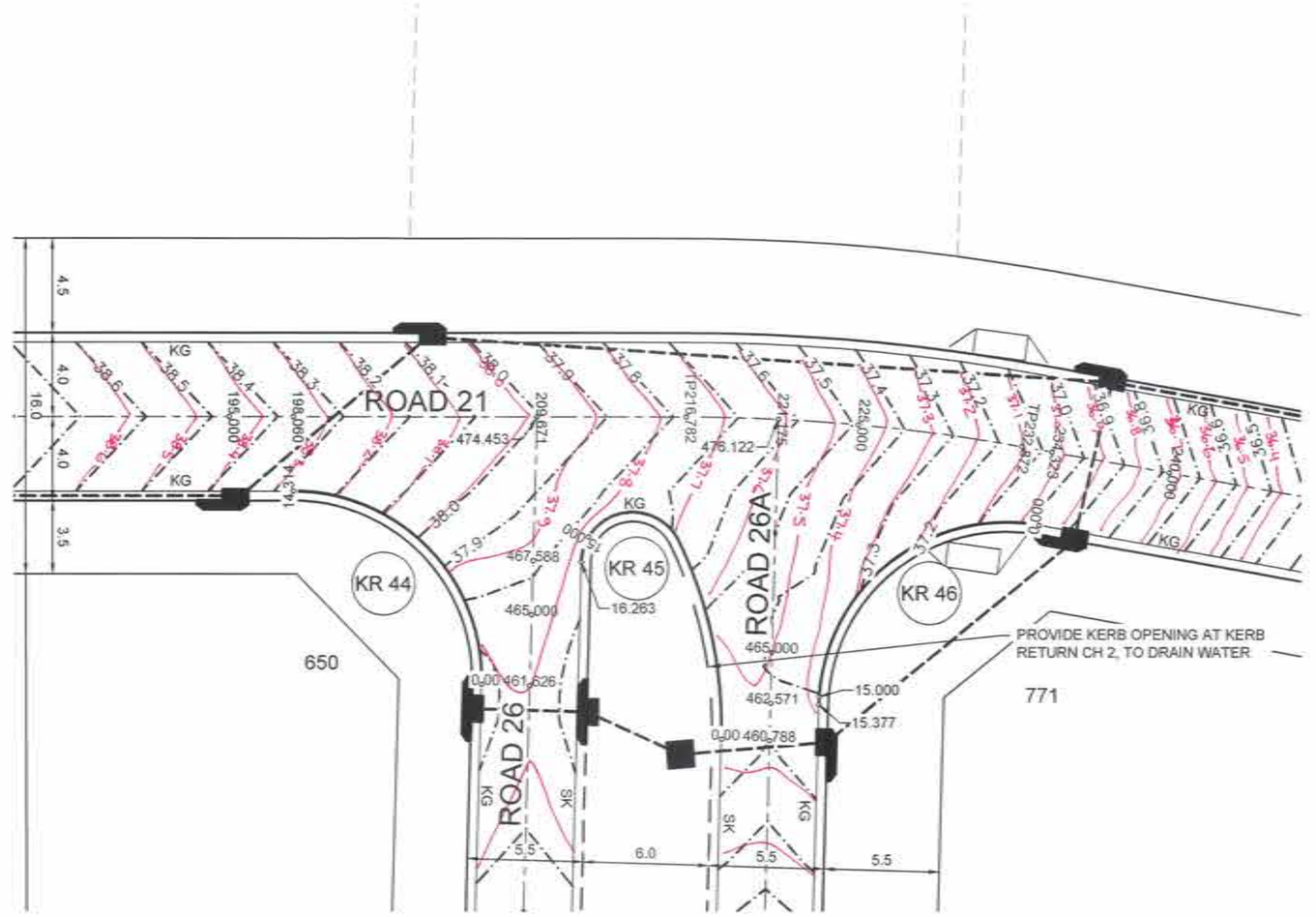
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
KERB RETURN PLANS AND SECTIONS
SHEET 8 OF 16

PLAN No: 11018511/CC088 A
FILE No: 11018511CC088
SHEET SIZE: A1 ORIGINAL

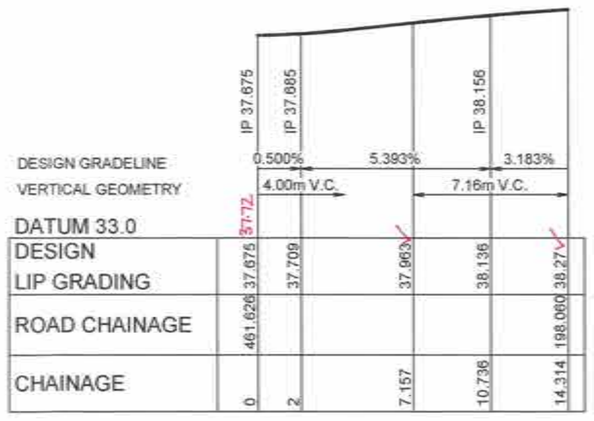
Plotted: 25 January , 2018 4:45:07 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC088.dwg



PLAN
SCALE 1:200

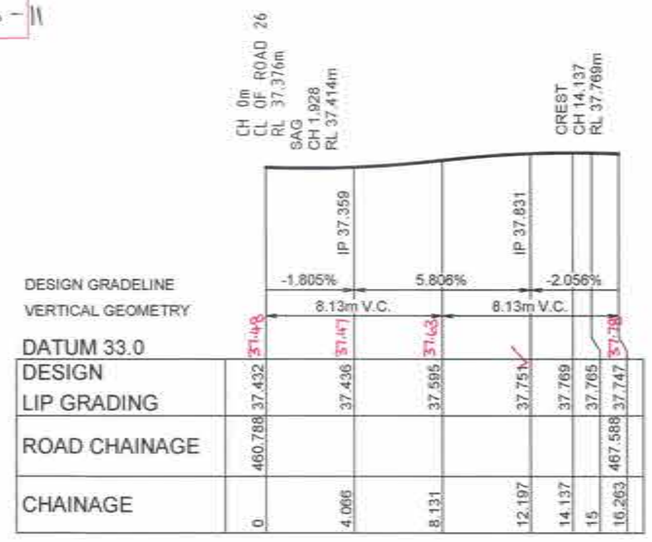
NOTE:
KERB RETURN SETOUT AND LEVELS ARE LIP OF GUTTER UNLESS SHOWN OTHERWISE

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ..... IAN VINCENT MYERS Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800 - 11



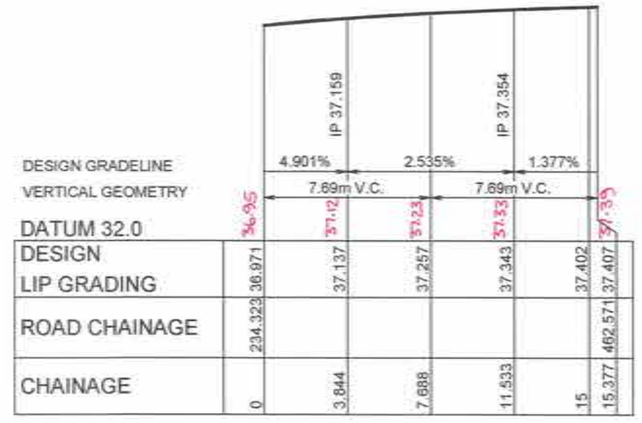
KR 44
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 44					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286048.88	6282305.99	309°05'47.80"		
7.16	286039.73	6282311.79		-8.95	14.31
14.31	286034.13	6282304.48	217°27'33.33"		



KR 45
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 45					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286055.91	6282313.47	309°05'47.80"		
4.87	286052.06	6282316.6		-20.45	9.73
9.73	286047.2	6282317.62	281°49'50.04"		
11.36	286045.32	6282318.01		-2.45	3.27
13	286044.49	6282316.27	205°27'48.92"		
14.63	285043.66	6282314.53		-2.45	3.27
16.26	286045.15	6282313.32	129°05'47.80"		



KR 46
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 46					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286057.02	6282331.71	227°32'04.84"		
7.69	286049.37	6282324.71		-8.95	15.38
15.38	286057.42	6282318.17	129°05'47.80"		

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

V 1:100 (AT A1) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES
1:200 (AT A1) 1:400 (AT A3) 4 2 0 4 8 12 16 20 METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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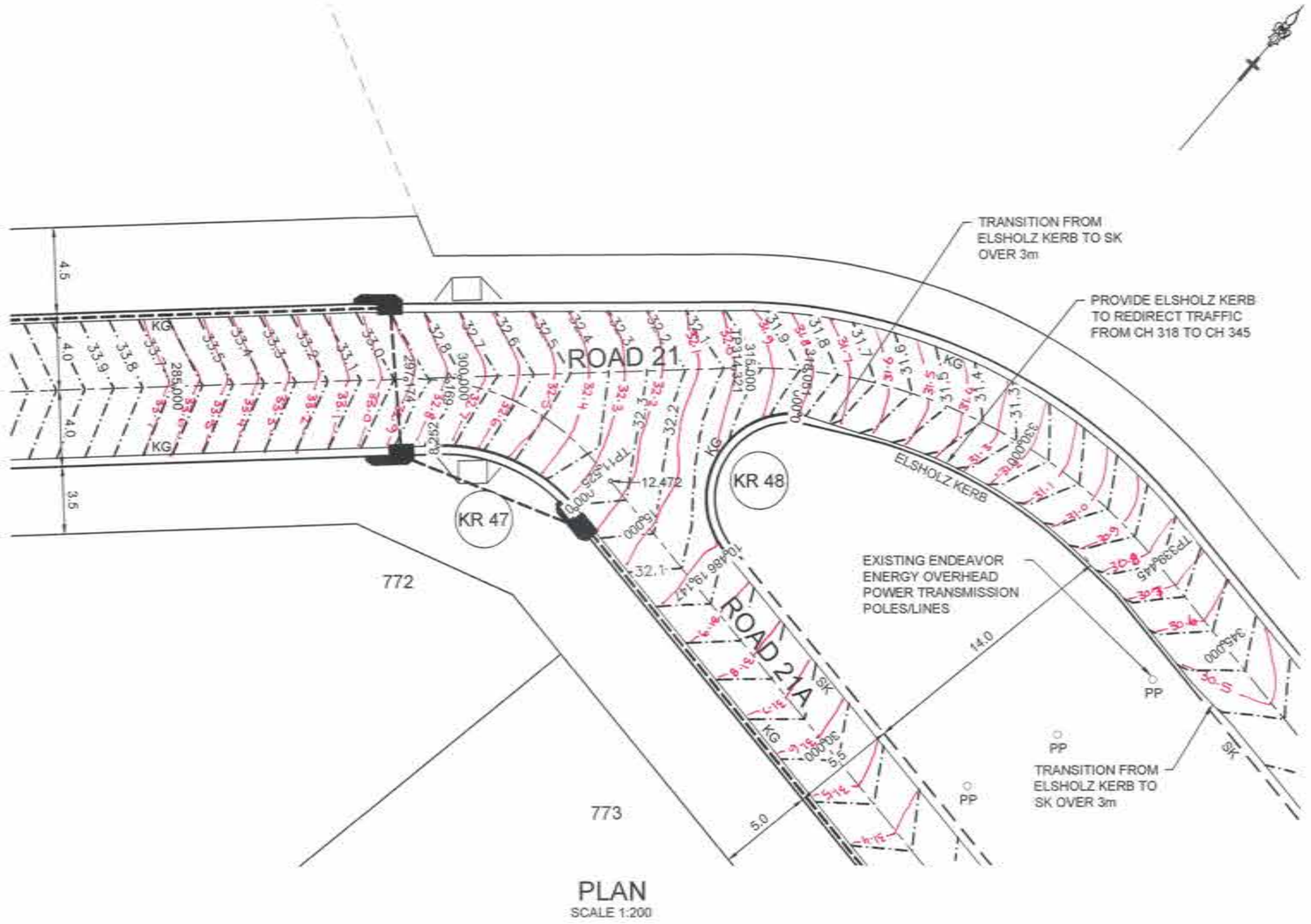
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
KERB RETURN PLANS AND SECTIONS
SHEET 9 OF 16

PLAN No: 11018511/CC089 A
FILE No: 11018511CC089
SHEET SIZE: A1 ORIGINAL

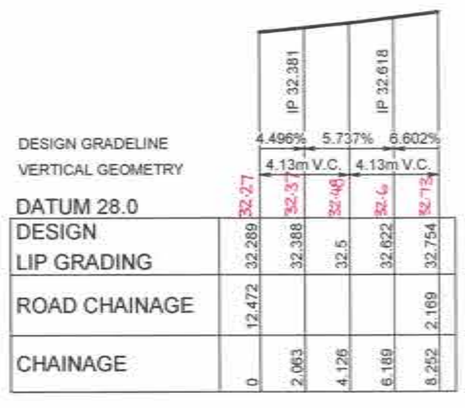
Plotted: 25 January , 2018 4:45:45 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC089.dwg



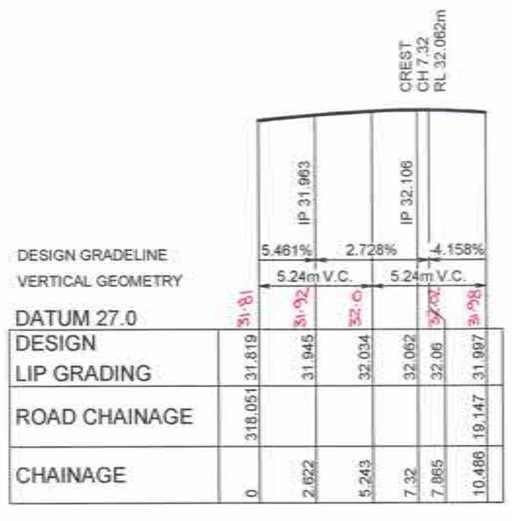
PLAN
SCALE 1:200

NOTE:
KERB RETURN SETOUT AND LEVELS ARE LIP OF GUTTER UNLESS SHOWN OTHERWISE

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01·08·18 REF: 168001



KR 47
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 48
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 47

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286112.2	6282377.41	280°21'33.09"		
4.13	286107.83	6282378.21		-8.95	8.25
8.25	286104.55	6282375.21	227°32'04.84"		

KR 48

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286117.86	6282388.77	235°22'34.44"		
2.62	286115.42	6282387.08		-4.45	5.24
5.24	286116.04	6282384.18	167°52'03.76"		
7.86	286116.67	6282381.27		-4.45	5.24
10.49	286119.59	6282380.73	100°21'33.09"		

CONSTRUCTION CERTIFICATE
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V 1:100 (AT A1) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES
1:200 (AT A1) 1:400 (AT A3) 4 2 0 4 8 12 16 20 METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

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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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
KERB RETURN PLANS AND SECTIONS
SHEET 10 OF 16

PLAN No: 11018511/CC090 A
FILE No: 11018511CC090
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:46:19 PM File Name: J:\11\10185 - Redbank North Richmond Residential Precincts\01 - Description\CDC\CYEOMANS\11018511CC090.dwg

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
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Accreditation No. BPB0565

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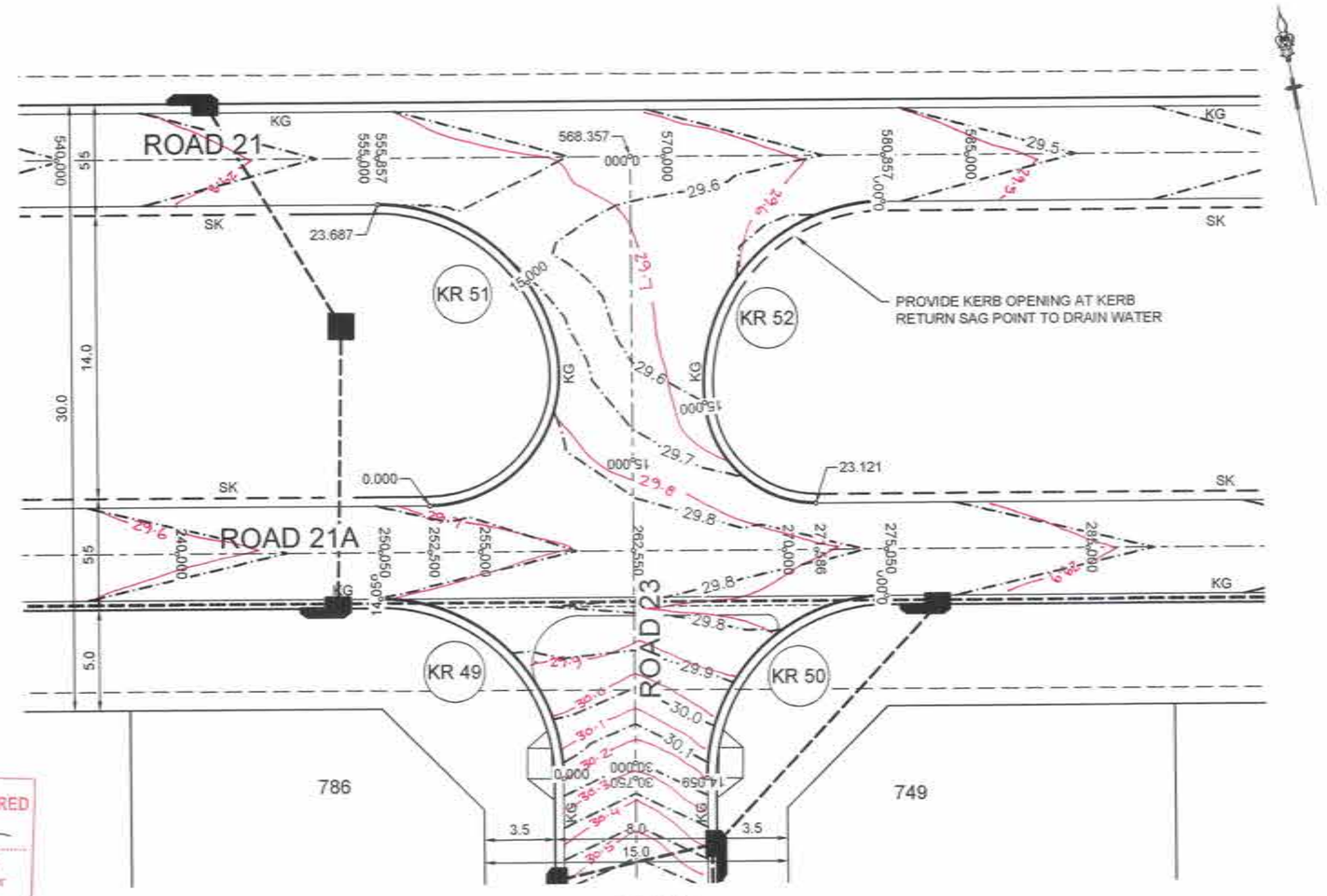

PLAN
SCALE 1:200

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01-08-18 REF: 16800-11

NOTE:
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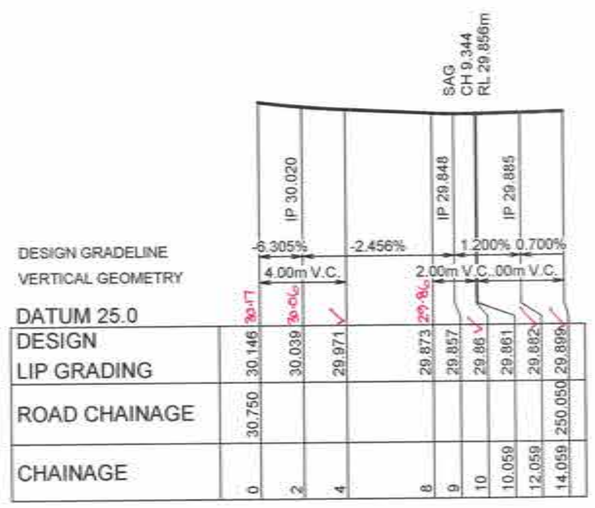
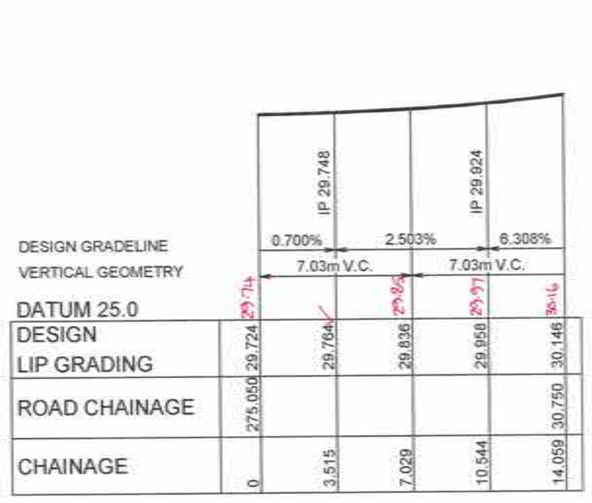


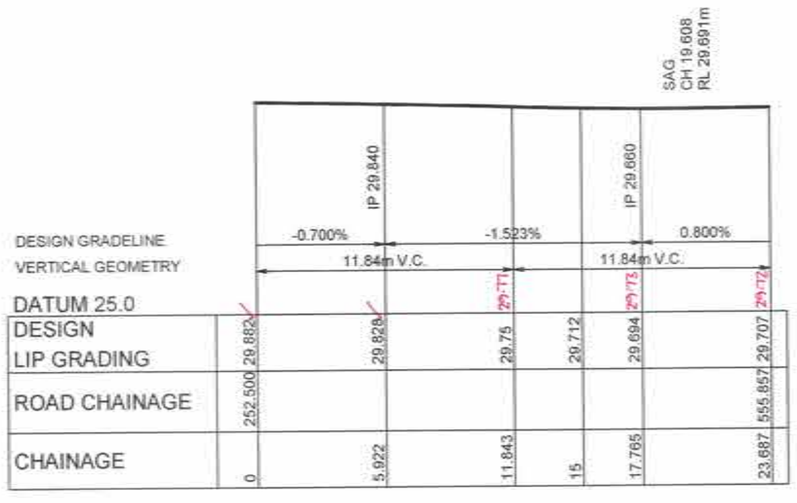
KR 49
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 49					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286353.1	6282324.27	10°21'33.10"		
7.03	286354.71	6282333.08		-8.95	14.06
14.06	286345.9	6282334.69	280°21'33.09"		



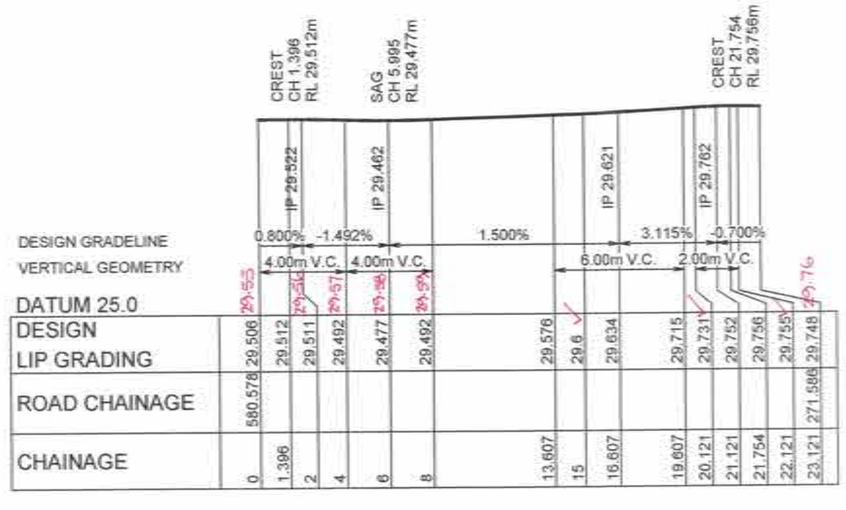
KR 50
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 50					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286370.5	6282330.19	280°21'33.09"		
7.03	286361.69	6282331.8		-8.95	14.06
14.06	286360.08	6282323	190°21'33.10"		



KR 51
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 51					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286349.14	6282338.77	100°21'33.09"		
5.72	286356.91	6282337.35		-6.45	11.43
11.43	286356.75	6282345.25	358°49'19.98"		
17.56	286356.6	6282352.56		-8.95	12.26
23.69	286349.41	6282353.87	280°21'33.04"		



KR 52
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 52					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286374	6282349.37	280°21'33.09"		
7.67	286363.84	6282351.23		-8.95	15.34
15.34	286363.45	6282340.91	182°08'45.52"		
19.23	286363.27	6282336.19		-5.45	7.78
23.12	286367.92	6282335.34	100°21'33.09"		

V 1:100 (AT A1)
1:200 (AT A1)
1:400 (AT A3)
METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

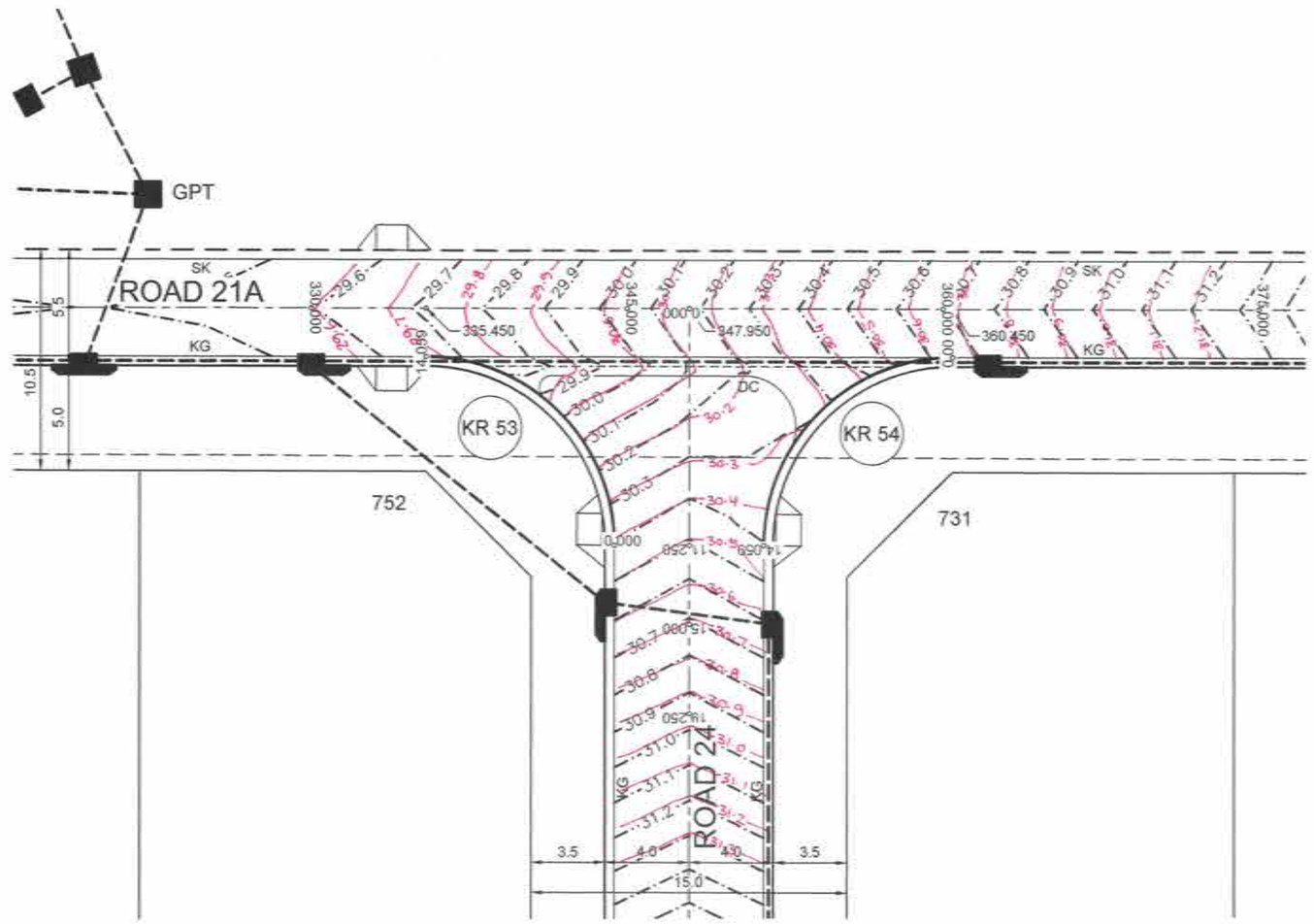
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
KERB RETURN PLANS AND SECTIONS
SHEET 11 OF 16

PLAN No: 11018511/CC091 A
FILE No: 11018511CC091
SHEET SIZE: A1 ORIGINAL

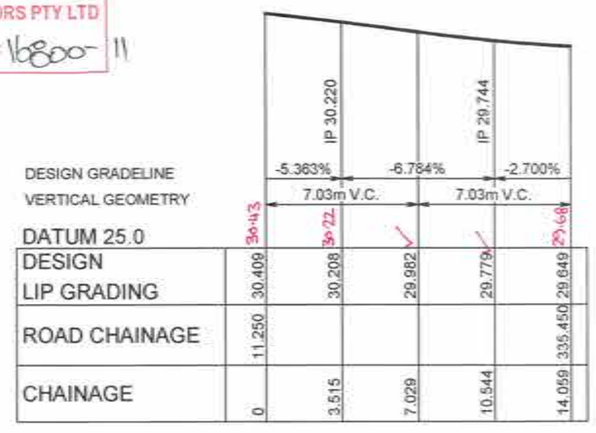
Plotted: 25 January , 2018 4:47:00 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC091.dwg



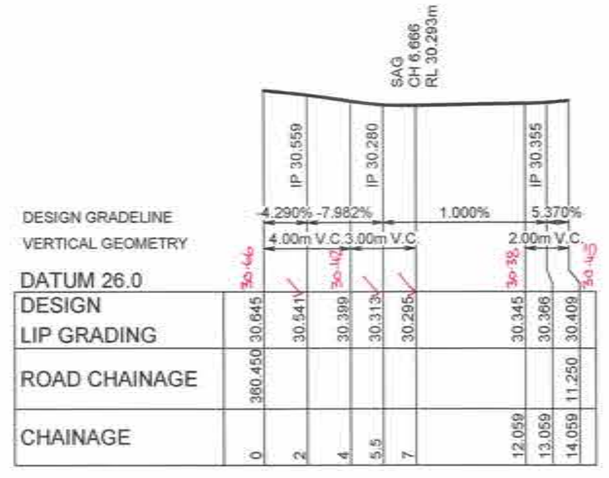
PLAN
SCALE 1:200

NOTE:
KERB RETURN SETOUT AND LEVELS ARE LIP OF GUTTER UNLESS SHOWN OTHERWISE

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01-08-18 REF: 160800-11



KR 53
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 54
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 53					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286437.11	6282308.92	10°21'33.09"		
7.03	286438.72	6282317.72		-8.95	14.06
14.06	286429.91	6282319.33	280°21'33.09"		

KR 54					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286454.5	6282314.84	280°21'33.09"		
7.03	286445.7	6282316.44		-8.95	14.06
14.06	286444.09	6282307.64	190°21'33.09"		

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

V 1:100 (AT A1) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES
1:200 (AT A1) 1:400 (AT A3) 4 2 0 4 8 12 16 20 METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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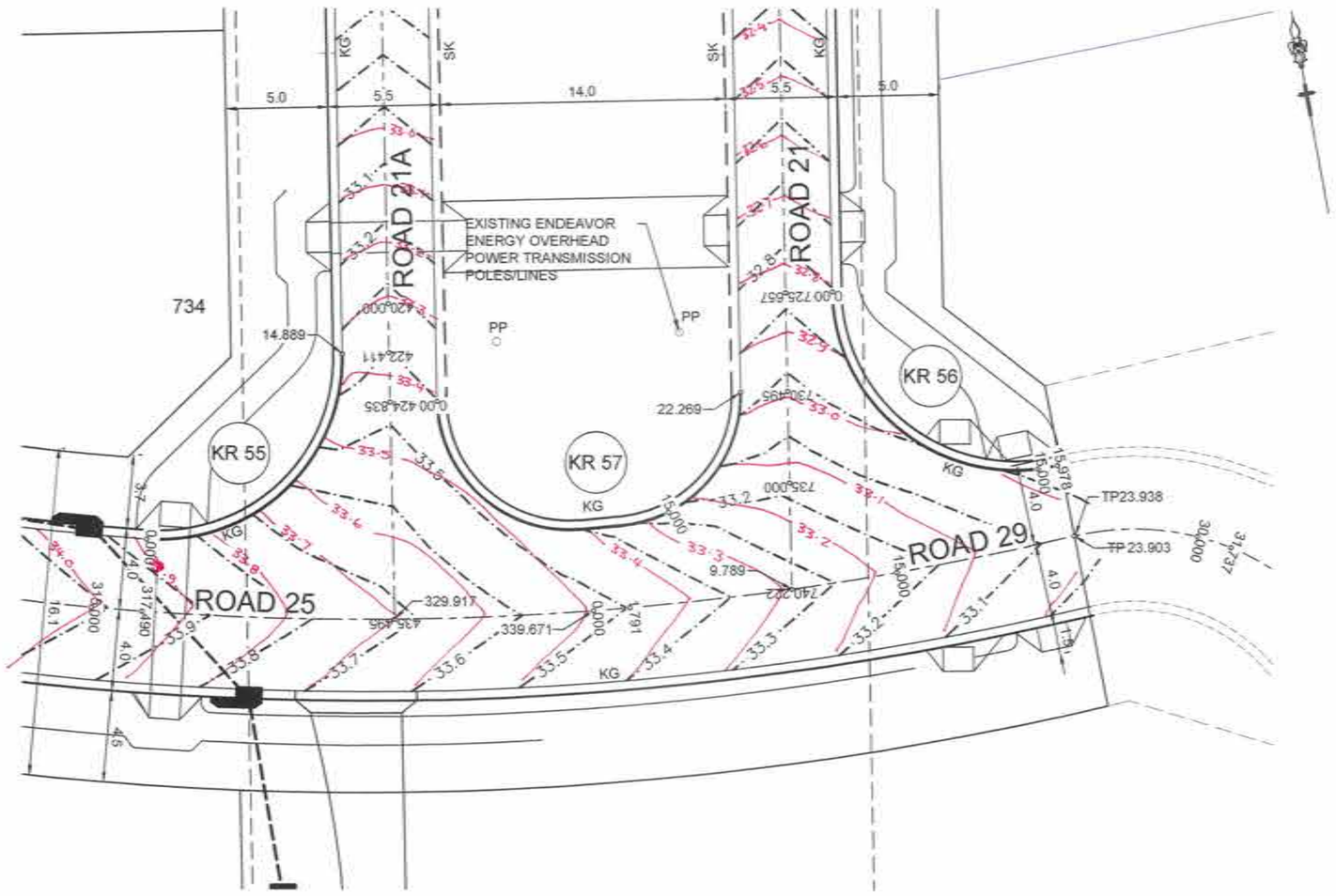
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
KERB RETURN PLANS AND SECTIONS
SHEET 12 OF 16

PLAN No: 11018511/CC092 A
FILE No: 11018511CC092
SHEET SIZE: A1 ORIGINAL

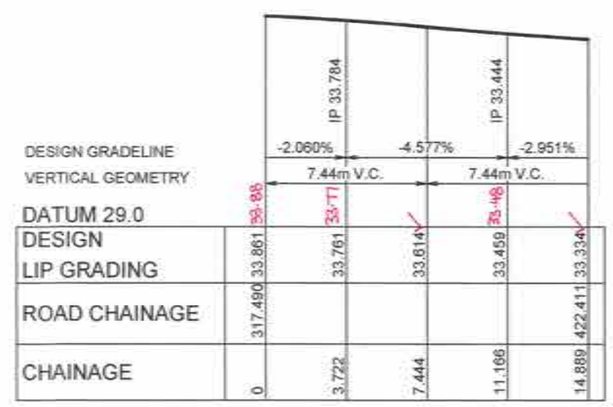
Plotted: 25 January , 2018 4:47:35 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC092.dwg



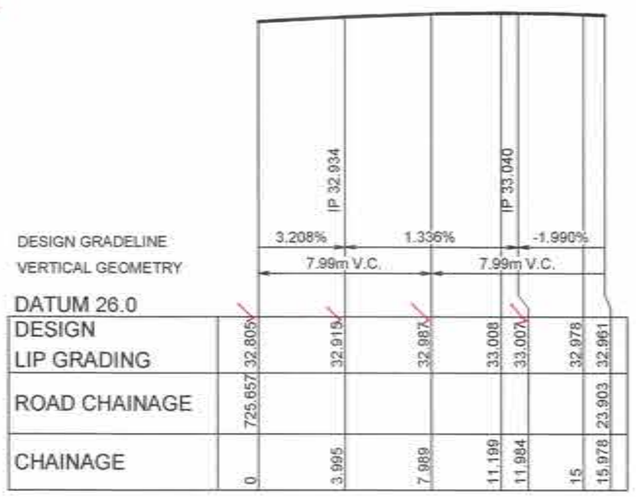
PLAN
SCALE 1:200

NOTE:
KERB RETURN SETOUT AND LEVELS ARE LIP OF GUTTER UNLESS SHOWN OTHERWISE

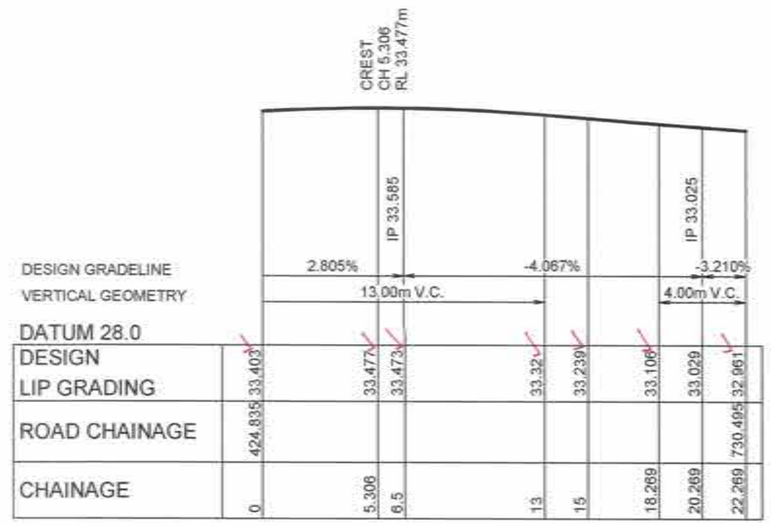
WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ..... IAN VINCENT MYERS Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11



KR 55
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 56
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 57
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 55

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286522.46	6282292.47	15°40'20.77"		
7.44	286525.12	6282301.93		-8.95	14.89
14.89	286515.45	6282303.69	280°21'33.09"		

KR 56

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286517.27	6282327.86	100°21'33.09"		
7.99	286528.2	6282325.86		-8.95	15.98
15.98	286527.82	6282336.97	358°04'10.37"		

KR 57

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286518.67	6282307.78	100°21'33.09"		
5.28	286525.44	6282306.54		-6.45	10.56
10.56	286526.23	6282313.39	6°35'29.33"		
11.6	286526.35	6282314.43		-146.45	2.1
12.65	286526.46	6282315.47	5°46'14.81"		
17.46	286527.06	6282321.4		-6.45	9.62
22.27	286521.2	6282322.47	280°21'33.09"		

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

V 1:100 (AT A1) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

1:200 (AT A1) 1:400 (AT A3) 4 2 0 4 8 12 16 20 METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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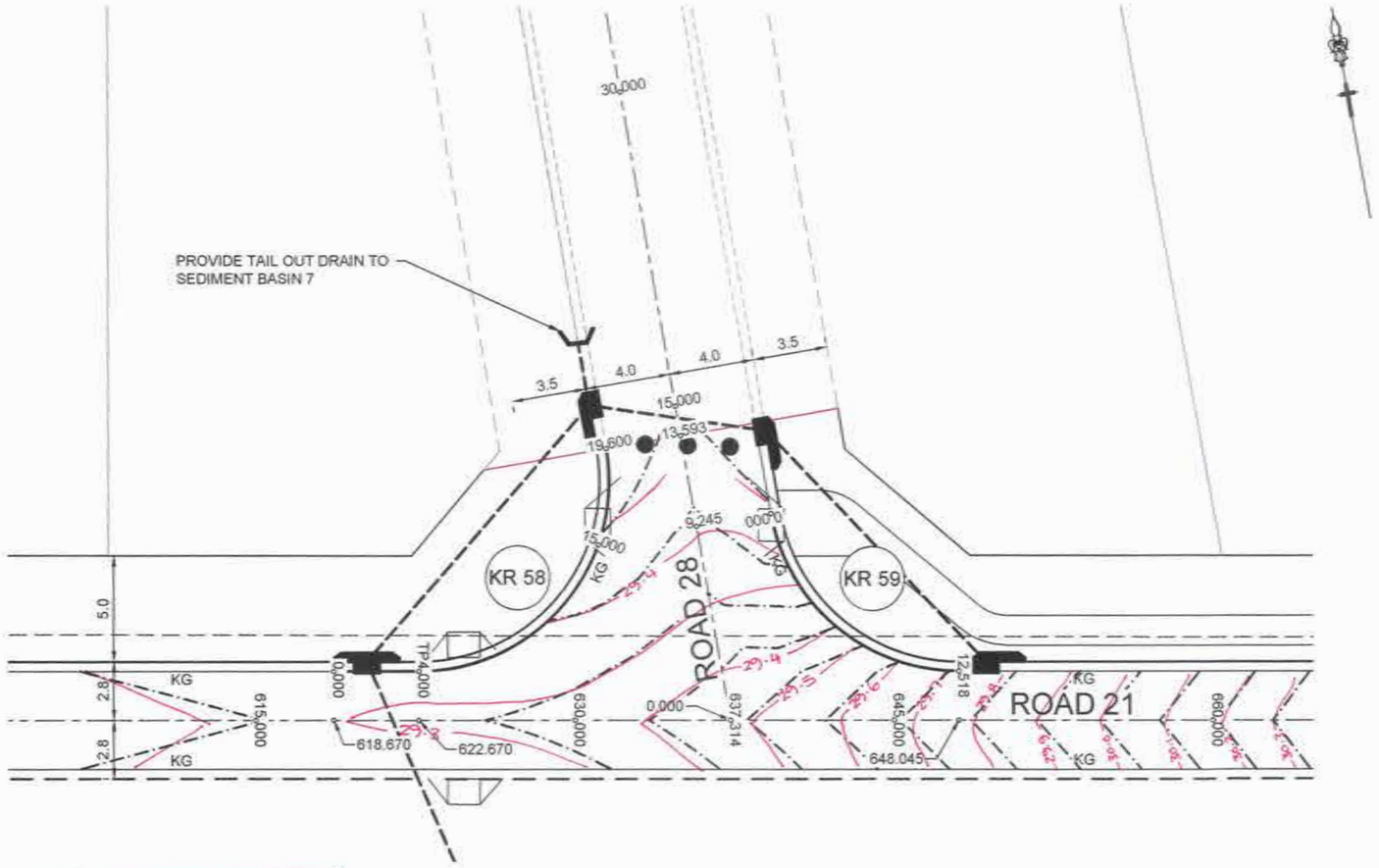
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
KERB RETURN PLANS AND SECTIONS
SHEET 13 OF 16

PLAN No: 11018511/CC093 A
FILE No: 11018511CC093
SHEET SIZE: A1 ORIGINAL

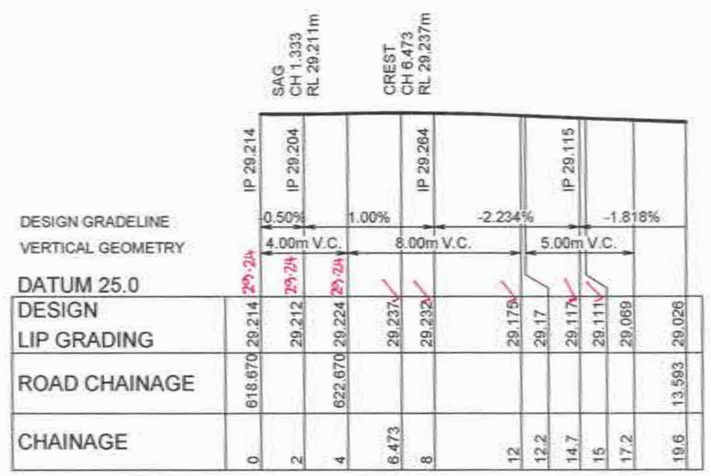
Plotted: 25 January , 2018 4:48:12 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC093.dwg



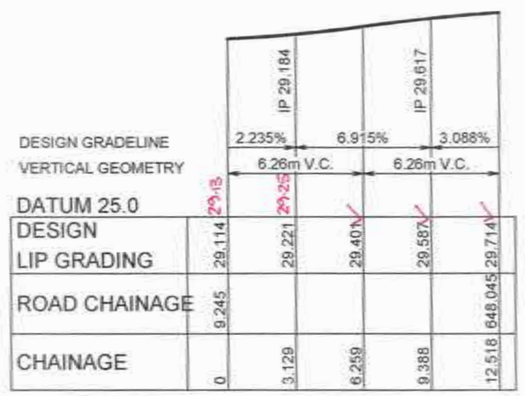
PLAN
SCALE 1:200

NOTE:
KERB RETURN SETOUT AND LEVELS ARE LIP OF GUTTER UNLESS SHOWN OTHERWISE

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: I. Myers
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11



KR 58
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 59
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 58					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286412.03	6282347.1	100°21'33.09"		
4	286415.96	6282346.38	100°21'33.09"		
11.8	286426.43	6282344.47		-8.95	15.6
19.6	286426.52	6282355.11	0°29'39.79"		

KR 59					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286433.58	6282350.7	180°29'40.64"		
6.26	286433.52	6282343.17		-8.95	12.52
12.52	286440.92	6282341.82	100°21'33.94"		

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

V 1:100 (AT A1) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES
1:200 (AT A1) 1:400 (AT A3) 4 2 0 4 8 12 16 20 METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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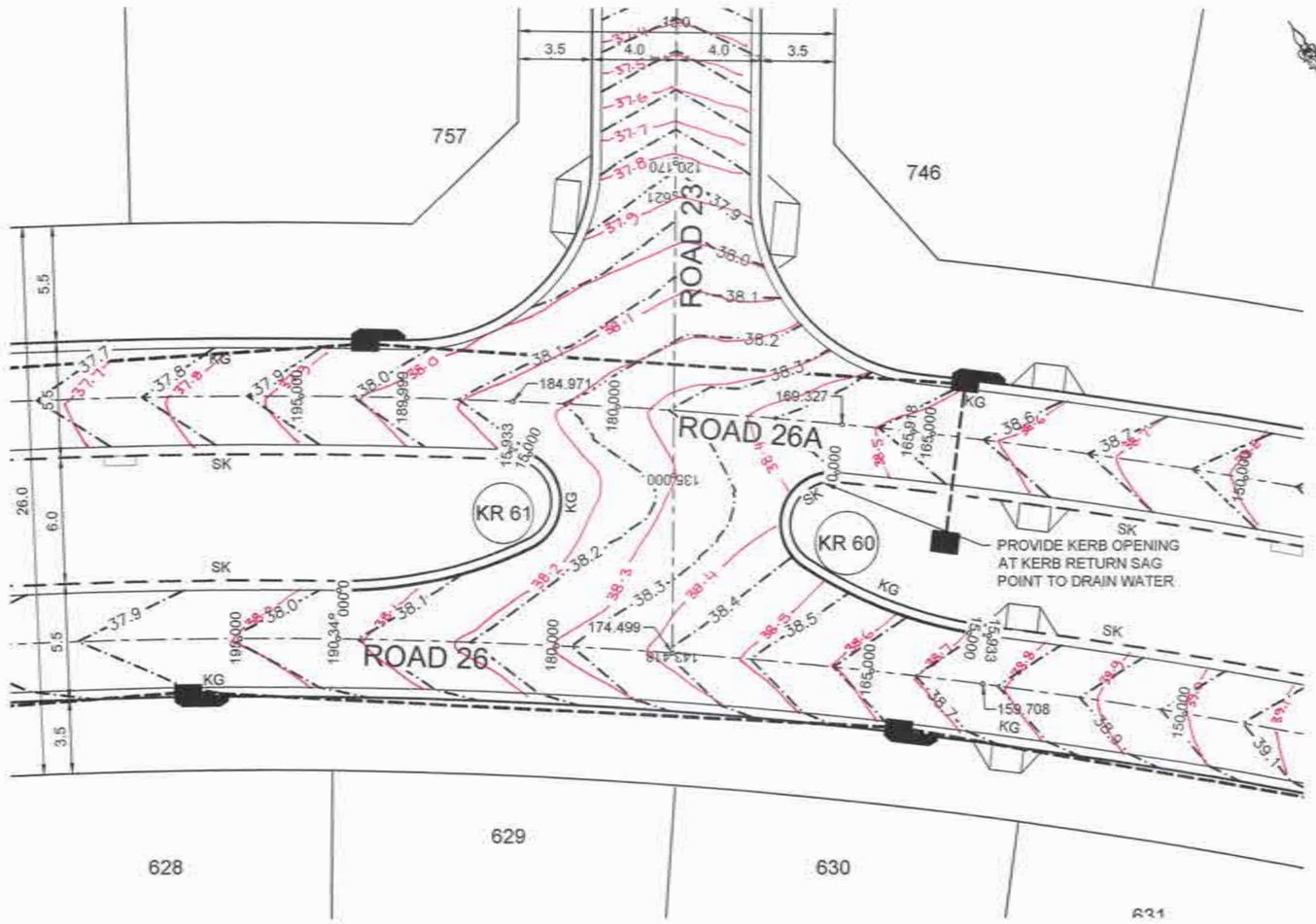
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
KERB RETURN PLANS AND SECTIONS
SHEET 14 OF 16

PLAN No: 11018511/CC094 A
FILE No: 11018511CC094

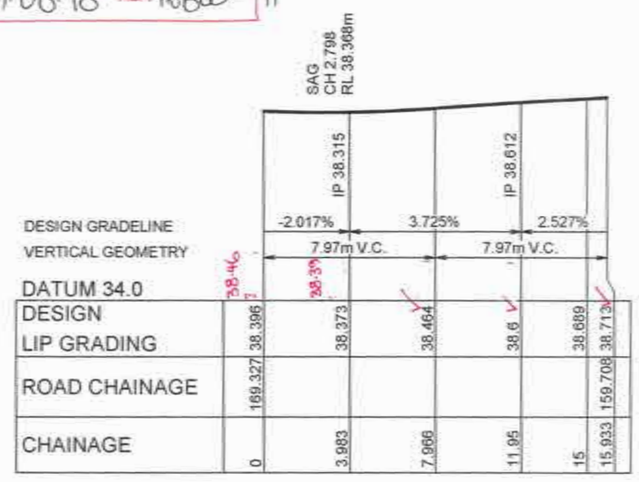
Plotted: 25 January , 2018 4:48:46 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CG\YEOMANS\11018511CC094.dwg



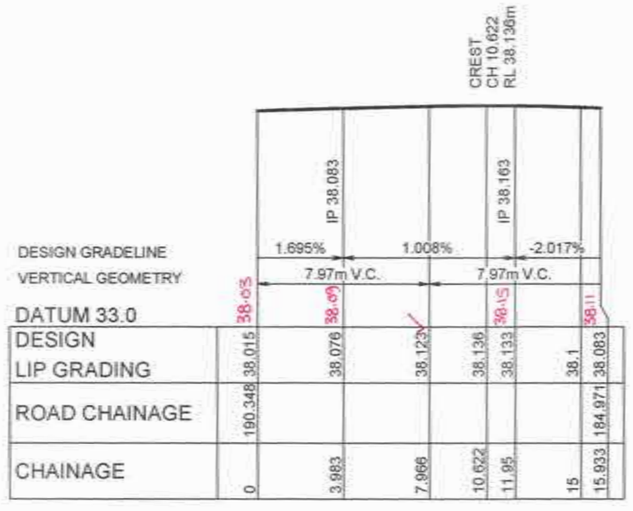
PLAN
SCALE 1:200

NOTE:
KERB RETURN SETOUT AND LEVELS ARE LIP OF GUTTER UNLESS SHOWN OTHERWISE

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11



KR 60
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



KR 61
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

KR 60					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286325.71	6282224.01	307°20'04.84"		
1.62	286324.19	6282225.17		-2.45	3.25
3.25	286322.69	6282223.98	231°23'26.72"		
4.87	286321.2	6282222.78		-2.45	3.25
6.49	286321.99	6282221.04			
11.21	286323.99	6282216.67		-20.45	9.44
15.93	286327.72	6282213.65	129°00'16.25"		

KR 61					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286302.65	6282231.69	122°27'36.29"		
4.72	286306.71	6282229.11		-20.45	9.44
9.44	286311.48	6282228.6	96°01'02.46"		
11.06	286313.39	6282228.4		-2.45	3.25
12.69	286314.04	6282230.2	20°04'25.81"		
14.31	286314.7	6282232		-2.45	3.25
15.93	286313.12	6282233.07	304°07'49.16"		

CONSTRUCTION CERTIFICATE
Certificate No. 20130229SC42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

V 1:100 (AT A1) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES
1:200 (AT A1) 1:400 (AT A3) 4 2 0 4 8 12 16 20 METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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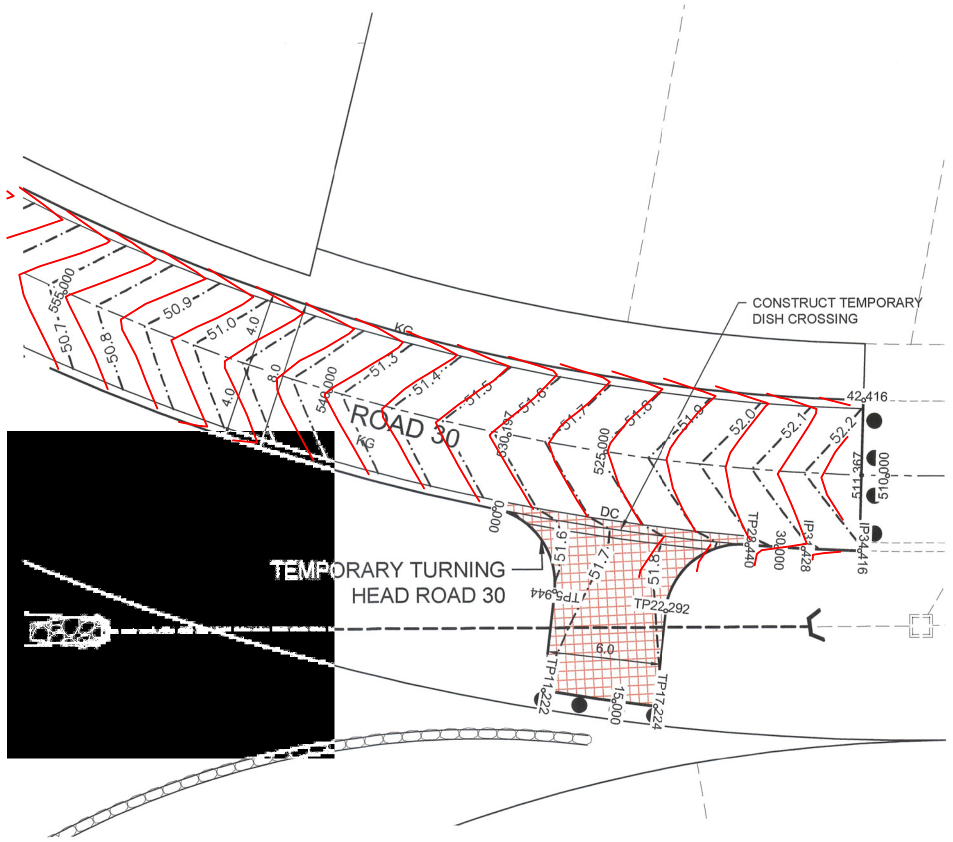
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
KERB RETURN PLANS AND SECTIONS
SHEET 15 OF 16

PLAN No: 11018511/CC095 A
FILE No: 11018511CC095
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:49:21 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC095.dwg

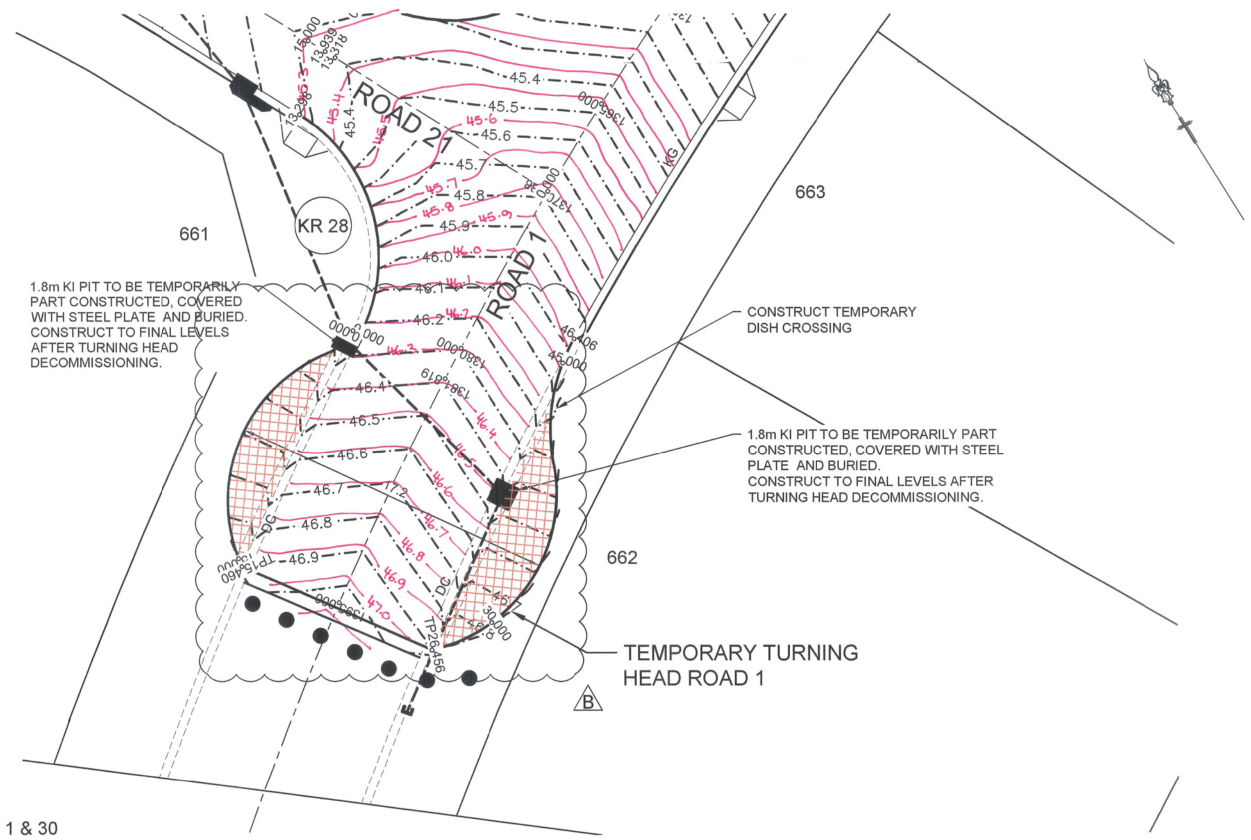


PLAN
SCALE 1:200

NOT BUILT AT TIME OF SURVEY

WORK AS EXECUTED SHOWN IN RED
SIGNATURE........ PETER ROBERT WARWICK REGISTERED LAND SURVEYOR
VINCE MORGAN SURVEYORS PTY LTD
DATE: 14/01/20 REF:16800-11

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .... IAN VINCENT MYERS Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01·08·18 REF: 16800-11

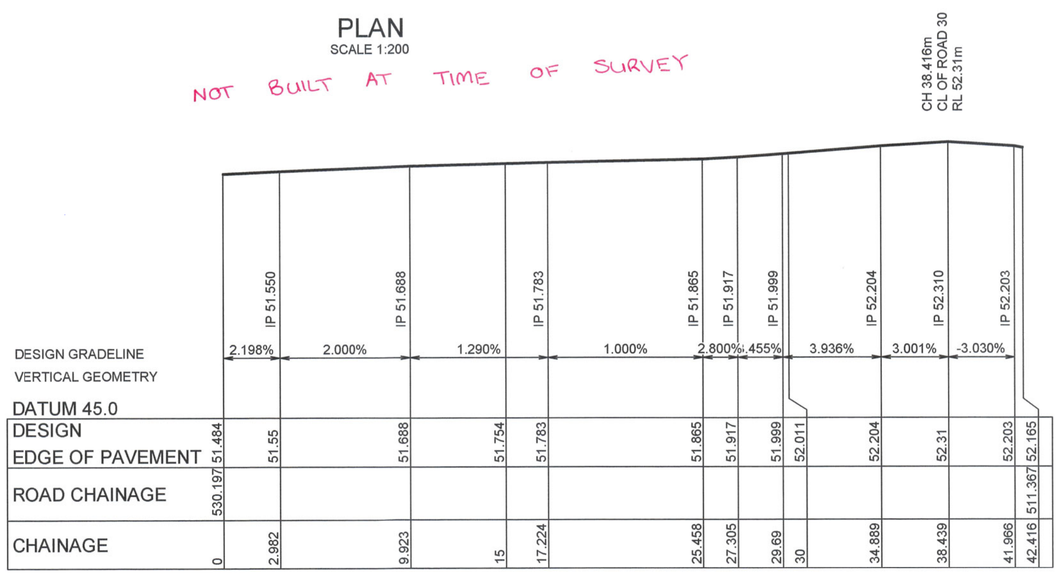


PLAN
SCALE 1:200

PAVEMENT NOTES

TEMPORARY TURNING HEAD - ROADS 1 & 30

1. TWO COAT HOT BITUMEN FLUSH SEAL WITH 14mm & 10mm AGGREGATE
2. 100mm COMPACTED THICKNESS DGB20 BASE COURSE
3. 200mm COMPACTED THICKNESS CRUSHED SANDSTONE SUB-BASE COURSE

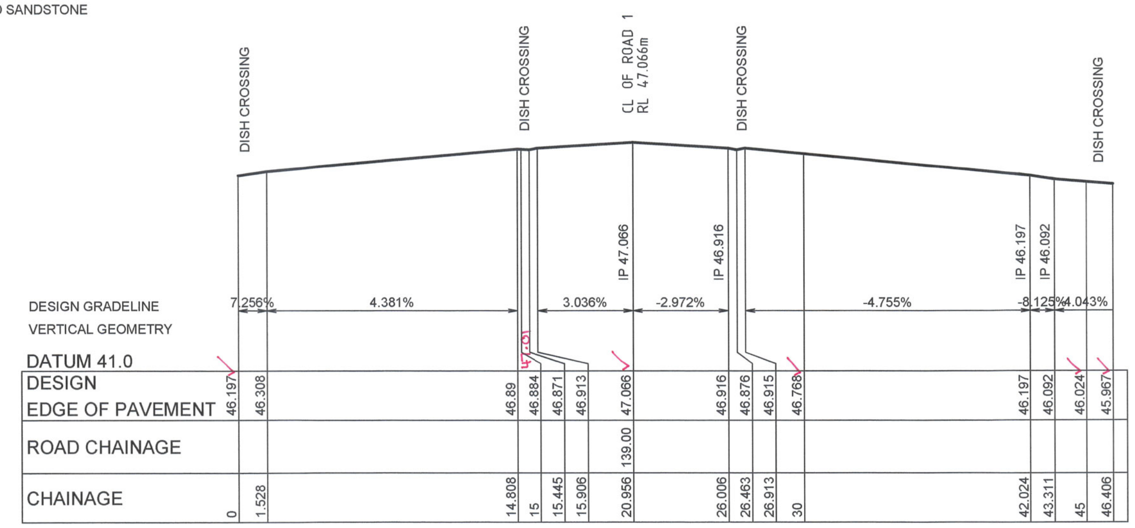


DESIGN GRADELINE VERTICAL GEOMETRY: 2.198%, 2.000%, 1.290%, 1.000%, 2.800%, .455%, 3.936%, 3.001%, -3.030%

DATUM 45.0

CHAINAGE	ROAD CHAINAGE	DESIGN EDGE OF PAVEMENT
0	530.197	51.484
2.982		51.55
9.923		51.688
15		51.754
17.224		51.783
25.458		51.865
27.305		51.917
29.69		51.999
30		52.011
34.889		52.204
38.439		52.31
41.966		52.203
42.416	511.367	52.165

TEMPORARY TURNING HEAD ROAD 30
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



DESIGN GRADELINE VERTICAL GEOMETRY: 7.256%, 4.381%, 3.036%, -2.972%, -4.755%, -8.125%, 4.043%

DATUM 41.0

CHAINAGE	ROAD CHAINAGE	DESIGN EDGE OF PAVEMENT
0		46.197
1.528		46.308
14.808		46.89
15		46.884
15.445		46.871
15.906		46.913
20.956	139.00	47.066
26.006		46.916
26.463		46.876
26.913		46.915
30		46.768
42.024		46.197
43.311		46.092
45		46.024
46.406		45.967

TEMPORARY TURNING HEAD ROAD 1
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

TEMPORARY TURNING HEAD RD 30

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286296.94	6281818.61	133°17'48.13"		
2.97	286299.61	6281816.09		4	5.94
5.94	286297.33	6281813.21	218°26'07.07"		
11.22	286294.05	6281809.08			
14.22	286296.31	6281807.1		-123	6
17.22	286298.66	6281805.23			
22.29	286301.81	6281809.2	38°26'07.07"		
25.37	286304.21	6281812.23		4	6.15
28.44	286307.32	6281809.93			
31.43	286309.74	6281808.19			
34.42	286312.21	6281806.5			
42.42	286316.63	6281813.18	33°29'19.88"		

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer [signature]
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

TH RD 1

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286062.81	6282155.91	239°06'57.05"		
0.89	286062.01	6282155.43		2.5	1.79
1.79	286061.09	6282155.59	280°04'03.66"		
8.62	286052.4	6282157.14		-8.5	13.67
15.46	286051.18	6282148.39			
26.46	286057.4	6282139.32			
32.98	286065.15	6282136.61		-8.5	13.06
39.51	286068.13	6282144.26	21°16'00.31"		
42.96	286069.43	6282147.61		10	6.89
46.41	286072.56	6282149.36	60°45'36.73"		

NOTE:
TURNING HEAD SETOUT AND LEVELS ARE THE EDGE OF PAVEMENT UNLESS SHOWN OTHERWISE

V 1:100 (AT A1) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

1:200 (AT A1) 1:400 (AT A3) 4 2 0 4 8 12 16 20 METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	TEMPORARY TURNING HEAD REDESIGNED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK NORTH RICHMOND

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
KERB RETURN PLANS AND SECTIONS
SHEET 16 OF 16

PLAN No: 11018511/CC096 B
FILE No: 11018511CC096
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 2:15:58 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC096.dwg

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

CREEK

REDBANK

RAINGARDEN 1

ROAD 21

ROAD 21A

ROAD 26A

ROAD 26

ROAD 23

ROAD 24

ROAD 25

ROAD 28

ROAD 29

ROAD 1

ROAD 30

DAM 11

DAM 15

DAM 12

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01-08-18 REF: 16800-11

REFER TO DRAWING 11018511CC102 FOR CONTINUATION

1:1000 (AT A1)
1:2000 (AT A3)

20 10 0 10 20 30 40 50 60 70 80 90 100
METRES

B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CATCHMENT PLAN
SHEET 1 OF 2

PLAN No: 11018511/CC101 B
FILE No: 11018511CC101
SHEET SIZE: A1 ORIGINAL

Plotted: 26 January - 2018 4:50:21 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC101.dwg

REFER TO DRAWING 11018511CC101 FOR CONTINUATION

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: I. Myers

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE

Certificate No.	20180299PC42
Date of Issue	5 March 2018
Issuing Officer	
Accreditation No.	BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

1:1000 (AT A1)
1:2000 (AT A3)

20 10 0 10 20 30 40 50 60 70 80 90 100
METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/09/17

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

PO Box 4366 PENRITH WESTFIELD NSW 2750
P 02 4725 3300 F 02 4725 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
CATCHMENT PLAN
SHEET 2 OF 2

PLAN No: 11018511/CC102 B
FILE No: 11018511CC102
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January, 2018 4:50:34 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CDNCC\YEOMANS\11018511CC102.dwg

PIT SCHEDULE

PIT NAME (-)	PIT TYPE (-)	PIT EASTING (m)	PIT NORTHING (m)	PIT DEPTH (m)	COMMENTS
1/7	STAGE BOUNDARY	286464.044	6281882.069	1.47	
1/8	1.8 m lintel	286454.838	6281889.86	1.567	
1/9	1.8 m lintel	286433.139	6281907.665	1.879	
1/10	1.8 m lintel	286409.185	6281927.82	1.982	
2/1	1.8 m lintel	286471.61	6281890.086	1.49	FUTURE PIT
3/1	H.W.	286075.241	6281823.974	2.126	FUTURE EXTENSION
3/2	GSIP 900x900	286089.248	6281817.455	1.631	
3/3	GSIP 900x900	286147.846	6281864.732	2.377	
3/4	H.W.	286228.549	6281827.351	0.6	OUTLET TO DAM 4
4/1	GSIP 900x900	286262.938	6281844.592	2.05	5x900x900 DAM 4 OUTLET
4/2	GSIP 900x900	286294.599	6281878.903	2.271	SPECIAL STRUCTURE 0.9m x 3.0m
4/3	GSIP 900x900	286343.037	6281908.888	2.311	SPECIAL STRUCTURE
4/4	GSIP 900x900	286366.686	6281926.376	2.34	SPECIAL STRUCTURE
4/5	GSIP 900x900 SAG	286380.049	6281938.331	1.678	SPECIAL STRUCTURE
4/6	2.4 m lintel sag	286389.819	6281948.091	2.707	SPECIAL STRUCTURE
4/7	2.4 m lintel sag	286398.161	6281955.263	2.976	SPLITTER PIT
4/8	JP	286424.467	6281960.37	3.008	SPECIAL STRUCTURE
4/9	JP	286470.589	6282006.89	2.96	SPECIAL STRUCTURE
4/10	JP	286504.056	6282054.047	3.054	SPECIAL STRUCTURE
4/11	GSIP 900x900	286537.88	6282107.665	2.303	
4/12	GSIP 900x900	286564.405	6282142.537	1.878	
4/13	H.W.	286561.479	6282154.954	1.2	OUTLET TO DAM 15
4A/2	GPT	286398.029	6281964.857	3.2	
4A/3	H.W.	286411.761	6281980.538	0.75	OUTLET TO DAM 12
5/1	1.8 m lintel	286329.251	6282077.561	1.475	
5/2	1.8 m lintel	286344.318	6282043.448	1.556	
5/3	1.8 m lintel	286355.671	6282066.309	1.723	
5/4	1.8 m lintel	286369.175	6281977.826	1.711	
5/1	1.8 m lintel	286321.911	6281982.989	1.512	
5/2	1.8 m lintel	286349.72	6281992.475	1.77	
6/3	1.8 m lintel	286353.28	6281985.299	1.945	
7/1	1.8 m lintel	286349.932	6282060.044	1.484	
8/1	STAGE BOUNDARY	286137.534	6282062.823	2.359	ENDCAP FOR FUTURE EXTENSION
8/2	GSIP 900x900	286142.517	6282067.997	2.26	
8/3	GSIP 900x900	286162.356	6282082.325	1.652	
8/4	GSIP 900x900	286186.312	6282079.08	1.664	
8/5	GSIP 900x900	286209.057	6282070.581	1.675	
8/6	GSIP 900x900	286227.102	6282059.064	1.733	
8/7	GSIP 900x900	286242.781	6282043.957	1.747	
8/8	GSIP 900x900	286263.398	6282006.889	1.742	
8/9	GSIP 900x900	286264.892	6281999.472	1.848	
8/10	GSIP 900x900	286267.578	6281956.454	1.844	
8/11	GSIP 900x900	286261.005	6281931.76	1.775	
8/12	2.4 m lintel sag	286253.106	6281924.379	1.875	
8/13	2.4 m lintel sag	286252.723	6281916.299	1.803	
8/14	GSIP 900x900	286254.593	6281905.843	1.74	
8/15	GSIP 900x900	286256.121	6281882.276	1.6	
8/18	H.W.	286256.066	6281870.185	1.1	OUTLET TO DAM 4
9/1	1.8 m lintel	286234.155	6282069.036	1.47	
10/1	H.W.	286220.21	6281992.669	2.391	HEADWALL INLET
11/1	1.8 m lintel	286277.219	6282002.893	1.536	
12/1	2.4 m lintel	286159.886	6281845.538	1.541	
12/2	1.8 m lintel	286191.706	6281881.396	2.57	
12/3	1.8 m lintel	286220.493	6281913.834	1.581	
12/4	1.8 m lintel	286242.619	6281925.014	1.385	
12O/1	GSIP 900x900	286450.853	6282006.865	1.9	4x900x900GSIP DAM 12 OUTLET
13/1	1.8 m lintel	286222.403	6281903.934	1.509	
14/1	2.4 m lintel sag	286270.484	6281864.61	1.376	
15/2	GSIP 900x900	286312.866	6281801.402	3.513	FUTURE PIT
15/3	STAGE BOUNDARY	286308.259	6281804.348	3.087	
15/4	H.W.	286276.07	6281824.012	0.825	OUTLET TO DAM 4
15/1	DUMMY	286325.111	6281807.723	2.019	FUTURE PIT
17/1	1.8 m lintel	286390.709	6282066.866	1.475	
17/2	1.8 m lintel	286412.498	6282082.051	1.494	
17/3	1.8 m lintel	286440.949	6282110.307	1.753	
17/4	1.8 m lintel	286462.455	6282141.27	1.525	
17/5	1.8 m lintel	286475.206	6282169.074	1.457	
17/6	1.8 m lintel	286485.976	6282197.074	1.632	
17/7	1.8 m lintel	286496.729	6282225.032	1.548	
17/8	1.8 m lintel	286508.935	6282256.768	1.613	
17/9	1.8 m lintel	286521.231	6282289.854	1.308	
17/10	1.8 m lintel	286531.138	6282295.817	1.253	
17/11	GSIP 900x900	286541.012	6282295.489	1.399	PIT WITH TRASH RACK
17/12	GSIP 900x900	286571.835	6282289.24	1.039	
17/13	H.W.	286575.589	6282273.816	0.525	OUTLET TO DAM 15
18/1	1.8 m lintel	286412.014	6282071.564	1.569	
19/1	1.8 m lintel	286394.104	6282126.725	1.568	
19/2	2.4 m lintel sag	286410.397	6282101.934	1.609	

PIT SCHEDULE

PIT NAME (-)	PIT TYPE (-)	PIT EASTING (m)	PIT NORTHING (m)	PIT DEPTH (m)	COMMENTS
19/3	GSIP 900x900 SAG	286418.9	6282105.913	1.589	
19/4	1.8 m lintel	286424.462	6282111.486	1.771	
20/1	1.8 m lintel	286496.826	6282132.79	1.466	
21/1	1.8 m lintel	286502.442	6282217.601	1.475	
22/1	1.8 m lintel	286408.394	6282206.877	1.485	
22/2	1.8 m lintel	286426.005	6282234.936	1.584	
22/3	1.8 m lintel	286434.358	6282256.612	1.878	
22/4	1.8 m lintel	286440.629	6282286.206	1.426	
22/5	1.8 m lintel	286443.899	6282303.871	1.68	
22/6	1.8 m lintel	286436.176	6282306.332	1.855	
22/7	1.8 m lintel	286424.469	6282319.868	1.632	
22/8	2.4 m lintel sag	286413.855	6282321.809	1.88	
22/9	GPT	286418.297	6282329.253	2.02	
22/10	GSIP 900x900 SAG	286416.359	6282335.592	2.442	
22/11	2.4 m lintel sag	286413.638	6282347.262	3.182	
22/12	1.8 m lintel	286426.066	6282357.251	3.236	TEMPORARY HEADWALL
22A/2	JP	286411.273	6282330.82	2.022	HYDROCON PIPE INLET
22B/1	GSIP 900x900	286413.504	6282334.626	2.425	HYDROCON PIPE OUTLET
23/1	1.8 m lintel	286425.314	6282254.523	0.948	
24/1	1.8 m lintel	286478.572	6282309.978	1.574	
24/2	1.8 m lintel	286456.077	6282314.091	1.701	
25/1	1.8 m lintel	286346.023	6282264.21	1.597	
25/2	1.8 m lintel	286353.272	6282284.112	1.865	
25/3	1.8 m lintel	286359.94	6282319.717	1.685	
25/4	1.8 m lintel	286372.882	6282329.298	1.65	
26/1	1.8 m lintel	286351.748	6282319.391	1.148	
27/1	1.8 m lintel	286260.535	6282349.836	1.023	
27/2	1.8 m lintel	286290.656	6282344.329	1.145	
27/3	1.8 m lintel	286321.18	6282338.749	1.268	
27/4	1.8 m lintel	286343.736	6282334.826	1.487	
28/1	1.8 m lintel	286341.969	6282360.363	0.9	
28/2	GSIP 900x900	286346.506	6282348.297	0.793	
29/1	1.8 m lintel	286442.253	6282342.032	2.058	
29/2	1.8 m lintel	286434.066	6282354.585	1.61	
30/1	1.8 m lintel	286258.594	6282148.438	1.475	
30/2	1.8 m lintel	286221.747	6282164.517	1.525	
30/3	1.8 m lintel	286186.806	6282172.067	1.481	
30/4	1.8 m lintel	286169.396	6282173.149	1.525	
30/5	1.8 m lintel	286165.266	6282184.196	1.782	
30/6	1.8 m lintel	286155.597	6282195.614	2.045	
30/7	1.8 m lintel	286154.217	6282228.449	1.796	
30/8	1.8 m lintel	286152.921	6282259.299	2.068	
30/9	1.8 m lintel	286162.42	6282268.86	1.757	
30/10	2.4 m lintel sag	286171.04	6282268.558	1.938	
30/11	GSIP 900x900 SAG	286173.581	6282277.651	2.02	
30/12	2.4 m lintel sag	286174.038	6282285.418	2.275	
30/13	GSIP 900x900	286179.931	6282325.513	1.985	SPECIAL STRUCTURE
30/14	GSIP 900x900	286183.978	6282353.033	2.348	SPECIAL STRUCTURE
30/15	2.4 m lintel sag	286184.372	6282363.758	1.629	SPECIAL STRUCTURE
30/16	GPT	286182.302	6282373.063	1.707	
30/17	JP	286158.289	6282377.731	2.597	SPECIAL STRUCTURE
30/18	GSIP 900x900 SAG	286158.367	6282383.195	2.309	SPECIAL STRUCTURE
30/19	2.4 m lintel sag	286159.881	6282393.649	2.85	SPLITTER PIT
30/20	JP	286169.45	6282441.21	3.317	SPECIAL STRUCTURE
30/21	H.W.	286177.087	6282465.403	2.415	
30A/2	GSIP 900x900	286183.349	6282376.729	1.619	HYDROCON PIPE INLET
30B/1	GSIP 600x900	286163.197	6282381.892	2.259	HYDROCON PIPE OUTLET
30C/2	H.W.	286146.409	6282419.802	0.845	RAINGARDEN OUTLET
31/1	1.8 m lintel	286332.399	6282172.541	1.476	
32/1	2.4 m lintel	286105.441	6282163.47	1.614	
32/2	2.4 m lintel sag	286134.077	6282170.608	1.423	
32/3	2.4 m lintel sag	286135.06	6282181.905	1.783	
32/4	1.8 m lintel	286147.811	6282195.119	1.848	
33/1	1.8 m lintel	286146.241	6282227.722	1.373	
34/1	1.8 m lintel	286145.019	6282256.797	1.276	
35/1	2.4 m lintel	286107.209	6282270.514	1.544	
35/2	1.8 m lintel	286134.009	6282268.049	1.574	
36/1	1.8 m lintel	286344.577	6282191.745	1.375	
36/2	1.8 m lintel	286321.859	6282212.03	1.411	
36/3	1.8 m lintel	286293.919	6282231.145	1.4	
36/4	1.8 m lintel	286264.253	6282246.47	1.394	
36/5	1.8 m lintel	286235.287	6282257.239	1.583	
36/6	1.8 m lintel	286202.82	6282265	1.434	
37/1	GSIP 500x900	286328.297	6282218.505	1.475	
37/2	1.8 m lintel	286333.215	6282224.585	1.637	
37/3	1.8 m lintel	286310.009	6282241.167	1.533	
37/4	1.8 m lintel	286267.739	6282263.486	1.532	
37/5	1.8 m lintel	286220.394	6282278.803	1.528	
38/1	GSIP 900x900	286224.084	6282270.009	1.487	
39/1	GSIP 900x900	286136.831	6282277.376	1.376	
39/2	1.8 m lintel	286139.215	6282285.317	1.434	

PIT SCHEDULE

PIT NAME (-)	PIT TYPE (-)	PIT EASTING (m)	PIT NORTHING (m)	PIT DEPTH (m)	COMMENTS
40/1	1.8 m lintel	286018.346	6282283.14	1.582	
40/2	1.8 m lintel	286032.804	6282302.01	1.585	
40/3	1.8 m lintel	286032.174	6282314.342	1.451	
40/4	1.8 m lintel	286053.586	6282338.802	1.249	
40/5	1.8 m lintel	286073.81	6282357.311	1.883	
40/6	1.8 m lintel	286097.8	6282379.212	1.454	
40/7	1.8 m lintel	286103.426	6282373.571	1.765	
40/8	1.8 m lintel	286113.088	6282376.788	1.663	
40/9	1.8 m lintel	286141.01	6282371.684	1.5	
40/10	1.8 m lintel	286171.675	6282366.079	1.498	
41/1	2.4 m lintel sag	286047.508	6282304.897	1.401	
41/2	2.4 m lintel sag	286050.977	6282309.166	1.574	
41/3	GSIP 900x900 SAG	286055.302	6282311.478	1.474	
41/4	1.8 m lintel	286059.091	6282317.39	1.511	
41/5	1.8 m lintel	286058.624	6282332.568	1.144	
42/1	1.8 m lintel	286072.581	6282345.342	2.199	
43/1	DUMMY	286054.545	6282137.238	2.087	ENDCAP FOR FUTURE EXTENSION
43/2	1.8 m lintel	286064.984	6282144.344	1.387	TEMPORARY JUNCTION PIT
43/3	1.8 m lintel	286062.277	6282155.582	1.877	TEMPORARY JUNCTION PIT
43/4	1.8 m lintel	286064.623	6282169.909	1.532	
43/5	1.8 m lintel	286062.098	6282189.955	1.818	
43/6	1.8 m lintel	286047.335	6282193.615	1.706	
43/7	1.8 m lintel	286024	6282212.679	1.604	
43/8	1.8 m lintel	285997.783	6282234.096	1.745	
43/9	H.W.	285973.664	6282254.595	0.6	TEMPORARY OUTLET
44/1	1.8 m lintel	286004.656	6282238.813	1.473	
45/1	DUMMY	286348.133	6281896.204	2.939	ENDCAP FOR FUTURE EXTENSION
A/1	SLOPE JUNCTION	286280.617	6282079.45	0.72	
A/2	JP	286281.65	6282078.297	0.74	900x600
A/3	GSIP 600x900 IAD	286291.944	6282061.931	0.787	
A/4	SLOPE JUNCTION	286302.353	6282044.046	0.747	
A/5	GSIP 600x900 IAD	286306.273	6282037.297	0.751	
A/6	SLOPE JUNCTION	286309.762	6282024.754	0.738	
A/7	GSIP 600x900 IAD	286310.637	6282021.872	0.757	
A/8	SLOPE JUNCTION	286315.286	6282004.895	0.753	
A/9	GSIP 900x900 IAD	286320	6281987.951	1.431	
B/1	SLOPE JUNCTION	286354.958	6282121.901	0.646	
B/2	GSIP 450x450 IAD	286366.103	6282104.761	0.742	
B/3	GSIP 600x900 IAD	286376.753	6282087.305	0.797	
B/4	GSIP 600x900 IAD	286387.217	6282069.765	1.486	
C/1	GSIP 450x450 IAD	286436.717	6282160.796	0.528	
C/2	SLOPE JUNCTION	286448.534	6282150.486	0.933	
C/3	GSIP 600x900 IAD	286458.207	6282142.072	1.452	
D/1	SLOPE JUNCTION	286419.396	6282187.816	0.644	
D/2	GSIP 600x900 IAD	286410.165	6282202.08	1.588	
E/1	SLOPE JUNCTION	286390.114	6282226.99	0.605	
E/2	GSIP 600x900 IAD	286377.94	6282237.393	0.878	
E/3	SLOPE JUNCTION	286365.773	6282247.79	0.977	
E/4	GSIP 600x900 IAD	286349.962	6282261.301	1.54	
F/1	SLOPE JUNCTION	286249.959	6282195.175	0.802	
F/2	GSIP 450x450 IAD	286233.035	6282117.625	0.765	
F/3	SLOPE JUNCTION	286213.524	6282124.899	0.839	
F/4	JP	286202.934	6282138.406	0.905	600x900
F/5	SLOPE JUNCTION	286193.02	6282130.144	0.992	
F/6	GSIP 600x900 IAD	286172.7	6282133.67	1.187	
F/7	SLOPE JUNCTION	286152.075	6282132.573	1.306	
F/8	GSIP 900x900 IAD	286139.905	6282131.632	1.976	
F/9	GSIP 600x900 IAD	286133.959	6282164.51	1.645	
G/1	GSIP 450x450 IAD	286106.925	6282123.301	0.743	
G/2	SLOPE JUNCTION	286129.277	6282129.003	0.852	
GR O/1	GSIP 900x900	286153.768	6282428.898	1.47	RAINGARDEN OUTLET
H/1	SLOPE JUNCTION	286330.195	6282153.033	0.647	
H/2	GSIP 600x900 IAD	286317.062	6282166.827	0.845	
H/3	SLOPE JUNCTION	286302.45	6282178.968	0.701	
H/4	JP	286291.55	6282187.967	0.741	450x450
H/5	SLOPE JUNCTION	286287.213	6282190.335	0.76	
H/6	GSIP 600x900 IAD	286270.544	6282199.389	0.835	
H/7	GSIP 600x900 IAD	286254.173	6282208.27	0.908	
H/8	GSIP 600x900 IAD	286235.535	6282214.593	0.985	
H/9	SLOPE JUNCTION	286217.355	6282220.784	0.885	
H/10	JP	286214.349	6282221.806	0.943	600x900
H/11	GSIP 600x900 IAD	286198.404	6282224.033	0.84	
H/12	SLOPE JUNCTION	286179.596	6282226.952	0.82	
H/13	JP	286172.707	6282227.613	0.868	600x900
H/14	GSIP 600x900 IAD	286158.361	6282227.613	1.473	
J/1	SLOPE JUNCTION	286081.967	6282220.883	0.693	
J/2	JP	286090.821	6282231.521	0.729	450x450
J/3	GSIP 600x900 IAD	286099.528	6282227.113	0.913	
J/4	SLOPE JUNCTION	286117.708	6282226.904	1.126	

PIT SCHEDULE

PIT NAME (-)	PIT TYPE (-)	PIT EASTING (m)	PIT NORTHING (m)	PIT DEPTH (m)	COMMENTS
J/5	GSIP 600x900 IAD	286140.863	6282226.902	1.547	
K/1	GSIP 450x450 IAD	286110.495	6282332.929	0.596	
K/2	SLOPE JUNCTION	286123.619	6282331.198	0.592	
K/3	GSIP 450x450 IAD	286140.051	6282329.031	0.594	
K/4	SLOPE JUNCTION	286156.383	6282328.877	0.807	
K/5	GSIP 900x900 IAD	286175.662	6282324.335	1.561	
L/1	GSIP 450x450 IAD	286330.877	6282280.208	0.681	
L/2	SLOPE JUNCTION	286304.594	6282288.562	0.803	
L/3	JP	286303.527	6282289.111	0.866	600x900
L/4	JP	286309.775	6282301.372	0.719	450x450
L/5	SLOPE JUNCTION	286091.946	6282304.515	0.824	
L/6	GSIP 600x900 IAD	286273.186	6282307.821	0.963	
L/7	SLOPE JUNCTION	286255.02	6282311.023	1.047	
L/8	GSIP 600x900 IAD	286236.94	6282314.21	1.202	
L/9	SLOPE JUNCTION	286219.147	6282317.346	1.235	
L/10	GSIP 600x900 IAD	286201.568	6282320.445	1.296	
L/11	GSIP 900x900 IAD	286182.666	6282323.741	1.559	
M/1	SLOPE JUNCTION	286179.641	6282353.44	1.651	
N/1	SLOPE JUNCTION	286186.732	6282352.144	1.637	
P/1	GSIP 450x450 IAD	286075.748	6282239.151	0.891	
P/2	GSIP 600x900 IAD	286060.675	6282246.781	0.761	
P/3	SLOPE JUNCTION	286046.549	6282257.435	0.85	
P/4	GSIP 900x900 IAD	286019.795	6282277.844	1.553	
X/1	H.W.	286372.834	6281894.965	0.4	TEMPORARY HEADWALL INLET
X/2	GSIP 900x900 IAD	286373.491	6281909.45	2.963	

CONSTRUCTION CERTIFICATE

Certificate No. 20136299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. DEP80585

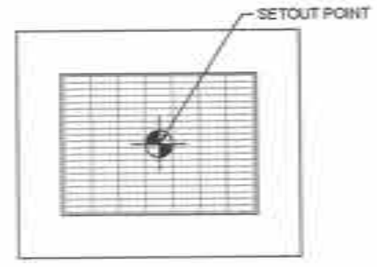
These plans/specifications form part of the certificate issued 5 March 2018

B

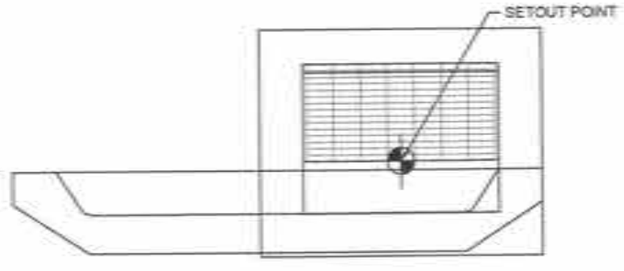
NOTES

1. FOR PITS DEEPER THAN 0.9m UP TO 1.8m REFER TO STRUCTURAL CERTIFICATE BY INHOUSE CONSULTING ENGINEERS
2. FOR PITS DEEPER THAN 1.8m UP TO 3.0m TO BE REINFORCED CONCRETE AS PER HAWKESBURY CITY COUNCIL CIVIL WORKS SPECIFICATION SD35
3. ALL GSIP AND SWALE GSIP TO BE LETTER BOX TYPE A, AS PER HAWKESBURY CITY COUNCIL STANDARD SD31
4. JUNCTION PITS (JP) TO BE AS PER HAWKESBURY CITY COUNCIL STANDARD SD32

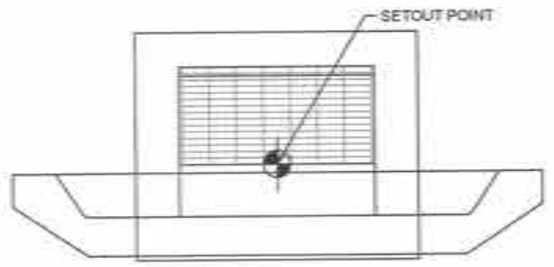
WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ..... /
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 9.08.18 REF: 16800-11



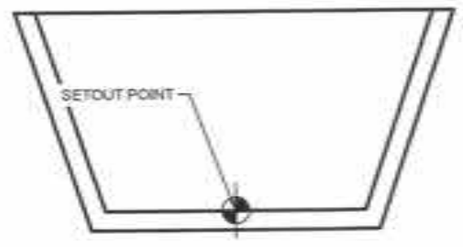
GRATED SURFACE INLET PIT (GSIP)
SCALE 1:20



SETOUT DETAIL KERB INLET PIT (LINTEL)
SCALE 1:20



SETOUT DETAIL KERB INLET PIT (SAG)
SCALE 1:20



SETOUT DETAIL HEADWALL
SCALE 1:20

C	STORMWATER AMENDMENTS	MP	UF	RO	RO	12/02/18
B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PIT SCHEDULE

PLAN No: 11018511/CC103 C
FILE No: 11018511CC103
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February, 2018 2:50:56 PM File Name: ...\11018511CC103.dwg

Plotted: 12 February , 2018 12:23:42 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC104.dwg

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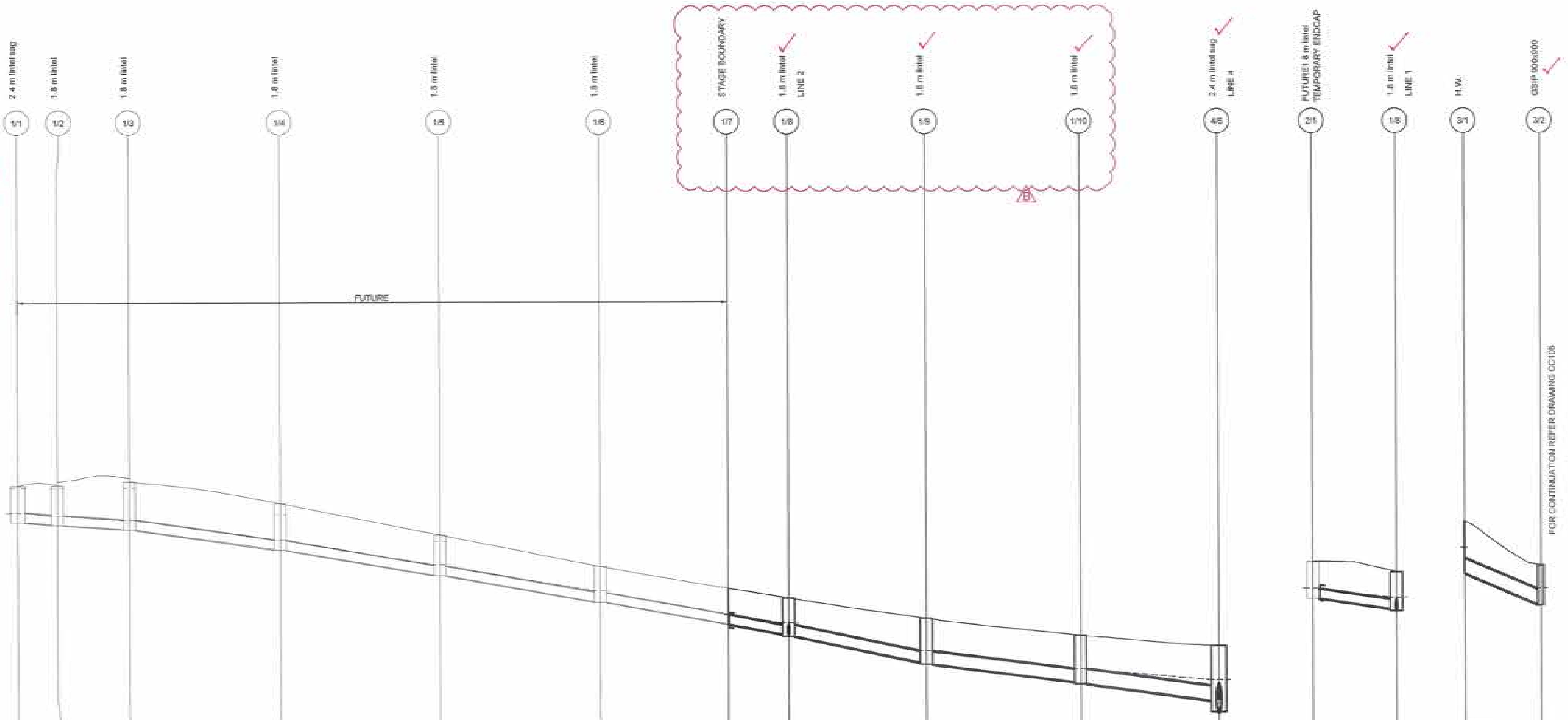
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11



LINE 1

DATUM (m) 38.00

Pipe	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
1/1 – 1/2	17	375	RRJ2	1.0	1.15	0.16	1.25
1/2 – 1/3	32	375	RRJ2	1.1	1.39	0.29	1.29
1/3 – 1/4	38	375	RRJ2	2.6	1.51	0.34	2.59
1/4 – 1/5	74	375	RRJ2	3.2	1.27	0.67	3.01
1/5 – 1/6	110	375	RRJ2	3.3	1.08	1.00	3.04
1/6 – 1/7	145	375	RRJ2	3.5	1.02	1.31	3.48
1/7 – 1/8	139	375 ✓	RRJ2	3.5	1.06	1.26	2.72
1/8 – 1/9	212	450 ✓	RRJ2	3.9 ✓	1.03	1.34	3.79
1/9 – 1/10	245	525 ✓	RRJ2	2.4 ✓	1.28	1.13	2.29
1/10 – 4/6	276	600 ✓	RRJ2	2.5 ✓	1.31	0.98	1.56

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
1/1		47.175	46.8	48.269	16.11	0
1/2		47.075 / 47.065	46.72 / 46.69	48.315	16.67	8.019
1/3		46.877 / 46.869	46.524 / 46.494	48.453	709.35	22.629
1/4		46.077 / 46.028	45.683 / 45.653	47.555	740.00	53.276
1/5		45.051 / 44.97	44.625 / 44.595	46.255	772.46	85.734
1/6		43.98 / 43.868	43.523 / 43.493	44.967	805.00	118.278
1/7		42.966	42.591 / 42.591	44.061	830.94	144.222
1/8	42.01 / 41.97	42.634 / 42.542	42.167 / 42.092	43.658	843.16	156.438
1/9	40.99 / 40.92	41.482 / 41.459	41.009 / 40.934	42.812	871.07	184.35
1/10	40.21 / 40.13	40.741 / 40.72	40.195 / 40.12	42.102	902.11	215.655
4/6	39.5 / 39.08	40.276 / 40.262	39.419 / 38.969	41.676	929.42	243.69

LINE 2

DATUM (m) 37.00

Pipe	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
2/1 – 1/8	40	375 ✓	RRJ2	2.5	1.10	0.36	1.97

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
2/1		42.969	42.594	44.084	830.23	0
1/8	42.02 / 41.97	42.634 / 42.542	42.166 / 42.092	43.658	843.16	16.974

LINE 3

DATUM (m) 48.00

Pipe	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
3/1 – 3/2	604	600 ✓	RRJ2	8.2 ✓	0.87	2.14	7.81

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
3/1	54.6	55.199	54.599	56.725		0
3/2	53.38 / 53.29	53.993	53.33	54.931		15.449

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued5 March 2018

1:500 (AT A1) 1:1000 (AT A3) — 10 0 10 20 30 40 50 METRES
1:100 (AT A1) 1:200 (AT A3) — 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK
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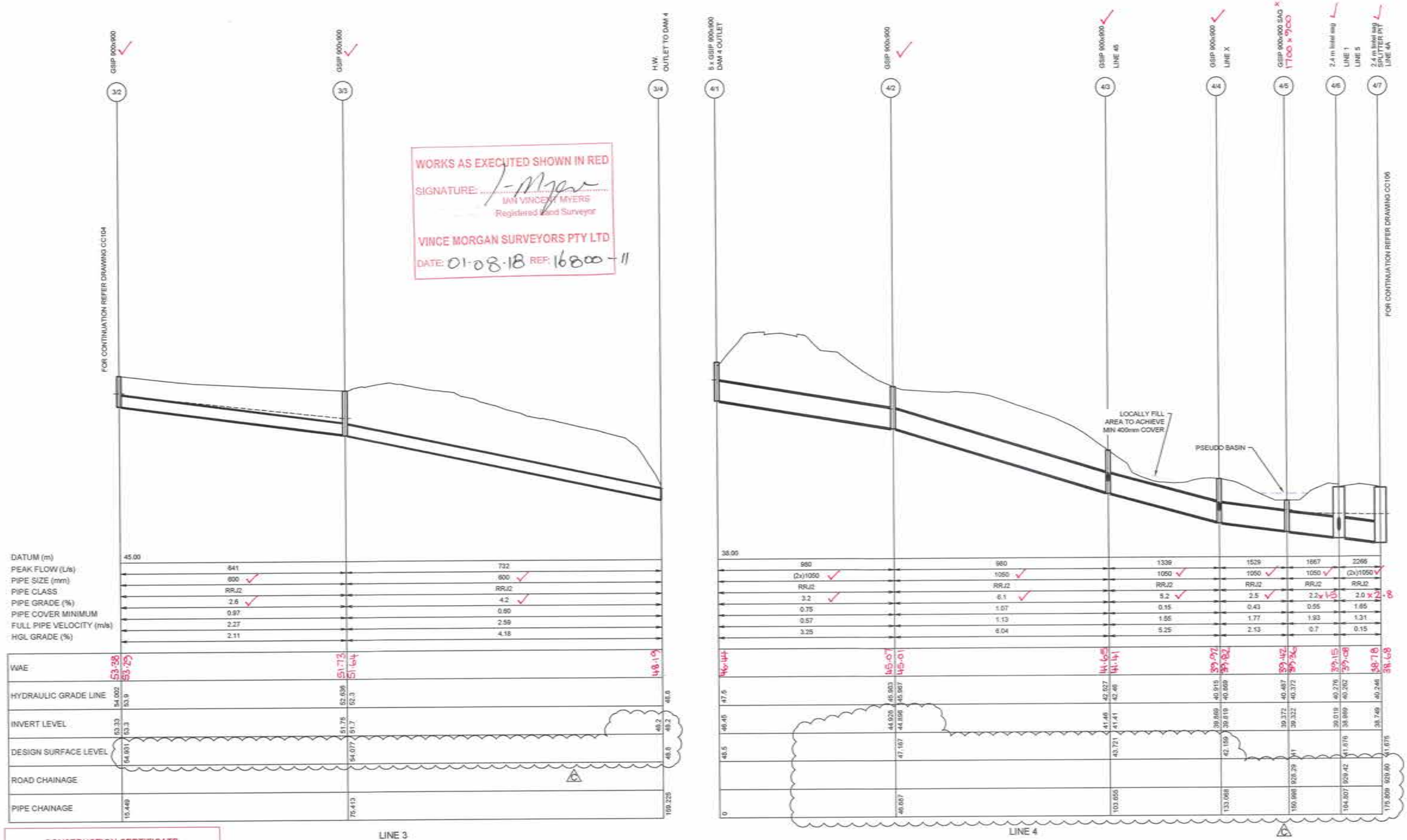
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 1 OF 19

PLAN No: 11018511/CC104 B
FILE No: 11018511CC104
SHEET SIZE: A1 ORIGINAL



WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: ..... IAN VINCENT MYERS Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01-08-18 REF: 16800 - 11

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer BPB0565
Accreditation No.

These plans/specifications form part of the certificate issued 5 March 2018

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1:100 (AT A1) 1:200 (AT A3) — 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
C	STORMWATER REDESIGN	MP	MP	RO	RO	12/02/18
B	STORMWATER REDESIGN	MP	TG	RO	RO	24/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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DATUM: A.H.D
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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 2 OF 19

PLAN No: 11018511/CC105 C
FILE No: 11018511CC105
SHEET SIZE: A1 ORIGINAL

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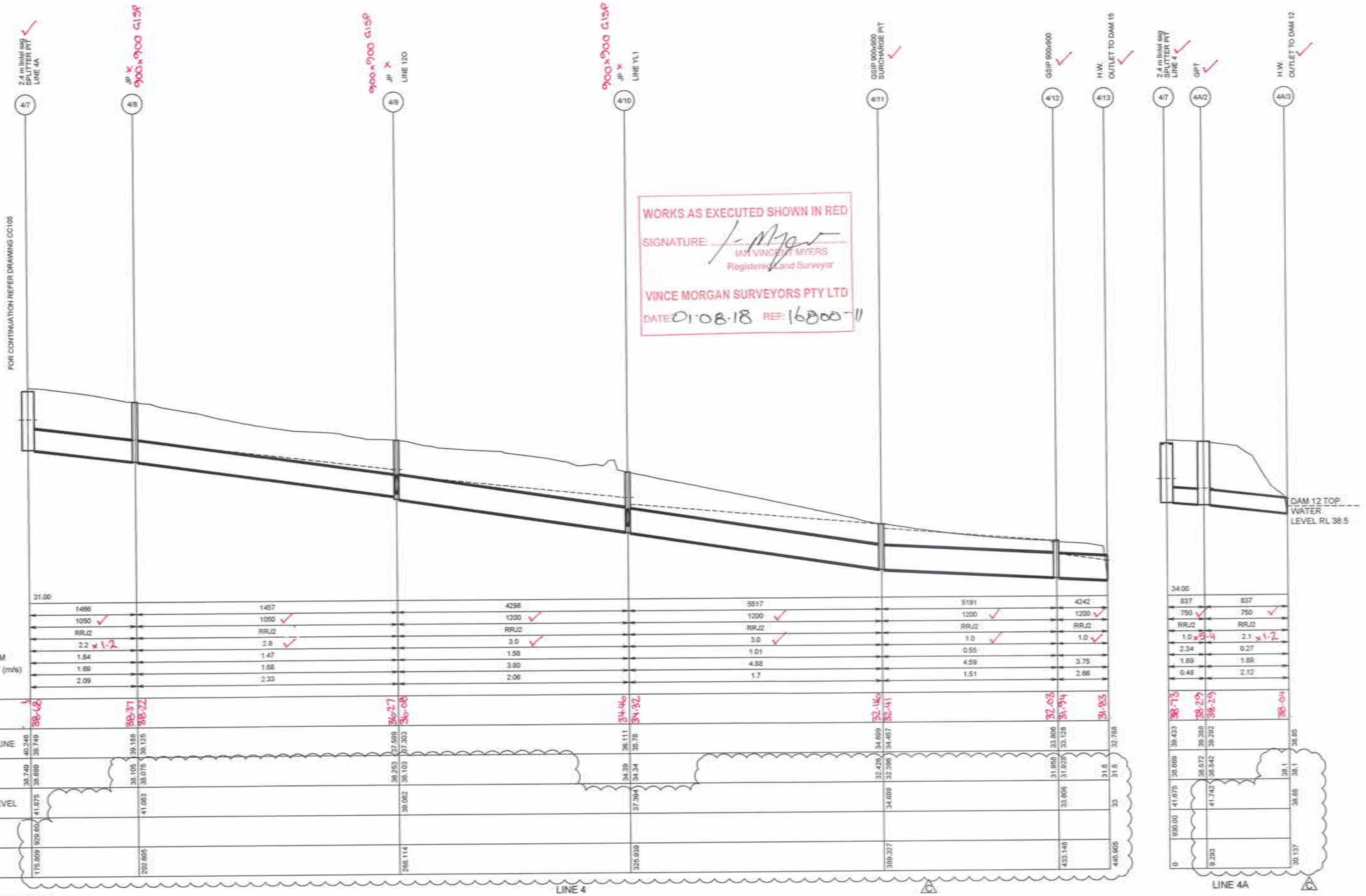

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Date of Issue 5 March 2018
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Accreditation No. BPB0585

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1:1000 (A1 A3)
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METRES

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1:200 (A1 A3)
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METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
C	STORMWATER REDESIGN	MP	MP	RO	RO	12/02/18
B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MS	RO	MS	15/06/17

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 3 OF 19

PLAN No: 11018511/CC106 C
FILE No: 11018511CC106
SHEET SIZE: A1 ORIGINAL

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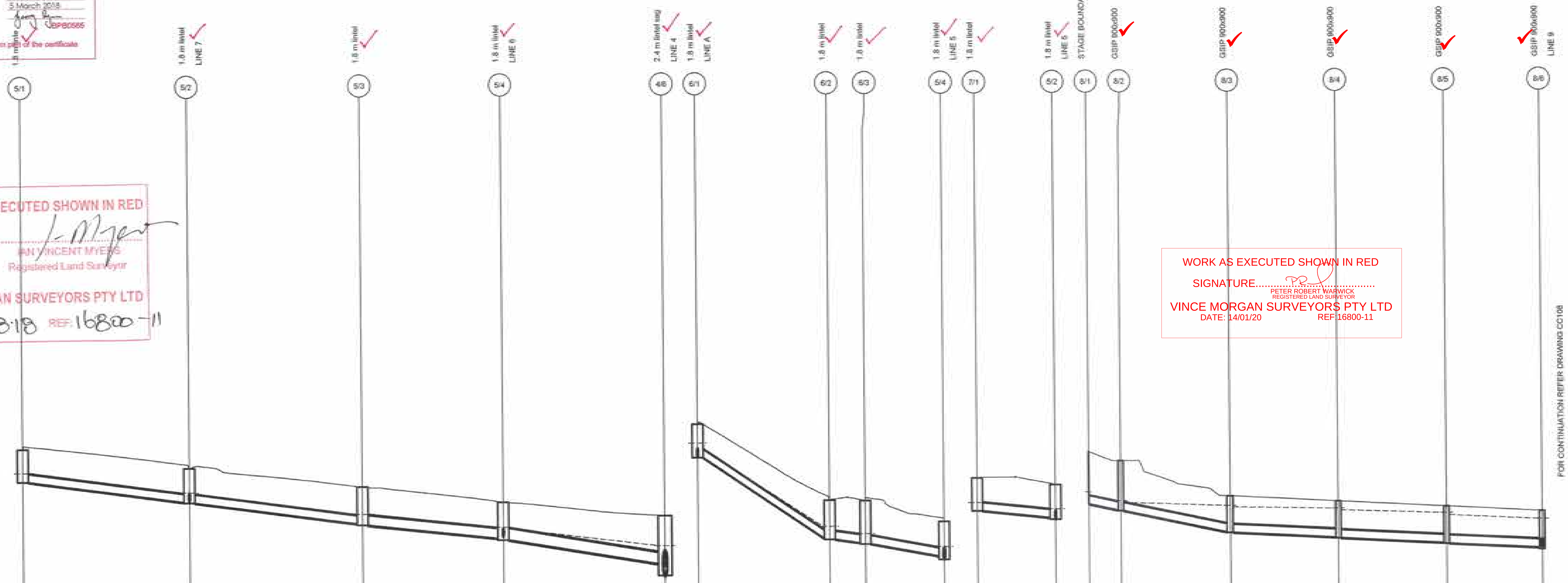
Plotted: 25 January , 2018 4:51:47 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC107.dwg

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: IAN VINCENT MYERS, Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

WORK AS EXECUTED SHOWN IN RED
SIGNATURE: PETER ROBERT WARWICK, REGISTERED LAND SURVEYOR
VINCE MORGAN SURVEYORS PTY LTD
DATE: 14/01/20 REF: 16800-11



LINE 5

DATUM (m) 36.00

Pipe	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
5/1–5/2	41	375 ✓	RRJ2	2.5 ✓	1.19	0.37	2.38
5/2–5/3	106	375 ✓	RRJ2	2.5 ✓	1.14	0.96	2.4
5/3–5/4	150	450 ✓	RRJ2	2.0 ✓	1.17	0.94	1.82
5/4–4/6	321	525 ✓	RRJ2	3.1 ✓	1.12	1.48	2.25

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
5/1	43.84	43.732	43.357	44.832	1072.43	0
5/2	42.36 / 42.36	42.843 / 42.755	42.41 / 42.38	43.935	1034.00	37.283
5/3	41.49 / 41.43	41.621 / 41.767	41.392 / 41.317	43.04	995.42	76.118
5/4	40.74 / 40.7	41.193 / 41.137	40.687 / 40.612	42.323	964.70	107.64
4/6	39.62 / 39.08	40.322 / 40.307	39.494 / 38.969	41.676	929.42	143.839

LINE 6

DATUM (m) 37.00

Pipe	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
6/1–6/2	121	375 ✓	RRJ2	12.5 ✓	1.10	1.10	12.02
6/2–6/3	147	375 ✓	RRJ2	2.0 ✓	1.42	1.33	1.43
6/3–5/4	160	375 ✓	RRJ2	3.2 ✓	1.26	1.45	2.92

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
6/1	45.27	45.635	45.26	46.772	46.40	0
6/2	41.6 / 41.56	42.099 / 41.915	41.59 / 41.54	43.31	16.35	29.422
6/3	41.41 / 41.4	41.8 / 41.705	41.38 / 41.33	43.276	16.93	37.433
5/4	40.76 / 40.7	41.193 / 41.137	40.762 / 40.612	42.323	964.70	54.996

LINE 7

DATUM (m) 37.00

Pipe	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
7/1–5/2	24	375 ✓	RRJ2	1.8 ✓	1.10	0.22	1.74

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
7/1	42.76	43.148	42.773	44.257	1047.64	0
5/2	42.43 / 42.37	42.843 / 42.755	42.452 / 42.38	43.935	1034.00	17.52

LINE 8

DATUM (m) 46.00

Pipe	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
8/1–8/2	80	375✓	RRJ2	4.0	1.78	0.00	0
8/2–8/3	80	375 ✓	RRJ2	4.0 3.9	1.16	0.73	0.67
8/3–8/4	112	375 ✓	RRJ2	1.0 1.0	1.23	1.02	0.35
8/4–8/5	147	375 ✓	RRJ2	1.0 0.9	1.24	1.33	0.6
8/5–8/6	181	375 ✓	RRJ2	1.0 1.0	1.25	1.64	0.91

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
8/1		52.201	52.057	54.416		0
8/2		52.201 / 52.115	51.8 / 51.77 / 51.74 / 51.74	53.86 / 54		7.183
8/3		51.95 / 51.881	50.82 / 50.781 / 50.731 / 50.76	52.4 / 52.383	874.17	31.655
8/4		51.797 / 51.716	50.53 / 50.489 / 50.459 / 50.48	52.12 / 52.123	848.12	55.83
8/5		51.571 / 51.463	50.27 / 50.216 / 50.186 / 50.19	51.86 / 51.881	821.96	80.111
8/6		51.268	50.0 / 49.972	51.66 / 51.63	798.89	101.518

1:500 (AT A1) 1:1000 (AT A3) — METRES
1:100 (AT A1) 1:200 (AT A3) — METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D.
ORIGIN:

PRINCIPAL: REDBANK

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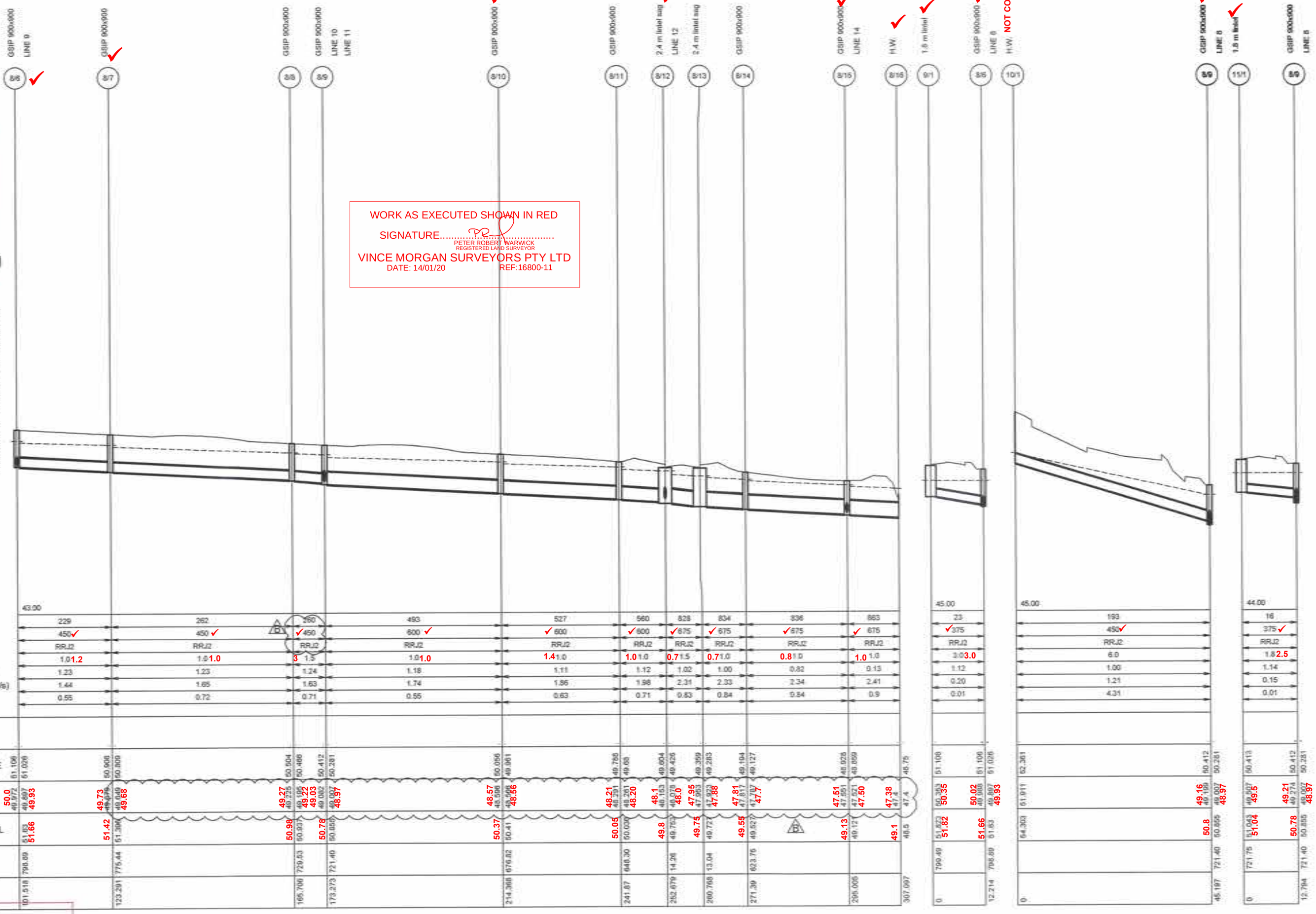
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 4 OF 19

PLAN No: 11018511/CC107 B
FILE No: 11018511CC107
SHEET SIZE: A1 ORIGINAL

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

WORK AS EXECUTED SHOWN IN RED
SIGNATURE.....
PETER ROBERT WARWICK
REGISTERED LAND SURVEYOR
VINCE MORGAN SURVEYORS PTY LTD
DATE: 14/01/20 REF:16800-11

FOR CONTINUATION REFER DRAWING CC107



CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

1:500 (AT A1) 1:1000 (AT A3) 10 0 10 20 30 40 50 METRES
1:100 (AT A1) 1:200 (AT A3) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 5 OF 19

PLAN No: 11018511/CC108 B
FILE No: 11018511CC108
SHEET SIZE: A1 ORIGINAL

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Plotted: 12 February , 2018 10:56:24 AM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC109.dwg

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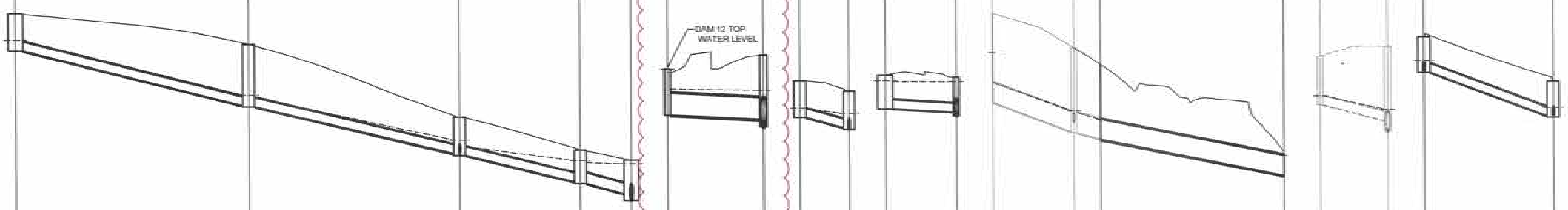
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

WORK AS EXECUTED SHOWN IN RED
SIGNATURE........ PETER ROBERT WARWICK, REGISTERED LAND SURVEYOR
VINCE MORGAN SURVEYORS PTY LTD
DATE: 14/01/20 REF:16800-11

LINE NOT CONSTRUCTED AT TIME OF SURVEY (Line 15)
NOT CONSTRUCTED (Line 16)

Pits: 12/1 – 2.4 m lintel ✓; 12/2 – 1.8 m lintel ✓; 12/3 – 1.8 m lintel ✓, LINE 13; 12/4 – 1.8 m lintel ✓; 8/12 – 2.4 m lintel sag ✓, LINE 8; 12O/1 – 4 xGSIP 900x900 ✓, DAM 12 OUTLET; 4/9 – JP ✓, LINE 4; 13/1 – 1.8 m lintel ✓; 12/3 – 1.8 m lintel ✓, LINE 12; 14/1 – 2.4 m lintel sag ✓; 8/15 – GSIP 900x900 ✓, LINE 8; 15/1 – H.W.; 15/2 – GSIP 900x900, LINE 16; 15/3 – STAGE BOUNDARY TEMPORARY H.W.; 15/4 – H.W. OUTLET TO DAM 4; 16/1 – FUTURE PIT; 15/2 – GSIP 900x900, LINE 15; 17/1 – 1.8 m lintel, LINE 8 ✓; 17/2 – 1.8 m lintel, LINE 16 ✓



FOR CONTINUATION REFER DRAWING CC110

LINE 12 (DATUM 46.00)

Pipe chainage	Road chainage	Design surface level	Invert level	Hydraulic grade line
0	136.88	55.916 / 55.92	54.375 / 54.38	54.75
(upstream 12/2)		54.56	52.08 / 52.09	52.511
47.94	89.38	54.6	52.03 / 52.02	52.405
(upstream 12/3)		51.56	50.045 / 50.07	50.609
91.31	46.03	51.55	49.97 / 49.94	50.345
(upstream 12/4)			48.868 / 48.9	49.739
116.1	23.64	50.178	48.793 / 48.78	49.665
(upstream 8/12)			48.351 / 48.1	49.604
126.609	14.26	49.763	48.078 / 48.0	49.426

Segment	Peak flow (L/s)	Pipe size (mm)	Pipe class	Pipe grade (%)	Pipe cover minimum	Full pipe velocity (m/s)	HGL grade (%)
12/1–12/2	58	375 ✓	RRJ2	4.8 / 4.8	1.10	0.52	4.67
12/2–12/3	112	375 ✓	RRJ2	4.6 / 4.6	1.18	1.01	4.14
12/3–12/4	197	375 ✓	RRJ2	4.4 / 4.3	0.99	1.78	2.44
12/4–8/12	236	450 ✓	RRJ2	4.2 / 6.7	0.85	1.48	0.58

LINE 12O (DATUM 31.00)

Pipe chainage	Road chainage	Design surface level	Invert level	Hydraulic grade line
0		38.5	36.6 / 36.63	37.677 / 38.0
(upstream)		39.0	36.403 / 36.45	37.602 / 39.0
19.736		39.062	36.103 / 36.08	37.303

Peak flow (L/s)	Pipe size (mm)	Pipe class	Pipe grade (%)	Pipe cover minimum	Full pipe velocity (m/s)	HGL grade (%)
1430	900 ✓	RRJ2	1.0 / 0.9	0.78	2.25	0.38

LINE 13 (DATUM 45.00)

Pipe chainage	Road chainage	Design surface level	Invert level	Hydraulic grade line
0	52.15	51.984 / 51.95	50.475 / 50.45	50.85
(upstream)		51.56	50.044 / 50.05	50.63
10.083	46.03	51.55	49.97 / 49.94	50.345

Peak flow (L/s)	Pipe size (mm)	Pipe class	Pipe grade (%)	Pipe cover minimum	Full pipe velocity (m/s)	HGL grade (%)
26	375 ✓	RRJ2	4.3 / 4.3	1.10	0.24	2.19

LINE 14 (DATUM 42.00)

Pipe chainage	Road chainage	Design surface level	Invert level	Hydraulic grade line
0	602.17	49.195 / 49.16	47.819 / 47.82	48.947
(upstream)		49.14	47.673 / 47.68	48.943
14.551		49.121	47.521 / 47.5	48.867

Peak flow (L/s)	Pipe size (mm)	Pipe class	Pipe grade (%)	Pipe cover minimum	Full pipe velocity (m/s)	HGL grade (%)
34	375 ✓	RRJ2	1.0 / 1.6	1.03	0.30	0.03

LINE 15 (DATUM 45.00)

Pipe chainage	Road chainage	Design surface level	Invert level	Hydraulic grade line
0	490.46	54.733	51.064	51.889
(upstream)			49.845	50.711
16.703	508.24	53.308	49.795	50.62
(upstream)			49.531	
22.163	513.33	52.804	49.518	50.343
(upstream)			48	
59.883		48.826	48	48.825

Segment	Peak flow (L/s)	Pipe size (mm)	Pipe class	Pipe grade (%)	Pipe cover minimum	Full pipe velocity (m/s)	HGL grade (%)
15/1–15/2	1241	825	RRJ2	7.3	2.68	2.32	7.05
15/2–15/3	1281	825	RRJ2	4.8	2.19	2.40	5.08
15/3–15/4	1280	825	RRJ2	4.0	0.83	2.39	4.02

LINE 16 (DATUM 45.00)

Pipe chainage	Road chainage	Design surface level	Invert level	Hydraulic grade line
0	501.36	52.919	50.9	51.275
(upstream)			50.245	50.711
13.789	508.24	53.308	49.795	50.62

Peak flow (L/s)	Pipe size (mm)	Pipe class	Pipe grade (%)	Pipe cover minimum	Full pipe velocity (m/s)	HGL grade (%)
18	375	RRJ2	4.7	1.64	0.16	4.09

LINE 17 (DATUM 33.00)

Pipe chainage	Road chainage	Design surface level	Invert level	Hydraulic grade line	WAE
0	47.19	41.705	40.23	40.605	40.23
26.558	74.30	39.845	38.401	38.748	38.39 / 38.36

Peak flow (L/s)	Pipe size (mm)	Pipe class	Pipe grade (%)	Pipe cover minimum	Full pipe velocity (m/s)	HGL grade (%)
79	375 ✓	RRJ2	6.9 ✓	1.11	0.72	5.99

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

	AMENDMENT	DES	DRN	CKD	APR	DATE
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A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK
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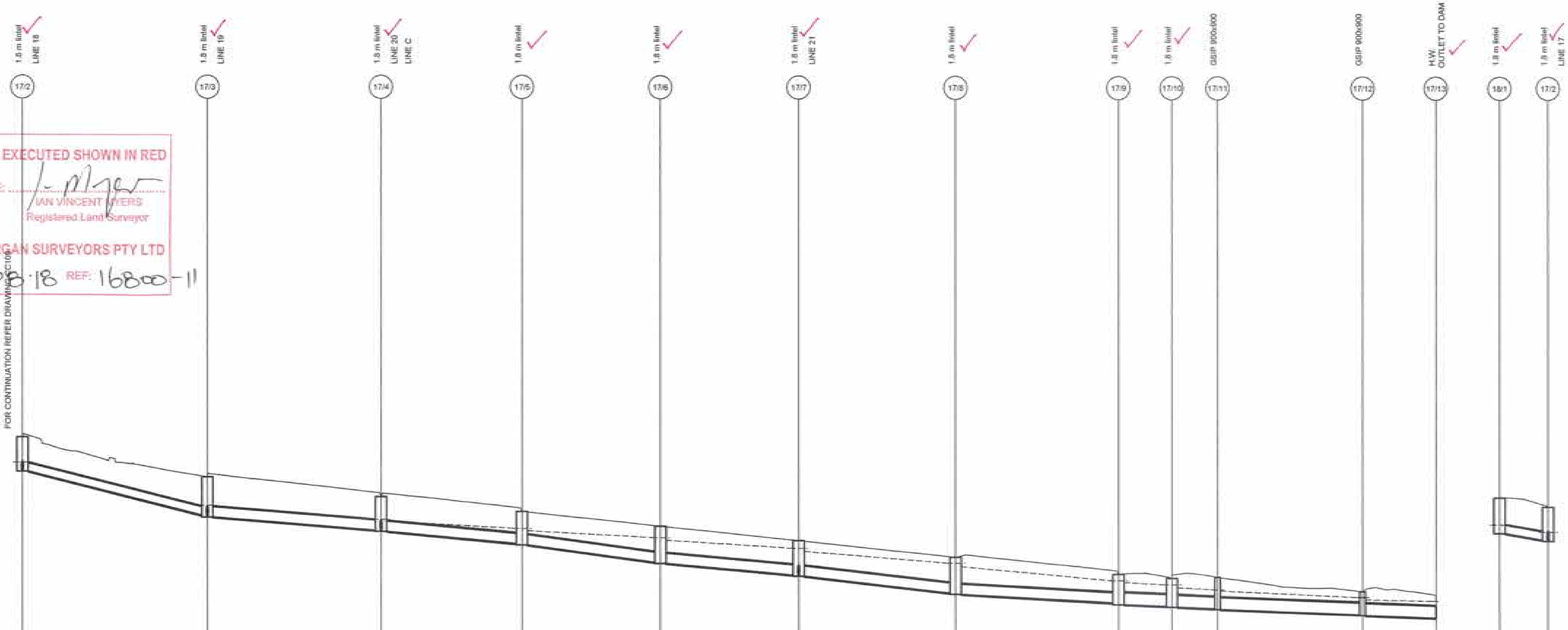
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 6 OF 19

PLAN No: 11018511/CC109 B
FILE No: 11018511CC109
SHEET SIZE: A1 ORIGINAL

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01·08·18 REF: 16800-11

FOR CONTINUATION REFER DRAWING CC109



LINE 17

DATUM (m) 30.00

Pipe	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
17/2 – 17/3	96	375 ✓	RRJ2	4.8 ✓	0.92	0.87	4.66
17/3 – 17/4	216	450 ✓	RRJ2	1.5 ✓	1.16	1.36	1.46
17/4 – 17/5	285	450 ✓	RRJ2	1.8 ✓	1.09	1.79	1.04
17/5 – 17/6	303	450 ✓	RRJ2	2.5 ✓	0.94	1.91	0.96
17/6 – 17/7	331	450 ✓	RRJ2	1.7 ✓	1.03	2.08	1.15
17/7 – 17/8	379	450 ✓	RRJ2	2.1 ✓	1.03	2.38	1.5
17/8 – 17/9	406	450 ✓	RRJ2	1.0 ✓	0.92	2.55	1.73
17/9 – 17/10	424	525 ✓	RRJ2	0.7 ✓	0.72	1.96	0.83
17/10 – 17/11	440	525 ✓	RRJ2	0.7 ✓	0.83	2.03	0.89
17/11 – 17/12	438	525 ✓	RRJ2	0.7 ✓	0.46	2.02	0.88
17/12 – 17/13	432	525 ✓	RRJ2	0.7 ✓	0.52	2.00	0.31

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
17/2	38.39 / 38.36	38.746 / 38.726	38.401 / 38.351	39.846	74.30	26.568
17/3	36.38 / 36.32	36.659 / 36.601	36.426 / 36.351	38.104	115.29	66.656
17/4	35.73 / 35.68	36.249 / 36.179	35.779 / 35.729	37.254	153.83	104.355
17/5	35.16 / 35.11	35.86 / 35.767	35.191 / 35.141	36.598	185.00	134.944
17/6	34.34 / 34.29	35.468 / 35.353	34.386 / 34.336	35.967	215.00	164.944
17/7	33.81 / 33.79	35.009 / 34.871	33.839 / 33.789	35.337	244.95	194.898
17/8	33.01 / 32.98	34.36 / 34.216	33.059 / 33.009	34.622	278.96	228.901
17/9	32.63 / 32.55	33.805 / 33.53	32.646 / 32.571	33.88	314.56	264.196
17/10	32.44 / 32.42	33.436 / 33.307	32.49 / 32.46	33.714	435.49	276.76
17/11	32.36 / 32.28	33.22 / 33.172	32.391 / 32.361	33.76		285.64
17/12	32.15 / 32.1	32.894 / 32.79	32.141 / 32.111	33.15	435.49	317.09
17/13	31.99	32.74	32 / 32	32.525		332.965

LINE 18

DATUM (m) 33.00

Pipe	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
18/1 – 17/2	16	375 ✓	RRJ2	2.7 ✓	1.13	0.14	2.96

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
18/1	38.67	39.058	38.683	40.252	67.50	0
17/2	38.4 / 38.36	38.746 / 38.726	38.401 / 38.351	39.846	74.30	10.499

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1:500 (AT A1) 1:1000 (AT A3) — METRES 10 0 10 20 30 40 50
1:100 (AT A1) 1:200 (AT A3) — METRES 2 1 0 1 2 3 4 5 6 7 8 9 10

	AMENDMENT	DES	DRN	CKD	APR	DATE
C	STORMWATER REDESIGN	MP	MP	RO	RO	12/02/18
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AZIMUTH: MGA 56
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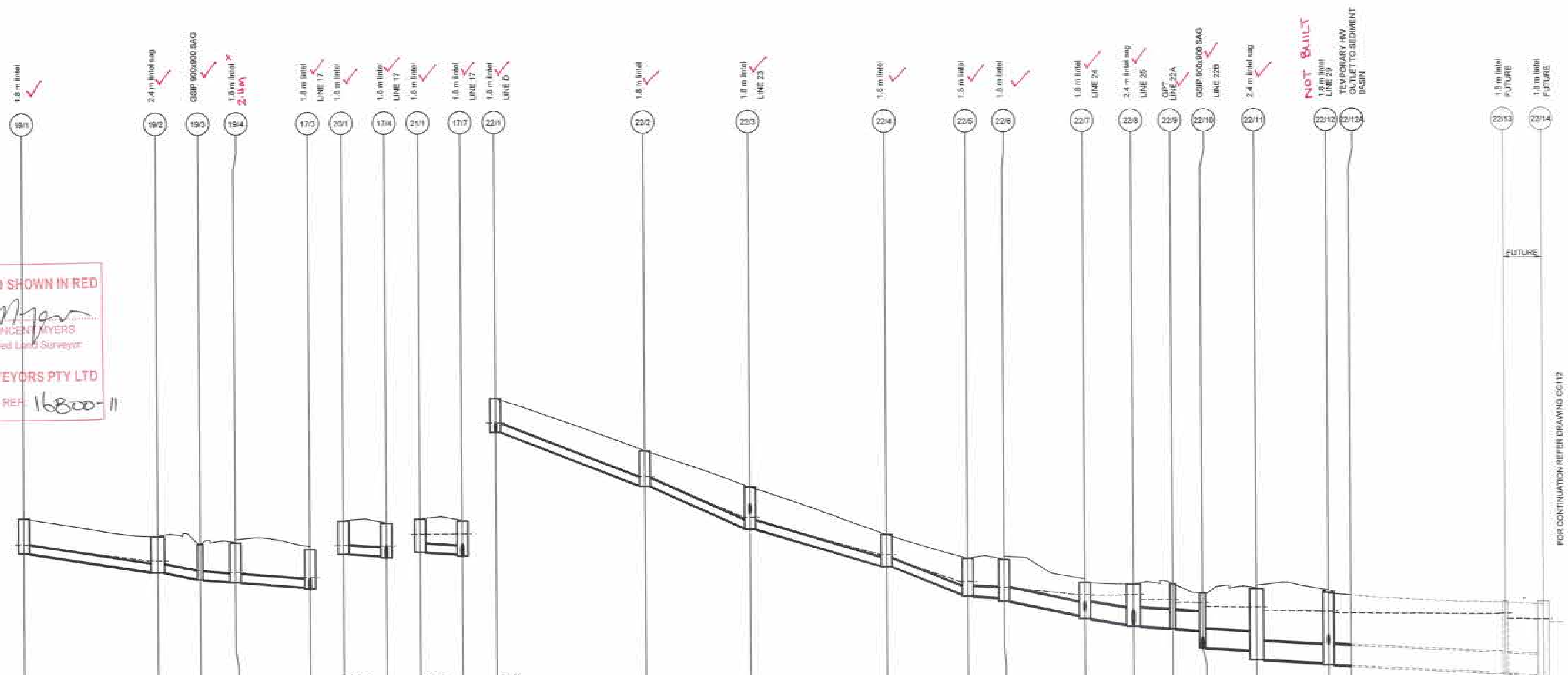
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 7 OF 19

PLAN No: 11018511/CC110 C
FILE No: 11018511CC110
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 10:34:14 AM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC111.dwg



WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .... IAN VINCENT MYERS, Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

LINE 19 (DATUM (m) 32.00)

Pit	Pipe chainage	Road chainage	Design surface level	Invert level	Hydraulic grade line	WAE
19/1	0	50.00	39.549	37.981	38.356	37.94
19/2 (in)				37.138	37.634	37.14
19/2 (out)	29.666	20.34	38.717	37.106	37.483	37.1
19/3 (in)				36.816	37.215	36.83
19/3 (out)	39.054	16.91	38.374	36.786	37.16	36.8
19/4 (in)				36.683	37.106	36.66
19/4 (out)	46.927	18.51	38.423	36.652	37.027	36.64
17/3 (in)				36.426	36.866	36.39
17/3	63.456	115.29	38.104	36.351	36.801	36.32

Pipe	Peak flow (L/s)	Pipe size (mm)	Pipe class	Pipe grade (%)	Pipe cover minimum	Full pipe velocity (m/s)	HGL grade (%)
19/1–19/2	32	375 ✓	RRJ2	2.8 ✓	1.07	0.29	2.43
19/2–19/3	90	375 ✓	RRJ2	3.1 ✓	1.21	0.82	2.85
19/3–19/4	109	375 ✓	RRJ2	1.3 ✓	1.24	0.98	0.69
19/4–17/3	123	375 ✓	RRJ2	1.4 ✓	1.45	1.11	0.98

LINE 20 (DATUM (m) 30.00)

Pit	Pipe chainage	Road chainage	Design surface level	Invert level	Hydraulic grade line	WAE
20/1	0	148.83	37.365	35.899	36.274	35.81
17/4 (in)				35.804	36.254	35.73
17/4	9.54	153.83	37.254	35.729	36.179	35.69

Pipe	Peak flow (L/s)	Pipe size (mm)	Pipe class	Pipe grade (%)	Pipe cover minimum	Full pipe velocity (m/s)	HGL grade (%)
20/1–17/4	20	375 ✓	RRJ2	1.0 ✓	1.10	0.18	0.21

LINE 21 (DATUM (m) 28.00)

Pit	Pipe chainage	Road chainage	Design surface level	Invert level	Hydraulic grade line	WAE
21/1	0	240.07	35.44	33.965	34.759	33.98
17/7 (in)				33.864	34.758	33.81
17/7	9.373	244.95	35.337	33.789	34.595	33.8

Pipe	Peak flow (L/s)	Pipe size (mm)	Pipe class	Pipe grade (%)	Pipe cover minimum	Full pipe velocity (m/s)	HGL grade (%)
21/1–17/7	22	375 ✓	RRJ2	1.1 ✓	1.11	0.20	0.01

LINE 22 (DATUM (m) 25.00)

Pit	Pipe chainage	Road chainage	Design surface level	Invert level	Hydraulic grade line	WAE
22/1	0	117.71	37.784	36.299	36.674	36.25
22/2 (in)				33.89	34.291	33.87
22/2 (out)	33.128	85.42	35.443	33.86	34.235	33.84
22/3 (in)				31.952	32.442	31.92
22/3 (out)	56.358	62.80	33.799	31.922	32.297	31.87
22/4 (in)				30.265	30.762	30.23
22/4 (out)	86.609	32.96	31.661	30.235	30.61	30.18
22/5 (in)				28.965	29.508	28.96
22/5 (out)	104.567	16.00	30.57	28.89	29.34	28.94
22/6 (in)				28.81	29.274	28.75
22/6 (out)	112.634	13.96	30.514	28.66	29.26	28.64
22/7 (in)				28.004	28.922	27.98
22/7 (out)	130.531	330.00	29.486	27.854	28.905	27.9
22/8 (in)				27.584	28.9	27.62
22/8 (out)	141.321	319.21	29.389	27.509	28.705	27.51
22/9 (in)				27.422	28.683	27.52
22/9 (out)	149.99	322.24	29.409	27.389	28.575	27.44
22/10 (in)				27.319	28.571	27.35
22/10 (out)	156.618	625.00	28.982	26.54	28.381	26.51
22/11 (in)				26.42	28.346	26.43
22/11 (out)	168.601	620.23	29.172	25.99	28.198	25.99
22/12 (in)				25.831	28.151	
22/12 (out)	184.563	15.73	28.991	25.756	28.073	25.72
22/12A	189.535			25.726		
22/13 (in)				25.363	27.996	
22/13 (out)	223.831	55.00	28.584	25.333	27.78	
22/14 (in)				25.248	27.755	
22/14	232.282	57.72	28.557			

Pipe	Peak flow (L/s)	Pipe size (mm)	Pipe class	Pipe grade (%)	Pipe cover minimum	Full pipe velocity (m/s)	HGL grade (%)
22/1–22/2	43	375 ✓	RRJ2	7.3 ✓	1.00	0.39	7.19
22/2–22/3	81	375 ✓	RRJ2	8.2 ✓	1.09	0.73	7.72
22/3–22/4	157	375 ✓	RRJ2	5.5 ✓	1.07	1.42	5.07
22/4–22/5	190	375 ✓	RRJ2	7.1 ✓	0.94	1.72	6.14
22/5–22/6	210	450 ✓	RRJ2	1.0 ✓	1.24	1.32	0.82
22/6–22/7	262	600 ✓	RRJ2	3.7 ✓	0.99	0.89	1.89
22/7–22/8	329	750 ✓	RRJ2	2.5 ✓	0.81	0.74	0.07
22/8–22/9	774	825 ✓	RRJ2	1.0 ✓	1.07	1.45	0.25
22/9–22/10	390	825 ✓	RRJ2	1.1 ✓	0.79	0.73	0.06
22/10–22/11	842	825 ✓	RRJ2	1.0 ✓	1.56	1.57	0.29
22/11–22/12	850	825 ✓	RRJ2	1.0	2.42	1.59	0.3
22/12–22/13	873	900	RRJ2	1.0	2.13	1.37	0.2
22/13–22/14	1080	900	RRJ2	1.0	2.22	1.70	0.3

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

1:500 (AT A1) 1:1000 (AT A3) — 10 0 10 20 30 40 50 METRES
1:100 (AT A1) 1:200 (AT A3) — 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

Rev	Amendment	DES	DRN	CKD	APR	DATE
C	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
B	LINE 22 REVISED	MP	LS	RO	MS	20/10/17
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

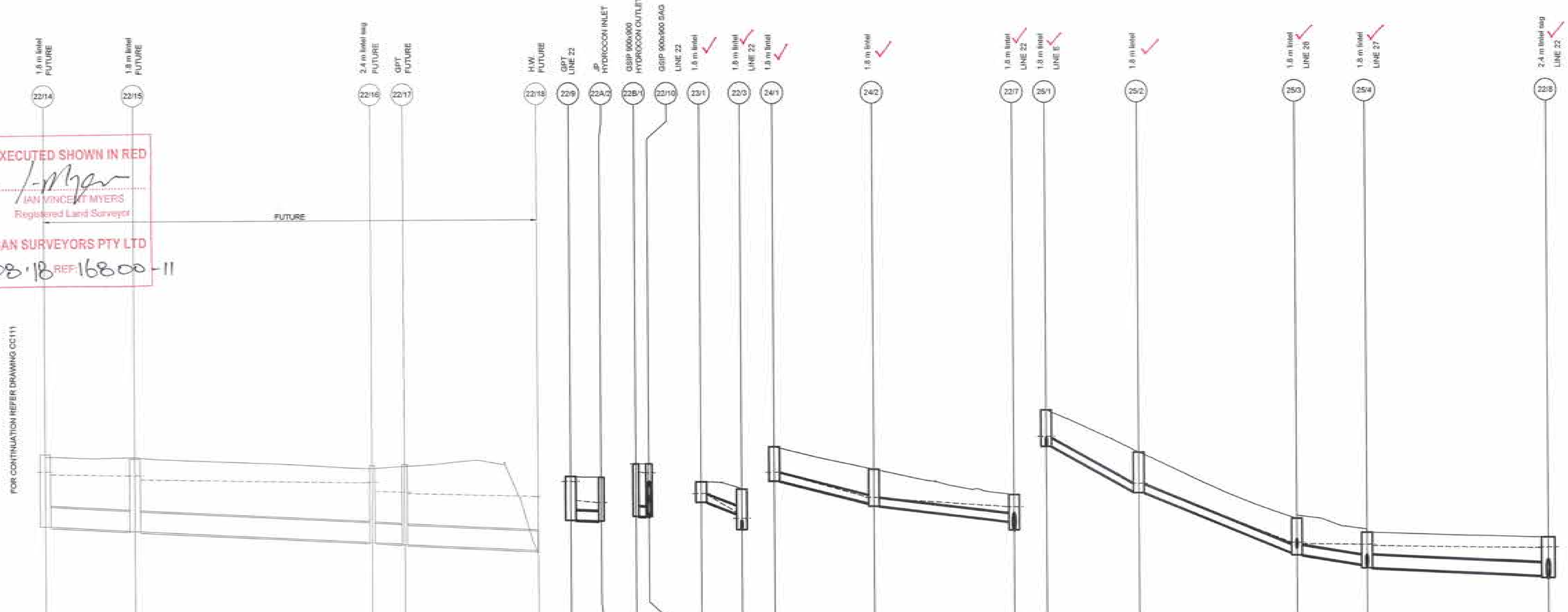
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 8 OF 19

PLAN No: 11018511/CC111 B
FILE No: 11018511CC111
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:52:55 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC112.dwg

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: [signature]
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

FOR CONTINUATION REFER DRAWING CC111



LINE 22

DATUM (m): 20.00

	Pipe 1	Pipe 2	Pipe 3	Pipe 4
PEAK FLOW (L/s)	1161	1180	1483	1480
PIPE SIZE (mm)	900	900	900	900
PIPE CLASS	RRJ2	RRJ2	RRJ2	RRJ2
PIPE GRADE (%)	1.0	1.0	1.0	1.0
PIPE COVER MINIMUM	2.25	2.39	2.46	0.90
FULL PIPE VELOCITY (m/s)	1.82	1.86	2.33	2.33
HGL GRADE (%)	0.35	0.36	0.57	0.57

	22/14	22/15	22/16	22/17	22/18
WAE					
HYDRAULIC GRADE LINE	27.755 / 27.624	27.552 / 27.372	27.174 / 26.773	26.731 / 26.675	26.5
INVERT LEVEL	25.248 / 25.218	25.013 / 24.983	24.438 / 24.408	24.332 / 24.302	23.996 / 23.996
DESIGN SURFACE LEVEL	28.557	28.329	27.966	28	24.896
ROAD CHAINAGE	67.72	80.61	135.00		
PIPE CHAINAGE	232.282	252.867	307.362	314.874	345.54

LINE 22A

DATUM (m): 22.00. PEAK FLOW 382; PIPE SIZE 450; PIPE CLASS RRJ2; PIPE GRADE 0.6; PIPE COVER MINIMUM 1.51; FULL PIPE VELOCITY 2.40; HGL GRADE 1.53

	Start	End
HYDRAULIC GRADE LINE	28.307	28.2
INVERT LEVEL	27.389 (27.44)	27.35 / 27.35
DESIGN SURFACE LEVEL	29.412 (29.6)	29.372
ROAD CHAINAGE	322.06	315.05
PIPE CHAINAGE	0	7.019

LINE 22B

DATUM (m): 21.00. PEAK FLOW 382; PIPE SIZE 450; PIPE CLASS RRJ2; PIPE GRADE 0.7; PIPE COVER MINIMUM 1.93; FULL PIPE VELOCITY 2.40; HGL GRADE 1

	Start	End
HYDRAULIC GRADE LINE	28.601	28.571 / 28.381
INVERT LEVEL	26.56	26.54 / 26.54
DESIGN SURFACE LEVEL	28.985	28.982
ROAD CHAINAGE	622.37	626.00
PIPE CHAINAGE	-1.414	1.6

LINE 23

DATUM (m): 27.00. PEAK FLOW 45; PIPE SIZE 375 ✓; PIPE CLASS RRJ2; PIPE GRADE 5.9 ✓; PIPE COVER MINIMUM 0.55; FULL PIPE VELOCITY 0.41; HGL GRADE 9.05

	23/1	22/3
WAE	33.18	32.61 / 31.87
HYDRAULIC GRADE LINE	33.565	32.724 / 32.297
INVERT LEVEL	33.19	32.645 / 31.922
DESIGN SURFACE LEVEL	34.138	33.799
ROAD CHAINAGE	67.50	62.80
PIPE CHAINAGE	0	9.282

LINE 24

DATUM (m): 23.00

	Pipe 1	Pipe 2
PEAK FLOW (L/s)	42	65
PIPE SIZE (mm)	375 ✓	375 ✓
PIPE CLASS	RRJ2	RRJ2
PIPE GRADE (%)	4.6 ✓	2.3 ✓
PIPE COVER MINIMUM	1.10	0.86
FULL PIPE VELOCITY (m/s)	0.36	0.59
HGL GRADE (%)	5.03	1.33

	24/1	24/2	22/7
WAE	30.15	29.05 / 28.99	28.22 / 27.9
HYDRAULIC GRADE LINE	30.53	29.38 / 29.351	28.922 / 28.908
INVERT LEVEL	30.155	29.103 / 28.976	28.229 / 27.854
DESIGN SURFACE LEVEL	31.729	30.677	29.466
ROAD CHAINAGE	385.00	382.13	330.00
PIPE CHAINAGE	0	22.868	55

LINE 25

DATUM (m): 25.00

	Pipe 1	Pipe 2	Pipe 3	Pipe 4
PEAK FLOW (L/s)	74	98	158	399
PIPE SIZE (mm)	375 ✓	375 ✓	450 ✓	600 ✓
PIPE CLASS	RRJ2	RRJ2	RRJ2	RRJ2
PIPE GRADE (%)	10.0 ✓	7.8 ✓	2.9 ✓	1.0 ✓
PIPE COVER MINIMUM	1.53	1.15	1.15	1.00
FULL PIPE VELOCITY (m/s)	0.67	0.88	1.00	1.41
HGL GRADE (%)	9.89	7.47	0.26	0.36

	25/1	25/2	25/3	25/4	22/8
WAE	33.69	31.65 / 31.54	28.71 / 28.65	28.15 / 28.04	27.63 / 27.57
HYDRAULIC GRADE LINE	34.069	31.974 / 31.921	29.214 / 29.151	29.109 / 29.049	28.9 / 28.706
INVERT LEVEL	33.694	31.576 / 31.546	28.731 / 28.626	28.166 / 28.016	27.599 / 27.509
DESIGN SURFACE LEVEL	35.391	33.412	30.311	29.668	29.389
ROAD CHAINAGE	90.33	70.00	34.00	277.56	319.21
PIPE CHAINAGE	0	21.18	57.404	73.508	115.159

CONSTRUCTION CERTIFICATE
Certificate No. 20130099C42
Date of Issue 5 March 2018
Issuing Officer [signature]
Accreditation No. BPB0565
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1:500 (AT A1) 1:1000 (AT A3) METRES
1:100 (AT A1) 1:200 (AT A3) METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
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A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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PO Box 4366 PENRITH WESTFIELD NSW 2750
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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK
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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 9 OF 19

PLAN No: 11018511/CC112 B
FILE No: 11018511CC112
SHEET SIZE: A1 ORIGINAL

Plotted: 12 March , 2018 12:23:22 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC113.dwg

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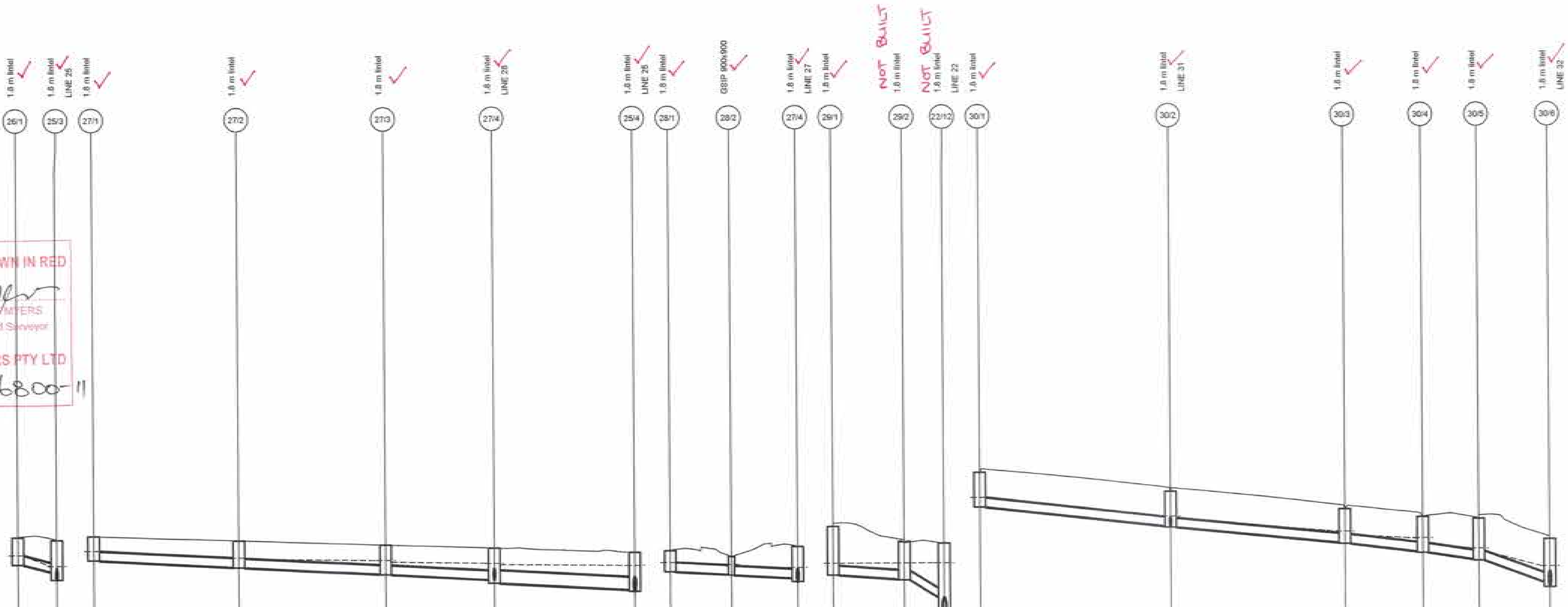
SIGNATURE: .... IAN VINCENT MYERS Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF 16800-11



FOR CONTINUATION REFER DRAWING CC114

LINE 26

	26/1 – 25/3
DATUM (m)	23.00
PEAK FLOW (L/s)	38
PIPE SIZE (mm)	375 ✓
PIPE CLASS	RRJ2
PIPE GRADE (%)	3.7 ✓
PIPE COVER MINIMUM	0.78
FULL PIPE VELOCITY (m/s)	0.34
HGL GRADE (%)	5.39

	26/1	25/3
WAE	29.24	29.01 / 28.65
HYDRAULIC GRADE LINE	29.656	29.214 / 29.151
INVERT LEVEL	29.281	28.975 / 28.626
DESIGN SURFACE LEVEL	30.429	30.311
ROAD CHAINAGE	35.80	34.00
PIPE CHAINAGE	0	8.199

LINE 27

	27/1 – 27/2	27/2 – 27/3	27/3 – 27/4	27/4 – 25/4
DATUM (m)	23.00			
PEAK FLOW (L/s)	36	72	107	216
PIPE SIZE (mm)	375 ✓	375 ✓	375 ✓	525 ✓
PIPE CLASS	RRJ2	RRJ2	RRJ2	RRJ2
PIPE GRADE (%)	1.0	1.0 ✓	1.0 ✓	1.0 ✓
PIPE COVER MINIMUM	0.60 ✓	0.73	0.85	0.91
FULL PIPE VELOCITY (m/s)	0.33	0.65	0.97	1.00
HGL GRADE (%)	0.95	0.33	0.32	0.21

	27/1	27/2	27/3	27/4	25/4
WAE	29.37	29.13 / 29.1	28.81 / 28.76	28.55 / 28.4	28.11 / 28.04
HYDRAULIC GRADE LINE	29.818	29.527 / 29.482	29.379 / 29.306	29.234 / 29.173	29.109 / 29.049
INVERT LEVEL	29.443	29.137 / 29.107	28.796 / 28.766	28.537 / 28.387	28.091 / 28.016
DESIGN SURFACE LEVEL	30.468	30.251	30.034	29.874	29.666
ROAD CHAINAGE	163.35	193.97	225.00	247.93	277.56
PIPE CHAINAGE	0	30.62	61.66	84.58	114.209

LINE 28

	28/1 – 28/2	28/2 – 27/4
DATUM (m)	23.00	
PEAK FLOW (L/s)	24	67
PIPE SIZE (mm)	375 ✓	375 ✓
PIPE CLASS	RRJ3	RRJ3
PIPE GRADE (%)	1.0 ✓	1.0 ✓
PIPE COVER MINIMUM	0.51	0.58
FULL PIPE VELOCITY (m/s)	0.22	0.60
HGL GRADE (%)	0.59	0.49

	28/1	28/2	27/4
WAE	28.75	28.64 / 28.64	28.5 / 28.4
HYDRAULIC GRADE LINE	29.21	29.134 / 29.051	28.983 / 28.929
INVERT LEVEL	28.835	28.706 / 28.670	28.537 / 28.387
DESIGN SURFACE LEVEL	29.735	29.469	29.874
ROAD CHAINAGE	547.37	248.20	247.93
PIPE CHAINAGE	0	12.891	26.84

LINE 29

	29/1 – 29/2	29/2 – 22/12
DATUM (m)	22.00	
PEAK FLOW (L/s)	20	20
PIPE SIZE (mm)	375	375
PIPE CLASS	RRJ2	RRJ2
PIPE GRADE (%)	1.2	8.9
PIPE COVER MINIMUM	1.30	1.20
FULL PIPE VELOCITY (m/s)	0.18	0.18
HGL GRADE (%)	0.01	0.01

	29/1	29/2	22/12
WAE	27.67		
HYDRAULIC GRADE LINE	28.154	28.152 / 28.152	28.151 / 28.073
INVERT LEVEL	27.656	27.469 / 27.439	26.69 / 25.756
DESIGN SURFACE LEVEL	29.714	29.049	28.991
ROAD CHAINAGE	649.32	13.14	15.73
PIPE CHAINAGE	0	14.987	23.398

LINE 30

	30/1 – 30/2	30/2 – 30/3	30/3 – 30/4	30/4 – 30/5	30/5 – 30/6
DATUM (m)	35.00				
PEAK FLOW (L/s)	41	108	149	177	198
PIPE SIZE (mm)	375 ✓	375 ✓	375 ✓	375 ✓	375 ✓
PIPE CLASS	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2
PIPE GRADE (%)	2.1 ✓	1.9 ✓	2.1 ✓	2.5 ✓	6.2 ✓
PIPE COVER MINIMUM	1.19	1.20	1.20	1.17	1.53
FULL PIPE VELOCITY (m/s)	0.37	0.97	1.35	1.61	1.79
HGL GRADE (%)	2.01	1.82	1.04	1.81	4.39

	30/1	30/2	30/3	30/4	30/5	30/6
WAE	43.5	42.65 / 42.6	41.97 / 41.88	41.46 / 41.45	41.2 / 41.15	40.19 / 39.94
HYDRAULIC GRADE LINE	43.896	43.088 / 42.994	42.397 / 42.28	42.089 / 41.888	41.655 / 41.525	40.868
INVERT LEVEL	43.521	42.669 / 42.619	41.935 / 41.885	41.543 / 41.493	41.2 / 41.15	40.225
DESIGN SURFACE LEVEL	44.996	44.144	43.365	43.017	42.932	42.045
ROAD CHAINAGE	1176.69	1218.15	1256.00	1272.93	1277.19	17.19
PIPE CHAINAGE	0	40.203	76.926	93.371	105.165	120.128

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AZIMUTH: MGA 56
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PRINCIPAL: REDBANK

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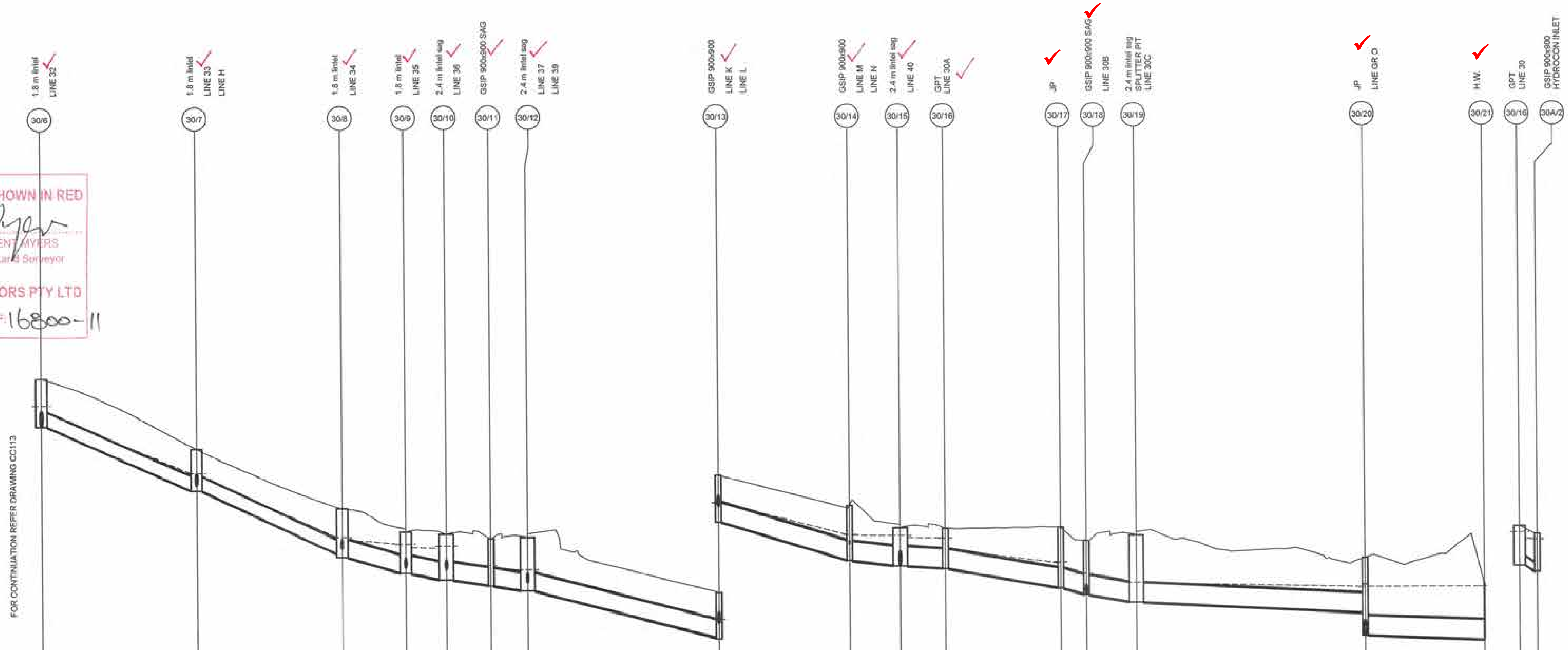
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 10 OF 19

PLAN No: 11018511/CC113 B
FILE No: 11018511CC113
SHEET SIZE: A1 ORIGINAL



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VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

LINE 30

	30/6–30/7	30/7–30/8	30/8–30/9	30/9–30/10	30/10–30/11	30/11–30/12	30/12–30/13	30/13–30/14	30/14–30/15	30/15–30/16	30/16–30/17	30/17–30/18	30/18–30/19	30/19–30/20	30/20–30/21
DATUM (m)	28.00							23.00							
PEAK FLOW (L/s)	617	798	807	896	1148	1168	1288	1525	1550	1908	1747	1740	2107	1524	2101
PIPE SIZE (mm)	600 ✓	600 ✓	750 ✓	750 ✓	750 ✓	750 ✓	750 ✓	(2x)825 ✓	(2x)825 ✓	(2x)825 ✓	(2x)826 ✓	(2x)825 ✓	(2x)826 ✓	(2x)825 ✓	(2x)825 ✓
PIPE CLASS	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2
PIPE GRADE (%)	8.3 ✓	8.8 ✓	5.0 ✓	3.0 ✓	2.5 ✓	2.4 ✓	5.0 ✓	5.9 ✓	2.0 ✓	1.0 x3.0	3.3 ✓	4.7 x7.5	2.9	1.0	0.8 ✓
PIPE COVER MINIMUM	1.25	1.02	1.08	1.03	1.21	1.27	1.10	1.06	0.91	0.81	0.83	1.31	1.46	1.18	1.50
FULL PIPE VELOCITY (m/s)	1.83	2.82	1.83	2.03	2.60	2.64	2.91	1.43	1.45	1.78	1.63	1.63	1.97	1.43	1.97
HGL GRADE (%)	7.95	8.41	1.55	0.55	1.54	1.02	5	5.01	0.25	0.38	2.46	3.78	2.92	0.43	0

	30/6	30/7	30/8	30/9	30/10	30/11	30/12	30/13	30/14	30/15	30/16	30/17	30/18	30/19	30/20	30/21
WAE	40.19 / 39.94	37.19 / 37.19	34.56 / 34.38	33.74 / 33.69	33.44 / 33.41	33.17 / 33.14	32.97 / 32.88	30.93 / 30.83	29.17 / 29.13	28.91 / 28.85	28.67 / 28.6	27.92 / 27.89	27.67 / 27.64		26.75 / 25.8	25.64
HYDRAULIC GRADE LINE	40.868 / 40.6	37.987 / 37.827	35.23 / 35.123	34.914 / 34.781	34.734 / 34.131	33.886 / 33.865	33.785 / 33.649	31.623	30.229 / 30.203	30.177 / 30.106	30.07 / 29.579	28.977 / 28.73	28.524 / 28.445	28.137 / 28.109	27.9	27.9
INVERT LEVEL	40.225 / 40	37.257 / 37.227	34.523 / 34.373	33.7 / 33.67	33.411 / 33.381	33.145 / 33.115	32.929 / 32.899	30.873 / 30.798	29.156 / 29.126	28.906 / 28.879	28.784 / 28.754	27.935 / 27.906	27.65 / 27.62	27.314 / 27.284	26.799 / 25.829	25.626 / 25.626
DESIGN SURFACE LEVEL	42.045	39.023	36.442	35.427	35.318	35.135	35.174	32.783	31.474	30.508	30.461	30.503	29.929	30.134	29.146	28.041
ROAD CHAINAGE	17.19	50.06	80.93	337.29	328.58	335.17	335.17			85.92	82.22	57.75	362.65	362.26		
PIPE CHAINAGE	120.128	152.992	183.869	197.348	205.872	215.413	223.194	263.72	291.535	302.267	311.8	336.263	341.728	352.291	400.805	426.174

LINE 30A

	30/16–30A/2
DATUM (m)	23.00
PEAK FLOW (L/s)	158
PIPE SIZE (mm)	375
PIPE CLASS	RRJ2
PIPE GRADE (%)	7.3
PIPE COVER MINIMUM	1.15
FULL PIPE VELOCITY (m/s)	1.41
HGL GRADE (%)	0.67

	30/16	30A/2
WAE		
HYDRAULIC GRADE LINE	29.925	29.9
INVERT LEVEL	28.773 (28.71) / 28.6 / 28.5	28.5 (28.59)
DESIGN SURFACE LEVEL	30.457 (30.45)	30.119
ROAD CHAINAGE	82.42	388.39
PIPE CHAINAGE	0	3.759

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AZIMUTH: MGA 56
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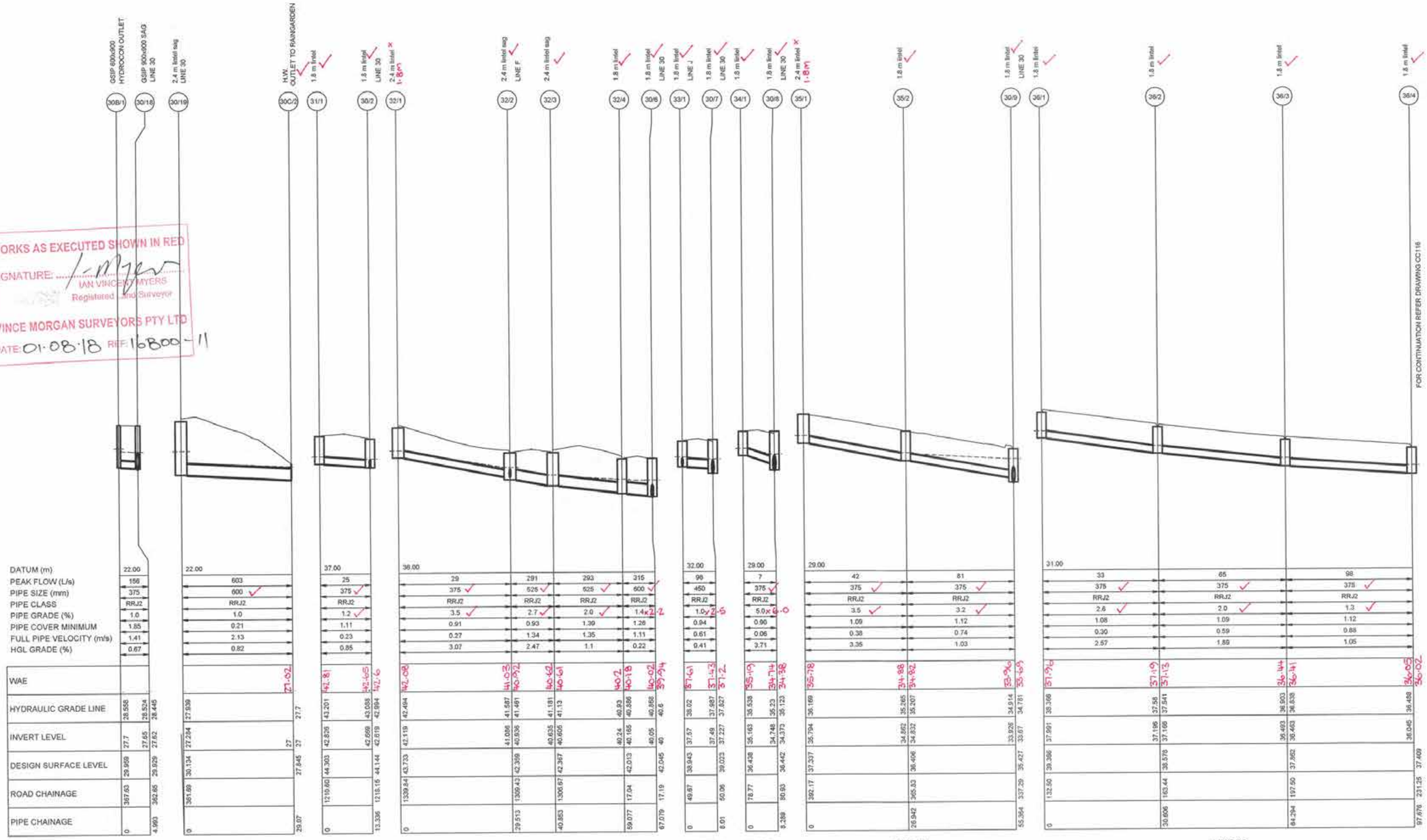
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 11 OF 19

PLAN No: 11018511/CC114 B
FILE No: 11018511CC114
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February, 2018 10:46:09 AM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC114.dwg



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SIGNATURE: .....
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Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

1:500 (AT A1) 1:1000 (AT A3) METRES
1:100 (AT A1) 1:200 (AT A3) METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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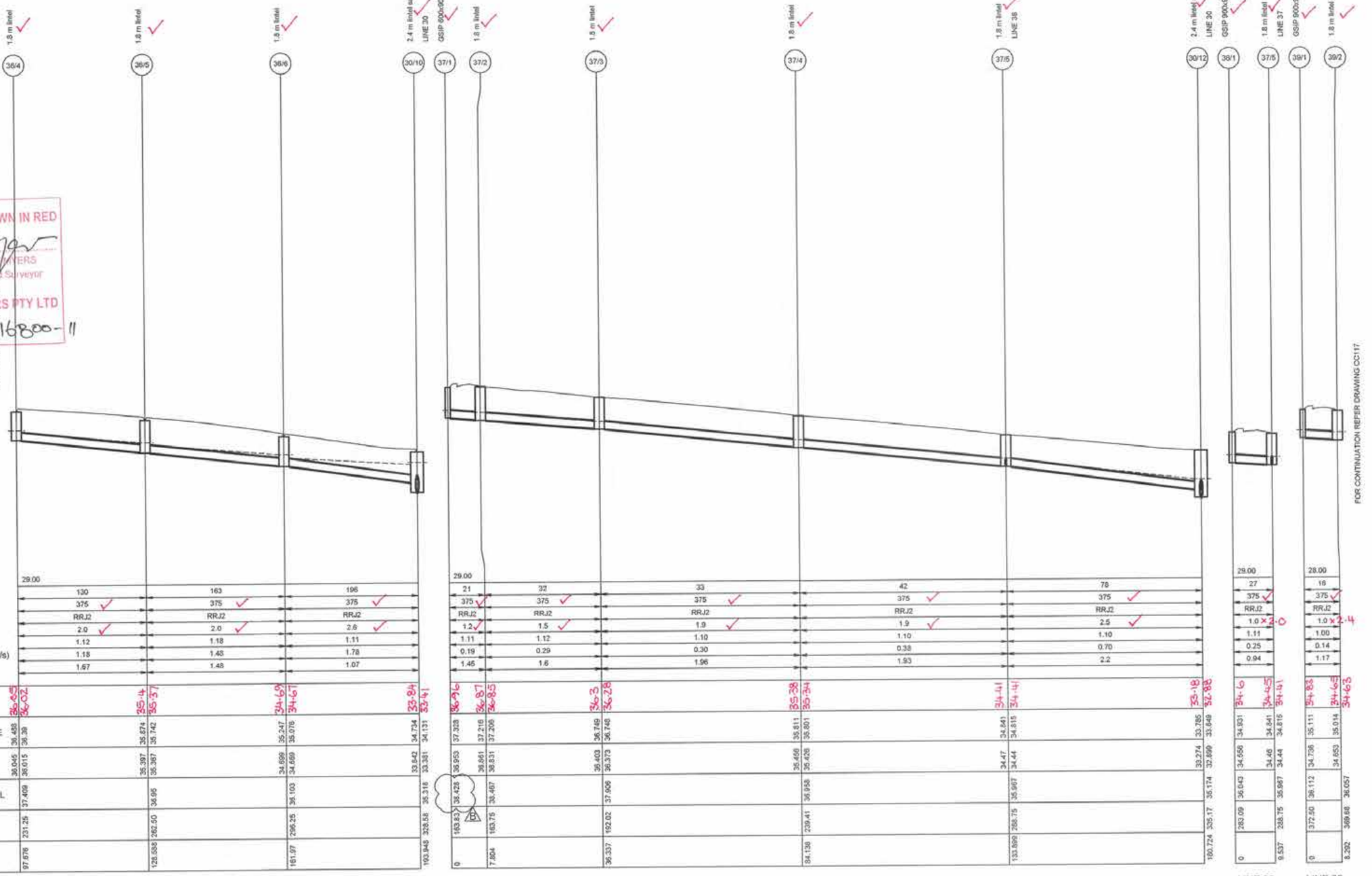
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 12 OF 19

PLAN No: 11018511/CC115 B
FILE No: 11018511CC115
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January, 2018 4:53:39 PM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CDOC\YEOMANS\11018511CC115.dwg



WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MORGAN
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

	LINE 36			LINE 37						LINE 38		LINE 39	
DATUM (m)	29.00			29.00						29.00		28.00	
PEAK FLOW (L/s)	130	163	196	21	32	33	42	78		27		16	
PIPE SIZE (mm)	375 ✓	375 ✓	375 ✓	375 ✓	375 ✓	375 ✓	375 ✓	375 ✓		375 ✓		375 ✓	
PIPE CLASS	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2		RRJ2		RRJ2	
PIPE GRADE (%)	2.0 ✓	2.0 ✓	2.6 ✓	1.2 ✓	1.5 ✓	1.9 ✓	1.9 ✓	2.5 ✓		1.0 × 2.0		1.0 × 2.4	
PIPE COVER MINIMUM	1.12	1.18	1.11	1.11	1.12	1.10	1.10	1.10		1.11		1.00	
FULL PIPE VELOCITY (m/s)	1.18	1.48	1.78	0.19	0.29	0.30	0.38	0.70		0.25		0.14	
HGL GRADE (%)	1.67	1.48	1.07	1.45	1.6	1.96	1.93	2.2		0.94		1.17	
WAE	36.485 36.02	35.4 35.37	34.69 34.61	36.216 36.87 36.85	36.3 36.28	35.38 35.34	34.41 34.41	33.18 32.88		34.6 34.45	34.41	34.83 34.63	34.63
HYDRAULIC GRADE LINE	36.488 36.39	35.874 35.742	35.247 35.076	37.323 37.216 37.206	36.749 36.748	35.611 35.601	34.841 34.815	33.785 33.648		34.931 34.556	34.541 34.416	35.111 35.036	35.014
INVERT LEVEL	36.045 36.015	35.397 35.397	34.699 34.669	36.953 36.861 36.831	36.403 36.373	35.456 35.426	34.47 34.44	33.274 32.899		34.546 34.46	34.441 34.44	34.736 34.653	34.653
DESIGN SURFACE LEVEL	37.409	36.95	36.103	38.428 38.467	37.906	35.958	35.967	35.174		36.043	35.967	36.112	36.057
ROAD CHAINAGE	231.25	262.50	296.25	163.83 163.75	192.02	239.41	288.75	335.17		283.09	288.75	372.50	369.68
PIPE CHAINAGE	97.676	128.538	161.97	0 7.804	36.337	84.138	133.899	180.724		0	9.537	0	8.292

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Accreditation No. BPB0565

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1:500 (AT A1) 1:1000 (AT A3) — 10 0 10 20 30 40 50 METRES

1:100 (AT A1) 1:200 (AT A3) — 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

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AZIMUTH: MGA 56
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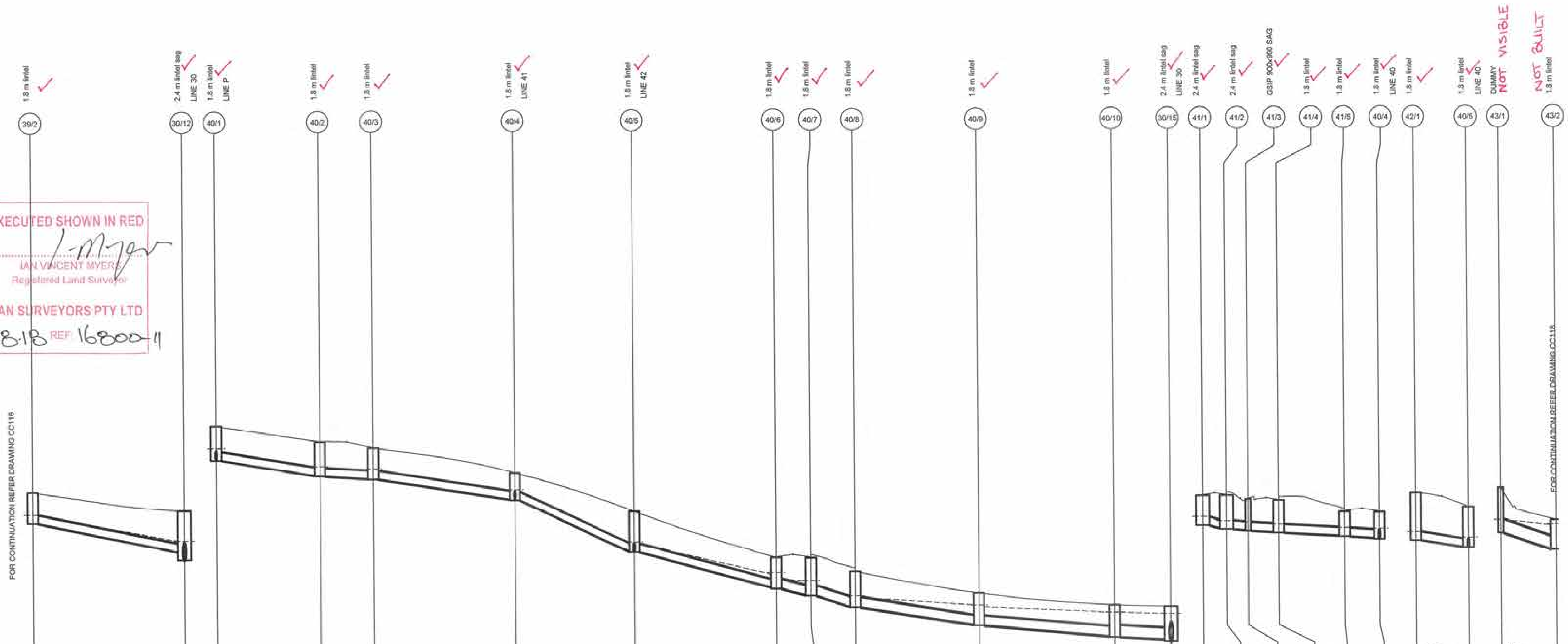
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 13 OF 19

PLAN No: 11018511/CC116 B
FILE No: 11018511CC116
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 10:47:56 AM File Name: J:\110185 - Redbank North Richmond Residential Precinct\01 - Description\CD\CC\YEOMANS\11018511CC116.dwg



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SIGNATURE: .... (signed)
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

LINE 39

DATUM (m) 28.00

Segment	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
39/2 – 30/12	29	375 ✓	RRJ2	3.9 ✓	0.99	0.26	3.48

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
39/2	34.65 / 34.63	35.014 / 34.998	34.653 / 34.623	36.067	369.88	8.292
30/12	33.26 / 32.88	33.785 / 33.649	33.274 / 32.899	35.174	335.17	43.115

LINE 40

DATUM (m) 28.00

Segment	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
40/1 – 40/2	98	375 ✓	RRJ2	3.1 ✓	1.13	0.89	2.87
40/2 – 40/3	119	375 ✓	RRJ2	1.1 ✓	1.09	1.08	0.45
40/3 – 40/4	141	375 ✓	RRJ2	2.9 ✓	0.86	1.28	2.73
40/4 – 40/5	213	375 ✓	RRJ2	8.7 ✓	0.78	1.92	8.51
40/5 – 40/6	243	375 ✓	RRJ2	5.1 ✓	1.04	2.20	4.39
40/6 – 40/7	247	450 ✓	RRJ2	3.8 ✓	1.02	1.55	1.2
40/7 – 40/8	275	450 ✓	RRJ2	4.9 ✓	1.33	1.73	4.59
40/8 – 40/9	278	450 ✓	RRJ2	3.0	1.00	1.75	1.3
40/9 – 40/10	297	450 ✓	RRJ2	1.7	0.91	1.87	0.92
40/10 – 30/15	329	525 ✓	RRJ2	1.0 ✓	0.92	1.52	0.5

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
40/1	37.45	37.868	37.493	39.075	171.52	0
40/2	36.75 / 36.74	37.187 / 37.108	36.763 / 36.733	38.316	105.29	23.772
40/3	36.57 / 36.54	37.053 / 36.942	36.597 / 36.567	38.019	204.69	38.12
40/4	35.62 / 35.56	36.056 / 35.944	35.619 / 35.569	36.818	236.57	65.628
40/5	33.08 / 33.01	33.613 / 33.521	33.176 / 33.146	35.03	263.99	96.043
40/6	31.46 / 31.42	32.096 / 31.855	31.48 / 31.405	32.86	296.47	126.527
40/7	31.13 / 31.03	31.759 / 31.524	31.104 / 31.074	32.839	0.00	136.493
40/8	30.54 / 30.5	31.067 / 30.991	30.571 / 30.541	32.204	13.48	148.676
40/9		30.621 / 30.536	29.689 / 29.659	31.159	41.84	175.061
40/10	29.16 / 29.1	30.249 / 30.241	29.121 / 29.091	30.589	73.02	206.234
30/15	28.99 / 28.85	30.177 / 30.166	28.962 / 28.879	30.508	86.92	219.141

LINE 41

DATUM (m) 30.00

Segment	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
41/1 – 41/2	45	375 ✓	RRJ2	2.6 (3.5)	1.06	0.41	3.1
41/2 – 41/3	45	375 ✓	RRJ2	1.0 ✓	0.93	0.40	1.55
41/3 – 41/4	44	375 ✓	RRJ2	1.0 ✓	1.02	0.40	1.06
41/4 – 41/5	60	375 ✓	RRJ2	1.0 ✓	0.92	0.54	1.08
41/5 – 40/4	66	375 ✓	RRJ2	1.0 ✓	0.79	0.60	0.23

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
41/1	36.29	36.608	36.233	37.634	460.45	0
41/2	36.13 / 36.08	36.438 / 36.405	36.09 / 36.06	37.634	6.42	5.5
41/3	36.05 / 36.01	36.359 / 36.356	36.011 / 35.981	37.456	1.95	10.404
41/4	35.95 / 35.91	36.28 / 36.256	35.911 / 35.881	37.392	460.79	17.426
41/5	35.71 / 35.64	36.092 / 36.074	35.729 / 35.699	36.843	236.08	32.611
40/4	35.53	36.056 / 35.944	35.619 / 35.569	36.818	236.57	40.627

LINE 42

DATUM (m) 28.00

Segment	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
42/1 – 40/5	24	375 ✓	RRJ2	2.7 (3.5)	1.56	0.22	2.19

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
42/1	33.49	33.876	33.501	35.699	256.00	0
40/5	33.09 / 33.01	33.613 / 33.521	33.176 / 33.146	35.03	263.99	12.032

LINE 43

DATUM (m) 40.00

Segment	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
43/1 – 43/2	748	600	RRJ2	6.1	0.64	2.66	1.95

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
43/1		46.418	45.818	47.904	1399.00	0
43/2		46.172	45.051			

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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 14 OF 19

PLAN No: 11018511/CC117 B
FILE No: 11018511CC117
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January, 2018 4:54:03 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC117.dwg

NOT BUILT
FUTURE 1.8 m lintel TEMP JP

NOT BUILT
FUTURE 1.8 m lintel TEMP JP

1.8 m lintel

1.8 m lintel

1.8 m lintel

1.8 m lintel

1.5 m lintel
LINE 44

H.W.

1.8 m lintel

1.8 m lintel
LINE 43

DUMMY

GSIP 900x900
LINE 4

SLOPE JUNCTION

JP

SLOPE JUNCTION
GSIP 600x600 IAD

SLOPE JUNCTION

GSIP 600x900 IAD

SLOPE JUNCTION

GSIP 600x900 IAD

SLOPE JUNCTION

GSIP 900x900 IAD

1.5 m lintel
LINE 6

SLOPE JUNCTION

GSIP 450x450 IAD

	43/2	43/3	43/4	43/5	43/6	43/7	43/8	43/9	44/1	43/8	45/1	4/3	A/1	A/2	A/3	A/4	A/5	A/6	A/7	A/8	A/9	6/1	B/1	B/2
DATUM (m)	36.00									34.00	38.00		41.00										37.00	
PEAK FLOW (L/s)	771	769	779	782	804	839	895			20	290		19	18	37	55	55	73	72	90	107		17	
PIPE SIZE (mm)	600	600	600	600	600	600	600			375	375		150	150	225	225	225	225	225	225	375		150	
PIPE CLASS	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2			RRJ2	RRJ2		uPVC	uPVC	uPVC	uPVC	uPVC	uPVC	uPVC	uPVC	RRJ2		uPVC	
PIPE GRADE (%)	5.5	5.0	4.4	3.5	3.8	4.6	2.6			1.7	10.3		1.0	1.0	1.2	1.3	2.9	2.9	3.0	3.0	7.9		3.4	
PIPE COVER MINIMUM	0.78	1.00	0.89	1.12	0.98	0.91	0.60			1.11	1.30		0.57	0.57	0.52	0.51	0.51	0.51	0.52	0.52	1.00 1.6		0.49	
FULL PIPE VELOCITY (m/s)	2.73	2.72	2.76	2.77	2.84	2.97	3.16			0.19	2.63		1.09	1.09	0.94	1.38	1.38	1.83	1.82	2.26	0.96		0.94	
HGL GRADE (%)	4.67	4.32	1.88	1.46	3.27	4.01	2.47			0.01	9.78		0.95	0.94	1.25	1.33	2.86	2.7	3	3.34	3.33		3.19	
WAE			43.71 43.62	42.64 42.59	42.26 42.24	41.14 41.09	39.57 39.51	39.85	39.73	39.51											45.32 45.27		42.36 42.25	
HYDRAULIC GRADE LINE	46.172 46.621	45.058 44.964	44.327 44.199	43.823 43.273	43.052 42.86	41.875 41.681	40.324 40.1	40.324	40.1	42.48	42.529	43.686	48.834	48.819	48.806	48.623	48.51	48.251	48.147	48.124	47.752	47.67	47.638	47.107	46.52	46.093	45.912	45.635	43.21	42.558	42.391
INVERT LEVEL	45.051 45.021	44.364 44.364	43.629 43.599	42.703 42.673	42.29 42.26	41.111 41.081	39.53 39.5	39.725	39.5	41.41	42.085	43.491	48.599	48.583	48.553	48.38	48.265	48.026	47.999	47.924	47.527	47.527	47.441	47.411	46.882	46.882	46.388	45.29	43.06	42.391	
DESIGN SURFACE LEVEL	46.409	46.231	45.13	44.492	43.967	42.885	41.248	41.248	43.721			46.429	49.319	49.293	49.072	48.774	48.66	48.266	48.167	47.635	47.148	46.772	46.41						43.706	43.028	
ROAD CHAINAGE	1386.00	1382.41	18.63	35.00	47.99	78.12	111.98	111.98	0	8.335	0	13.669	0	1.548	20.882	41.576	49.38	62.4	65.411	83.013	100.601	106.03	46.48						0	20.445	
PIPE CHAINAGE	12.629	24.198	38.705	58.91	74.121	104.252	138.107	169.759	17.10																						

FOR CONTINUATION REFER DRAWING CC117

FOR CONTINUATION REFER DRAWING CC119

LINE 43 | LINE 44 | LINE 45 | LINE A | LINE B

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: I-Morgan
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

WORK AS EXECUTED SHOWN IN RED
SIGNATURE.....
PETER ROBERT WARWICK
REGISTERED LAND SURVEYOR
VINCE MORGAN SURVEYORS PTY LTD
DATE: 14/01/20 REF:16800-11

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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 15 OF 19

PLAN No: 11018511/CC118 B
FILE No: 11018511CC118
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 10:49:44 AM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC118.dwg

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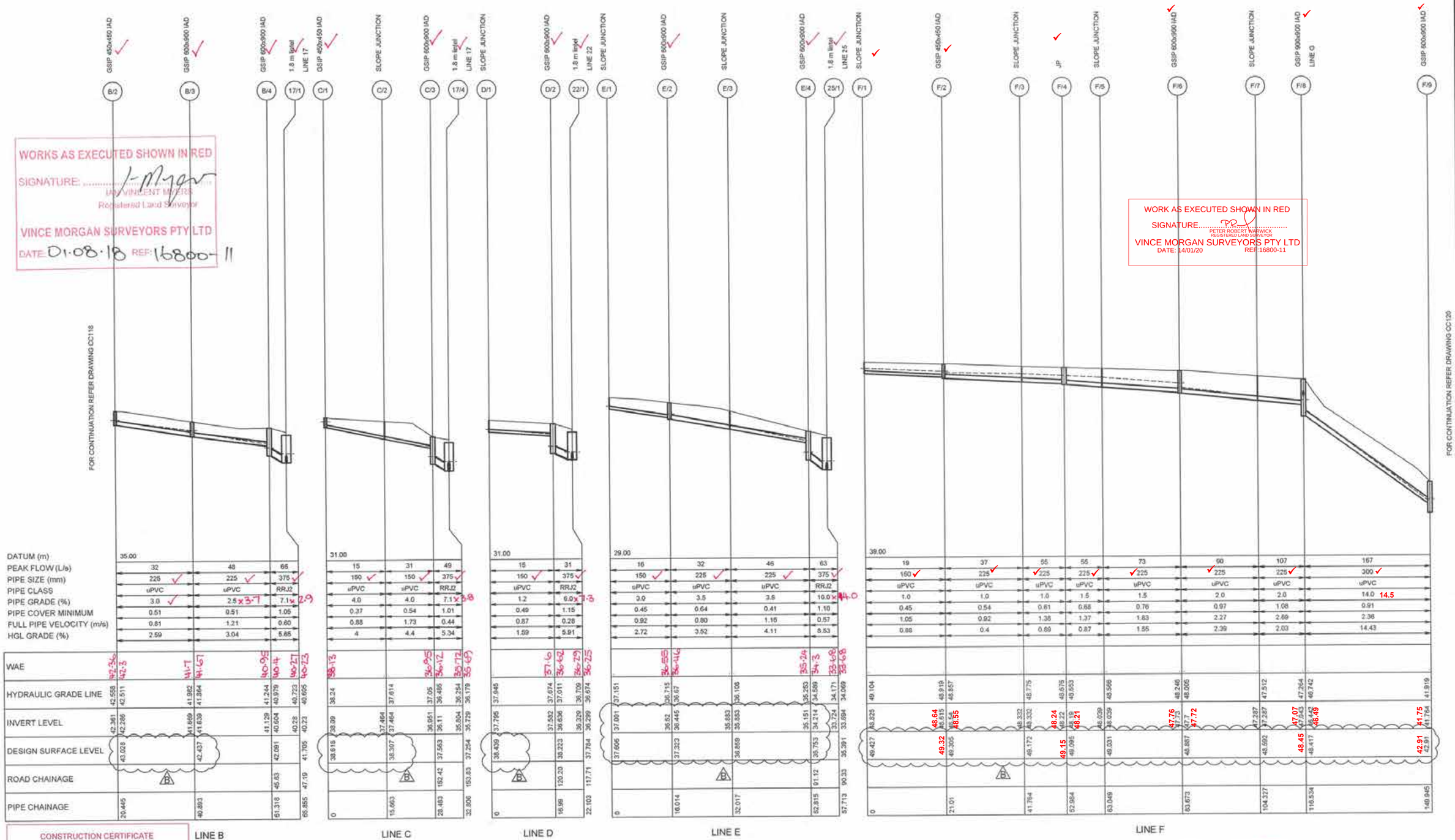

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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 16 OF 19

PLAN No: 11018511/CC119 B
FILE No: 11018511CC119
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 10:52:04 AM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CCYEOMANS\11018511CC119.dwg

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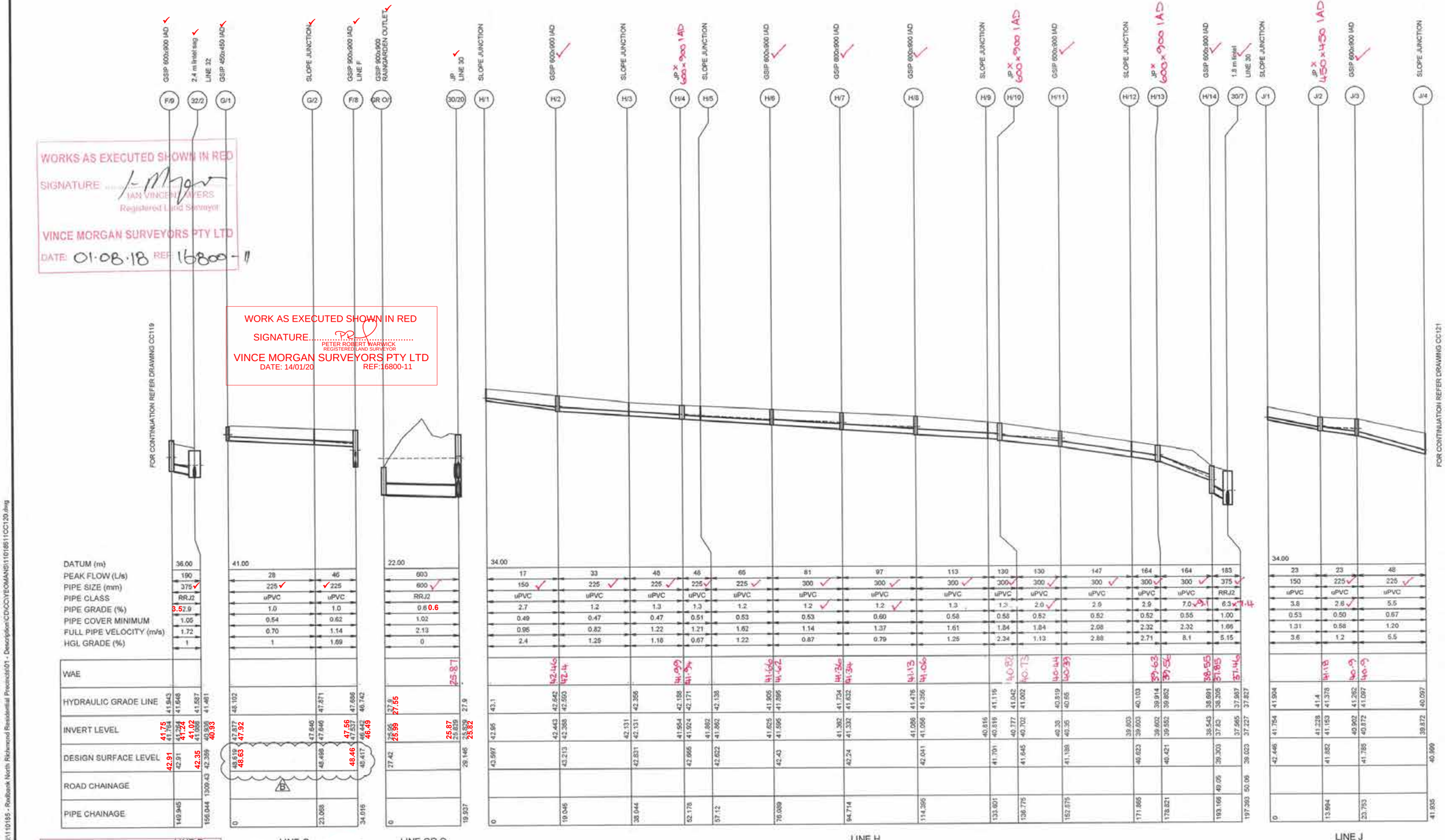

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1:100 (AT A1) 1:200 (AT A3) METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MS	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

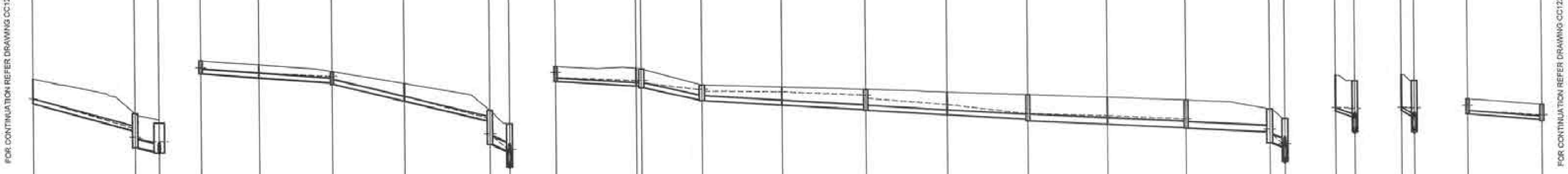
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 17 OF 19

PLAN No: 11018511/CC120 B
FILE No: 11018511CC120
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 10:53:12 AM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC120.dwg

Pit	Description
J/4	SLOPE JUNCTION
J/5	GSIP 600x900 IAD ✓
33/1	1.8 m lintel LINE 33 ✓
K/1	GSIP 450x450 IAD ✓
K/2	SLOPE JUNCTION
K/3	GSIP 450x450 IAD ✓
K/4	SLOPE JUNCTION
K/5	GSIP 900x900 IAD ✓
30/13	GSIP 900x900 LINE 30
L/1	GSIP 450x450 IAD ✓
L/2	SLOPE JUNCTION
L/3	JP × 600×900 IAD
L/4	JP
L/5	SLOPE JUNCTION
L/6	GSIP 600x900 IAD ✓
L/7	SLOPE JUNCTION
L/8	GSIP 600x900 IAD ✓
L/9	SLOPE JUNCTION
L/10	GSIP 600x900 IAD ✓
L/11	GSIP 900x900 IAD × 600×900 IAD
30/13	GSIP 900x900 LINE 30 ✓
M/1	SLOPE JUNCTION
30/14	GSIP 900x900 LINE 30 ✓
N/1	SLOPE JUNCTION
30/14	GSIP 900x900 LINE 30 ✓
P/1	GSIP 450x450 IAD ✓
P/2	GSIP 600x900 IAD ✓

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ...[signature]...
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11



LINE J (DATUM (m) 33.00)

Pipe	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
J/4–J/5	66	225 ✓	uPVC	5.5	0.66	1.67	5.99
J/5–33/1	88	375 ✓	RRJ2	3.4 ✓	1.05	0.79	1.95

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
J/4		40.097	39.872 / 39.872	40.998		41.935
J/5	38.60 / 37.81	38.709 / 38.207	38.599 / 37.832	39.379	49.08	65.08
33/1	37.64 / 37.61	38.101 / 38.02	37.646 / 37.57	38.943	49.67	70.53

LINE K (DATUM (m) 27.00)

Pipe	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
K/1–K/2	19	225 ✓	uPVC	1.5	0.36	0.47	1.54
K/2–K/3	39	225 ✓	uPVC	1.5	0.31	0.99	1.07
K/3–K/4	57	225 ✓	uPVC	4.8	0.35	1.44	4.79
K/4–K/5	74	225 ✓	uPVC	4.8	0.36	1.87	5.31
K/5–30/13	93	375 ✓	RRJ2	6.7 × 8.3	0.78	0.84	12.64

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
K/1	35.24	35.398	35.173	35.769		0
K/2		35.106	34.97 / 34.97	35.562		13.237
K/3	34.71 / 34.64	35.017 / 34.865	34.715 / 34.64	35.234		29.812
K/4		34.078	33.851 / 33.851	34.658		46.256
K/5	32.94 / 31.84	33.043 / 32.216	32.92 / 31.841	33.401		65.731
30/13	31.55 / 30.83	31.656 / 31.623	31.545 / 30.798	32.783		70.16

LINE L (DATUM (m) 27.00)

Pipe	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
L/1–L/2	18	150 ✓	uPVC	1.3	0.52	1.03	0.86
L/2–L/3	34	150 ✓	uPVC	1.2	0.65	1.93	2.97
L/3–L/4	34	225 ✓	uPVC	4.2 ✓	0.50	0.86	2.33
L/4–L/5	34	225 ✓	uPVC	1.3	0.49	0.85	0.34
L/5–L/6	55	225 ✓	uPVC	1.3	0.60	1.39	0.9
L/6–L/7	74	225 ✓	uPVC	1.2	0.73	1.86	1.61
L/7–L/8	91	225 ✓	uPVC	1.2	0.82	2.28	2.42
L/8–L/9	106	300 ✓	uPVC	1.0	0.90	1.50	0.71
L/9–L/10	120	300 ✓	uPVC	1.0	0.93	1.70	0.92
L/10–L/11	134	300 ✓	uPVC	1.0 ✓	0.78	1.80	1.14
L/11–30/13	150	375 ✓	RRJ2	6.0 ✓	0.90	1.36	11.45

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
L/1	34.7	34.876	34.7	35.382		0
L/2		34.72	34.472 / 34.472	35.275		18.302
L/3	34.46 / 34.41	34.685 / 34.607	34.457 / 34.382	35.248		19.502
L/4	33.83 / 33.76	34.286 / 34.216	33.806 / 33.776	34.496		33.263
L/5		34.155	33.55 / 33.55	34.374		51.367
L/6	33.32 / 33.27	33.983 / 33.826	33.312 / 33.282	34.245		70.416
L/7		33.53	33.052 / 33.052	34.088		88.662
L/8	32.82 / 32.77	33.086	32.822 / 32.747	33.95		107.221
L/9		32.958	32.566 / 32.566	33.802		125.288
L/10	32.41 / 32.37	32.794 / 32.658	32.388 / 32.358	33.654		143.138
L/11	32.19 / 31.67	32.441 / 32.039	32.168 / 31.664	33.222		162.128
30/13	31.54 / 30.83	31.646 / 31.623	31.492 / 30.798	32.783		165.557

LINE M (DATUM (m) 24.00)

Pipe	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
M/1–30/14	15	150 ✓	uPVC	8.1	1.41	0.86	0.6

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
M/1		30.256	30.091	31.742		0
30/14	29.8	30.229 / 30.203	29.826 / 29.126	31.474 (B)		4.358

LINE N (DATUM (m) 24.00)

Pipe	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
N/1–30/14	14	150 ✓	uPVC	9.3	1.43	0.78	0.87

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
N/1		30.254	30.104	31.74		0
30/14	29.8	30.229 / 30.203	29.835 / 29.126	31.474 (B)		2.894

LINE P (DATUM (m) 35.00)

Pipe	PEAK FLOW (L/s)	PIPE SIZE (mm)	PIPE CLASS	PIPE GRADE (%)	PIPE COVER MINIMUM	FULL PIPE VELOCITY (m/s)	HGL GRADE (%)
P/1–P/2	20	150 ✓	uPVC	1.6 ✓	0.53	1.12	1.26

Pit	WAE	HYDRAULIC GRADE LINE	INVERT LEVEL	DESIGN SURFACE LEVEL	ROAD CHAINAGE	PIPE CHAINAGE
P/1	40.96	41.077	40.927	41.618		0
P/2	40.67	40.885	40.654	41.34		16.894

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer [signature]
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

1:500 (AT A1) 1:1000 (AT A3) — 10 0 10 20 30 40 50 METRES
1:100 (AT A1) 1:200 (AT A3) — 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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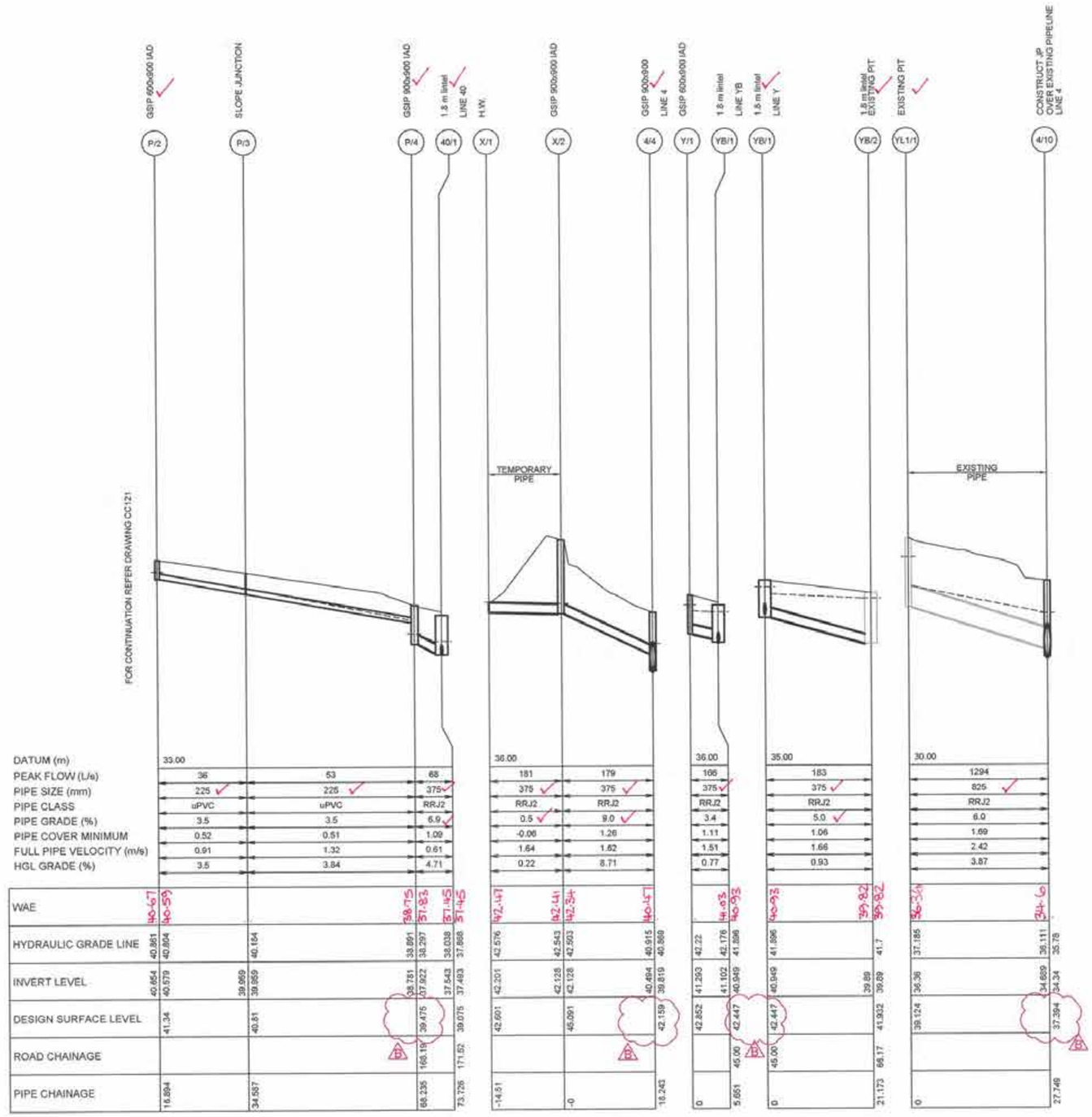
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 18 OF 19

PLAN No: 11018511/CC121 B
FILE No: 11018511CC121
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 10:54:27 AM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC121.dwg



WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ..... IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-4

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0585
These plans/specifications form part of the certificate issued 5 March 2018

1:100 (AT A1) 1:200 (AT A3) METRES
1:500 (AT A1) 1:1000 (AT A3) METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
C	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
B	SHEET ADDED	MP	LF			
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
5 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 19 OF 19

PLAN No: 11018511/CC122 C
FILE No: 11018511CC122
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February 2018 12:26:01 PM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC122.dwg

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01·08·18 REF: 16800-11

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565

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

10 0 10 20 30 40 50
METRES

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

2 1 0 1 2 3 4 5 6 7 8 9 10
METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
C	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
B	CERTIFIER COMMENTS	MP	MG	RO	MS	29/06/17
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL:

REDBANK

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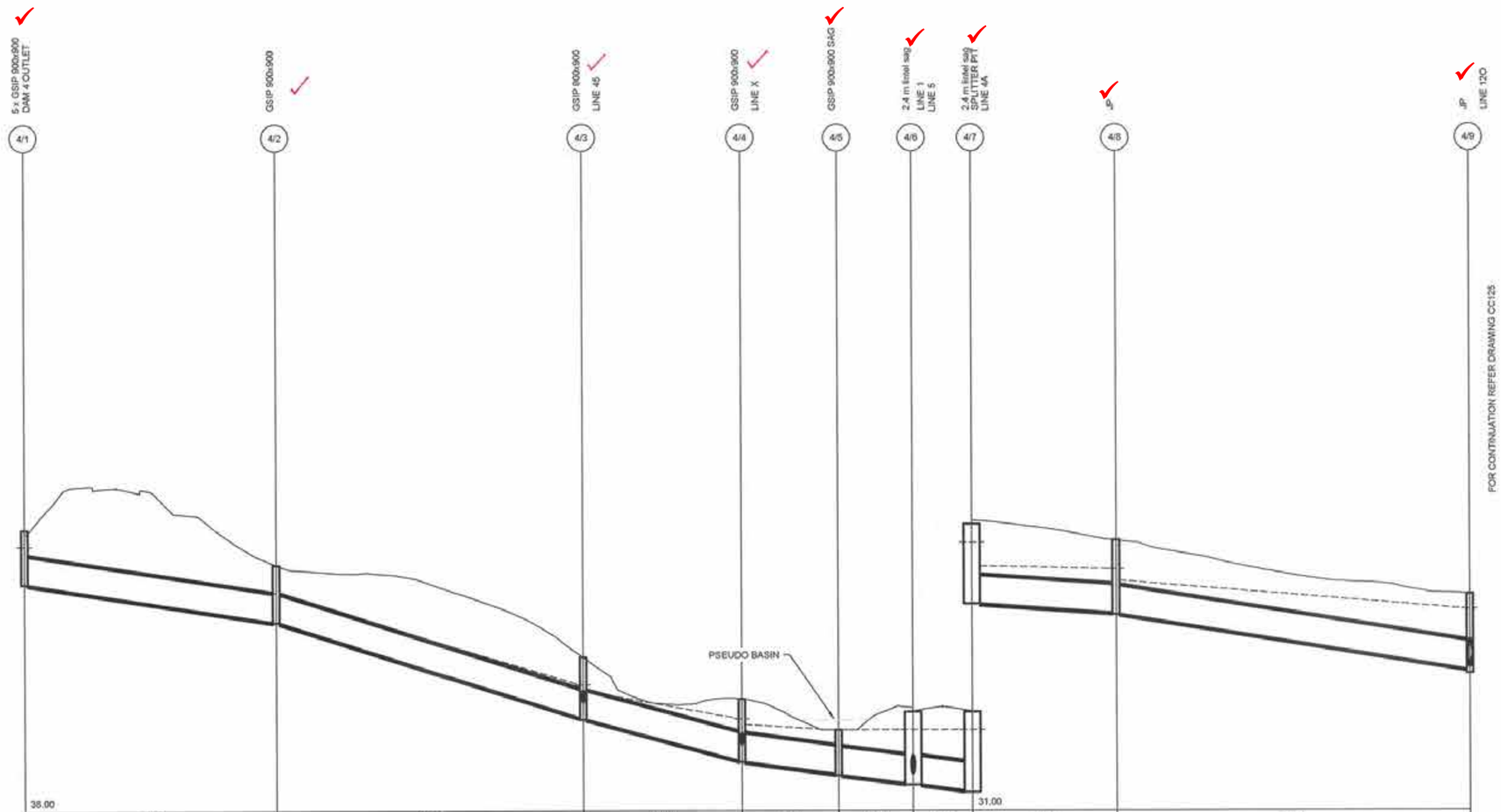
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
NOT IN USE

PLAN No: 11018511/CC123 B
FILE No: 11018511CC123
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:55:25 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC123.dwg



DATUM (m)	38.00						31.00		
PEAK FLOW (L/s)	2220	2220	2833	3205	3507	4571	3803	3787	
PIPE SIZE (mm)	(2x)1050 ✓	1050 ✓	1050 ✓	1050 ✓	1050 ✓	(2x)1050 ✓	1050 ✓	1050 ✓	
PIPE CLASS	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	RRJ2	
PIPE GRADE (%)	3.0 ✓	6.2 ✓	5.2 ✓	2.5 ✓	2.2 ✓	2.0 ✓	1.3 ✓	3.1 ✓	
PIPE COVER MINIMUM	0.75	0.97	0.15	0.43	0.55	1.65	1.80	1.96	
FULL PIPE VELOCITY (m/s)	1.28	2.58	3.27	3.70	4.05	2.64	4.39	4.37	
HGL GRADE (%)	2.89	6.92	3.5	1.17	0	0	0.44	1.64	

WAE	46.44	45.07 / 45.01	44.65 / 44.41	39.92 / 39.82	39.42 / 39.36	39.15 / 39.08	38.78 / 38.67	38.37 / 38.22	36.27 / 36.08
HYDRAULIC GRADE LINE	47.5	46.152 / 46.069	42.697 / 42.45	41.428 / 41.21	41	41	40.116	39.999 / 39.572	38.5 / 38.166
INVERT LEVEL	46.45	45.049 / 45.019	41.45 / 41.41	39.889 / 39.819	39.372 / 39.322	39.019 / 38.969	38.749 / 38.699	38.384 / 38.314	36.253 / 36.103
DESIGN SURFACE LEVEL	48.5	47.36 / 47.167	43.79 / 43.721	42.18 / 42.199	41.01 / 41	41.65 / 41.676	41.65 / 41.675	41.29 / 41.063	39.05 / 39.062
ROAD CHAINAGE					929.39	929.42	929.80		
PIPE CHAINAGE	0	46.687	103.655	133.068	150.998	164.807	175.809	202.005	265.114

LINE 4

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ...
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130229C42
Date of Issue 5 March 2018
Issuing Officer ...
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

1:500 (AT A1) 1:1000 (AT A3) — 10 0 10 20 30 40 50 METRES
1:100 (AT A1) 1:200 (AT A3) — 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
C	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
B	CERTIFIER COMMENTS	MP	MG	RO	MS	29/06/17
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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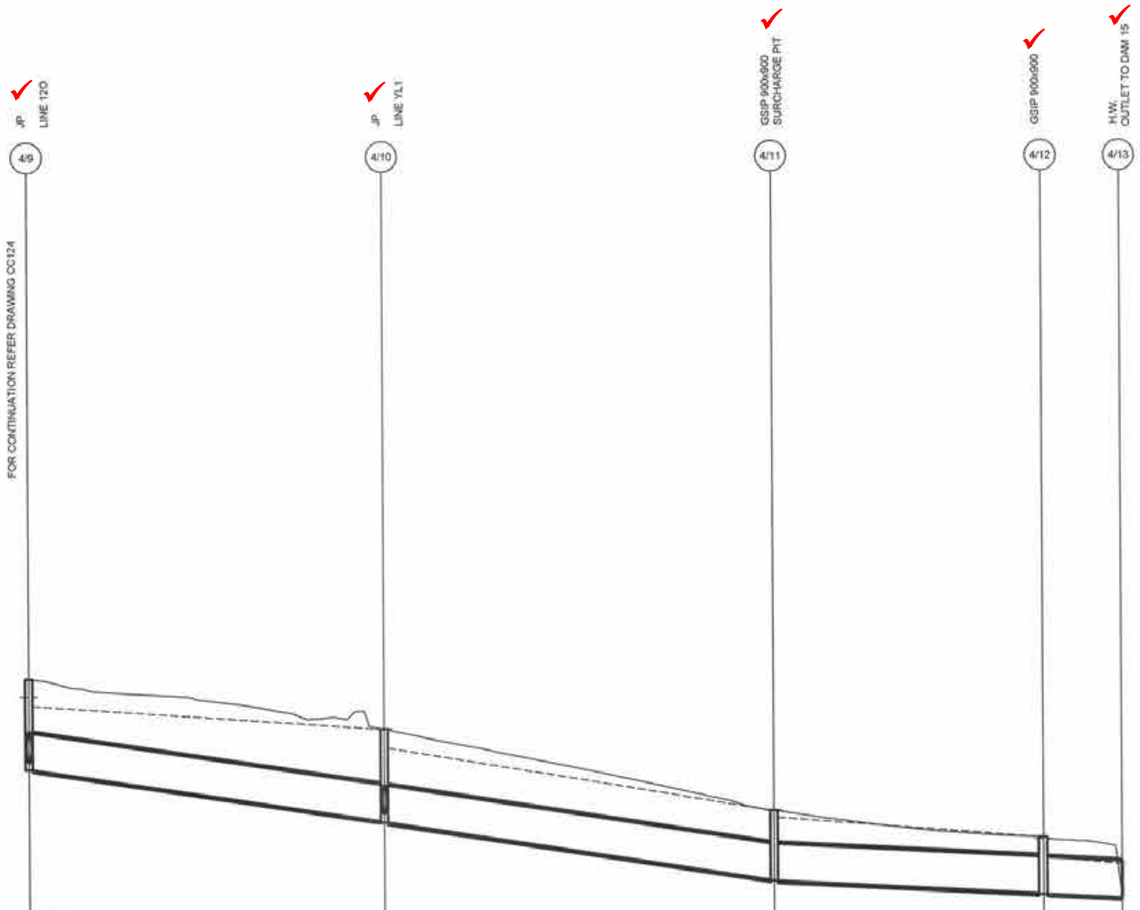
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
100 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 1 OF 2

PLAN No: 11018511/CC124 C
FILE No: 11018511CC124
SHEET SIZE: A1 ORIGINAL

Plotted: 29 January , 2018 4:55:39 PM File Name: J:\11018511CC124.dwg - Description\CDC\YEOMANS\11018511CC124 - Redbank North Richmond Residential Precincts\01



DATUM (m)	31.00				
PEAK FLOW (L/s)		8240	7638	5190	4242
PIPE SIZE (mm)		1200 ✓	1200 ✓	1200 ✓	1200 ✓
PIPE CLASS		RRJ2	RRJ2	RRJ2	RRJ2
PIPE GRADE (%)		3.0 ✓	3.0 ✓	1.0 ✓	1.0 ✓
PIPE COVER MINIMUM		1.58	1.01	0.55	
FULL PIPE VELOCITY (m/s)		7.29	6.75	4.59	3.75
HGL GRADE (%)		1.37	3.27	1.51	1.63

WAE	36.27	36.08						34.46	34.32				32.46	32.41			32.03	31.94		31.93			
HYDRAULIC GRADE LINE	38.5	38.184						37.394	36.77				34.699	34.467			33.806	33.128					32.92
INVERT LEVEL	36.253	36.103						34.39	34.34				32.426	32.396			31.958	31.928		31.8			31.8
DESIGN SURFACE LEVEL	39.062							37.394					34.699				33.806						33
ROAD CHAINAGE																							
PIPE CHAINAGE	266.114							325.909					388.327				433.148						445.905

LINE 4

1:500 (AT A1)
1:1000 (AT A3)
10 0 10 20 30 40 50
METRES

1:100 (AT A1)
1:200 (AT A3)
2 1 0 1 2 3 4 5 6 7 8 9 10
METRES

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01·08·18 REF: 16800 - 11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0585
These plans/specifications form part of the certificate issued 5 March 2018

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
100 YR DRAINAGE LONGITUDINAL SECTIONS
SHEET 2 OF 2

PLAN No: 11018511/CC125 B
FILE No: 11018511CC125
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:55:52 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC125.dwg

DESIGN STORM 1:5yr ARI HYDROLOGIC RESULTS

PIT NAME (-)	PIT TYPE (-)	CATCHMENT AREA (ha)	IMPERVIOUS PERCENTAGE (%)	RUNOFF C (-)	IMPERVIOUS TIME Tc (min)	IMPERVIOUS INTENSITY I (mm/hr)	PERVIOUS TIME Tc (min)	PERVIOUS INTENSITY I (mm/hr)	FULL AREA TIME Tc (min)	FULL AREA INTENSITY I (mm/hr)	FULL AREA CATCHMENT FLOW Qc (L/s)	PARTIAL AREA TIME Tc (min)	PARTIAL AREA INTENSITY I (mm/hr)	PARTIAL AREA CATCHMENT FLOW Qc (L/s)	TOTAL CATCHMENT FLOW Qc (L/s)	DIRECT FLOW Qd (L/s)	APPROACH FLOW Qa (L/s)	FLOODED DEPTH d (m)	FLOODED WIDTH w (m)	FLOODED (v x d) (sq.m/s)	ROAD GRADE (%)	ROAD XFALL (%)	CHOKE FACTOR (-)	INLET FLOW Qg (L/s)	BYPASS FLOW Qb (L/s)	BYPASS PIT (-)	COMMENTS
1/1	2.4 m lintel sag	0.061	85	0.835	5	130.8	10	100.1	10	100.1	14	5	130.8	17	17	0	17	0.03			2.7	3	1	17	0	1/2	FUTURE PIT
1/2	1.8 m lintel	0.054	85	0.835	5	130.8	10	100.1	10	100.1	12	5	130.8	15	15	0	15	0.02	2.98	0	2.2	3	1	15	0	1/3	FUTURE PIT
1/3	1.8 m lintel	0.022	85	0.835	5	130.8	10	100.1	10	100.1	5	5	130.8	6	6	0	6	0.04	0.6	0	2	3	1	6	0	1/4	FUTURE PIT
1/4	1.8 m lintel	0.147	85	0.835	5	130.8	10	100.1	10	100.1	34	5	130.8	42	42	0	42	0.07	1.44	0	3	3	1	38	3	1/5	FUTURE PIT
1/5	1.8 m lintel	0.136	85	0.835	5	130.8	10	100.1	10	100.1	31	5	130.8	38	38	0	42	0.07	1.44	0	3.3	3	1	38	3	1/6	FUTURE PIT
1/6	1.8 m lintel	0.129	85	0.835	5	130.8	10	100.1	10	100.1	30	5	130.8	37	37	0	40	0.07	1.42	0	3.3	3	1	37	3	1/8	FUTURE PIT
1/7	STAGE BOUNDARY	0	0						0	0	0	0	0	0	0	0	0							0	0		
1/8	1.8 m lintel	0.137	85	0.835	5	130.8	10	100.1	10	100.1	32	5	130.8	39	39	0	42	0.07	1.5	0	3.3	3	1	38	3	1/9	
1/9	1.8 m lintel	0.128	85	0.835	5	130.8	10	100.1	10	100.1	30	5	130.8	36	36	0	40	0.07	1.55	0	2.7	3	1	37	3	1/10	
1/10	1.8 m lintel	0.132	85	0.835	5	130.8	10	100.1	10	100.1	31	5	130.8	37	37	0	40	0.07	1.73	0	2.1	3	1	37	3	4/6	
2/1	1.8 m lintel	0.159	85	0.835	5	130.8	10	100.1	10	100.1	37	5	130.8	45	45	0	45	0.06	2.15	0	3.2	3	1	41	4	YB/1	
3/1	H.W.	2.203	85	0.835	5	130.8	10	100.1	10	100.1	512	5	130.8	624	624	0	624							624	0		FUTURE EXTENSION
3/2	GSIP 900x900	0.081	60	0.81	5	130.8	10	100.1	10	100.1	18	5	130.8	19	19	0	19							19	0		
3/3	GSIP 900x900	0.541	60	0.81	5	130.8	10	100.1	10	100.1	122	5	130.8	130	130	0	130	0.1	2.37	0			1	102	28	LOST	
3/4	H.W.																										OUTLET TO DAM 4
4/1	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	0						1	0	0	4/3	5x900x900 DAM 4 OUTLET
4/2	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	0							0	0		SPECIAL STRUCTURE 0.9m x 3.0m
4/3	GSIP 900x900	0.343	85	0.835	5	130.8	10	100.1	10	100.1	80	5	130.8	97	97	0	97						1	81	16	4/4	SPECIAL STRUCTURE
4/4	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	16						1	16	0	4/5	SPECIAL STRUCTURE
4/5	GSIP 900x900 SAG	0.735	50	0.8	5	130.8	10	100.1	10	100.1	163	5	130.8	164	164	0	164	0.09					1	164	0		SPECIAL STRUCTURE
4/6	2.4 m lintel sag	0.115	85	0.835	5	130.8	10	100.1	10	100.1	27	5	130.8	32	32	0	36	0.06			0.2	3	1	36	0	4A/1	SPECIAL STRUCTURE
4/7	2.4 m lintel sag	0.154	85	0.835	5	130.8	10	100.1	10	100.1	36	5	130.8	44	44	0	44	0.05			0.2	3	1	44	0	4/8	SPLITTER PIT
4/8	JP	0	0						0	0	0	0	0	0	0	0	0						1	0	0	4/9	SPECIAL STRUCTURE
4/9	JP	0	0						0	0	0	0	0	0	0	0	0						1	0	0	4/10	SPECIAL STRUCTURE
4/10	JP	0	0						0	0	0	0	0	0	0	0	0	0					1	0	0	4/11	SPECIAL STRUCTURE
4/11	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	0						0	-405	405	4/12	
4/12	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	405						0	-930	1336	LOST	
4/13	H.W.																										OUTLET TO DAM 15
4A/2	GPT	0	0						0	0	0	0	0	0	0	0	0	0					1	0	0		
4A/3	H.W.																										OUTLET TO DAM 12
5/1	1.8 m lintel	0.17	85	0.835	5	130.8	10	100.1	10	100.1	39	5	130.8	48	48	0	48	0.08	1.74	0	2.4	3	1	41	7	5/2	
5/2	1.8 m lintel	0.162	85	0.835	5	130.8	10	100.1	10	100.1	38	5	130.8	46	46	0	53	0.08	1.79	0	2.4	3	1	44	10	5/3	
5/3	1.8 m lintel	0.157	85	0.835	5	130.8	10	100.1	10	100.1	37	5	130.8	45	46	0	54	0.08	1.92	0	2.3	3	1	47	7	5/4	
5/4	1.8 m lintel	0.028	85	0.835	5	130.8	10	100.1	10	100.1	7	5	130.8	8	8	0	15	0.06	0.95	0	2.3	3	1	15	0	4/6	
6/1	1.8 m lintel	0.055	85	0.835	5	130.8	10	100.1	10	100.1	13	5	130.8	15	15	0	15	0.04	0.68	0	13	3	1	15	0	6/2	
6/2	1.8 m lintel	0.098	85	0.835	5	130.8	10	100.1	10	100.1	23	5	130.8	28	28	0	28	0.06	0.99	0	8.1	3	1	28	0	LOST	
6/3	1.8 m lintel	0.048	85	0.835	5	130.8	10	100.1	10	100.1	11	5	130.8	14	14	0	14	0.04	0.46	0	8.4	3	1	14	0	5/4	
7/1	1.8 m lintel	0.085	85	0.835	5	130.8	10	100.1	10	100.1	20	5	130.8	24	24	0	24	0.06	1.26	0	2.3	3	1	24	0	17/1	
8/1	STAGE BOUNDARY	0	0						0	0	0	0	0	0	0	0	0						1	0	0	8/2	ENDCAP FOR FUTURE EXTENSION
8/2	GSIP 900x900	0.339	85	0.835	5	130.8	10	100.1	10	100.1	79	5	130.8	96	96	0	96						1	80	16	8/3	
8/3	GSIP 900x900	0.067	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	19	19	0	35	0.02	3.17	0	1.1	0	1	33	1	8/4	
8/4	GSIP 900x900	0.132	85	0.835	5	130.8	10	100.1	10	100.1	31	5	130.8	37	37	0	39	0.02	3.18	0	1.1	0	1	37	2	8/5	
8/5	GSIP 900x900	0.134	85	0.835	5	130.8	10	100.1	10	100.1	31	5	130.8	38	38	0	40	0.02	3.19	0	1.1	0	1	38	2	8/6	
8/6	GSIP 900x900	0.131	85	0.835	5	130.8	10	100.1	10	100.1	30	5	130.8	37	37	0	39	0.02	3.18	0	1.1	0	1	37	2	8/7	
8/7	GSIP 900x900	0.137	85	0.835	5	130.8	10	100.1	10	100.1	32	5	130.8	39	39	0	41	0.02	3.19	0	1.1	0	1	39	2	8/8	
8/8	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	2	0	3.04	0	1.1	0	1	2	0	8/9	
8/9	GSIP 900x900	0.157	85	0.835	5	130.8	10	100.1	10	100.1	37	5	130.8	45	45	0	45	0.03	3.2	0	1.1	0	1	42	3	8/10	
8/10	GSIP 900x900	0.162	85	0.835	5	130.8	10	100.1	10	100.1	38	5	130.8	46	46	0	49	0.03	3.23	0	1.1	0	1	45	4	8/11	
8/11	GSIP 900x900	0.145	85	0.835	5	130.8	10	100.1	10	100.1	34	5	130.8	41	41	0	45	0.02	3.17	0	1.8	0	1	42	3	8/15	
8/12	2.4 m lintel sag	0.151	85	0.835	5	130.8	10	100.1	10	100.1	35	5	130.8	43	43	0	47	0.05					1	47	0		
8/13	2.4 m lintel sag	0.027	85	0.835	5	130.8	10	100.1	10	100.1	6	5	130.8	8	8	0	8	0.02			1.5	3	1	8	0	LOST	
8/14	GSIP 900x900	0.018	85	0.835	5	130.8	10	100.1	10	100.1	4	5	130.8	5	5	0	5							5	0		
8/15	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	3				0.4		1	3	0	LOST	
8/16	H.W.																										OUTLET TO DAM 4
9/1	1.8 m lintel	0.084	85	0.835	5	130.8	10	100.1	10	100.1	19	5	130.8	24	24	0	24	0.07	1.51	0	1	3	1	23	0	11/1	
10/1	H.W.	0.703	85	0.835	5	130.8	10	100.1	10	100.1	163	5	130.8	199	199	0	199						1	199	0	8/9	HEADWALL INLET
11/1	1.8 m lintel	0.059	85	0.835	5	130.8	10	100.1	10	100.1	14	5	130.8	17	17	0	17	0.07	1.3	0	1	3	1	17	0	6/1	
12/1	2.4 m lintel	0.256	75	0.825	5	130.8	10	100.1	10	100.1	59	5	130.8	68	68	0	68	0.09	2.14	0	3	3	1	61	7	12/2	
12/2	1.8 m lintel	0.241	75	0.825	5	130.8	10	100.1	10	100.1	55	5	130.8	64	64	0	71	0.08	1.72	0	4.7	3	1	59	13	12/3	
12/3	1.8 m lintel	0.237	85	0.835	5	130.8	10	100.1	10	100.1	55	5	130.8	67	67	0	80	0.08	1.47	0	7	3	1	67	13	12/4	
12/4	1.8 m lintel	0.122	85	0.835	5	130.8	10	100.1	10	100.1	28	5	130.8	35	35	0	47	0.07	1.37	0	4.8	3	1	43	4	8/12	
12O/1	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	0							0	0		4x900x900GSIP DAM 12 OUTLET
13/1	1.8 m lintel	0.092	85	0.835	5	130.8	10	100.1	10	100.1	21	5	130.8	26	26	0	26	0.06	0.96	0	7.3	3	1	26	0	8/13	
14/1	2.4 m lintel sag	0.119	85	0.835	5	130.8	10	100.1	10	100.1	28	5	130.8	34	34	0	34	0.04					1	34	0		
15/2	GSIP 900x900	0.092	85	0.835	5	130.8	10	100.1	10	100.1	21	5	130.8	26	26	0	26				3.5	.7	1	26	1	LOST	FUTURE PIT
15/3	STAGE BOUNDARY	0	0						0	0	0	0	0	0	0	0	0							0	0		
15/4	H.W.																										OUTLET TO DAM 4
16/1	DUMMY	0.063	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	18	18	0	18				3.7	11	1	18	0	14/1	FUTURE PIT
17/1	1.8 m lintel	0.046	85	0.835	5	130.8	10	100.1	10	100.1	11	5	130.8	13	13	0	14	0.04	0.47	0	7.9	3	1	14	0	17/2	
17/2	1.8 m lintel	0.02	85	0.835	5	130.8	10	100.1	10	100.1	5	5	130.8	6	6	0	6	0.03	0.38	0	5.9	3	1	6	0	19/3	
17/3	1.8 m lintel	0.023	85	0.835	5	130.8	10	100.1	10	100.1	5	5	130.8	7	7	0	7	0.04	0.43	0	2.7	3	1	7	0	17/4	
17/4	1.8 m lintel	0.028	85	0.835	5	130.8	10	100.1	10	100.1	7	5	130.8	8	8	0	8	0.05	0.53	0	2.1	3	1	8	0	17/5	
17/5	1.8 m lintel	0.085	85	0.835	5	130.8	10	100.1	10	100.1	20	5	130.8	24	24	0	24	0.07	1.27	0	2.1	3	1	24	0	17/6	
17/6	1.8 m lintel	0.125	85	0.835	5	130.8	10	100.1	10	100.1	29	5	130.8	35	35	0	36	0.07	1.55	0	2.1	3	1	34	2	17/7	
17/7	1.8 m lintel	0.118	85	0.835	5	130.8	10	100.1	10	100.1	27	5	130.8	33	33	0	36	0.07	1.55	0	2.1	3	1	33	2	17/8	
17/8	1.8 m lintel	0.121	85	0.835	5	130.8	10	100.1	10	100.1	28	5	130.8	34	34	0	36	0.07	1.62	0	2.1	3	1	34	2	17/9	
17/9	1.8 m lintel	0.081	85	0.835	5	130.8	10	100.1	10	100.1	19	5	130.8	23	23	0	25	0.06	1.45	0	2.1	3	1	24	1	24/1	
17/10	1.8 m lintel	0.075	85	0.835	5	130.8	10	100.1	10	100.1	17	5	130.8	21	21	0	22	0.06	1.27	0	1.9	2	1	20	1	17/11	
17/11	GPT	0	0						0	0	0	0	0	0	0	0	1	0	0	0	1.9		1	0	1	LOST	GPT
17/12	JP	0	0						0	0	0	0	0	0	0	0	0							0	0		
17/13	H.W.																										OUTLET TO DAM 15

CONSTRUCTION CERTIFICATE

Certificate No. 20130229C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF: 16800-11

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DRAINAGE CALCULATIONS
SHEET 1 OF 9

PLAN No: 11018511/CC126 B
FILE No: 11018511CC126
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:56:09 PM File Name: J:\11018S - Redbank North Richmond Residential Precincts\01 - Description\DD\CC\YEOMANS\11018511CC126.dwg

DESIGN STORM 1:5yr ARI HYDROLOGIC RESULTS

PIT NAME (-)	PIT TYPE (-)	CATCHMENT AREA (ha)	IMPERVIOUS PERCENTAGE (%)	RUNOFF C (-)	IMPERVIOUS TIME Tc (min)	IMPERVIOUS INTENSITY I (mm/hr)	PERVIOUS TIME Tc (min)	PERVIOUS INTENSITY I (mm/hr)	FULL AREA TIME Tc (min)	FULL AREA INTENSITY I (mm/hr)	FULL AREA CATCHMENT FLOW Qc (L/s)	PARTIAL AREA TIME Tc (min)	PARTIAL AREA INTENSITY I (mm/hr)	PARTIAL AREA CATCHMENT FLOW Qc (L/s)	TOTAL CATCHMENT FLOW Qc (L/s)	DIRECT FLOW Qd (L/s)	APPROACH FLOW Qa (L/s)	FLOODED DEPTH d (m)	FLOODED WIDTH w (m)	FLOODED (v.xd) (sq.m/s)	ROAD GRADE (%)	ROAD XFALL (%)	CHOKE FACTOR (-)	INLET FLOW Qg (L/s)	BYPASS FLOW Qb (L/s)	BYPASS PIT (-)	COMMENTS
18/1	1.8 m lintel	0.056	85	0.835	5	130.8	10	100.1	10	100.1	13	5	130.8	16	16	0	16	0.05	0.65	0	6.2	3	1	16	0	20/1	
19/1	1.8 m lintel	0.12	85	0.835	5	130.8	10	100.1	10	100.1	28	5	130.8	34	34	0	34	0	0.15	0	3.4	3	1	32	2	19/2	
19/2	2.4 m lintel sag	0.203	85	0.835	5	130.8	10	100.1	10	100.1	47	5	130.8	57	57	0	59	0.06			0.8	3	1	59	0	19/3	
19/3	GSIP 900x900 SAG	0.092	40	0.79	5	130.8	10	100.1	10	100.1	20	5	130.8	19	20	0	20	0.02			0.8	17	1	20	0	19/4	
19/4	1.8 m lintel	0.053	85	0.835	5	130.8	10	100.1	10	100.1	12	5	130.8	15	15	0	15	0.03	1.13	0	0.8	3	1	15	0	17/3	
20/1	1.8 m lintel	0.072	85	0.835	5	130.8	10	100.1	10	100.1	17	5	130.8	20	20	0	20	0.06	1.23	0	2.1	3	1	20	0	21/1	
21/1	1.8 m lintel	0.079	85	0.835	5	130.8	10	100.1	10	100.1	18	5	130.8	22	22	0	22	0	0.15	0	2.1	3	1	22	0	17/10	
22/1	1.8 m lintel	0.045	85	0.835	5	130.8	10	100.1	10	100.1	10	5	130.8	13	13	0	13	0.04	0.45	0	6.9	3	1	13	0	22/2	
22/2	1.8 m lintel	0.145	85	0.835	5	130.8	10	100.1	10	100.1	34	5	130.8	41	41	0	41	0.07	1.11	0	7.1	3	1	39	2	22/3	
22/3	1.8 m lintel	0.112	85	0.835	5	130.8	10	100.1	10	100.1	26	5	130.8	32	32	0	34	0.06	1.3	0	7.1	3	1	33	1	22/4	
22/4	1.8 m lintel	0.124	85	0.835	5	130.8	10	100.1	10	100.1	29	5	130.8	35	35	0	36	0.06	1.26	0	6.6	3	1	35	1	22/5	
22/5	1.8 m lintel	0.073	85	0.835	5	130.8	10	100.1	10	100.1	17	5	130.8	21	21	0	22	0.05	0.93	0	5.6	3	1	22	0	22/7	
22/6	1.8 m lintel	0.148	85	0.835	5	130.8	10	100.1	10	100.1	34	5	130.8	42	42	0	47	0.07	1.37	0	5.5	3	1	43	3	22/7	
22/7	1.8 m lintel	0.039	85	0.835	5	130.8	10	100.1	10	100.1	9	5	130.8	11	11	0	15	0.06	0.97	0	2.2	3	1	15	0	22/8	
22/8	2.4 m lintel sag	0.21	85	0.835	5	130.8	10	100.1	10	100.1	49	5	130.8	59	59	0	61	0.06			0.5	3	1	61	0	22/10	
22/9	GPT	0	0						0	0	0	0	0	0	0	0	0							0	0		
22/10	GSIP 900x900 SAG	0.349	40	0.79	5	130.8	10	100.1	10	100.1	77	5	130.8	72	77	0	77	0.05			0.8	17	1	77	0	22/11	
22/11	2.4 m lintel sag	0.062	85	0.835	5	130.8	10	100.1	10	100.1	14	5	130.8	18	18	0	18	0.02			0.4	3	1	12	6	22/12	
22/12	1.8 m lintel	0.012	85	0.835	5	130.8	10	100.1	10	100.1	3	5	130.8	4	4	0	9	0.05	0.73	0	1	3	1	9	0	LOST	TEMPORARY HEADWALL
22/13	DUMMY	0.81	85	0.835	5	130.8	10	100.1	10	100.1	188	5	130.8	229	229	0	229							229	0		FUTURE PIT
22/14	1.8 m lintel	0.314	85	0.835	5	130.8	10	100.1	10	100.1	73	5	130.8	89	89	0	89							89	0		FUTURE PIT
22/15	1.8 m lintel	0.095	85	0.835	5	130.8	10	100.1	10	100.1	22	5	130.8	27	27	0	27							27	0		FUTURE PIT
22/16	Dummy Sag	1.206	85	0.835	5	130.8	10	100.1	10	100.1	280	5	130.8	341	341	0	341	0.02					1	341	0		FUTURE PIT
22/17	GPT	0	0						0	0	0	0	0	0	0	0	0							0	0		FUTURE GPT
22/18	H.W.																										FUTURE HEADWALL
22A/2	JP																										HYDROCON PIPE INLET
22B/1	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	0							0	0		HYDROCON PIPE OUTLET
23/1	1.8 m lintel	0.176	85	0.835	5	130.8	10	100.1	10	100.1	41	5	130.8	50	50	0	50	0.08	1.52	0	7.5	3	1	45	5	22/6	
24/1	1.8 m lintel	0.158	85	0.835	5	130.8	10	100.1	10	100.1	37	5	130.8	45	45	0	46	0.07	1.43	0	5	3	1	42	4	24/2	
24/2	1.8 m lintel	0.07	85	0.835	5	130.8	10	100.1	10	100.1	16	5	130.8	20	20	0	24	0.06	1.06	0	5.7	3	1	24	0	22/7	
25/1	1.8 m lintel	0.038	85	0.835	5	130.8	10	100.1	10	100.1	9	5	130.8	11	11	0	11	0.04	0.46	0				11	0		
25/2	1.8 m lintel	0.065	85	0.835	5	130.8	10	100.1	10	100.1	20	5	130.8	25	25	0	25	0.05	0.78	0	9.3	3	1	25	0	25/3	
25/3	1.8 m lintel	0.09	85	0.835	5	130.8	10	100.1	10	100.1	21	5	130.8	26	26	0	26	0.05	1.1	0	6.9	3	1	26	0	LOST	
25/4	1.8 m lintel	0.104	85	0.835	5	130.8	10	100.1	10	100.1	24	5	130.8	29	29	0	32	0.08	1.89	0	0.7	3	1	31	1	22/8	
26/1	1.8 m lintel	0.14	85	0.835	5	130.8	10	100.1	10	100.1	33	5	130.8	40	40	0	40	0.07	0.8	0	6.9	3	1	38	2	LOST	
27/1	1.8 m lintel	0.139	85	0.835	5	130.8	10	100.1	10	100.1	32	5	130.8	39	39	0	39	0.09	2.06	0	0.7	3	1	36	3	27/2	
27/2	1.8 m lintel	0.133	85	0.835	5	130.8	10	100.1	10	100.1	31	5	130.8	38	38	0	40	0.09	2.08	0	0.7	3	1	37	3	27/3	
27/3	1.8 m lintel	0.133	85	0.835	5	130.8	10	100.1	10	100.1	31	5	130.8	38	38	0	41	0.09	2.09	0	0.7	3	1	38	3	27/4	
27/4	1.8 m lintel	0.127	85	0.835	5	130.8	10	100.1	10	100.1	30	5	130.8	36	36	0	39	0.09	2.08	0	0.7	3	1	36	3	25/4	
28/1	1.8 m lintel	0.088	85	0.835	5	130.8	10	100.1	10	100.1	20	5	130.8	25	25	0	25	0.08	1.65	0	0.8	3	1	24	0	22/11	
28/2	GSIP 900x900	0.255	40	0.79	5	130.8	10	100.1	10	100.1	56	5	130.8	52	56	0	56					3		56	0		
29/1	1.8 m lintel	0.07	85	0.835	5	130.8	10	100.1	10	100.1	16	5	130.8	20	20	0	20	0.06	1.03	0	3.2	3	1	20	0	29/2	
29/2	1.8 m lintel	0.016	85	0.835	5	130.8	10	100.1	10	100.1	4	5	130.8	4	4	0	4	0.03	0.43	0		3	1	0	4	LOST	
30/1	1.8 m lintel	0.172	85	0.835	5	130.8	10	100.1	10	100.1	40	5	130.8	49	49	0	49	0.08	1.84	0	2.1	3	1	41	8	30/2	
30/2	1.8 m lintel	0.165	85	0.835	5	130.8	10	100.1	10	100.1	38	5	130.8	47	47	0	54	0.08	1.91	0	2.1	3	1	44	10	30/3	
30/3	1.8 m lintel	0.163	85	0.835	5	130.8	10	100.1	10	100.1	38	5	130.8	46	46	0	56	0.08	1.97	0	2.1	3	1	45	11	30/4	
30/4	1.8 m lintel	0.078	85	0.835	5	130.8	10	100.1	10	100.1	18	5	130.8	22	22	0	33	0.07	1.5	0	2.1	3	1	30	3	32/2	
30/5	1.8 m lintel	0.076	85	0.835	5	130.8	10	100.1	10	100.1	18	5	130.8	22	22	0	22	0.06	1.56	0	2	3	1	22	0	30/6	
30/6	1.8 m lintel	0.023	85	0.835	5	130.8	10	100.1	10	100.1	5	5	130.8	6	6	0	7	0.03	0.36	0	6.1	3	1	7	0	30/7	
30/7	1.8 m lintel	0.024	85	0.835	5	130.8	10	100.1	10	100.1	6	5	130.8	7	7	0	7	0.03	0.35	0	11	3	1	7	0	30/8	
30/8	1.8 m lintel	0.023	85	0.835	5	130.8	10	100.1	10	100.1	5	5	130.8	7	7	0	7	0.05	0.33	0	6.9	3	1	7	0	30/9	
30/9	1.8 m lintel	0.035	85	0.835	5	130.8	10	100.1	10	100.1	8	5	130.8	10	10	0	14	0.05	0.88	0	2.1	3	1	14	0	30/10	
30/10	2.4 m lintel sag	0.202	85	0.835	5	130.8	10	100.1	10	100.1	47	5	130.8	57	57	0	62	0.06			0.3	3	1	62	0	30/11	
30/11	GSIP 900x900 SAG	0.105	40	0.79	5	130.8	10	100.1	10	100.1	23	5	130.8	22	23	0	24	0.02			0.3	17	1	24	0	30/12	
30/12	2.4 m lintel sag	0.07	85	0.835	5	130.8	10	100.1	10	100.1	16	5	130.8	20	20	0	20	0.03			0.3	3	1	20	0	30/13	
30/13	GSIP 900x900	0.02	85	0.835	5	130.8	10	100.1	10	100.1	5	5	130.8	6	6	0	6	0.02	2.09	0			1	6	0	30/14	SPECIAL STRUCTURE
30/14	GSIP 900x900	0.017	50	0.8	5	130.8	10	100.1	10	100.1	4	5	130.8	4	4	0	4				0.1		1	4	0	30/15	SPECIAL STRUCTURE
30/15	2.4 m lintel sag	0.113	85	0.835	5	130.8	10	100.1	10	100.1	26	5	130.8	32	32	0	35	0.05			0.4	3	1	35	0	30A/1	SPECIAL STRUCTURE
30/16	GPT	0	0						0	0	0	0	0	0	0	0	0				0.4	10	1	0	0	30/19	
30/17	JP	0	0						0	0	0	0	0	0	0	0	0	0					1	0	0		SPECIAL STRUCTURE
30/18	GSIP 900x900 SAG	0.216	85	0.835	5	130.8	10	100.1	10	100.1	50	5	130.8	61	61	0	61	0.05					1	61	0		SPECIAL STRUCTURE
30/19	2.4 m lintel sag	0.088	85	0.835	5	130.8	10	100.1	10	100.1	20	5	130.8	25	25	0	25	0.04			0.4	3	1	25	0	30C/1	SPLITTER PIT
30/20	JP	0	0						0	0	0	0	0	0	0	0	0							0	0		SPECIAL STRUCTURE
30/21	H.W.																										HYDROCON PIPE INLET
30A/2	GSIP 900x900																										HYDROCON PIPE OUTLET
30B/1	GSIP 600x900	0	0						0	0	0	0	0	0	0	0	0							0	0		RAINGARDEN OUTLET
30C/2	H.W.																										
31/1	1.8 m lintel	0.09	85	0.835	5	130.8	10	100.1	10	100.1	21	5	130.8	26	26	0	26	0.07	1.31	0	2	3	1	25	1	30/5	
32/1	2.4 m lintel	0.102	85	0.835	5	130.8	10	100.1	10	100.1	24	5	130.8	29	29	0	29	0.06	1.04	0	6.4	3	1	29	0	32/2	
32/2	2.4 m lintel sag	0.255	85	0.835	5	130.8	10	100.1	10	100.1	59	5	130.8	72	72	0	75	0.07			0.7	3	1	75	0	32/3	
32/3	2.4 m lintel sag	0.072	85	0.835	5	130.8	10	100.1	10	100.1	17	5	130.8	20	20	0	20	0.01			2	3	1	3	17	32/4	
32/4	1.8 m lintel	0.025	85	0.835	5	130.8	10	100.1	10	100.1	6	5	130.8	7	7	0	24	0.05	1.1	0	6.1	3	1	24	0	33/1	
33/1	1.8 m lintel	0.027	85	0.835	5	130.8	10	100.1	10	100.1	6	5	130.8	8	8	0	8	0.03	0.36	0	11	3	1	8	0	34/1	
34/1	1.8 m lintel	0.025	85	0.835	5	130.8	10	100.1	10	100.1	6	5	130.8	7	7	0	7	0.03	0.39	0	6.9	3	1	7	0	30/9	
35/1	2.4 m lintel	0.152	85	0.835	5	130.8	10	100.1	10	100.1	35	5	130.8	43	43	0	43	0.07	5.56	0	3.4	3	1	42	1	35/2	
35/2	1.8 m lintel	0.153	85	0.835	5	130.8	10	100.1	10	100.1	36	5	130.8	43	43	0	45	0.07	5.56	0	3.4	3	1	41	4	30/9	
36/1	1.8 m lintel	0.13	85	0.835	5	130.8	10	100.1	10	100.1	30	5	130.8	37	37	0	37	0.07	1.53	0	2.6	3	1	33	4	36/2	
36/2	1.8 m lintel	0.121	85	0.835	5	130.8	10	100.1	10	100.1	28	5	130.8	34	34	0	38	0.07	1.54	0	2.6	3	1	34	4	36/3	
36/3	1.8 m lintel	0.124	85	0.835	5	130.8	10	100.1	10	100.1	29	5	130.8	35	35	0	39	0.08	1.78	0	1.5	3	1	35	5	36/4	
36/4	1.8 m lintel	0.128	85	0.835	5	130.8	10	100.1	10	100.1	30	5	130.8	36	36	0	41	0.08	1.85	0	1.4	3	1	36	5	36/5	
36/5	1.8 m lintel	0.129	85	0.835	5	130.8	10	100.1	10	100.1	30	5	130.8	37	37	0	42	0.08	1.73	0	1.9	3	1	36	6	36/6	
36/6	1.8 m lintel	0.131	85	0.835	5	130.8	10	100.1	10	100.1	31	5	130.8	37	37	0	43	0.07	1.64	0	3	3	1	38	5	36/10	
37/1	GSIP 600x900	0.097	40	0.79	5	130.8	10	100.1	10	100.1	21	5	130.8	29	21	0	21							21	0		

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DRAINAGE CALCULATIONS
SHEET 2 OF 9

PLAN No: 11018511/CC127 B
FILE No: 11018511CC127
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:56:26 PM File Name: J:\11018S - Redbank North Richmond Residential Precincts\01 - Description\CDC\YEOMANS\11018511CC127.dwg

DESIGN STORM 1:5yr ARI HYDROLOGIC RESULTS

PIT NAME (-)	PIT TYPE (-)	CATCHMENT AREA (ha)	IMPERVIOUS PERCENTAGE (%)	RUNOFF C (-)	IMPERVIOUS TIME Tc (min)	IMPERVIOUS INTENSITY I (mm/hr)	PERVIOUS TIME Tc (min)	PERVIOUS INTENSITY I (mm/hr)	FULL AREA TIME Tc (min)	FULL AREA INTENSITY I (mm/hr)	FULL AREA CATCHMENT FLOW Qc (L/s)	PARTIAL AREA TIME Tc (min)	PARTIAL AREA INTENSITY I (mm/hr)	PARTIAL AREA CATCHMENT FLOW Qc (L/s)	TOTAL CATCHMENT FLOW Qc (L/s)	DIRECT FLOW Qd (L/s)	APPROACH FLOW Qa (L/s)	FLOODED DEPTH d (m)	FLOODED WIDTH w (m)	FLOODED (vxd) (sq.m/s)	ROAD GRADE (%)	ROAD XFALL (%)	CHOKE FACTOR (-)	INLET FLOW Qg (L/s)	BYPASS FLOW Qb (L/s)	BYPASS PIT (-)	COMMENTS
37/2	1.8 m lintel	0.045	85	0.835	5	130.8	10	100.1	10	100.1	10	5	130.8	13	13	0	13	0.05	0.92	0	2	3	1	13	0	25/1	
37/3	1.8 m lintel	0.004	85	0.835	5	130.8	10	100.1	10	100.1	1	5	130.8	1	1	0	1	0.02	0.23	0	2	3	1	1	0	37/4	
37/4	1.8 m lintel	0.039	85	0.835	5	130.8	10	100.1	10	100.1	9	5	130.8	11	11	0	11	0.05	0.83	0	2	3	1	11	0	37/5	
37/5	1.8 m lintel	0.041	85	0.835	5	130.8	10	100.1	10	100.1	9	5	130.8	12	12	0	12	0.05	0.88	0	2	3	1	12	0	30/12	
38/1	GSIP 900x900	0.127	40	0.79	5	130.8	10	100.1	10	100.1	28	5	130.8	26	28	0	28	0.04	0.89	0	2	17	1	27	1	30/11	
39/1	GSIP 900x900	0.072	40	0.79	5	130.8	10	100.1	10	100.1	16	5	130.8	15	16	0	16	0.03	0.86	0	3.3	17	1	16	0	LOST	
39/2	1.8 m lintel	0.05	85	0.835	5	130.8	10	100.1	10	100.1	12	5	130.8	14	14	0	14	0.05	0.8	0	3.4	3	1	14	0	30/12	
40/1	1.8 m lintel	0.106	85	0.835	5	130.8	10	100.1	10	100.1	25	5	130.8	30	30	0	30	0.06	1.35	0	3.2	3	1	29	1	40/2	
40/2	1.8 m lintel	0.075	85	0.835	5	130.8	10	100.1	10	100.1	17	5	130.8	21	21	0	22	0.06	1.1	0	3.2	3	1	22	0	41/1	
40/3	1.8 m lintel	0.086	85	0.835	5	130.8	10	100.1	10	100.1	20	5	130.8	24	24	0	24	0.06	1.13	0	3.2	3	1	24	0	40/4	
40/4	1.8 m lintel	0.027	85	0.835	5	130.8	10	100.1	10	100.1	6	5	130.8	8	8	0	8	0.04	0.43	0	5	3	1	8	0	40/5	
40/5	1.8 m lintel	0.028	85	0.835	5	130.8	10	100.1	10	100.1	6	5	130.8	8	8	0	8	0.03	0.4	0	7.8	3	1	8	0	40/6	
40/6	1.8 m lintel	0.024	85	0.835	5	130.8	10	100.1	10	100.1	6	5	130.8	7	7	0	7	0.03	0.39	0	5.7	3	1	7	0	LOST	
40/7	1.8 m lintel	0.108	85	0.835	5	130.8	10	100.1	10	100.1	25	5	130.8	31	31	0	31	0.06	1.15	0	5.7	3	1	29	1	40/8	
40/8	1.8 m lintel	0.01	85	0.835	5	130.8	10	100.1	10	100.1	2	5	130.8	3	3	0	4	0.03	0.32	0	4.6	3	1	4	0	40/9	
40/9	1.8 m lintel	0.091	85	0.835	5	130.8	10	100.1	10	100.1	19	5	130.8	23	23	0	23	0.06	1.2	0	2.8	3	1	23	0	40/10	
40/10	1.8 m lintel	0.144	85	0.835	5	130.8	10	100.1	10	100.1	34	5	130.8	41	41	0	41	0.08	1.95	0	1	3	1	38	3	30/15	
41/1	2.4 m lintel sag	0.157	85	0.835	5	130.8	10	100.1	10	100.1	37	5	130.8	45	45	0	45	0.05			1	3	1	45	0	41/2	
41/2	2.4 m lintel sag	0.016	85	0.835	5	130.8	10	100.1	10	100.1	4	5	130.8	5	5	0	5	0			1	1	1	0	5	41/3	
41/3	GSIP 900x900 SAG	0.028	40	0.79	5	130.8	10	100.1	10	100.1	6	5	130.8	6	6	0	11	0			2.8	-2	1	0	11	41/4	
41/4	1.8 m lintel	0.02	85	0.835	5	130.8	10	100.1	10	100.1	5	5	130.8	6	6	0	16	0.02	5.41	0	2.8	3	1	16	0	41/5	
41/5	1.8 m lintel	0.025	85	0.835	5	130.8	10	100.1	10	100.1	6	5	130.8	7	7	0	7	0.04	0.39	0	5	3	1	7	0	42/1	
42/1	1.8 m lintel	0.086	85	0.835	5	130.8	10	100.1	10	100.1	20	5	130.8	24	24	0	24	0.05	0.94	0	6.9	3	1	24	0	40/7	
43/1	DUMMY	2.645	85	0.835	5	130.8	10	100.1	10	100.1	614	5	130.8	748	748	0	748	0	0.51	3	5.1	3	1	748	0	43/2	ENDCAP FOR FUTURE EXTENSION
43/2	1.8 m lintel	0.088	85	0.835	5	130.8	10	100.1	10	100.1	20	5	130.8	25	25	0	25	0.05	3.52	0	5.1	3	1	24	0	32/1	TEMPORARY JUNCTION PIT
43/3	1.8 m lintel	0	0						0	0	0	0	0	0	0	0	0				4.9	3	1	0	0	43/4	
43/4	1.8 m lintel	0.043	85	0.835	5	130.8	10	100.1	10	100.1	10	5	130.8	12	12	0	12	0.05	0.89	0	3.1	3	1	12	0	43/6	
43/5	1.8 m lintel	0.023	85	0.835	5	130.8	10	100.1	10	100.1	5	5	130.8	7	7	0	7	0.04	0.41	0	3.5	3	1	7	0	44/1	
43/6	1.8 m lintel	0.069	85	0.835	5	130.8	10	100.1	10	100.1	21	5	130.8	25	25	0	25	0.06	1.09	0	4.5	3	1	25	1	43/7	
43/7	1.8 m lintel	0.155	85	0.835	5	130.8	10	100.1	10	100.1	36	5	130.8	44	44	0	44	0.07	1.48	0	4.3	3	1	41	3	43/8	
43/8	1.8 m lintel	0.155	85	0.835	5	130.8	10	100.1	10	100.1	36	5	130.8	44	44	0	47	0.07	1.51	0	4.2	3	1	43	-4	LOST	
43/9	H.W.																										TEMPORARY OUTLET
44/1	1.8 m lintel	0.072	85	0.835	5	130.8	10	100.1	10	100.1	17	5	130.8	20	20	0	20	0.06	1.01	0	4.2	3	1	20	0	40/1	
45/1	DUMMY	1.026	85	0.835	5	130.8	10	100.1	10	100.1	238	5	130.8	290	290	0	290							290	0		ENDCAP FOR FUTURE EXTENSION
A/1	SLOPE JUNCTION	0.068	85	0.835	5	130.8	10	100.1	10	100.1	16	5	130.8	19	19	0	19							19	0		
A/2	JP	0	0						0	0	0	0	0	0	0	0	0							0	0		900x600
A/3	GSIP 600x900 IAD	0.066	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	19	19	0	19							19	0		
A/4	SLOPE JUNCTION	0.065	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	19	19	0	19							19	0		
A/5	GSIP 600x900 IAD	0	0						0	0	0	0	0	0	0	0	0							0	0		
A/6	SLOPE JUNCTION	0.065	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	19	19	0	19							19	0		
A/7	GSIP 600x900 IAD	0	0						0	0	0	0	0	0	0	0	0							0	0		
A/8	SLOPE JUNCTION	0.064	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	18	18	0	18							18	0		
A/9	GSIP 900x900 IAD	0.063	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	18	18	0	18							18	0		
B/1	SLOPE JUNCTION	0.059	85	0.835	5	130.8	10	100.1	10	100.1	14	5	130.8	17	17	0	17							17	0		
B/2	GSIP 450x450 IAD	0.057	85	0.835	5	130.8	10	100.1	10	100.1	13	5	130.8	16	16	0	16							16	0		
B/3	GSIP 600x900 IAD	0.058	85	0.835	5	130.8	10	100.1	10	100.1	13	5	130.8	16	16	0	16							16	0		
B/4	GSIP 600x900 IAD	0.066	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	19	19	0	19							19	0		
C/1	GSIP 450x450 IAD	0.055	85	0.835	5	130.8	10	100.1	10	100.1	13	5	130.8	15	15	0	15							15	0		
C/2	SLOPE JUNCTION	0.054	85	0.835	5	130.8	10	100.1	10	100.1	13	5	130.8	15	15	0	15							15	0		
C/3	GSIP 600x900 IAD	0.066	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	19	19	0	19							19	0		
D/1	SLOPE JUNCTION	0.054	85	0.835	5	130.8	10	100.1	10	100.1	13	5	130.8	15	15	0	15							15	0		
D/2	GSIP 600x900 IAD	0.055	85	0.835	5	130.8	10	100.1	10	100.1	13	5	130.8	15	15	0	15							15	0		
E/1	SLOPE JUNCTION	0.058	85	0.835	5	130.8	10	100.1	10	100.1	13	5	130.8	16	16	0	16							16	0		
E/2	GSIP 600x900 IAD	0.055	85	0.835	5	130.8	10	100.1	10	100.1	13	5	130.8	16	16	0	16							16	0		
E/3	SLOPE JUNCTION	0.053	85	0.835	5	130.8	10	100.1	10	100.1	12	5	130.8	15	15	0	15							15	0		
E/4	GSIP 600x900 IAD	0.061	85	0.835	5	130.8	10	100.1	10	100.1	14	5	130.8	17	17	0	17							17	0		
F/1	SLOPE JUNCTION	0.068	85	0.835	5	130.8	10	100.1	10	100.1	16	5	130.8	19	19	0	19							19	0		
F/2	GSIP 450x450 IAD	0.068	85	0.835	5	130.8	10	100.1	10	100.1	16	5	130.8	19	19	0	19							19	0		
F/3	SLOPE JUNCTION	0.071	85	0.835	5	130.8	10	100.1	10	100.1	16	5	130.8	20	20	0	20							20	0		
F/4	JP	0	0						0	0	0	0	0	0	0	0	0							0	0		600x900
F/5	SLOPE JUNCTION	0.069	85	0.835	5	130.8	10	100.1	10	100.1	16	5	130.8	20	20	0	20							20	0		
F/6	GSIP 600x900 IAD	0.069	85	0.835	5	130.8	10	100.1	10	100.1	16	5	130.8	20	20	0	20							20	0		
F/7	SLOPE JUNCTION	0.067	85	0.835	5	130.8	10	100.1	10	100.1	16	5	130.8	19	19	0	19							19	0		
F/8	GSIP 900x900 IAD	0.066	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	19	19	0	19							19	0		
F/9	GSIP 600x900 IAD	0.065	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	18	18	0	18							18	0		
G/1	GSIP 450x450 IAD	0.096	85	0.835	5	130.8	10	100.1	10	100.1	23	5	130.8	28	28	0	28							28	0		
G/2	SLOPE JUNCTION	0.065	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	18	18	0	18							18	0		
GR O/1	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	0							0	0		RAINGARDEN OUTLET
H/1	SLOPE JUNCTION	0.059	85	0.835	5	130.8	10	100.1	10	100.1	14	5	130.8	17	17	0	17							17	0		
H/2	GSIP 600x900 IAD	0.057	85	0.835	5	130.8	10	100.1	10	100.1	13	5	130.8	16	16	0	16							16	0		
H/3	SLOPE JUNCTION	0.058	85	0.835	5	130.8	10	100.1	10	100.1	14	5	130.8	16	16	0	16							16	0		
H/4	JP	0	0						0	0	0	0	0	0	0	0	0							0	0		450x450
H/5	SLOPE JUNCTION	0.061	85	0.835	5	130.8	10	100.1	10	100.1	14	5	130.8	17	17	0	17							17	0		
H/6	GSIP 600x900 IAD	0.061	85	0.835	5	130.8	10	100.1	10	100.1	14	5	130.8	17	17	0	17							17	0		
H/7	GSIP 600x900 IAD	0.063	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	18	18	0	18							18	0		
H/8	GSIP 600x900 IAD	0.064	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	18	18	0	18							18	0		
H/9	SLOPE JUNCTION	0.065	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	18	18	0	18							18	0		
H/10	JP	0	0						0	0	0	0	0	0	0	0	0							0	0		600x900
H/11	GSIP 600x900 IAD	0.067	85	0.835	5	130.8	10	100.1	10	100.1	16	5	130.8	19	19	0	19							19	0		
H/12	SLOPE JUNCTION	0.066	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	19	19	0	19							19	0		
H/13	JP	0	0						0	0	0	0	0	0	0	0	0							0	0		600x900
H/14	GSIP 600x900 IAD	0.073	85	0.835	5	130.8	10	100.1	10	100.1	17	5	130.8	21	21	0	21							21	0		

CONSTRUCTION CERTIFICATE

Certificate No. 20130229PC42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
PO Box 4365 PENRITH WESTFIELD NSW 2750
P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DRAINAGE CALCULATIONS
SHEET 3 OF 9

PLAN No: 11018511/CC128 B
FILE No: 11018511CC128
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January, 2018 4:56:43 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CCYEOMANS\11018511CC128.dwg

DESIGN STORM 1:5yr ARI HYDROLOGIC RESULTS

PIT NAME (-)	PIT TYPE (-)	CATCHMENT AREA (ha)	IMPERVIOUS PERCENTAGE (%)	RUNOFF C (-)	IMPERVIOUS TIME Tc (min)	IMPERVIOUS INTENSITY I (mm/hr)	PERVIOUS TIME Tc (min)	PERVIOUS INTENSITY I (mm/hr)	FULL AREA TIME Tc (min)	FULL AREA INTENSITY I (mm/hr)	FULL AREA CATCHMENT FLOW Qc (L/s)	PARTIAL AREA TIME Tc (min)	PARTIAL AREA INTENSITY I (mm/hr)	PARTIAL AREA CATCHMENT FLOW Qc (L/s)	TOTAL CATCHMENT FLOW Qc (L/s)	DIRECT FLOW Qd (L/s)	APPROACH FLOW Qa (L/s)	FLOODED DEPTH d (m)	FLOODED WIDTH w (m)	FLOODED (vxd) (sq.m/s)	ROAD GRADE (%)	ROAD XFALL (%)	CHOKE FACTOR (-)	INLET FLOW Qg (L/s)	BYPASS FLOW Qb (L/s)	BYPASS PIT (-)	COMMENTS
J/1	SLOPE JUNCTION	0.082	85	0.835	5	130.8	10	100.1	10	100.1	19	5	130.8	23	23	0	23							23	0		
J/2	JP	0	0						0	0	0	0	0	0	0	0	0							0	0		450x450
J/3	GSIP 600x900 IAD	0.088	85	0.835	5	130.8	10	100.1	10	100.1	21	5	130.8	25	25	0	25							25	0		
J/4	SLOPE JUNCTION	0.076	85	0.835	5	130.8	10	100.1	10	100.1	18	5	130.8	21	21	0	21							21	0		
J/5	GSIP 600x900 IAD	0.081	85	0.835	5	130.8	10	100.1	10	100.1	19	5	130.8	23	23	0	23							23	0		
K/1	GSIP 450x450 IAD	0.066	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	19	19	0	19							19	0		
K/2	SLOPE JUNCTION	0.074	85	0.835	5	130.8	10	100.1	10	100.1	17	5	130.8	21	21	0	21							21	0		
K/3	GSIP 450x450 IAD	0.066	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	19	19	0	19							19	0		
K/4	SLOPE JUNCTION	0.062	85	0.835	5	130.8	10	100.1	10	100.1	14	5	130.8	18	18	0	18							18	0		
K/5	GSIP 900x900 IAD	0.068	85	0.835	5	130.8	10	100.1	10	100.1	16	5	130.8	19	19	0	19							19	0		
L/1	GSIP 450x450 IAD	0.064	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	18	18	0	18							18	0		
L/2	SLOPE JUNCTION	0.058	85	0.835	5	130.8	10	100.1	10	100.1	13	5	130.8	16	16	0	16							16	0		
L/3	JP	0	0						0	0	0	0	0	0	0	0	0							0	0		600x900
L/4	JP	0	0						0	0	0	0	0	0	0	0	0							0	0		450x450
L/5	SLOPE JUNCTION	0.079	85	0.835	5	130.8	10	100.1	10	100.1	18	5	130.8	22	22	0	22							22	0		
L/6	GSIP 600x900 IAD	0.07	85	0.835	5	130.8	10	100.1	10	100.1	16	5	130.8	20	20	0	20							20	0		
L/7	SLOPE JUNCTION	0.064	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	18	18	0	18							18	0		
L/8	GSIP 600x900 IAD	0.059	85	0.835	5	130.8	10	100.1	10	100.1	14	5	130.8	17	17	0	17							17	0		
L/9	SLOPE JUNCTION	0.057	85	0.835	5	130.8	10	100.1	10	100.1	13	5	130.8	16	16	0	16							16	0		
L/10	GSIP 600x900 IAD	0.056	85	0.835	5	130.8	10	100.1	10	100.1	13	5	130.8	16	16	0	16							16	0		
L/11	GSIP 900x900 IAD	0.062	85	0.835	5	130.8	10	100.1	10	100.1	14	5	130.8	18	18	0	18							18	0		
M/1	SLOPE JUNCTION	0.054	85	0.835	5	130.8	10	100.1	10	100.1	13	5	130.8	15	15	0	15							15	0		
N/1	SLOPE JUNCTION	0.049	85	0.835	5	130.8	10	100.1	10	100.1	11	5	130.8	14	14	0	14							14	0		
P/1	GSIP 450x450 IAD	0.07	85	0.835	5	130.8	10	100.1	10	100.1	16	5	130.8	20	20	0	20							20	0		
P/2	GSIP 600x900 IAD	0.063	85	0.835	5	130.8	10	100.1	10	100.1	15	5	130.8	18	18	0	18							18	0		
P/3	SLOPE JUNCTION	0.062	85	0.835	5	130.8	10	100.1	10	100.1	14	5	130.8	18	18	0	18							18	0		
P/4	GSIP 900x900 IAD	0.059	85	0.835	5	130.8	10	100.1	10	100.1	14	5	130.8	17	17	0	17							17	0		
X/1	H.W.	0.66	85	0.835	5	130.8	10	100.1	10	100.1	153	5	130.8	187	187	0	187							187	0		TEMPORARY HEADWALL INLET
X/2	GSIP 900x900 IAD	0	0						0	0	0	0	0	0	0	0	0						1	0	0	LOST	
Y/1	GSIP 600x900 IAD	0.607	85	0.835	5	130.8	10	100.1	10	100.1	141	5	130.8	172	172	0	172							172	0		
YB/1	1.8 m lintel	0.049	85	0.835	5	130.8	10	100.1	10	100.1	11	5	130.8	14	14	0	18	0.06	1.08	0	1	3			18	0		
YB/2	1.8 m lintel																											EXISTING PIT
YL1/1	EXISTING PIT	4.72	85	0.835	5	130.8	10	100.1	10	100.1	1096	5	130.8	1336	1336	0	1336								1336	0		

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MORGAN
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0585
These plans/specifications form part of the certificate issued 5 March 2018

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DRAINAGE CALCULATIONS
SHEET 4 OF 9

PLAN No: 11018511/CC129 B
FILE No: 11018511CC129
SHEET SIZE: A1 ORIGINAL

Plotted: 29 January, 2018 4:56:59 PM File Name: J:\11\185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC129.dwg

DESIGN STORM 1:5yr ARI HYDRAULIC RESULTS

PIPE NAME (-)	PIPE TYPE (-)	PIPE DIAMETER (mm)	PIPE LENGTH (m)	PIPE SLOPE (%)	PIPE AREA AI (sq.m)	FULL AREA TIME Tc (min)	FULL AREA INTENSITY I (mm/hr)	FULL AREA SUM CA (ha)	FULL AREA FLOW Qc (L/s)	PART-AREA TIME Tc (min)	PART-AREA INTENSITY I (mm/hr)	PART-AREA SUM CA (ha)	PART-AREA FLOW Qc (L/s)	DIRECT PIPE FLOW Qp (L/s)	PEAK FLOW Qtot (L/s)	NET BYPASS FLOW Qb (L/s)	PIPE FLOW Q (L/s)	FLOW CAP. Qcap (L/s)	Q/Qcap RATIO (-)
1/1 to 1/2	RRJ2	375	8.02										17.3	0	17.3	0	17.3	190	0.09
1/2 to 1/3	RRJ2	375	14.81										32.2	0	32.2	0	32.2	202.6	0.16
1/3 to 1/4	RRJ2	375	30.65										37.8	0	37.8	0	37.8	309	0.12
1/4 to 1/5	RRJ2	375	32.46										77.8	0	77.8	-3.3	74.5	338.3	0.22
1/5 to 1/6	RRJ2	375	32.54										113.8	0	113.8	-3.3	110.4	344.9	0.32
1/6 to 1/7	RRJ2	375	25.94										147.8	0	147.8	-3	144.9	354.2	0.41
1/7 to 1/8	RRJ2	375	12.21										146.5	0	146.5	-3	143.5	354.2	0.41
1/8 to 1/9	RRJ2	450	27.91										226.8	0	226.8	-7.3	219.5	608.6	0.36
1/9 to 1/10	RRJ2	525	31.31										259.7	0	259.7	-6.9	252.8	716.1	0.35
1/10 to 4/6	RRJ2	600	28.03										292.6	0	292.6	-7.1	285.6	1052.2	0.27
2/1 to 1/7	RRJ2	375	16.97										44.9	0	44.9	-4	41	301.5	0.14
3/1 to 3/2	RRJ2	600	15.45										623.5	0	623.5	0	623.5	1907.2	0.33
3/2 to 3/3	RRJ2	600	59.96										641.3	0	641.3	0	641.3	1069.8	0.6
3/3 to 3/4	RRJ2	600	83.81										760.1	0	760.1	-27.9	732.2	1365.1	0.54
4/1 to 4/2	RRJ2	(2x)1050	46.69										0	980	980	0	980	10252.8	0.1
4/2 to 4/3	RRJ2	1050	56.97										0	980	980	0	980	7398	0.13
4/3 to 4/4	RRJ2	1050	29.41										386.3	980	1366.3	-16.1	1350.2	6773.9	0.2
4/4 to 4/5	RRJ2	1050	17.93										566.9	980	1546.9	0	1546.9	4673.5	0.33
4/5 to 4/6	RRJ2	1050	13.81										728.1	980	1708.1	0	1708.1	4381	0.39
4/6 to 4/7	RRJ2	(2x)1050	11										1352.9	980	2332.9	-4.4	2328.4	8370.3	0.28
4/7 to 4/8	RRJ2	1050	26.8										1391.2	143	1534.2	-4.4	1529.8	3309.1	0.46
4/8 to 4/9	RRJ2	1050	66.51										1380.2	143	1523.2	-4.4	1518.8	5250	0.29
4/9 to 4/10	RRJ2	1200	57.83										1362.9	3003	4365.9	-4.4	4361.5	7271.7	0.6
4/10 to 4/11	RRJ2	1200	63.39										2622.8	3003	5625.8	-4.4	5621.4	7342.8	0.77
4/11 to 4/12	RRJ2	1200	43.82										2597.6	3003	5600.6	-409.7	5190.9	4225.4	1.23
4/12 to 4/13	RRJ2	1200	12.76										2578.6	3003	5581.6	-1339.9	4241.6	4241.6	1
4/7 to 4A/2	RRJ2	750	9.29										0	837	837	0	837	1233.8	0.68
4A/2 to 4A/3	RRJ2	750	20.84										0	837	837	0	837	1763.8	0.47
5/1 to 5/2	RRJ2	375	37.28										48.1	0	48.1	-7.4	40.6	302.9	0.13
5/2 to 5/3	RRJ2	375	38.84										115.9	0	115.9	-10.1	105.8	303	0.35
5/3 to 5/4	RRJ2	450	31.52										157.2	0	157.2	-7.7	149.6	437	0.34
5/4 to 4/6	RRJ2	525	36.2										321.7	0	321.7	-0.4	321.3	819.1	0.39
6/1 to 6/2	RRJ2	375	29.42										121.4	0	121.4	0	121.4	671.1	0.18
6/2 to 6/3	RRJ2	375	8.01										147.3	0	147.3	0	147.3	268.7	0.55
6/3 to 5/4	RRJ2	375	17.56										160	0	160	0	160	341.7	0.47
7/1 to 5/2	RRJ2	375	17.52										24.2	0	24.2	-0.4	23.7	257.1	0.09
8/1 to 8/2	RRJ2	375	7.18										0	0	0	0	0	380	0
8/2 to 8/3	RRJ2	375	24.47										95.9	0	95.9	-15.8	80.1	380	0.21
8/3 to 8/4	RRJ2	375	24.18										113.7	0	113.7	-1.5	112.3	190	0.59
8/4 to 8/5	RRJ2	375	24.28										148.8	0	148.8	-1.9	146.9	190	0.77
8/5 to 8/6	RRJ2	375	21.41										183.4	0	183.4	-2	181.5	190	0.95
8/6 to 8/7	RRJ2	450	21.77										239.6	0	239.6	-2.3	237.3	309	0.77
8/7 to 8/8	RRJ2	450	42.41										273.8	0	273.8	-2.5	271.3	309	0.88
8/8 to 8/9	RRJ2	450	7.57										269.4	0	269.4	-0.4	269	309	0.87
8/9 to 8/10	RRJ2	600	41.1										512.8	0	512.8	-2.9	509.9	665.5	0.77
8/10 to 8/11	RRJ2	600	27.5										549.4	0	549.4	-3.7	545.7	665.5	0.82
8/11 to 8/12	RRJ2	600	10.81										583	0	583	-2.9	580.1	665.5	0.87
8/12 to 8/13	RRJ2	675	8.09										864.4	0	864.4	-2.9	861.5	911	0.95
8/13 to 8/14	RRJ2	675	10.62										869.9	0	869.9	-2.9	866.9	911	0.95
8/14 to 8/15	RRJ2	675	23.61										872.1	0	872.1	-2.9	869.1	911	0.95
8/15 to 8/16	RRJ2	675	12.09										898	0	898	0	898	911	0.99
9/1 to 8/6	RRJ2	375	12.21										23.6	0	23.6	-0.4	23.3	328.6	0.07
10/1 to 8/9	RRJ2	450	45.2										199	0	199	0	199	756.9	0.26
11/1 to 8/9	RRJ2	375	12.79										16.6	0	16.6	0.4	17	256.3	0.07
12/1 to 12/2	RRJ2	375	47.94										68	0	68	-7.4	60.6	415.8	0.15
12/2 to 12/3	RRJ2	375	43.37										130	0	130	-12.6	117.5	406.6	0.29
12/3 to 12/4	RRJ2	375	24.79										219	0	219	-12.9	206	400.6	0.51
12/4 to 8/12	RRJ2	450	10.51										250.8	0	250.8	-4.2	246.5	633.3	0.39
12O/1 to 4/9	RRJ2	900	19.74										0	1430	1430	0	1430	1962	0.73
13/1 to 12/3	RRJ2	375	10.08										26.1	0	26.1	0	26.1	392.7	0.07
14/1 to 8/15	RRJ2	375	14.55										33.7	0	33.7	0	33.7	190	0.18
15/1 to 15/2	RRJ2	825	16.7										1241.4	0	1241.4	0	1241.4	4201.7	0.3
15/2 to 15/3	RRJ2	825	5.46										1281.9	0	1281.9	-0.6	1281.3	3424.1	0.37
15/3 to 15/4	RRJ2	825	37.72										1280.7	0	1280.7	-0.6	1280.1	3132.7	0.41
16/1 to 15/2	RRJ2	375	13.79										17.9	0	17.9	0	17.9	414	0.04
17/1 to 17/2	RRJ2	375	26.56										78.8	0	78.8	0.4	79.2	498.7	0.16
17/2 to 17/3	RRJ2	375	40.1										99.1	0	99.1	0.4	99.5	416.4	0.24
17/3 to 17/4	RRJ2	450	37.7										225.9	0	225.9	0.4	226.3	380.6	0.59
17/4 to 17/5	RRJ2	450	30.59										297	0	297	0.4	297.4	409.7	0.73
17/5 to 17/6	RRJ2	450	30										316.6	0	316.6	0	316.6	490.3	0.65
17/6 to 17/7	RRJ2	450	29.95										347.3	0	347.3	-1.7	345.6	397.9	0.87
17/7 to 17/8	RRJ2	450	34										397	0	397	-1.9	395.1	326.7	1.21
17/8 to 17/9	RRJ2	525	35.3										424.7	0	424.7	-2.1	422.6	466.1	0.91
17/9 to 17/10	RRJ2	525	11.56										441.2	0	441.2	-0.9	440.3	466.1	0.94
17/10 to 17/11	RRJ2	525	9.88										459.2	0	459.2	-2.1	457.1	466.1	0.98
17/11 to 17/12	RRJ2	525	31.45										457.8	0	457.8	-2.1	455.7	423.3	1.08
17/12 to 17/13	RRJ2	525	15.87										452.8	0	452.8	-2.1	450.7	419.1	1.08
18/1 to 17/2	RRJ2	375	10.5										15.8	0	15.8	0	15.8	311.8	0.05
19/1 to 19/2	RRJ2	375	29.66										34	0	34	-1.8	32.2	320.3	0.1
19/2 to 19/3	RRJ2	375	9.39										90.2	0	90.2	0	90.2	335.6	0.27
19/3 to 19/4	RRJ2	375	7.87										108.7	0	108.7	0	108.7	217.1	0.5
19/4 to 17/3	RRJ2	375	16.53										123	0	123	0	123	222.5	0.55
20/1 to 17/4	RRJ2	375	9.54										20.4	0	20.4	0	20.4	190	0.11
21/1 to 17/7	RRJ2	375	9.37										22.4	0	22.4	-0.2	22.1	197.4	0.11
22/1 to 22/2	RRJ2	375	33.13										43	0	43	0	43	512.4	0.08
22/2 to 22/3	RRJ2	375	23.23										83	0	83	-2.2	80.8	544.6	0.15
22/3 to 22/4	RRJ2	375	30.25										162.7	0	162.7	-5.7	156.9	444.7	0.35
22/4 to 22/5	RRJ2	375	17.96										195.8	0	195.8	-6.1	189.7	505.2	0.38
22/5 to 22/6	RRJ2	450	8.07										215.2	0	215.2	-5	210.3	309	0.68
22/6 to 22/7	RRJ2	600	17.9										255.4	0	255.4	-3.4	252	1273.8	0.2
22/7 to 22/8	RRJ2	750	10.79										327.7	0	327.7	1	328.7	1907.7	0.17
22/8 to 22/9	RRJ2	825	8.67										775.7	0	775.7	-1.4	774.3	1555.7	0.5

PIPE NAME (-)	FULL PIPE VELOCITY (m/s)	NORM. DEPTH VELOCITY (m/s)	CRIT. DEPTH VELOCITY (m/s)	U/S PIT GRATE RL (m)	PIPE U/S IL (m)	PIPE D/S IL (m)	PIPE D/S DROP (m)	U/S PIT Ku (-)	U/S PIT Kw (-)	PIPE V'HEAD (m)	PIT LOSS (Ku.V'head) (m)	WSE LOSS (Kw.V'head) (m)	TOTAL PIPE LOSS (m)	U/S PIT HGL (m)	U/S PIPE HGL (m)	D/S PIPE HGL (m)	HGL GRADE (%)	MIN. COVER (m)	U/S FREEBOARD (m)	COMMENTS
1/1 to 1/2							0.03	4.5		0	0.01	0.01	0.1	47.181	47.175	47.075	1.25	1.15	1.02	
1/2 to 1/3							0.03	2.32		0	0.01	0.01	0.19	47.075	47.065	46.877	1.29	1.39	1.13	
1/3 to 1/4							0.03	1.33	1.35	0.01	0.01	0.01	0.79	46.877	46.869	46.077	2.56	1.51	1.32	
1/4 to 1/5							0.03	2.07		0.02	0.05	0.05	0.98	46.077	46.028	45.051	3.01	1.27	1.02	
1/5 to 1/6							0.03	1.58		0.05	0.08	0.08	0.99	45.051	44.97	43.98	3.04	1.08	0.95	
1/6 to 1/7							0	1.28		0.09	0.11	0.11	0.9	43.98	43.868	42.966	3.48	1.02	0.98	
1/7 to 1/8							0.075	0		0.09	0	0	0.33	42.966	42.966	42.64	2.67	1.06	1.09	
1/8 to 1/9							0.075	1.02		0.1	0.1	0.1	1.06	42.64	42.542	41.484	3.79	1.03	1.02	
1/9 to 1/10							0.075	0.36		0.07	0.03	0.03	0.72	41.484	41.459	40.743	2.29	1.28	1.33	
1/10 to 4/6							0.45	0.44		0.05	0.02	0.02	0.4	40.743	40.72	40.322	1.42	1.31	1.36	
2/1 to 1/7							0.075	4.5		0.01	0.03	0.03	0.33	43.001	42.969	42.64	1.94	1.1	1.08	
3/1 to 3/2							0.03	2		0.25	0.5	0.5	1.2	55.695	55.199	54.002	7.75	0.87	1.03	
3/2 to 3/3							0.05	0.39		0.26	0.1	0.1	1.26	54.002	53.9	52.636	2.11	0.97	0.93	
3/3 to 3/4								0.98		0.34	0.34	0.34	3.5	52.636	52.3	48.8	4.18	0.6	1.44	
4/1 to 4/2							0.03	4.5		0.02	0.07	0.07	1.41	47.574	47.5	46.085	3.03	0.75	0.93	
4/2 to 4/3							0.05	0.25		0.07	0.02	0.02	3.54	46.085	46.069	42.529	6.21	0.97	1.08	
4/3 to 4/4							0.05	0.56		0.12	0.07	0.07	1.54	42.529	42.46	40.916	5.25	0.15	1.19	
4/4 to 4/5							0.05	0.29		0.16	0.05	0.05	0.37	40.916	40.869	40.503	2.04	0.43	1.24	
4/5 to 4/6							0.05	0.66		0.2	0.13	0.13	0.05	40.503	40.372	40.322	0.36	0.55	0.5	
4/6 to 4/7							0.05	0.16		0.09	0.01	0.01	0.02	40.322	40.307	40.29	0.15	1.65	1.35	
4/7 to 4/8							0.06	3.4		0.16	0.54	0.54	0.32	40.29	39.749	39.433	1.18	1.6	1.38	
4/8 to 4/9							0.15	0.44		0.16	0.07	0.07	1.76	39.433	39.364	37.602	2.69	1.36	1.65	
4/9 to 4/10							0.05	0.4		0.76	0.3	0.3	1.13	37.602	37.303	36.169	1.96	1.58	1.46	
4/10 to 4/11							0.03	0.28		1.26	0.35	0.35	1.12	36.169	35.821	34.699	1.77	1.01	1.23	
4/11 to 4/12							0.03	0.22		1.07	0.23	0.23	0.66	34.699	34.467	33.806	1.51	0.55	0	
4/12 to 4/13								0.82	0.84	0.72	0.58	0.6	0.13	33.729	33.129	33	1.01		0.08	
4/7 to 4A/2							0.03	2.46		0.18	0.45	0.45	0.04	39.884	39.433	39.388	0.48	2.34	1.74	
4A/2 to 4A/3								0.53		0.18	0.1	0.1	0.44	39.388	39.292	38.85	2.12	0.27	2.35	
5/1 to 5/2							0.03	4.5		0.01	0.03	0.03	0.89	43.763	43.732	42.843	2.38	1.19	1.07	
5/2 to 5/3							0.075	1.9		0.05	0.09	0.09	0.93	42.843	42.756	41.821	2.4	1.14	1.09	
5/3 to 5/4							0.075	1.18		0.05	0.05	0.05	0.57	41.821	41.767	41.193	1.82	1.17	1.22	
5/4 to 4/6							0.525	0.5		0.11	0.06	0.06	0.82	41.193	41.137	40.322	2.25	1.12	1.13	
6/1 to 6/2							0.05	4.5		0.06	0.28	0.28	3.54	45.912	45.635	42.099	12.02	1.1	0.86	
6/2 to 6/3							0.05	2.02	2.41	0.09	0.18	0.22	0.11	42.134	41.915	41.8	1.43	1.42	1.16	
6/3 to 5/4							0.15	0.89		0.11	0.1	0.1	0.51	41.8	41.705	41.193	2.92	1.28	1.47	
7/1 to 5/2							0.073	4.5		0	0.01	0.01	0.3	43.158	43.146	42.843	1.74	1.1	1.1	
8/1 to 8/2							0.03	0		0	0	0	0	52.201	52.201	52.201	0	1.76	2.22	
8/2 to 8/3							0.03	3.2		0.03	0.09	0.09	0.16	52.201	52.115	51.96	0.67	1.16	1.8	
8/3 to 8/4							0.03	1.3		0.06	0.07	0.07	0.08	51.95	51.881	51.797	0.35	1.23	0.43	
8/4 to 8/5							0.03	0.9		0.09	0.06	0.06	0.15	51.797	51.716	51.571	0.6	1.24	0.33	
8/5 to 8/6							0.075	0.79		0.14	0.11	0.11	0.2	51.571	51.463	51.268	0.91	1.25	0.29	
8/6 to 8/7							0.036	0.72		0.11	0.06	0.06	0.13	51.268	51.186	51.058	0.59	1.23	0.36	
8/7 to 8/8							0.03	0.67		0.15	0.1	0.1	0.33	51.058	50.959	50.632	0.77	1.23	0.34	
8/8 to 8/9							0.15	0.28		0.15	0.04	0.04	0.06	50.632	50.591	50.534	0.76	1.25	0.3	
8/9 to 8/10							0.03	0.82		0.17	0.14	0.14	0.24	50.534	50.397	50.156	0.59	1.22	0.32	
8/10 to 8/11							0.03	0.52		0.19	0.1	0.1	0.18	50.156	50.056	49.872	0.67	1.16	0.25	
8/11 to 8/12							0.075	0.54		0.21	0.12	0.12	0.08	49.872	49.756	49.673	0.76	1.17	0.16	
8/12 to 8/13							0.03	0.65		0.3	0.19	0.19	0.07	49.673	49.481	49.409	0.89	1.06	0.15	
8/13 to 8/14							0.03	0.27		0.3	0.08	0.08	0.1	49.409	49.327	49.23	0.91	1	0.32	
8/14 to 8/15							0.03	0.24		0.3	0.07	0.07	0.21	49.23	49.158	48.943	0.91	0.82	0.3	
8/15 to 8/16								0.23		0.32	0.08	0.08	0.12	48.943	48.867	48.75	0.97	0.13	0.18	
9/1 to 8/6							0.091	4.5		0	0.01	0.01	0	51.28	51.27	51.268	0.02	1.12	0.54	
10/1 to 8/9							0.236	0.5		0.08	0.04	0.04	1.83	52.401	52.361	50.534	4.04	1	1.9	
11/1 to 8/9							0.311	4.5		0	0.01	0.01	0	50.54	50.535	50.534	0.01	1.14	0.5	
12/1 to 12/2							0.05	4.5		0.02	0.07	0.07	2.23	54.82	54.75	52.522	4.65	1.1	1.1	
12/2 to 12/3							0.075	2.02		0.06	0.12	0.12	1.78	52.522	52.405	50.63	4.09	1.18	2.08	
12/3 to 12/4							0.075	1.61		0.18	0.29	0.29	0.53	50.63	50.345	49.816	2.13	0.99	0.92	
12/4 to 8/12							0.317	0.62		0.12	0.08	0.08	0.07	49.816	49.74	49.673	0.64	0.85	0.36	
12O/1 to 4/9							0.3	4.5		0.18	0.82	0.82	0.07	38.5	37.677	37.602	0.38	0.78	0	
13/1 to 12/3							0.075	4.5		0	0.01	0.01	0.22	50.863	50.85	50.63	2.19	1.1	1.12	
14/1 to 8/15							0.152	4.5		0	0.02	0.02	0	48.969	48.947	48.943	0.03	1.03	0.23	
15/1 to 15/2							0.05	4.5		0.28	1.24	1.24	1.18	53.127	51.889	50.711	7.05	2.66	1.61	FUTURE PIPE
15/2 to 15/3							0.013	0.31		0.29	0.09	0.09	0.28	50.711	50.62	50.343	5.08	2.19	2.6	
15/3 to 15/4								0		0.29	0	0	1.52	50.343	50.343	48.825	4.02	0.83	2.26	
16/1 to 15/2							0.45	4.5		0	0.01	0.01	0.56	51.281	51.275	50.711	4.09	1.64	1.64	
17/1 to 17/2							0.05	4.5		0.03	0.12	0.12	1.86	40.723	40.605	38.748	6.99	1.11	0.98	
17/2 to 17/3							0.075	0.52		0.04	0.02	0.02	1.86	38.748	38.726	36.865	4.64	0.92	1.1	
17/3 to 17/4							0.06	0.62		0.1	0.06	0.06	0.55	36.865	36.801	36.254	1.45	1.16	1.24	
17/4 to 17/5							0.05	0.42		0.18	0.08	0.08	0.47	36.254	36.179	35.705	1.55	1.09	1	
17/5 to 17/6							0.06	0.56		0.2	0.11	0.11	0.32	35.705	35.591	35.266	1.08	0.94	0.89	
17/6 to 17/7							0.05	0.56		0.24	0.13	0.13	0.37	35.266	35.133	34.758	1.25	1.03	0.7	
17/7 to 17/8							0.075	0.52		0.31	0.16	0.16	0.56	34.758	34.595	34.039	1.63	0.75	0.58	
17/8 to 17/9							0.03	0		0.19	0	0	0.29	34.039	34.038	33.748	0.82	0.51	0.58	
17/9 to 17/10							0.03	0.72		0.21	0.15	0.15	0.1	33.748	33.596	33.492	0.89	0.38	0.16	
17/10 to 17/11							0.03	0.63		0.23	0.14	0.14	0.1	33.492	33.349	33.254	0.96	0.52	0.22	
17/11 to 17/12							0.03	0.23		0.23	0.05	0.05	0.27	33.254	33.202	32.9	0.96	0.08	0.51	
17/12 to 17/13							0.3	0.76		0.12	0.09	0.09	0.07	32.9	32.812	32.789	0.15	0.52	0	
18/1 to 17/2							0.05	4.5		0	0	0	0.31	39.063	39.058	38.748	2.96	1.13	1.19	
19/1 to 19/2							0.03	4.5		0	0.02	0.02	0.72	38.376	38.356	37.634	2.43	1.07	1.17	
19/2 to 19/3							0.03	4.43	4.71	0.03	0.15	0.16	0.27	37.643	37.483	37.215	2.85	1.21	1.07	
19/3 to 19/4							0.03	1.11		0.05	0.05	0.05	0.06	37.215	37.16	37.106	0.69	1.24	1.16	
19/4 to 17/3							0.075	1.24	1.28	0.06	0.08	0.08	0.16	37.108	37.027	36.865	0.98	1.45	1.31	
20/1 to 17/4							0.075	4.5		0	0.01	0.01	0.02	36.282	36.274	36.254	0.21	1.1	1.08	
21/1 to 17/7							0.075	4.5		0	0.01	0.01	0	34.768	34.759	34.758	0.01	1.11	0.67	
22/1 to 22/2							0.03	4.5		0.01	0.03	0.03	2.38	36.709	36.674	34.291	7.19	1	1.07	
22/2 to 22/3							0.03	2.05		0.03	0.06	0.06	1.79	34.291	34.235	32.442	7.72	1.09	1.15	
22/3 to 22/4							0.03	1.41		0.1	0.15	0.15	1.53	32.442	32.297	30.762	5.07	1.07	1.36	
22/4 to 22/5							0.075	1.01		0.15	0.15	0.15	1.1	30.762	30.61	29.508	6.14	0.94	0.9	
22/5 to 22/6							0.15	1.87	2.39	0.09	0.17	0.21	0.07	29.554	29.34	29.274	0.82	1.24	1.02	
22/6 to 22/7							0.15	0.35		0.04	0.01	0.01	0.34	29.274	29.26	28.922	1.89	0.99	1.24	
22/7 to 22/8							0.075	0.51		0.03	0.01	0.01	0.01	28.922	28.908	28.9	0.07	0.81	0.56	
22/8 to 22/9							0.033	1.82	2.13	0.11	0.19	0.23	0.02	28.933	28.705	28.683	0.25	1.07	0.46	

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: IAN VINCENT MYERS Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01·08·18 REF: 16800-1

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DRAINAGE CALCULATIONS
SHEET 5 OF 9

PLAN No: 11018511/CC130 B
FILE No: 11018511CC130
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January, 2018 4:57:18 PM - File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CC\CC\YEOMANS\11018511CC130.dwg

DESIGN STORM 1:5yr ARI HYDRAULIC RESULTS

PIPE NAME	PIPE TYPE	PIPE DIAMETER	PIPE LENGTH	PIPE SLOPE	PIPE AREA Af	FULL AREA TIME Tc	FULL AREA INTENSITY I	FULL AREA SUM CA	FULL AREA FLOW Qc	PART-AREA TIME Tc	PART-AREA INTENSITY I	PART-AREA SUM CA	PART-AREA FLOW Qc	DIRECT PIPE FLOW Qp	PEAK FLOW Qrat	NET BYPASS FLOW Qb	PIPE FLOW Q	FLOW CAP. Qcap	Q/Qcap RATIO	FULL PIPE VELOCITY	NORM. DEPTH VELOCITY	CRIT. DEPTH VELOCITY	U/S PIT GRATE RL	PIPE U/S IL	PIPE D/S IL	PIPE D/S DROP	U/S PIT Ku	U/S PIT Kw	PIPE V'HEAD	PIT LOSS (Ku.V'head)	WSE LOSS (Kw.V'head)	TOTAL PIPE LOSS	U/S PIT HGL	U/S PIPE HGL	D/S PIPE HGL	HGL GRADE	MIN. COVER	U/S FREEBOARD	COMMENTS
(-)	(-)	(mm)	(m)	(%)	(sq.m)	(min)	(mm/hr)	(ha)	(L/s)	(min)	(mm/hr)	(ha)	(L/s)	(L/s)	(L/s)	(L/s)	(L/s)	(L/s)	(-)	(m/s)	(m/s)	(m/s)	(m)	(m)	(m)	(m)	(-)	(-)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(%)	(m)	(m)	
22/9 to 22/10	RRJ2	825	6.63										773.1	-382	391.1	-1.4	389.8	1599.9	0.24							0.779	4		0.03	0.11	0.11	0	28.863	28.575	28.571	0.06	0.79	0.73	
22/10 to 22/11	RRJ2	825	11.98										843.2	0	843.2	-1.4	841.8	1555.7	0.54							0.43	1.5		0.13	0.19	0.19	0.04	28.571	28.381	28.346	0.29	1.56	0.41	
22/11 to 22/12	RRJ2	825	15.96										856.1	0	856.1	-6.6	849.5	1555.7	0.55							0.075	1.14	1.24	0.13	0.15	0.16	0.05	28.359	28.196	28.151	0.3	2.42	0.81	
22/12 to 22/13	RRJ2	900	39.27										878	0	878	-5.3	872.7	1962	0.44							0.03	0.81	0.83	0.1	0.08	0.08	0.08	28.153	28.073	27.995	0.2	2.13	0.86	
22/13 to 22/14	RRJ2	900	8.45										1084.9	0	1084.9	-5.3	1079.6	1962	0.55							0.03	1.46	1.59	0.15	0.22	0.23	0.03	28.014	27.78	27.755	0.3	2.22	0.58	
22/14 to 22/15	RRJ2	900	20.59										1166.2	0	1166.2	-5.3	1161	1962	0.59							0.03	0.77		0.17	0.13	0.13	0.07	27.755	27.624	27.552	0.35	2.25	1.85	
22/15 to 22/16	RRJ2	900	54.49										1185.7	0	1185.7	-5.3	1180.4	1962	0.6							0.03	1.03	1.1	0.18	0.18	0.19	0.2	27.565	27.372	27.174	0.36	2.39	1.64	
22/16 to 22/17	RRJ2	900	7.51										1488	0	1488	-5.3	1482.7	1962	0.76							0.03	1.45	1.54	0.28	0.4	0.43	0.04	27.2	26.773	26.731	0.57	2.46	1.41	
22/17 to 22/18	RRJ2	900	30.67										1485.4	0	1485.4	-5.3	1480.1	1969.5	0.75								0.2		0.28	0.06	0.06	0.17	26.731	26.675	26.5	0.57	0.9	1.27	
22/9 to 22A/2	RRJ2	450	7.02										0	382	382	0	382	230.3	1.66								3		0.29	0.88	0.88	0.11	29.19	28.307	28.2	1.53	1.51	0.22	GPT OUTLET TO HYDROCON
22B/1 to 22/10	RRJ2	450	3.01										0	382	382	0	382	251.7	1.52							0	2		0.19	0.38	0.38	0.03	28.985	28.601	28.571	1	1.93	0	
23/1 to 22/3	RRJ2	375	9.28										49.8	0	49.8	-5	44.9	460.3	0.1							0.723	4.5		0.01	0.04	0.04	0.49	33.602	33.565	32.724	9.05	0.55	0.54	
24/1 to 24/2	RRJ2	375	22.87										44.8	0	44.8	-2.7	42.1	407.5	0.1							0.127	4.5		0.01	0.03	0.03	1.15	30.563	30.53	29.38	5.03	1.1	1.17	
24/2 to 22/7	RRJ2	375	32.13										63.9	0	63.9	1	65	289.7	0.22							0.375	1.64		0.02	0.03	0.03	0.43	29.38	29.351	28.922	1.33	0.86	1.3	
25/1 to 25/2	RRJ2	375	21.18										73.5	0	73.5	0	73.5	600.9	0.12							0.03	4.5		0.02	0.1	0.1	2.09	34.171	34.069	31.974	9.89	1.18	1.22	
25/2 to 25/3	RRJ2	375	36.22										97.6	0	97.6	0	97.6	529.7	0.18							0.105	1.34		0.04	0.05	0.05	2.71	31.974	31.921	29.214	7.47	1.15	1.44	
25/3 to 25/4	RRJ2	450	16.1										160.3	0	160.3	-1.9	158.3	522.4	0.3							0.15	1.24		0.05	0.06	0.06	0.04	29.214	29.151	29.109	0.26	1.15	1.1	
25/4 to 22/8	RRJ2	600	41.65										402.5	0	402.5	-3.9	398.6	665.5	0.6							0.09	0.59		0.1	0.06	0.06	0.15	29.109	29.049	28.9	0.36	1	0.56	
26/1 to 25/3	RRJ2	375	8.2										39.6	0	39.6	-1.9	37.7	366.9	0.1							0.349	4.5		0.01	0.03	0.03	0.43	29.683	29.656	29.214	5.39	0.78	0.75	
27/1 to 27/2	RRJ2	375	30.62										39.3	0	39.3	-2.9	36.4	190	0.19							0.03	4.5		0.01	0.02	0.02	0.29	29.843	29.818	29.527	0.95	0.6	0.62	
27/2 to 27/3	RRJ2	375	31.03										75.2	0	75.2	-3.1	72.1	190	0.38							0.03	2.1		0.02	0.05	0.05	0.1	29.527	29.482	29.379	0.33	0.73	0.72	
27/3 to 27/4	RRJ2	375	22.93										110	0	110	-3.2	106.8	190	0.56							0.15	1.52		0.05	0.07	0.07	0.07	29.379	29.306	29.234	0.32	0.85	0.66	
27/4 to 25/4	RRJ2	525	29.63										219.3	0	219.3	-3.3	215.9	466.1	0.46							0.075	1.2		0.05	0.06	0.06	0.06	29.234	29.173	29.109	0.21	0.91	0.64	
28/1 to 28/2	RRJ3	375	12.89										25	0	25	-0.5	24.5	190	0.13							0.03	4.5		0	0.01	0.01	0	29.288	29.277	29.275	0.02	0.51	0.45	
28/2 to 27/4	RRJ3	~~450~~ 375	13.95										77.2	0	77.2	-0.5	76.7	300	0.25							0.15	2.77		0.01	0.03	0.03	0.01	29.275	29.242	29.234	0.06	0.5	0.32	
29/1 to 29/2	RRJ2	375	14.99										19.9	0	19.9	0	19.9	212.5	0.09							0.03	4.5		0	0.01	0.01	0	28.162	28.154	28.152	0.01	1.3	1.55	
29/2 to 22/12	RRJ2	375	8.41										24	0	24	-4.4	19.6	566.9	0.03							0.934	0.5		0	0	0	0	28.152	28.152	28.151	0.01	1.2	0.92	
30/1 to 30/2	RRJ2	375	40.2										48.6	0	48.6	-7.6	41	276.7	0.15							0.05	4.5		0.01	0.03	0.03	0.81	43.928	43.896	43.088	2.01	1.19	1.07	
30/2 to 30/3	RRJ2	375	36.72										118.1	0	118.1	-10.6	107.5	259.4	0.41							0.05	1.95		0.05	0.09	0.09	0.6	43.088	42.994	42.397	1.62	1.2	1.06	
30/3 to 30/4	RRJ2	375	16.45										160.7	0	160.7	-11.7	149	274	0.54							0.05	1.48		0.09	0.14	0.14	0.17	42.397	42.26	42.089	1.04	1.2	0.97	
30/4 to 30/5	RRJ2	375	11.79										180.8	0	180.8	-3.5	177.4	299.4	0.59							0.05	1.68	1.86	0.13	0.22	0.25	0.21	42.113	41.868	41.655	1.61	1.17	0.9	
30/5 to 30/6	RRJ2	375	14.96										200.9	0	200.9	-3.1	197.7	472.5	0.42							0.225	0.79		0.16	0.13	0.13	0.66	41.655	41.525	40.868	4.39	1.53	1.28	
30/6 to 30/7	RRJ2	600	32.86										516.4	0	516.4	0.5	516.9	1922.4	0.27							0.03	1.57	1.71	0.17	0.27	0.29	2.61	40.891	40.6	37.987	7.95	1.25	1.15	
30/7 to 30/8	RRJ2	600	30.88										797.6	0	797.6	0.5	798.1	1969.3	0.41							0.15	0.39		0.41	0.16	0.16	2.6	37.987	37.827	35.23	8.41	1.02	1.04	
30/8 to 30/9	RRJ2	750	13.48										806.6	0	806.6	0.5	807.1	2698	0.3							0.03	0.63	0.65	0.17	0.11	0.11	0.21	35.234	35.123	34.914	1.55	1.08	1.21	
30/9 to 30/10	RRJ2	750	8.63										896	0	896	0.5	896.4	2089.8	0.43							0.03	0.63		0.21	0.13	0.13	0.05	34.914	34.781	34.734	0.56	1.03	0.51	
30/10 to 30/11	RRJ2	750	9.44										1147.3	0	1147.3	0.5	1147.7	1907.7	0.6							0.03	1.75	2.02	0.34	0.6	0.7	0.14	34.828	34.131	33.986	1.54	1.21	0.49	
30/11 to 30/12	RRJ2	750	7.78										1167	0	1167	1.3	1168.2	1862.3	0.63							0.03	0.34		0.36	0.12	0.12	0.08	33.966	33.865	33.785	1.02	1.27	1.15	
30/12 to 30/13	RRJ2	750	40.53										1287	0	1287	0.5	1287.5	2698	0.48							0.075	0.31		0.43	0.14	0.14	2.03	33.785	33.649	31.623	5	1.1	1.39	
30/13 to 30/14	RRJ2	(2x)825	27.82										1524.8	0	1524.8	0.5	1525.2	7560.2	0.2							0.03	0		0.1	0	0	1.39	31.623	31.623	30.229	5.01	1.08	1.16	
30/14 to 30/15	RRJ2	(2x)825	10.73										1550	0	1550	0.5	1550.4	4418.6	0.35							0.03	0.24		0.11	0.03	0.03	0.03	30.229	30.203	30.177	0.26	0.91	1.25	
30/15 to 30/16	RRJ2	(2x)825	9.53										1907.6	0	1907.6	0.5	1908.1	3111.4	0.61							0.03	0.44		0.16	0.07	0.07	0.04	30.177	30.106	30.07	0.38	0.81	0.33	
30/16 to 30/17	RRJ2	(2x)825	24.48										1903	-156	1747	0.5	1747.5	5692.1	0.31							0.03	3.6		0.14	0.49	0.49	0.6	30.07	29.579	28.977	2.46	0.83	0.39	
30/17 to 30/18	RRJ2	(2x)825	5.46										1895.3	-156	1739.3	0.5	1739.7	6726.1	0.26							0.03	1.83	2.18	0.14	0.25	0.29	0.21	29.025	28.73	28.524	3.78	1.31	1.48	
30/18 to 30/19	RRJ2	(2x)825	10.56										1950.9	156	2106.9	0.5	2107.4	5292.4	0.4							0.03	0.4		0.2	0.08	0.08	0.31	28.524	28.445	28.137	2.92	1.46	1.4	
30/19 to 30/20	RRJ2	(2x)825	48.51										1970.6	-447	1523.6	0.5	1524.1	3123.4	0.49							0.97	0.27		0.1	0.03	0.03	0.21	28.137	28.109	27.9	0.43	1.18	2	
30/20 to 30/21	RRJ2	(2x)825	25.37										1944.8	156	2100.8	0.5	2101.2	2782.9	0.76								0		0	0	0	0	27.9	27.9	27.9	0	1.5	0.1	
30/16 to 30A/2	RRJ2	375	3.76										0	156	156	0	156	512.1	0.3								2.6		0.1	0.26	0.26	0.03	30.19	29.925	29.9	0.67	1.15	0.27	GPT OUTLET
30B/1 to 30/18	RRJ2	375	4.99										0	156	156	0	156	190.2	0.82							0.03	1.3		0.1	0.13	0.13	0.03	28.89	28.558	28.524	0.67	1.85	1.27	
30/19 to 30C/2	RRJ2	600	29.07										0	603	603	0	603	657.7	0.92								2.6		0.23	0.6	0.6	0.24	28.542	27.939	27.7	0.82	0.21	1.59	SPLITTER PIT TO RG
31/1 to 30/2	RRJ2	375	13.34										25.5	0	25.5	-0.6	25	206.5	0.12							0.05	4.5		0	0.01	0.01	0.11	43.213	43.201	43.088	0.85	1.11	1.09	
32/1 to 32/2	RRJ2	375	29.51										29	0	29	0.5	29.5	366.5	0.08							0.15	4.5		0	0.02	0.02	0.91	42.511	42.494	41.587	3.07	0.91	1.22	
32/2 to 32/3	RRJ2	525	11.34										287.6	0	287.6	3.4	291	760.4	0.38							0.03	1.36		0.09	0.13	0.13	0.28	41.587	41.461	41.181	2.47	0.93	0.77	
32/3 to 32/4	RRJ2	525	18.22										306.4	0	306.4	-13.7	292.7	659.2	0.44							0.075	0.55		0.09	0.05	0.05	0.2	41.181	41.13	40.93	1.1	1.39	1.19	
32/4 to 30/6	RRJ2	600	8										311.2	0	311.2	3.4	314.6	797.9	0.39							0.05	0.7		0.06	0.04	0.04	0.02	40.93	40.888	40.868	0.22	1.26	1.08	
33/1 to 30/7	RRJ2	450	8.01										97.8	0	97.8	0	97.8	309	0.32							0.262	4.5		0.02	0.09	0.09	0.03	38.107	38.02	37.987	0.41	0.94	0.84	
34/1 to 30/8	RRJ2	375	8.29										7.1	0	7.1	0	7.1	424.9	0.02							0.375	4.5		0	0	0	0.31	35.539	35.538	35.23	3.71	0.9	0.9	
35/1 to 35/2	RRJ2	375	26.94										43	0	43	-1.3	41.7	353.3	0.12							0.03	4.6		0.01	0.03	0.03	0.9	36.201	36.169	35.265	3.35	1.09	1.14	
35/2 to 30/9	RRJ2	375	28.42										85.4	0	85.4	-3.9	81.4	339.2	0.24							0.257	2.08		0.03	0.06	0.06	0.29	35.265	35.207	34.914	1.03	1.12	1.14	
36/1 to 36/2	RRJ2	375	30.81										36.7	0	36.7	-4	32.7	306.2	0.11							0.03	4.5		0	0.02	0.02	0.79	38.386	38.366	37.58	2.57	1.08	0.98	
36/2 to 36/3	RRJ2	375	33.69										69.8	0	69.8	-4.5	65.3	268.7	0.24							0.03	2.17		0.02	0.04	0.04	0.64	37.58	37.541	36.903	1.89	1.09	1	
36/3 to 36/4	RRJ2	375	33.38										102.6	0	102.6	-4.8	97.7	212.5	0.46							0.03	1.65		0.04	0.07	0.07	0.35	36.903	36.838	36.488	1.05	1.12	0.96	
36/4 to 36/5	RRJ2	375	30.91										135.5	0	135.5	-5.5	130	268.7	0.48							0.03	1.38		0.07	0.1	0.1	0.52	36.488	36.39	35.874	1.67	1.12	0.92	
36/5 to 36/6	RRJ2	375	33.38										168.8	0	168.8	-5.8	163	268.7	0.61							0.03	1.19		0.11	0.13	0.13	0.5	35.874	35.742	35.247	1.48	1.18	1.08	
36/6 to 30/10	RRJ2	375	31.96										201.7	0	201.7	-5.2	196.5	305.7	0.64							0.461	1.06		0.16	0.17	0.17	0.34	35.247	35.076	34.734	1.07	1.11	0.86	
37/1 to 37/2	RRJ2	375	7.8										19.9	0	21.3	0	21.3	207.1	0.1							0.03	4.5		0	0.01	0.01	0.11	37.337	37.328	37.216	1.45	1.11	1.09	
37/2 to 37/3	RRJ2	375	28.53										32.4	0	32.4	0	32.4	232.7	0.14							0.03	2.25	2.66	0	0.01	0.01	0.46	37.217	37.206	36.749	1.6	1.12	1.25	
37/3 to 37/4	RRJ2	375	47.8										32.7	0	32.7	0	32.7	263.1	0.12							0.03	0.37		0	0	0	0.94	36.749	36.748	35.811	1.96	1.1	1.16	
37/4 to 37/5	RRJ2	375	49.76										42.2	0	42.2	0	42.2	263.5	0.16							0.03	1.34		0.01	0.01	0.01	0.96	35.811	35.801	34.841	1.93	1.1	1.15	
37/5 to 30/12	RRJ2	375	46.83										78.5	0	78.5	-0.8	77.7	299.8	0.26							0.375	1.03		0.03	0.03	0.03	1.03	34.841	34.815	33.785	2.2	1.1	1.13	
38/1 to 37/5	RRJ2	375	9.54										26.1	0	27.9	-0.8	27.1	190	0.14							0.021	4.5		0	0.01	0.01	0.09	34.945	34.931	34.841	0.94	1.11	1.1	
39/1 to 39/2	RRJ2	375	8.29										14.8	0	15.9	0	15.9	190	0.08							0.03	4.5		0	0	0	0.1	35.116	35.111	35.014	1.17	1	1	
39/2 to 30/12	RRJ2	375	34.82										28.7	0	28.7	0	28.7	373.9	0.08							0.375	4.5		0	0.02	0.02	1.21	35.014	34.998	33.785	3.48	0.99	1.04	
40/1 to 40/2	RRJ2	375	23.77										99.3	0	99.3	-1	98.3	333.1	0.3							0.03	4.5		0.04	0.18	0.18	0.68	38.05	37.868	37.187	2.87	1.13	1.02	
40/2 to 40/3	RRJ2	375	12.35										119	0	119	-0.2	118.8	198.9	0.6							0.03	1.34		0.06	0.08	0.08	0.06	37.187	37.106	37.053	0.45	1.09	1.13	
40/3 to 40/4	RRJ2	375	32.51										141.8	0	141.8	-0.7	141.2	324.5	0.43							0.05	1.32		0.08	0.11	0.11	0.89	37.053	36.942	36.056	2.73	0.86	0.97	
40/4 to 40/5	RRJ2	375	27.41										212.6	0	212.6	0	212.6	561.4	0.38							0.03	0.59		0.19	0.11	0.11	2.33	36.056	35.944	33.613	8.51	0.78	0.76	
40/5 to 40/6	RRJ2	375	32.48										242.5	0	242.5	0	242.5	430.3	0.56							0.075	0.37		0.25	0.09	0.09	1.43	33.613	33.521	32.096	4.39	1.04	1.42	
40/6 to 40/7	RRJ2	450	7.97										246.9	0	246.9	0	246.9	600.5	0.41							0.03	1.95	2.51	0.12	0.24	0.31	0.1	32.163	31.855	31.759	1.2	1.02	0.7	
40/7 to 40/8	RRJ2	450	10.18										275.8	0	275.8	-1.1	274.7	687.1	0.4							0.03	1.54	1.69	0.15	0.23	0.26	0.47	31.781	31.524	31.057	4.59	1.33	1.06	
40/8 to 40/9	RRJ2	450	28.38										277.6	0	277.6	0	277.6	535.2	0.52							0.03	0.43		0.16	0.07	0.07	0.37	31.057	30.991	30.621	1.3	1	1.15	
40/9 to 40/10	RRJ2	450	31.17										297.1	0	297.1	-0.3	296.8	406	0.73							0.03	0.48		0.18	0.09	0.09	0.29	30.621	30.536	30.249	0.92	0.91	0.54	
40/10 to 30/15	RRJ2	525	12.91										332.7	0	332.7	-3.3	329.3	466	0.71							0.082	0.07		0.12	0.01	0.01	0.06	30.249	30.241	30.177	0.5	0.92	0.34	
41/1 to 41/2	RRJ2	375	5.5										44.6	0	44.6	0.2	44.8	306.3	0.15							0.03	4.5		0.01	0.04	0.04	0.17	36.646	36.608	36.438	3.1	1.06	0.99	
41/2 to 41/3	RRJ2	375	4.9										48.9	0	48.9	-4.3	44.6	190	0.23							0.03	0.27		0.01	0	0	0.08	36.438	36.435	36.359	1.55	0.93	1.2	
41/3 to 41/4	RRJ2	375	7.02										54.5	0	54.5	-10.4	44.1	190	0.23							0.03	0.37		0.01	0	0	0.08	36.359	36.356	36.28	1.08	1.02	1.1	
41/4 to 41/5	RRJ2	375	15.16										59.7	0	59.7	0.2	60	190	0.32							0.03	1.8		0.02	0.02	0.02	0.16	36.28	36.256	36.092	1.08	0.92	1.11	
41/5 to 40/4	RRJ2	375	8.02										66	0	66	0.2	66.2	190	0.35							0.05	0.87		0.02	0.02	0.02	0.02	36.092	36.074	36.056	0.23	0.79	0.75	
42/1 to 40/5	RRJ2	375	12.03										24.4	0	24.4	0	24.4	311.9	0.08							0.03	4.5		0	0.01	0.01	0.26	33.887	33.876	33.613	2.19	1.56	1.81	
43/1 to 43/2	RRJ2	600	12.63										748.4	0	748.4	0	748.4	1639	0.46							0.03	0		0.36	0	0	0.25	46.418	46.418	46.172	1.95	0.64	1.49	
43/2 to 43/3	RRJ2	600	11.57										771.4	0	771.4	-0.5	770.9	1561.8	0.49							0.03	1.45	1.56	0.38	0.55	0.59	0.56	46.212	45.621	45.058	4.87	0.78	0.2	

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: ....

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE

Certificate No.: 20130299C42
Date of Issue: 5 March 2018
Issuing Officer
Accreditation No.: BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DRAINAGE CALCULATIONS
SHEET 6 OF 9

PLAN No: 11018511/CC131 B
FILE No: 11018511CC131
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January, 2018 4:57:33 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CO\CC\YEOMANS\11018511CC131.dwg

DESIGN STORM 1:5yr ARI HYDRAULIC RESULTS

PIPE NAME	PIPE TYPE	PIPE DIAMETER	PIPE LENGTH	PIPE SLOPE	PIPE AREA Ai	FULL AREA TIME Tc	FULL AREA INTENSITY I	FULL AREA SUM CA	FULL AREA FLOW Qc	PART-AREA TIME Tc	PART-AREA INTENSITY I	PART-AREA SUM CA	PART-AREA FLOW Qc	DIRECT PIPE FLOW Qp	PEAK FLOW Qnat	NET BYPASS FLOW Qb	PIPE FLOW Q	FLOW CAP. Qcap	Q/Qcap RATIO	FULL PIPE VELOCITY	NORM. DEPTH VELOCITY	CRIT. DEPTH VELOCITY	U/S PIT GRATE RL	PIPE U/S IL	PIPE D/S IL	PIPE D/S DROP	U/S PIT Ku	U/S PIT Kw	PIPE V'HEAD	PIT LOSS (Ku.V'head)	W/SE LOSS (Kw.V'head)	TOTAL PIPE LOSS	U/S PIT HGL	U/S PIPE HGL	D/S PIPE HGL	HGL GRADE	MIN. COVER	U/S FREEBOARD	COMMENTS
(-)	(-)	(mm)	(m)	(%)	(sq.m)	(min)	(mm/hr)	(ha)	(L/s)	(min)	(mm/hr)	(ha)	(L/s)	(L/s)	(L/s)	(L/s)	(L/s)	(L/s)	(-)	(m/s)	(m/s)	(m/s)	(m)	(m)	(m)	(m)	(-)	(-)	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(%)	(m)	(m)	
43/3 to 43/4	RRJ2	600	14.51										769.6	0	769.6	-0.5	769.2	1468	0.52							0.03	0.27		0.36	0.1	0.1	0.63	45.058	44.954	44.327	4.32	1	1.17	
43/4 to 43/5	RRJ2	600	20.2										779.6	0	779.6	-0.5	779.1	1460.9	0.56							0.03	0.33		0.39	0.13	0.13	0.38	44.327	44.199	43.823	1.86	0.89	0.8	
43/5 to 43/6	RRJ2	600	15.21										782.8	0	782.8	-0.5	782.3	1065.9	0.74							0.03	1.41	1.5	0.39	0.55	0.58	0.22	43.857	43.273	43.052	1.46	1.12	0.63	
43/6 to 43/7	RRJ2	600	30.13										804.6	0	804.6	-1	803.6	1300	0.62							0.03	0.46		0.41	0.19	0.19	0.99	43.052	42.86	41.875	3.27	0.98	0.92	
43/7 to 43/8	RRJ2	600	33.85										842.4	0	842.4	-3.8	838.6	1423.9	0.59							0.03	0.43		0.45	0.19	0.19	1.36	41.875	41.681	40.324	4.01	0.91	0.81	
43/8 to 43/9	RRJ2	600	31.65										899.3	0	899.3	-4.6	894.7	1082.4	0.83								0.44		0.51	0.22	0.22	0.78	40.324	40.1	39.32	2.47	0.6	0.92	TEMPORARY OUTLET
44/1 to 43/8	RRJ2	375	8.34										20.5	0	20.5	0	20.5	251	0.08							0.225	4.5		0	0.01	0.01	0	40.333	40.325	40.324	0.01	1.11	1.01	
45/1 to 4/3	RRJ2	375	13.67										290.3	0	290.3	0	290.3	609.5	0.48							0.675	4.5		0.35	1.59	1.59	1.34	45.451	43.866	42.529	9.78	1.3	0.98	
A/1 to A/2	uPVC	150	1.55										19.3	0	19.3	0	19.3	19.8	0.97							0.03	0		0.06	0	0	0.01	48.834	48.834	48.819	0.95	0.57	0.48	
A/2 to A/3	uPVC	150	19.33										19.2	0	19.2	0	19.2	19.8	0.97							0.075	0.23		0.06	0.01	0.01	0.18	48.819	48.805	48.623	0.94	0.57	0.47	
A/3 to A/4	uPVC	225	20.69										37.4	0	37.4	0	37.4	65.3	0.57							0	2.5		0.05	0.11	0.11	0.26	48.623	48.51	48.251	1.25	0.52	0.49	
A/4 to A/5	uPVC	225	7.8										55	0	55	0	55	65.3	0.84							0.03	0		0.1	0	0	0.1	48.251	48.251	48.147	1.33	0.51	0.52	
A/5 to A/6	uPVC	225	13.02										54.7	0	54.7	0	54.7	98.7	0.55							0	0.25		0.1	0.02	0.02	0.37	48.147	48.124	47.752	2.86	0.51	0.51	
A/6 to A/7	uPVC	225	3.01										72.6	0	72.6	0	72.6	98.7	0.74							0.03	0		0.17	0	0	0.08	47.752	47.752	47.67	2.7	0.51	0.51	
A/7 to A/8	uPVC	225	17.6										72.5	0	72.5	0	72.5	101.2	0.72							0	0.2		0.17	0.03	0.03	0.53	47.67	47.636	47.107	3	0.52	0.5	
A/8 to A/9	uPVC	225	17.59										89.8	0	89.8	0	89.8	101.2	0.89							0.637	0		0.28	0	0	0.43	47.107	47.107	46.52	3.34	0.52	0.53	
A/9 to 6/1	RRJ2	375	5.43										106.6	0	106.6	0	106.6	533.6	0.2							0.03	2.17	3.14	0.05	0.1	0.15	0.18	46.242	46.093	45.912	3.33	1	0.91	
B/1 to B/2	uPVC	150	20.44										16.6	0	16.6	0	16.6	36.6	0.45							0.075	0		0.04	0	0	0.65	43.21	43.21	42.558	3.19	0.49	0.5	
B/2 to B/3	uPVC	225	20.45										32.4	0	32.4	0	32.4	101.4	0.32							0.03	1.39		0.03	0.05	0.05	0.53	42.558	42.511	41.982	2.59	0.51	0.47	
B/3 to B/4	uPVC	225	20.42										48.2	0	48.2	0	48.2	92.3	0.52							0.524	1.56		0.07	0.12	0.12	0.41	41.982	41.864	41.244	3.04	0.51	0.46	
B/4 to 17/1	RRJ2	375	4.54										66	0	66	0	66	506	0.13							0.05	2.22	3.08	0.02	0.04	0.06	0.26	41.036	40.979	40.723	5.65	1.05	1.06	
C/1 to C/2	uPVC	150	15.66										15.5	0	15.5	0	15.5	39.6	0.39							0	4.5		0.04	0.18	0.18	0.63	38.418	38.24	37.614	4	0.37	0.2	
C/2 to C/3	uPVC	150	12.82										30.6	0	30.6	0	30.6	39.6	0.77							0.641	0		0.15	0	0	0.4	37.614	37.614	37.05	4.4	0.54	0.78	
C/3 to 17/4	RRJ2	375	4.32										49	0	49	0	49	506	0.1							0.075	2.25	3.04	0.01	0.02	0.03	0.23	36.516	36.485	36.254	5.34	1.01	1.05	
D/1 to D/2	uPVC	150	16.99										15.4	0	15.4	0	15.4	22.1	0.7							0.946	0		0.04	0	0	0.22	37.945	37.945	37.674	1.59	0.49	0.49	
D/2 to 22/1	RRJ2	375	5.11										30.5	0	30.5	0	30.5	465.6	0.07							0.03	2.31	3	0	0.01	0.01	0.3	37.022	37.011	36.709	5.91	1.15	1.2	
E/1 to E/2	uPVC	150	16.01										16.3	0	16.3	0	16.3	34.3	0.47							0.075	0		0.04	0	0	0.44	37.151	37.151	36.715	2.72	0.45	0.46	
E/2 to E/3	uPVC	225	16										31.7	0	31.7	0	31.7	109.5	0.29							0	1.36		0.03	0.04	0.04	0.56	36.715	36.67	36.108	3.52	0.64	0.61	
E/3 to E/4	uPVC	225	20.8										46.3	0	46.3	0	46.3	109.5	0.42							0.937	0		0.07	0	0	0.57	36.108	36.108	35.253	4.11	0.41	0.75	
E/4 to 25/1	RRJ2	375	4.9										62.9	0	62.9	0	62.9	600.9	0.1							0.03	2.22	3.06	0.02	0.04	0.05	0.42	34.64	34.589	34.171	8.53	1.1	1.11	
F/1 to F/2	uPVC	150	21.01										19.2	0	19.2	0	19.2	19.8	0.97							0.075	0		0.06	0	0	0.2	49.193	49.193	48.997	0.94	0.45	0.23	
F/2 to F/3	uPVC	225	20.75										37.9	0	37.9	0	37.9	58.4	0.65							0	1.2		0.05	0.06	0.06	0.09	48.997	48.941	48.854	0.42	0.54	0.31	
F/3 to F/4	uPVC	225	11.22										56.9	0	56.9	0	56.9	58.4	0.97							0.03	0		0.1	0	0	0.11	48.854	48.854	48.747	0.96	0.61	0.32	
F/4 to F/5	uPVC	225	10.06										56.4	0	56.4	0	56.4	71.5	0.79							0	0.23		0.1	0.02	0.02	0.09	48.747	48.724	48.63	0.93	0.68	0.35	
F/5 to F/6	uPVC	225	20.62										75.1	0	75.1	0	75.1	71.5	1.05							0.03	0		0.18	0	0	0.34	48.63	48.63	48.288	1.66	0.76	0.4	
F/6 to F/7	uPVC	225	20.65										93.3	0	93.3	0	93.3	82.6	1.13							0	0.89		0.28	0.25	0.25	0.53	48.288	48.039	47.512	2.55	0.97	0.6	
F/7 to F/8	uPVC	225	12.21										110.7	0	110.7	0	110.7	82.6	1.34							0.601	0		0.4	0	0	0.25	47.512	47.512	47.265	2.02	1.08	1.08	
F/8 to F/9	uPVC	300	33.41										172.9	0	172.9	0	172.9	470.6	0.37							0.5	1.66	1.99	0.31	0.51	0.61	4.32	47.348	46.742	41.943	14.36	0.91	1.07	
F/9 to 32/2	RRJ2	375	6.1										189.6	0	189.6	0	189.6	324.5	0.58							0.15	1.97	2.47	0.15	0.3	0.37	0.06	42.019	41.648	41.587	1	1.05	0.89	
G/1 to G/2	uPVC	225	23.07										27.9	0	27.9	0	27.9	58.4	0.48							0	4.5		0.03	0.11	0.11	0.23	48.214	48.102	47.871	1	0.54	0.41	
G/2 to F/8	uPVC	225	10.95										45.5	0	45.5	0	45.5	58.4	0.78							1.095	0		0.07	0	0	0.12	47.871	47.871	47.686	1.69	0.62	0.63	
GR C/1 to 30/20	RRJ2	600	19.94										0	603	603	0	603	518.8	1.16							0	0		0	0	0	0	27.9	27.9	27.9	0	1.02	0	
H/1 to H/2	uPVC	150	19.05										16.8	0	16.8	0	16.8	32.3	0.52							0.075	0		0.05	0	0	0.48	43.1	43.1	42.642	2.4	0.49	0.5	
H/2 to H/3	uPVC	225	19										32.6	0	32.6	0	32.6	65.3	0.5							0	1.41		0.03	0.05	0.06	0.24	42.642	42.593	42.356	1.25	0.47	0.57	
H/3 to H/4	uPVC	225	14.13										48.4	0	48.4	0	48.4	65.3	0.74							0.03	0		0.08	0	0	0.17	42.356	42.356	42.188	1.18	0.47	0.48	
H/4 to H/5	uPVC	225	4.94										48	0	48	0	48	65.3	0.73							0	0.23		0.07	0.02	0.02	0.03	42.188	42.171	42.138	0.67	0.51	0.48	
H/5 to H/6	uPVC	225	18.97										64.6	0	64.6	0	64.6	65.3	0.99							0.03	0		0.13	0	0	0.23	42.138	42.138	41.905	1.22	0.53	0.48	
H/6 to H/7	uPVC	300	18.62										80.8	0	80.8	0	80.8	140.6	0.57							0.03	0.15		0.07	0.01	0.01	0.16	41.905	41.895	41.734	0.87	0.53	0.52	
H/7 to H/8	uPVC	300	19.68										97.1	0	97.1	0	97.1	140.6	0.69							0.03	1.05		0.1	0.1	0.1	0.16	41.734	41.632	41.476	0.79	0.6	0.51	
H/8 to H/9	uPVC	300	19.21										113.5	0	113.5	0	113.5	140.6	0.81							0	0.91		0.13	0.12	0.12	0.24	41.476	41.356	41.116	1.25	0.58	0.57	
H/9 to H/10	uPVC	300	3.17										130.1	0	130.1	0	130.1	140.6	0.93							0.075	0		0.17	0	0	0.05	41.116	41.116	41.042	2.34	0.58	0.59	
H/10 to H/11	uPVC	300	16.1										129.9	0	129.9	0	129.9	177.9	0.73							0.03	0.23		0.17	0.04	0.04	0.18	41.042	41.002	40.819	1.13	0.52	0.6	
H/11 to H/12	uPVC	300	18.99										147.1	0	147.1	0	147.1	213.4	0.69							0	0.77		0.22	0.17	0.17	0.55	40.819	40.65	40.103	2.88	0.52	0.37	
H/12 to H/13	uPVC	300	6.96										164.1	0	164.1	0	164.1	213.4	0.77							0.05	0		0.28	0	0	0.19	40.103	40.103	39.914	2.71	0.52	0.52	
H/13 to H/14	uPVC	300	14.35										163.9	0	163.9	0	163.9	333.7	0.49							0.713	0.22		0.27	0.06	0.06	0.31	39.914	39.852	38.691	8.1	0.55	0.51	
H/14 to 30/7	RRJ2	375	4.23										183	0	183	0	183	476.2	0.38							0.337	2	2.51	0.14	0.28	0.35	0.22	38.556	38.206	37.987	5.15	1	0.75	
J/1 to J/2	uPVC	150	13.99										23.1	0	23.1	0	23.1	38.4	0.6							0.075	0		0.09	0	0	0.5	41.904	41.904	41.4	3.6	0.53	0.54	
J/2 to J/3	uPVC	225	9.76										23	0	23	0	23	93.6	0.25							0.03	1.27	2.33	0.02	0.02	0.04	0.12	41.418	41.378	41.282	1.2	0.5	0.46	
J/3 to J/4	uPVC	225	18.18										47.6	0	47.6	0	47.6	137	0.35							0	2.24		0.07	0.16	0.16	1	41.262	41.097	40.097	5.5	0.67	0.52	
J/4 to J/5	uPVC	225	23.15										68.5	0	68.5	0	68.5	137	0.5							0.41	0		0.15	0	0	0.93	40.097	40.097	38.711	5.99	0.66	0.9	
J/5 to 33/1	RRJ2	375	5.44										90.4	0	90.4	0	90.4	600.9	0.15							0.075	1.57	2.31	0.03	0.05	0.08	0.46	38.643	38.564	38.107	6.4	0.69	0.74	
K/1 to K/2	uPVC	225	13.24										18.6	0	18.6	0	18.6	72.4	0.26							0	4.5		0.01	0.05	0.05	0.2	35.448	35.398	35.195	1.54	0.36	0.32	
K/2 to K/3	uPVC	225	16.57										39.3	0	39.3	0	39.3	72.4	0.54							0.075	0		0.05	0	0	0.18	35.195	35.195	35.017	1.07	0.31	0.37	
K/3 to K/4	uPVC	225	16.47										57.3	0	57.3	0	57.3	127.8	0.45							0	1.44		0.11	0.15	0.15	0.79	35.017	34.865	34.076	4.79	0.35	0.22	
K/4 to K/5	uPVC	225	19.45										74.4	0	74.4	0	74.4	127.8	0.58							1.079	0		0.18	0	0	0.84	34.076	34.076	33.043	5.31	0.36	0.58	
K/5 to 30/13	RRJ2	375	4.43										92.9	0	92.9	0	92.9	490.6	0.19							0.747	2.19	3.12	0.04	0.08	0.11	0	32.328	32.216	31.656	12.64	0.78	1.07	
L/1 to L/2	uPVC	150	18.3										18.2	0	18.2	0	18.2	22.1	0.82							0	4.5		0.05	0.24	0.24	0.15	35.119	34.875	34.72	0.85	0.52	0.26	
L/2 to L/3	uPVC	150	1.2										34.1	0	34.1	0	34.1	22.1	1.54							0.075	0		0.19	0	0	0.04	34.72	34.72	34.685	2.97	0.65	0.56	
L/3 to L/4	uPVC	225	13.76										34.1	0	34.1	0	34.1	119.4	0.29							0.03	2.08	2.95	0.04	0.08	0.11	0.32	34.717	34.607	34.286	2.33	0.5	0.53	
L/4 to L/5	uPVC	225	18.1										33.9	0	33.9	0	33.9	65.3	0.52							0	1.9	2.14	0.04	0.07	0.08	0.06	34.295	34.216	34.155	0.34	0.48	0.2	
L/5 to L/6	uPVC	225	19.05										55.4	0	55.4	0	55.4	65.3	0.85							0.03	0		0.1	0	0	0.17	34.155	34.155	33.983	0.9	0.6	0.22	
L/6 to L/7	uPVC	225	18.45										74	0	74	0	74	65.3	1.13							0	0.89		0.18	0.16	0.16	0.3	33.983	33.826	33.53	1.61	0.73	0.26	
L/7 to L/8	uPVC	225	18.38										90.8	0	90.8	0	90.8	65.3	1.39							0.075	0		0.27	0	0	0.44	33.53	33.53	33.086	2.42	0.82	0.57	
L/8 to L/9	uPVC	300	18.07										106.1	0	106.1	0	106.1	125.8	0.84							0	0		0.11	0	0	0.13	33.086	33.086	32.958	0.71	0.9	0.86	
L/9 to L/10	uPVC	300	17.85										120.4	0	120.4	0	120.4	125.8	0.96							0.03	0		0.15	0	0	0.16	32.958	32.958	32.794	0.92	0.93	0.84	
L/10 to L/11	uPVC	300	18.99										134.5	0	134.5	0	134.5	125.8	1.07							0.504	0.74		0.18	0.14	0.14	0.2	32.794	32.658	32.441	1.14	0.78	0.86	
L/11 to 30/13	RRJ2	375	3.43										150	0	150	0	150	424.9	0.35							0.694	2.09	2.63	0.09	0.2	0.25	0	32.288	32.039	31.646	11.45	0.9	0.94	
M/1 to 30/14	uPVC	150	4.36										15.3	0	15.3	0	15.3	48.9	0.31							0.7	0		0.04	0	0	0.03	30.255	30.255	30.229	0.6	1.41	1.49	
N/1 to 30/14	uPVC	150	2.88										13.7	0	13.7	0	13.7	60.4	0.23							0.709	0		0.03	0	0	0.03	30.284	30.254	30.229	0.87	1.43	1.49	
P/1 to P/2	uPVC	150	16.89										19.7	0	19.7	0	19.7	25.2	0.78							0.075	3.68		0.06	0.23	0.23	0.21	41.312	41.077	40.865	1.26	0.53	0.31	
P/2 to P/3	uPVC	225	17.69										37.3	0	37.3	0	37.3	109.3	0.34							0	1.37		0.04	0.06	0.06	0.62	40.865	40.804	40.184	3.5	0.52	0.47	
P/3 to P/4	uPVC	225	33.65										54.3	0	54.3	0	54.3	109.3	0.5							0.659	0		0.1	0	0	1	40.184	40.184	38.894	3.84	0.51	0.63	
P/4 to 40/1	RRJ2	375	5.49										70	0	70	0	70	499.2	0.14							0.05	2.2	3.1	0.02	0.05	0.06	0.25	38.361	38.297	38.05	4.5	1.09	1.11	
X/1 to X/2	RRJ2	375	14.51										186.7	0	186.7	0	186.7	134.4	1.39							0	4.5		0.01	0.03	0.03	0.03	42.601	42.576	42.546	0.21	-0.06	0	TEMPORARY PIPE
X/2 to 4/4	RRJ2	375	18.24										185	0	185	0	185	568.7	0.33							0.675	0.3		0.14	0.04	0.04	1.59	42.546	42.503	40.916	8.7	1.26	2.55	
Y/1 to YB/1	RRJ2	375	5.85										171.7	0	171.7	0	171.7	349.4	0.49							0.153	2		0.12	0.25	0.25	0.05	42.501	42.255	42.209	0.82	1.11	0.35	
YB/1 to YB/2	RRJ2	375	9.17										185.1	0	185.1	4	189.1	424.8	0.45								2		0.15	0.3	0.3	0.21	42.209	41.91	41.7	0.99	1.06	0.44	
YL/1 to 4/10	RRJ2	825	27.75										1335.7	0	1335.7	0	1335.7	3817.7	0.35							0.349	3.81		0.12	1.21	1.21	1.02	38.399	37.185	36.169	3.66	1.69	0.73	

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ..... IAN VINCENT MORGAN
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

Certificate No. 20130229C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

	AMENDMENT	DES	DRN	CKD	APR	DATE
C	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
B	CERTIFIER COMMENTS	MP	MG	RO	MS	29/06/17
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	16/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DRAINAGE CALCULATIONS
SHEET 7 OF 9

PLAN No: 11018511/CC132 C
FILE No: 11018511CC132
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January, 2018 4:57:49 PM File Name: J:\11018511\CC132.dwg

DESIGN STORM 1:100yr ARI HYDROLOGIC RESULTS

PIT NAME (-)	PIT TYPE (-)	CATCHMENT AREA (ha)	IMPERVIOUS PERCENTAGE (%)	RUNOFF C (-)	IMPERVIOUS TIME Tc (min)	IMPERVIOUS INTENSITY I (mm/hr)	PERVIOUS TIME Tc (min)	PERVIOUS INTENSITY I (mm/hr)	FULL AREA TIME Tc (min)	FULL AREA INTENSITY I (mm/hr)	FULL AREA CATCHMENT FLOW Qc (L/s)	PARTIAL AREA TIME Tc (min)	PARTIAL AREA INTENSITY I (mm/hr)	PARTIAL AREA CATCHMENT FLOW Qc (L/s)	TOTAL CATCHMENT FLOW Qc (L/s)	DIRECT FLOW Qd (L/s)	APPROACH FLOW Qa (L/s)	FLOODED DEPTH d (m)	FLOODED WIDTH w (m)	FLOODED (v.xd) (sq.m/s)	ROAD GRADE (%)	ROAD XFALL (%)	CHOKE FACTOR (-)	INLET FLOW Qg (L/s)	BYPASS FLOW Qb (L/s)	BYPASS PIT (-)	COMMENTS
1/1	2.4 m lintel sag	0.061	85	0.878	5	219.1	10	167.3	10	167.3	25	5	219.1	30	30	0	30	0.06			2.7	3	0.5	30	0	1/2	FUTURE PIT
1/2	1.8 m lintel	0.054	85	0.877	5	219.1	10	167.3	10	167.3	22	5	219.1	27	27	0	27	0.02	3.52	0.01	2.2	3	0.8	20	6	1/3	FUTURE PIT
1/3	1.8 m lintel	0.022	85	0.878	5	219.1	10	167.3	10	167.3	9	5	219.1	11	11	0	17	0.06	1.21	0.04	2	3	0.8	14	3	1/4	FUTURE PIT
1/4	1.8 m lintel	0.147	85	0.878	5	219.1	10	167.3	10	167.3	60	5	219.1	74	74	0	77	0.08	1.89	0.11	3	3	0.8	50	27	1/5	FUTURE PIT
1/5	1.8 m lintel	0.136	85	0.878	5	219.1	10	167.3	10	167.3	55	5	219.1	68	68	0	95	0.09	2.07	0.12	3.3	3	0.8	58	37	1/6	FUTURE PIT
1/6	1.8 m lintel	0.129	85	0.877	5	219.1	10	167.3	10	167.3	53	5	219.1	65	65	0	102	0.09	2.14	0.12	3.3	3	0.8	61	41	1/8	FUTURE PIT
1/7	STAGE BOUNDARY	0	0						0	0	0	0	0	0	0	0	0							0	0		
1/8	1.8 m lintel	0.137	85	0.877	5	219.1	10	167.3	10	167.3	55	5	219.1	68	68	0	110	0.09	2.28	0.12	3.3	3	0.8	64	46	1/9	
1/9	1.8 m lintel	0.128	85	0.877	5	219.1	10	167.3	10	167.3	52	5	219.1	64	64	0	110	0.1	2.39	0.12	2.7	3	0.8	63	47	1/10	
1/10	1.8 m lintel	0.132	85	0.878	5	219.1	10	167.3	10	167.3	54	5	219.1	66	66	0	113	0.1	2.68	0.11	2.1	3	0.8	64	48	4/6	
2/1	1.8 m lintel	0.159	85	0.877	5	219.1	10	167.3	10	167.3	65	5	219.1	79	79	0	79	0.08	2.75	0.08	3.2	3	0.8	51	28	YB/1	
3/1	H.W.	2.203	85	0.877	5	219.1	10	167.3	10	167.3	899	5	219.1	1101	1101	0	1101							1101	0		FUTURE EXTENSION
3/2	GSIP 900x900	0.081	60	0.84	5	219.1	10	167.3	10	167.3	32	5	219.1	34	34	0	34							34	0		
3/3	GSIP 900x900	0.541	60	0.84	5	219.1	10	167.3	10	167.3	211	5	219.1	227	227	0	227	0.12	2.71	0.15			0.8	125	102	LOST	
3/4	H.W.																										OUTLET TO DAM 4
4/1	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	0						0.8	0	0	4/3	5x900x900 DAM 4 OUTLET
4/2	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	0							0	0		SPECIAL STRUCTURE 0.9m x 3.0m
4/3	GSIP 900x900	0.343	85	0.877	5	219.1	10	167.3	10	167.3	140	5	219.1	171	171	0	171						0.8	101	70	4/4	SPECIAL STRUCTURE
4/4	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	70						0.8	50	20	4/5	SPECIAL STRUCTURE
4/5	GSIP 900x900 SAG	0.735	50	0.826	5	219.1	10	167.3	10	167.3	282	5	219.1	285	285	0	305	0.22					0.5	305	0		SPECIAL STRUCTURE
4/6	2.4 m lintel sag	0.115	88	0.877	5	219.1	10	167.3	10	167.3	47	5	219.1	57	57	0	136	0.15			0.2	3	0.5	136	0	4A/1	SPECIAL STRUCTURE
4/7	2.4 m lintel sag	0.154	85	0.876	5	219.1	10	167.3	10	167.3	63	5	219.1	77	77	0	77	0.1			0.2	3	0.5	77	0	4/8	SPLITTER PIT
4/8	JP	0	0						0	0	0	0	0	0	0	0	0						0.8	0	0	4/9	SPECIAL STRUCTURE
4/9	JP	0	0						0	0	0	0	0	0	0	0	0						0.8	0	0	4/10	SPECIAL STRUCTURE
4/10	JP	0	0						0	0	0	0	0	0	0	0	0						0	-2847	2847	4/11	SPECIAL STRUCTURE
4/11	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	2847						0	-2403	5250	4/12	
4/12	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	5250						0	-901	6151	LOST	
4/13	H.W.																										OUTLET TO DAM 15
5/1	1.8 m lintel	0.17	85	0.877	5	219.1	10	167.3	10	167.3	69	5	219.1	85	85	0	85	0.09	2.22	0.1	2.4	3	0.8	48	37	5/2	
5/2	1.8 m lintel	0.162	85	0.877	5	219.1	10	167.3	10	167.3	66	5	219.1	81	81	0	118	0.1	2.49	0.12	2.4	3	0.8	60	58	5/3	
5/3	1.8 m lintel	0.157	85	0.877	5	219.1	10	167.3	10	167.3	64	5	219.1	79	79	0	136	0.1	2.8	0.12	2.3	3	0.8	74	63	5/4	
5/4	1.8 m lintel	0.026	85	0.878	5	219.1	10	167.3	10	167.3	12	5	219.1	14	14	0	82	0.09	2.11	0.1	2.3	3	0.8	51	31	4/6	
6/1	1.8 m lintel	0.055	85	0.878	5	219.1	10	167.3	10	167.3	22	5	219.1	27	27	0	38	0.05	1.3	0.09	12.5	2.9	0.8	30	8	6/2	
6/2	1.8 m lintel	0.098	85	0.877	5	219.1	10	167.3	10	167.3	40	5	219.1	49	49	0	57	0.07	1.46	0.11	8.1	3	0.8	40	17	LOST	
6/3	1.8 m lintel	0.046	85	0.878	5	219.1	10	167.3	10	167.3	20	5	219.1	24	24	0	24	0.05	0.77	0.08	8.4	3.1	0.8	19	5	5/4	
7/1	1.8 m lintel	0.085	85	0.878	5	219.1	10	167.3	10	167.3	35	5	219.1	43	43	0	43	0.08	1.64	0.07	2.3	3	0.8	31	12	17/1	
8/1	STAGE BOUNDARY	0	0						0	0	0	0	0	0	0	0	0						0.8	0	0	8/2	ENDCAP FOR FUTURE EXTENSION
8/2	GSIP 900x900	0.339	85	0.878	5	219.1	10	167.3	10	167.3	138	5	219.1	169	169	0	169						0.8	101	69	8/3	
8/3	GSIP 900x900	0.067	85	0.878	5	219.1	10	167.3	10	167.3	27	5	219.1	33	33	0	102	0.04	3.33	0.03	1.1	0	0.526	44	58	8/4	
8/4	GSIP 900x900	0.132	85	0.877	5	219.1	10	167.3	10	167.3	54	5	219.1	66	66	0	124	0.05	3.37	0.04	1.1	0	0.134	13	111	8/5	
8/5	GSIP 900x900	0.134	85	0.877	5	219.1	10	167.3	10	167.3	55	5	219.1	67	67	0	177	0.06	3.45	0.06	1.1	0	0	-1	178	8/6	
8/6	GSIP 900x900	0.131	85	0.878	5	219.1	10	167.3	10	167.3	53	5	219.1	65	65	0	244	0.07	3.54	0.07	1.1	0	0.304	50	194	8/7	
8/7	GSIP 900x900	0.137	85	0.878	5	219.1	10	167.3	10	167.3	56	5	219.1	68	68	0	262	0.07	3.57	0.08	1.1	0	0.281	49	213	8/8	
8/8	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	213	0.06	3.51	0.07	1.1	0	0	-84	297	8/9	
8/9	GSIP 900x900	0.157	85	0.877	5	219.1	10	167.3	10	167.3	64	5	219.1	79	79	0	446	0.1	3.79	0.13	1.1	0	0.154	39	407	8/10	
8/10	GSIP 900x900	0.162	85	0.878	5	219.1	10	167.3	10	167.3	66	5	219.1	81	81	0	488	0.1	3.83	0.14	1.1	0	0.229	62	426	8/11	
8/11	GSIP 900x900	0.145	85	0.877	5	219.1	10	167.3	10	167.3	59	5	219.1	72	72	0	498	0.09	3.71	0.15	1.8	0	0.629	173	325	8/15	
8/12	2.4 m lintel sag	0.151	85	0.878	5	219.1	10	167.3	10	167.3	61	5	219.1	75	75	0	150	0.16					0.5	150	0		
8/13	2.4 m lintel sag	0.027	85	0.878	5	219.1	10	167.3	10	167.3	11	5	219.1	14	14	0	26	0.1			1.5	3	0	-285	310	LOST	
8/14	GSIP 900x900	0.018	85	0.878	5	219.1	10	167.3	10	167.3	7	5	219.1	9	9	0	9							9	0		
8/15	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	325				0.4		0	-282	607	LOST	
8/16	H.W.																										OUTLET TO DAM 4
9/1	1.8 m lintel	0.084	85	0.877	5	219.1	10	167.3	10	167.3	34	5	219.1	42	42	0	42	0.09	1.94	0.06	1	3	0.8	31	11	11/1	
10/1	H.W.	0.703	85	0.877	5	219.1	10	167.3	10	167.3	287	5	219.1	351	351	0	351						0.8	281	70	8/9	HEADWALL INLET
11/1	1.8 m lintel	0.059	85	0.878	5	219.1	10	167.3	10	167.3	24	5	219.1	29	29	0	40	0.08	1.92	0.06	1	3	0.8	30	11	6/1	
12/1	2.4 m lintel	0.256	75	0.863	5	219.1	10	167.3	10	167.3	103	5	219.1	120	120	0	120	0.1	2.7	0.11	3	3	0.8	74	45	12/2	
12/2	1.8 m lintel	0.241	75	0.863	5	219.1	10	167.3	10	167.3	97	5	219.1	113	113	0	156	0.1	2.4	0.17	4.7	3	0.8	83	75	12/3	
12/3	1.8 m lintel	0.237	85	0.878	5	219.1	10	167.3	10	167.3	97	5	219.1	119	119	0	194	0.11	2.13	0.22	7	3	0.8	98	96	12/4	
12/4	1.8 m lintel	0.122	85	0.878	5	219.1	10	167.3	10	167.3	50	5	219.1	61	61	0	157	0.1	2.29	0.17	4.8	3.2	0.8	82	74	8/12	
12O/1	GSIP 900x900	0	0						0	0	0	0	0	0	0	0	0							0	0		4x900x900GSIP DAM 12 OUTLET
13/1	1.8 m lintel	0.092	85	0.878	5	219.1	10	167.3	10	167.3	38	5	219.1	46	46	0	46	0.07	1.3	0.1	7.3	3	0.8	34	12	8/13	
14/1	2.4 m lintel sag	0.119	85	0.878	5	219.1	10	167.3	10	167.3	49	5	219.1	59	59	0	66	0.09					0.5	66	0		
15/2	GSIP 900x900	0.092	85	0.878	5	219.1	10	167.3	10	167.3	38	5	219.1	46	46	0	46				3.5	-7	0.8	34	12	LOST	FUTURE PIT
15/3	STAGE BOUNDARY	0	0						0	0	0	0	0	0	0	0	0							0	0		
15/4	H.W.																										OUTLET TO DAM 4
16/1	DUMMY	0.063	85	0.878	5	219.1	10	167.3	10	167.3	26	5	219.1	32	32	0	32				3.7	10.6	0.8	25	6	14/1	FUTURE PIT
45/1	DUMMY	1.026	85	0.877	5	219.1	10	167.3	10	167.3	418	5	219.1	513	513	0	513							513	0		ENDCAP FOR FUTURE EXTENSION
A/1	SLOPE JUNCTION	0.068	85	0.877	5	219.1	10	167.3	10	167.3	28	5	219.1	34	34	0	34							34	0		
A/2	JP	0	0						0	0	0	0	0	0	0	0	0							0	0		900x900
A/3	GSIP 600x900 IAD	0.066	85	0.878	5	219.1	10	167.3	10	167.3	27	5	219.1	33	33	0	33							33	0		
A/4	SLOPE JUNCTION	0.065	85	0.877	5	219.1	10	167.3	10	167.3	27	5	219.1	33	33	0	33							33	0		
A/5	GSIP 600x900 IAD	0	0						0	0	0	0	0	0	0	0	0							0	0		
A/6	SLOPE JUNCTION	0.068	85	0.878	5	219.1	10	167.3	10	167.3	27	5	219.1	33	33	0	33							33	0		
A/7	GSIP 600x900 IAD	0	0						0	0	0	0	0	0	0	0	0							0	0		
A/8	SLOPE JUNCTION	0.064	85	0.878	5	219.1	10	167.3	10	167.3	26	5	219.1	32	32	0	32							32	0		
A/9	GSIP 900x900 IAD	0.063	85	0.878	5	219.1	10	167.3	10	167.3	26	5	219.1	32	32	0	32							32	0		
X/1	H.W.	0.66	85	0.878	5	219.1	10	167.3	10	167.3	269	5	219.1	330	330	0	330							330	0		TEMPORARY HEADWALL INLET
X/2	GSIP 900x900 IAD	0	0						0	0	0	0	0	0	0	0	0						0.8	0	0	LOST	
YL1/1	EXISTING PIT	4.72	85	0.878	5	219.1	10	167.3	10	167.3	1925	5	219.1	2359	2359	0	2359							2359	0		

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0585

These plans/specifications form part of the certificate issued 5 March 2018

	AMENDMENT	DES	DRN	CKD	APR	DATE
C	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
B	CERTIFIER COMMENTS	MP	MG	RO	MS	29/08/17
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DRAINAGE CALCULATIONS
SHEET 8 OF 9

PLAN No: 11018511/CC133 C
FILE No: 11018511CC133
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January, 2018 4:58:06 PM File Name: J:\11\18511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC133.dwg

DESIGN STORM 1:100yr ARI HYDRAULIC RESULTS

PIPE NAME (-)	PIPE TYPE (-)	PIPE DIAMETER (mm)	PIPE LENGTH (m)	PIPE SLOPE (%)	PIPE AREA Af (sq.m)	FULL AREA TIME Tc (min)	FULL AREA INTENSITY I (mm/hr)	FULL AREA SUM CA (ha)	FULL AREA FLOW Qc (L/s)	PART-AREA TIME Tc (min)	PART-AREA INTENSITY I (mm/hr)	PART-AREA SUM CA (ha)	PART-AREA FLOW Qc (L/s)	DIRECT PIPE FLOW Qp (L/s)	PEAK FLOW Qrat (L/s)	NET BYPASS FLOW Qb (L/s)	PIPE FLOW Q (L/s)	FLOW CAP. Qcap (L/s)	Q/Qcap RATIO (-)
1/1 to 1/2	RRJ2	375	8.02	1	0.11	10	167.3	0.054	24.9	5	219.1	0.05	30.5	0	30.5	0	30.5	190	0.16
1/2 to 1/3	RRJ2	375	14.61	1.14	0.11	10.11	166.7	0.101	46.8	5.11	217.6	0.09	57	0	57	-6.5	50.5	202.6	0.25
1/3 to 1/4	RRJ2	375	30.65	2.64	0.11	10.27	165.6	0.12	55	5.27	215.3	0.11	67	0	67	-3.4	63.5	309	0.21
1/4 to 1/5	RRJ2	375	32.46	3.17	0.11	10.5	164.1	0.249	113.4	5.38	213.6	0.23	137.9	0	137.9	-27.3	110.7	338.3	0.33
1/5 to 1/6	RRJ2	375	32.54	3.3	0.11	10.7	162.9	0.368	166.4	5.43	213.1	0.34	201.9	0	201.9	-37.4	164.5	344.9	0.48
1/6 to 1/7	RRJ2	375	25.94	3.48	0.11	10.87	161.8	0.481	216.2	5.37	213.8	0.44	262.5	0	262.5	-41.2	221.3	354.2	0.62
1/7 to 1/8	RRJ2	375	12.21	3.48	0.11	11	160.9	0.481	215.1	5.5	212.1	0.44	260.3	0	260.3	-41.2	219.1	354.2	0.62
1/8 to 1/9	RRJ2	450	27.91	3.88	0.16	11.06	160.6	0.741	330.4	5.56	211.2	0.69	402.8	0	402.8	-74.4	328.3	608.6	0.54
1/9 to 1/10	RRJ2	525	31.31	2.36	0.22	11.18	159.8	0.853	378.6	5.68	209.6	0.79	461.3	0	461.3	-75	386.3	716.1	0.54
1/10 to 4/6	RRJ2	600	28.03	2.5	0.28	11.33	158.8	0.969	427.4	5.64	210.2	0.89	520.3	0	520.3	-76.6	443.6	1052.2	0.42
2/1 to 1/7	RRJ2	375	16.97	2.52	0.11	10	167.3	0.139	64.8	5	219.1	0.13	79.4	0	79.4	-28.5	50.9	301.5	0.17
3/1 to 3/2	RRJ2	600	15.45	8.21	0.28	10	167.3	1.934	898.7	5	219.1	1.81	1101.2	0	1101.2	0	1101.2	1907.2	0.58
3/2 to 3/3	RRJ2	600	59.96	2.58	0.28	10.04	167.1	2.002	929.2	5.04	218.5	1.87	1132.7	0	1132.7	0	1132.7	1069.8	1.06
3/3 to 3/4	RRJ2	600	63.81	4.16	0.28	10.27	165.6	2.457	1130	5.27	215.3	2.24	1341.8	0	1341.8	-102.4	1239.4	1365.1	0.91
4/1 to 4/2	RRJ2	(2x)1050	46.69	3	1.73	5	219.1	0	0	5	219.1	0	0	2220	2220	0	2220	10252.8	0.22
4/2 to 4/3	RRJ2	1050	56.97	6.25	0.87	5.16	216.8	0	0	5.16	216.8	0	0	2220	2220	0	2220	7398	0.3
4/3 to 4/4	RRJ2	1050	29.41	5.24	0.87	10.04	167.1	1.201	557.4	5.04	218.5	1.12	682.4	2220	2902.4	-69.9	2832.5	6773.9	0.42
4/4 to 4/5	RRJ2	1050	17.93	2.49	0.87	10.14	166.4	1.78	822.9	5.14	217.1	1.67	1005.1	2220	3225.1	-20.4	3204.8	4673.5	0.69
4/5 to 4/6	RRJ2	1050	13.81	2.19	0.87	10.19	166.1	2.386	1101.1	5.19	216.4	2.14	1286.6	2220	3506.6	0	3506.6	4381	0.8
4/6 to 4/7	RRJ2	(2x)1050	11	2	1.73	11.46	158	4.506	1977	5.54	211.5	4.08	2397.8	2220	4617.8	-46.6	4571.2	8370.3	0.55
4/7 to 4/8	RRJ2	1050	26.8	1.25	0.87	11.5	157.7	4.641	2033.3	5.58	210.9	4.21	2466.7	1383	3849.7	-46.6	3803.1	3309.1	1.15
4/8 to 4/9	RRJ2	1050	65.51	3.15	0.87	11.6	157.1	4.641	2024.9	5.68	209.5	4.21	2450.1	1383	3833.1	-46.6	3786.5	5250	0.72
4/9 to 4/10	RRJ2	1200	57.83	2.96	1.13	11.77	156	4.641	2011.3	5.85	207.2	4.21	2423.1	5863	8286.1	-46.6	8239.5	7271.7	1.13
4/10 to 4/11	RRJ2	1200	63.39	3.02	1.13	11.9	155.2	8.783	3785.7	5.67	209.7	8.01	4668.9	5863	10531.9	-2893.9	7638	7342.8	1.04
4/11 to 4/12	RRJ2	1200	43.82	1	1.13	12.04	154.3	8.783	3764.8	5.81	207.7	8.01	4624.4	5863	10487.4	-5297	5190.4	4225.4	1.23
4/12 to 4/13	RRJ2	1200	12.76	1	1.13	12.2	153.5	8.783	3745.4	6.14	203.7	8.09	4576.5	5863	10439.5	-6197.9	4241.6	4241.6	1
4A/1 to 4A/2	RRJ2	750	9.29	1.05	0.44	5	219.1	0	0	5	219.1	0	0	837	837	0	837	1233.8	0.68
4A/2 to 4A/3	RRJ2	750	20.84	2.12	0.44	5.05	218.3	0	0	5.05	218.3	0	0	837	837	0	837	1763.8	0.47
5/1 to 5/2	RRJ2	375	37.28	2.54	0.11	10	167.3	0.149	69.3	5	219.1	0.14	84.9	0	84.9	-36.5	48.4	302.9	0.16
5/2 to 5/3	RRJ2	375	38.84	2.54	0.11	10.31	165.3	0.366	168.2	5.31	214.7	0.34	204.8	0	204.8	-69.3	135.5	303	0.45
5/3 to 5/4	RRJ2	450	31.52	2	0.16	10.55	163.6	0.504	229.5	5.55	211.3	0.47	278.1	0	278.1	-74.4	203.7	437	0.47
5/4 to 4/6	RRJ2	525	36.2	3.09	0.22	10.92	161.5	1.05	470.9	5.62	210.4	0.98	571.3	0	571.3	-48.6	522.7	819.1	0.64
6/1 to 6/2	RRJ2	375	29.42	12.47	0.11	10.69	162.9	0.393	177.8	5.51	211.9	0.37	216.1	0	216.1	2.3	218.4	671.1	0.33
6/2 to 6/3	RRJ2	375	8.01	2	0.11	10.78	162.3	0.479	215.8	5.42	213.2	0.44	262.4	0	262.4	-6.5	255.9	268.7	0.95
6/3 to 5/4	RRJ2	375	17.56	3.23	0.11	10.83	162	0.521	234.3	5.47	212.5	0.48	284.9	0	284.9	-11.3	273.6	341.7	0.8
7/1 to 6/2	RRJ2	375	17.52	1.83	0.11	10	167.3	0.075	34.8	5	219.1	0.07	42.7	0	42.7	-11.6	31.1	257.1	0.12
8/1 to 8/2	RRJ2	375	7.18	4	0.11	5	219.1	0	0	5	219.1	0	0	0	0	0	0	380	0
8/2 to 8/3	RRJ2	375	24.47	4	0.11	10	167.3	0.297	138.3	5	219.1	0.28	169.4	0	169.4	-68.9	100.5	380	0.26
8/3 to 8/4	RRJ2	375	24.18	1	0.11	10.14	166.4	0.356	164.6	5.14	217.1	0.33	201	0	201	-57.8	143.1	190	0.75
8/4 to 8/5	RRJ2	375	24.28	1	0.11	10.35	165.1	0.472	216.3	5.35	214.1	0.44	263	0	263	-110.6	152.3	190	0.8
8/5 to 8/6	RRJ2	375	21.41	1	0.11	10.57	163.7	0.589	267.9	5.57	211.2	0.55	324.3	0	324.3	-178.5	145.8	190	0.77
8/6 to 8/7	RRJ2	450	21.77	1	0.16	10.75	162.5	0.777	350.9	5.76	208.5	0.73	423.3	0	423.3	-204.9	218.4	309	0.71
8/7 to 8/8	RRJ2	450	42.41	1	0.16	10.93	161.4	0.897	402.4	5.93	206.1	0.84	483.6	0	483.6	-224.5	259.1	309	0.84
8/8 to 8/9	RRJ2	450	7.57	1	0.16	11.25	159.3	0.897	397.2	6.25	202.7	0.84	475.6	0	475.6	-308.3	167.3	309	0.54
8/9 to 8/10	RRJ2	600	41.1	1	0.28	11.31	158.9	1.704	752.2	6.17	203.5	1.6	904.9	0	904.9	-417.5	487.4	665.5	0.73
8/10 to 8/11	RRJ2	600	27.5	1	0.28	11.58	157.2	1.846	806.1	6.44	200.9	1.74	969.3	0	969.3	-436.1	533.2	665.5	0.8
8/11 to 8/12	RRJ2	600	10.81	1	0.28	11.76	156.1	1.973	855.4	6.62	199.3	1.86	1028.5	0	1028.5	-335.4	693.1	665.5	1.04
8/12 to 8/13	RRJ2	675	8.09	1	0.36	11.82	155.7	2.93	1266.8	6.26	202.7	2.71	1524.5	0	1524.5	-347.2	1177.3	911	1.29
8/13 to 8/14	RRJ2	675	10.62	1	0.36	11.86	155.4	2.954	1275.1	6.3	202.3	2.73	1534.5	0	1534.5	-645.7	888.8	911	0.98
8/14 to 8/15	RRJ2	675	23.61	1	0.36	11.93	155	2.969	1278.5	6.36	201.7	2.75	1538.4	0	1538.4	-645.7	892.6	911	0.98
8/15 to 8/16	RRJ2	675	12.09	1	0.36	12.08	154.2	3.074	1316.8	6.5	200.4	2.85	1584	0	1584	-921.1	662.9	911	0.73
9/1 to 8/6	RRJ2	375	12.21	2.99	0.11	10	167.3	0.073	34.1	5	219.1	0.07	41.8	0	41.8	-11	30.7	328.8	0.09
10/1 to 8/9	RRJ2	450	45.2	6	0.16	10	167.3	0.617	286.8	5	219.1	0.58	351.4	0	351.4	-70.3	281.2	758.9	0.37
11/1 to 8/9	RRJ2	375	12.79	1.82	0.11	10	167.3	0.051	23.9	5	219.1	0.05	29.3	0	29.3	0.5	29.8	256.3	0.12
12/1 to 12/2	RRJ2	375	47.94	4.79	0.11	10	167.3	0.221	102.7	5	219.1	0.2	119.8	0	119.8	-45.3	74.5	415.8	0.18
12/2 to 12/3	RRJ2	375	43.37	4.58	0.11	10.28	165.5	0.429	197.1	5.28	215.1	0.38	229	0	229	-75.2	153.9	406.6	0.38
12/3 to 12/4	RRJ2	375	24.79	4.44	0.11	10.49	164.2	0.718	327.4	5.49	212.2	0.66	386.5	0	386.5	-107.6	278.9	400.6	0.7
12/4 to 8/12	RRJ2	450	10.51	4.2	0.16	10.6	163.5	0.825	374.7	5.32	214.6	0.74	443	0	443	-86.2	356.8	633.3	0.56
13/1 to 12/3	RRJ2	375	10.08	4.27	0.11	10	167.3	0.081	37.8	5	219.1	0.08	46.1	0	46.1	-11.8	34.3	392.7	0.09
14/1 to 8/15	RRJ2	375	14.55	1	0.11	10	167.3	0.104	48.5	5	219.1	0.1	59.5	0	59.5	6.3	65.8	190	0.35
15/1 to 15/2	RRJ2	825	16.7	7.29	0.53	10	167.3	3.85	1789.4	5	219.1	3.6	2192.4	0	2192.4	0	2192.4	4201.7	0.52
15/2 to 15/3	RRJ2	825	5.46	4.84	0.53	10.11	166.6	3.987	1845.1	5.04	218.6	3.73	2264.8	0	2264.8	-18.2	2246.6	3424.1	0.66
15/3 to 15/4	RRJ2	825	37.72	4.02	0.53	10.12	166.5	3.987	1844.2	5.05	218.4	3.73	2262.8	0	2262.8	-18.2	2244.7	3132.7	0.72
16/1 to 15/2	RRJ2	375	13.79	4.75	0.11	10	167.3	0.056	25.9	5	219.1	0.05	31.7	0	31.7	-6.3	25.4	414	0.06
45/1 to 4/3	RRJ2	375	13.67	10.29	0.11	10	167.3	0.9	418.4	5	219.1	0.84	512.6	0	512.6	0	512.6	609.5	0.84
A/1 to A/2	uPVC	150	1.55	1	0.02	10	167.3	0.06	27.8	5	219.1	0.06	34	0	34	0	34	19.8	1.72
A/2 to A/3	uPVC	150	19.33	1	0.02	10.01	167.2	0.06	27.7	5.01	218.9	0.06	34	0	34	0	34	19.8	1.72
A/3 to A/4	uPVC	225	20.69	1.25	0.04	10.18	166.2	0.118	54.4	5.18	216.5	0.11	66.4	0	66.4	0	66.4	65.3	1.02
A/4 to A/5	uPVC	225	7.8	1.25	0.04	10.37	165	0.175	80.3	5.37	214	0.16	97.7	0	97.7	0	97.7	65.3	1.5
A/5 to A/6	uPVC	225	13.02	2.86	0.04	10.42	164.7	0.175	80.1	5.42	213.2	0.16	97.3	0	97.3	0	97.3	98.7	0.99
A/6 to A/7	uPVC	225	3.01	2.86	0.04	10.5	164.2	0.233	106.3	5.31	214.7	0.22	129.1	0	129.1	0	129.1	98.7	1.31
A/7 to A/8	uPVC	225	17.6	3	0.04	10.51	164.1	0.233	106.2	5.33	214.5	0.22	129	0	129	0	129	101.2	1.28
A/8 to A/9	uPVC	225	17.59	3	0.04	10.6	163.5	0.29	131.6	5.42	213.2	0.27	159.8	0	159.8	0	159.8	101.2	1.58
A/9 to 6/1	RRJ2	375	5.43	7.89	0.11	10.67	163	0.345	156.3	5.49	212.2	0.32	189.8	0	189.8	0	189.8	533.6	0.36
X/1 to X/2	RRJ2	375	14.51	0.5	0.11	10	167.3	0.579	269.1	5	219.1	0.54	329.7	0	329.7	0	329.7	134.4	2.45

PIPE NAME (-)	FULL PIPE VELOCITY (m/s)	NORM. DEPTH VELOCITY (m/s)	CRIT. DEPTH VELOCITY (m/s)	U/S PIT GRATE RL (m)	PIPE U/S IL (m)	PIPE D/S IL (m)	PIPE D/S DROP (m)	U/S PIT Ku (-)	U/S PIT Kw (-)	PIPE V'HEAD (m)	PIT LOSS (Ku.V'head) (m)	WSE LOSS (Kw.V'head) (m)	TOTAL PIPE LOSS (m)	U/S PIT HGL (m)	U/S PIPE HGL (m)	D/S PIPE HGL (m)	HGL GRADE (%)	MIN. COVER (m)	U/S FREEBOARD (m)	COMMENTS
1/1 to 1/2	0.28	1.26	0.95	48.2	46.8	46.72	0.03	4.5		0	0.02	0.02	0.09	47.193	47.175	47.088	1.09	1.15	1.01	
1/2 to 1/3	0.46	1.52	1.1	48.2	46.69	46.524	0.03	2.13		0.01	0.02	0.02	0.17	47.088	47.065	46.895	1.16	1.39	1.11	
1/3 to 1/4	0.58	2.2	1.18	48.2	46.494	45.683	0.03	1.54	1.56	0.02	0.03	0.03	0.74	46.895	46.869	46.125	2.43	1.51	1.3	
1/4 to 1/5	1	2.74	1.45	47.1	45.653	44.625	0.03	1.88		0.05	0.1	0.1	0.88	46.125	46.028	45.15	2.71	1.27	0.98	
1/5 to 1/6	1.49	3.09	1.75	46	44.595	43.523	0.03	1.59		0.11	0.18	0.18	0.84	45.15	44.97	44.126	2.59	1.08	0.85	
1/6 to 1/7	2	3.38	2.12	44.967	43.493	42.591	0	1.26		0.2	0.26	0.26	0.9	44.126	43.868	42.966	3.48	1.02	0.84	
1/7 to 1/8	1.98	3.38	2.1	44.061	42.591	42.167	0.075	0		0.2	0	0	0.19	42.966	42.966	42.776	1.56	1.06	1.09	
1/8 to 1/9	2.06	3.9	2.22	43.658	42.092	41.009	0.075	1.08		0.22	0.23	0.23	1.01	42.776	42.542	41.534	3.61	1.03	0.88	
1/9 to 1/10	1.78	3.37	2.08	42.812	40.934	40.195	0.075	0.46		0.16	0.07	0.07	0.28	41.534	41.459	41.181	0.89	1.28	1.28	
1/10 to 4/6	1.57	3.56	2.01	42.102	40.12	39.419	0.45	0.45		0.13	0.06	0.06	0.12	41.181	41.125	41	0.44	1.31	0.92	
2/1 to 1/7	0.46	2.03	1.1	44.084	42.594	42.166	0.075	4.5		0.01	0.05	0.05	0.19	43.018	42.969	42.776	1.14	1.1	1.07	
3/1 to 3/2	3.89	6.96	3.92	56.725	54.599	53.33	0.03	2		0.7	1.41	1.41	0.39	56.725	55.316	54.931	2.49	0.87	0	
3/2 to 3/3	4.01	4.27	4.03	54.931	53.3	51.75	0.05	0.34		0.78	0.27	0.27	1.66	54.931	54.665	53.006	2.77	0.97	0	
3/3 to 3/4	4.38	5.45	4.4	54.077	51.7	48.2		0.72		0.98	0.71	0.71	3.37	53.006	52.3	48.93	4.02	0.6	1.07	
4/1 to 4/2	1.28	4.73	2.19	48.5	46.45	45.049	0.03	4.5		0.08	0.38	0.38	1.35	47.877	47.5	46.152	2.89	0.75	0.62	
4/2 to 4/3	2.56	7.47	2.97	47.167	45.019	41.46	0.05	0.25		0.34	0.08	0.08	3.37	46.152	46.069	42.697	5.92	0.97	1.01	
4/3 to 4/4	3.27	7.47	3.48	43.721	41.41	39.869	0.05	0.44		0.55	0.24	0.24	1.03	42.697	42.46	41.429	3.5	0.15	1.02	
4/4 to 4/5	3.7	5.81	3.83	42.159	39.819	39.372	0.05	0.31		0.7	0.22	0.22	0.21	41.429	41.21	41	1.17	0.43	0.73	
4/5 to 4/6	4.05	5.62	4.14	41	39.322	39.019	0.05	0.61		0	0	0	0	41	41	41	0	0.55	0	
4/6 to 4/7	2.64	4.94	3.02	41.676	38.969	38.749	0.05	0.15		0	0	0	0	41	41	41	0	1.65	0.68	
4/7 to 4/8	4.39	4.39	4.46	41.675	38.699	38.364	0.05	3.4		0.26	0.88	0.88	0.12	41	40.116	39.999	0.44	1.6	0.67	
4/8 to 4/9	4.37	6.6	4.44	41.083	38.314	36.253	0.15	0.44		0.98	0.43	0.43	1.07	39.999	39.572	38.5	1.64	1.36	1.08	
4/9 to 4/10	7.29	7.29	7.29	39.062	38.103	34.39	0.05	0.32		0.97	0.31	0.31	0.79	38.5	38.186	37.394	1.37	1.56	0.56	
4/10 to 4/11	6.75	7.37	6.77	37.394	34.34	32.426	0.03	0.27		2.33	0.62	0.62	2.07	37.394	36.77	34.699	3.27	1.01	0	
4/11 to 4/12	4.59	4.59	4.67	34.699	32.396	31.958	0.03	0.22		1.07	0.23	0.23	0.66	34.699	34.467	33.806	1.51	0.55	0	
4/12 to 4/13	3.75	4.26	3.93	33.806	31.928	31.8		0.82	0.84	0.72	0.58	0.6	0.13	33.729	33.129	33	1.01		0.08	
4A/1 to 4A/2	1.89	3	2.34	41.62	38.669	38.572	0.03	2.46		0.18	0.45	0.45	0.04	39.884	39.433	39.388	0.48	2.34	1.74	
4A/2 to 4A/3	1.89	3.93	2.34	41.742	38.542	38.1		0.53		0.18	0.1	0.1	0.34	39.388	39.292	38.95	1.64	0.27	2.35	
5/1 to 5/2	0.44	2.01	1.09	44.832	43.357	42.41	0.03	4.5		0.01	0.04	0.04	0.83	43.776	43.732	42.906	2.21	1.19	1.06	
5/2 to 5/3	1.23	2.67	1.58	43.935	42.38	41.392	0.075	1.98		0.08	0.15	0.15	0.85	42.906	42.755	41.903	2.19	1.14	1.03	
5/3 to 5/4	1.28	2.7	1.7	43.04	41.317	40.687	0.075	1.38		0.08	0.12	0.12	0.14	41.903	41.788	41.651	0.43	1.17	1.14	
5/4 to 4/6	2.41	4.01	2.54	42.323	40.612	39.494	0.525	0.66		0.3	0.2	0.2	0.46	41.651	41.455	41	1.26	1.12	0.67	
6/1 to 6/2	1.98	5.43	2.1	46.772	45.26	41.59	0.05	4.5		0.2	0.9	0.9	2.84	46.533	45.635	42.795	9.65	1.1	0.24	
6/2 to 6/3	2.32	2.77	2.38	43.31	41.54	41.38	0.05	1.48	1.73	0.27	0.41	0.47	0.15	42.864	42.389	42.244	1.81	1.42	0.45	
6/3 to 5/4	2.48	3.44	2.53	43.275	41.33	40.762	0.15	0.73		0.31	0.23	0.23	0.36	42.244	42.015	41.651	2.07	1.26	1.03	
7/1 to 6/2	0.28	1.57	0.95	44.257	42.773	42.452	0.073	4.5		0	0.02	0.02	0.24	43.166	43.148	42.906	1.38	1.1	1.09	
8/1 to 8/2	0	0	0	54.416	52.057	51.77	0.03	0		0	0	0	0	52.513	52.513	52.513	0	1.76	1.9	
8/2 to 8/3	0.91	2.9	1.39	54	51.74	50.761	0.03	3.2		0.04	0.14	0.14	0.07	52.513	52.378	52.309	0.28	1.16	1.49	
8/3 to 8/4	1.3	1.89	1.62	52.383	50.731	50.489	0.03	1.27		0.09	0.11	0.11	0.14	52.309	52.2	52.063	0.57	1.23	0.07	
8/4 to 8/5	1.38	1.91	1.68	52.123	50.459	50.216	0.03	0.47		0.1	0.05	0.05	0.16	52.063	52.017	51.861	0.64	1.24	0.06	
8/5 to 8/6	1.32	1.9	1.64	51.861	50.186	49.972	0.075	0.24		0.09	0.02	0.02	0.13	51.679	51.658	51.532	0.59	1.25	0.18	
8/6 to 8/7	1.37	2.11	1.75	51.63	49.897	49.679	0.036	0.89		0.1	0.09	0.09	0.11	51.532	51.446	51.337	0.5	1.23	0.1	
8/7 to 8/8	1.63	2.18	1.91	51.396	49.643	49.219	0.03	0.75		0.14	0.1	0.1	0.3	51.337	51.235	50.937	0.7	1.23	0.06	
8/8 to 8/9	1.05	1.98	1.56	50.937	49.189	49.113	0.15	0.26		0.06	0.01	0.01	0.02	50.751	50.737	50.715	0.29	1.25	0.19	
8/9 to 8/10	1.72	2.57	2.11	50.856	48.963	48.562	0.03	1.14	1.22	0.15	0.17	0.18	0.22	50.726	50.542	50.321	0.54	1.22	0.13	
8/10 to 8/11	1.89	2.61	2.21	50.41	48.522	48.247	0.03	0.6		0.18	0.11	0.11	0.18	50.321	50.212	50.036	0.64	1.16	0.09	
8/11 to 8/12	2.45	2.67	2.61	50.036	48.217	48.109	0.075	0.54		0.31	0.17	0.17	0.12	50.036	49.87	49.753	1.08	1.17	0	
8/12 to 8/13	3.29	3.29	3.36	49.753	48.034	47.953	0.03	0.65		0.03	0.02	0.02	0.01	49.753	49.734	49.727	0.09	1.06	0	
8/13 to 8/14	2.48	2.9	2.68	49.727	47.923	47.817	0.93	0.24		0.31	0.08	0.08	0.1	49.605	49.529	49.426	0.95	1	0.12	
8/14 to 8/15	2.49	2.9	2.69	49.527	47.787	47.651	0.03	0.25		0.32	0.08	0.08	0.23	49.428	49.347	49.121	0.96	0.82	0.1	
8/15 to 8/16	1.85	2.78	2.25	49.121	47.521	47.4		0.23		0.18	0.04	0.04	0.06	49.034	48.894	48.93	0.53	0.13	0.09	
9/1 to 8/6	0.28	1.86	0.95	51.823	50.353	49.988	0.091	4.5		0	0.02	0.02	0	51.553	51.535	51.532	0.03	1.12	0.27	
10/1 to 8/9	1.77	4.41	2	54.303	51.911	49.199	0.236	0.5		0.16	0.08	0.08	1.65	52.441	52.361	50.715	3.64	1	1.86	
11/1 to 8/9	0.27	1.55	0.94	51.043	49.507	49.274	0.311	4.5		0	0.02	0.02	0	50.735	50.718	50.715	0.02	1.14	0.31	
12/1 to 12/2	0.67	2.85	1.25	55.916	54.375	52.08	0.05	4.5		0.02	0.1	0.1	2.12	54.855	54.75	52.626	4.43	1.1	1.06	
12/2 to 12/3	1.39	3.42	1.68	54.6	52.03	50.045	0.075	2.22		0.1	0.22	0.22	1.36	52.626	52.405	51.045	3.14	1.18	1.97	
12/3 to 12/4	2.53	3.92	2.57	51.55	49.97	48.868	0.075	1.32		0.33	0.43	0.43	0.53	51.045	50.616	50.081	2.15	0.99	0.51	
12/4 to 8/12	2.24	4.1	2.36	50.178	48.793	48.351	0.317	0.73		0.26	0.19	0.19	0.14	50.081	49.893	49.753	1.33	0.85	0.1	
13/1 to 12/3	0.31	2.19	0.98	51.984	50.475	50.044	0.075	4.5		0	0.02	0.02	0	51.07	51.048	51.045	0.03	1.1	0.91	
14/1 to 8/15	0.6	1.56	1.2	49.195	47.819	47.673	0.152	4.5		0.01	0.06	0.06	0.01	49.195	49.134	49.121	0.09	1.03	0	
15/1 to 15/2	4.1	7.94	4.15	54.733	51.064	49.845	0.05	4.5		0.63	2.84	2.84	1.01	54.733	51.889	50.877	6.06	2.66	0	FUTURE PIPE
15/2 to 15/3	4.2	6.83	4.24	53.308	49.795	49.531	0.013	0.28		0.9	0.26	0.26	0.27	50.877	50.62	50.343	5.08	2.19	2.43	
15/3 to 15/4	4.2	6.35	4.24	52.604	49.518	48		0		0.9	0	0	1.41	50.343	50.343	48.93	3.75	0.83	2.26	
16/1 to 15/2	0.23	2.07	0.9	52.919	50.9	50.245	0.45	4.5		0	0.01	0.01	0.4	51.287	51.275	50.877	2.89	1.64	1.63	
45/1 to 4/3	4.64	6.18	4.64	45.429	43.491	42.085	0.675	4.5		0.57	2.56	2.56	1.17	46.429	43.866	42.697	8.55	1.3	0	
A/1 to A/2	1.92	1.92	1.94	49.319	48.599	48.583	0.03	0		0.1	0	0	0.03	49.318	49.318	49.293	1.62	0.57	0	
A/2 to A/3	1.92	1.92	1.94	49.293	48.553	48.36	0.075	0.23		0.07	0.02	0.02	0.21	49.293	49.278	49.072	1.06	0.57	0	
A/3 to A/4	1.67	1.87	1.74	49.072	48.285	48.026	0	2.5		0.07	0.17	0.17	0.13	49.072	48.902	48.774	0.62	0.52	0	
A/4 to A/5	2.46	2.46	2.47	48.774	48.026	47.929	0.03	0		0.16	0	0	0.11	48.774	48.774	48.66	1.46	0.51	0	
A/5 to A/6	2.45	2.83	2.46	48.66	47.899	47.527	0	0.25		0.28	0.07	0.07	0.33	48.66	48.592	48.265	2.51	0.51	0	
A/6 to A/7	3.25	3.25	3.25	48.265	47.527	47.441	0.03	0		0.36	0	0	0.1	48.265	48.265	48.167	3.25	0.51	0	
A/7 to A/8	3.24	3.24	3.25	48.167	47.411	46.882	0	0.2		0.3	0.06	0.06	0.47	48.167	48.107	47.635	2.68	0.52	0	
A/8 to A/9	4.02	4.02	4.02	47.635	46.882	46.355	0.637	0		0.53	0	0	0.85	47.635	47.635	46.787	4.82	0.52	0	
A/9 to 6/1	1.72	4.42	1.9	47.148	45.718	45.29	0.03	1.33	2.34	0.15	0.2	0.35	0.05	46.939	46.587	46.533	1	1	0.21	
X/1 to X/2	2.99	2.99	3.01	42.601	42.201	42.128	0	4.5		0	0	0	0	42.601	42.601	42.601	0	-0.06	0	TEMPORARY PIPE

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11

C	STORMWATER REDESIGN	MP	TG	RO	RO	25/01/18
B	CERTIFIER COMMENTS	MP	MG	RO	MS	29/06/17
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DRAINAGE CALCULATIONS
SHEET 9 OF 9

PLAN No: 11018511/CC134 C
FILE No: 11018511CC134
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January, 2018 4:58:23 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC134.dwg

BLOCK RETAINING WALL NOTES

GENERAL NOTES.

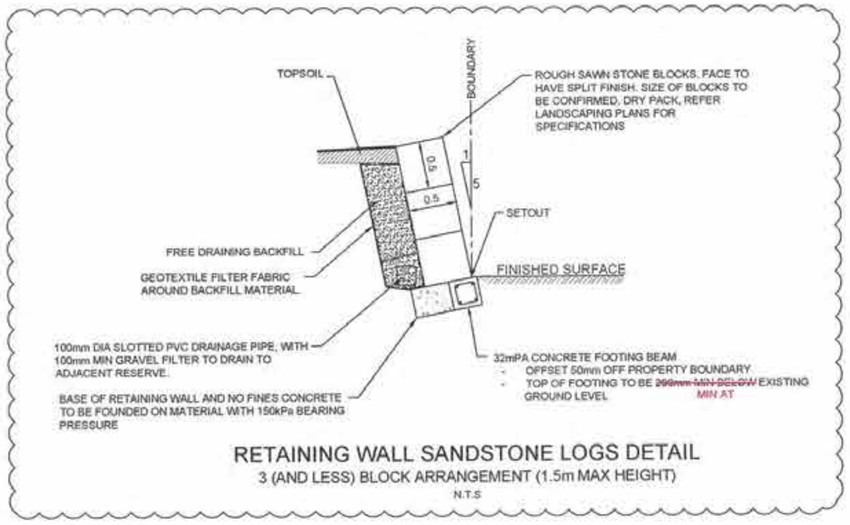
1. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS AND SPECIFICATIONS.
2. ALL CONCRETE AND WORKMANSHIP TO BE IN ACCORDANCE WITH AS 3600 AND ASSOCIATED AUSTRALIAN STANDARDS.
3. CHARACTERISTIC CONCRETE COMPRESSIVE STRENGTH IN ACCORDANCE WITH AS 3600 TO BE 25MPa.
4. CONCRETE SLUMP TO BE 80mm.
5. CONCRETE IN SLAB TO BE MECHANICALLY VIBRATED DURING PLACEMENT.
6. CURE CONCRETE BY KEEPING CONSTANTLY DAMP FOR AT LEAST 5 DAYS AFTER PLACING.
7. REINFORCEMENT TO BE SUPPORTED ON BAR CHAIRS SPACED AT EVERY 5TH WIRE IN BOTH DIRECTIONS.
8. GRADE FINISHED GROUND SURFACE TO DIVERT WATER AWAY FROM WALL ON ALL SIDES AND TO PREVENT PONDING.
9. AG. DRAINS MUST HAVE A FALL TOWARDS AN OUTLET WHERE THEY CAN BE CONNECTED TO A SEALED STORMWATER SYSTEM. A CLEANING EYE MUST BE PLACED AT THE AG. DRAIN CONNECTION AND AT THE UPHILL END OF DRAIN.

CONCRETE NOTES.

1. SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
2. ALL CONCRETE TO BE COMPACTED BY A MECHANICAL VIBRATOR. THE VIBRATOR SHALL NOT BE USED TO SPREAD THE CONCRETE.
3. DO NOT PLACE CONDUITS, PIPES, ETC IN CONCRETE COVER.
4. ENSURE MINIMUM 50mm COVER TO ALL REINFORCEMENT.

FOUNDATION NOTES

1. ALL BASE SLABS AND FOOTING ARE TO BEAR DIRECTLY ON FIRM, STABLE NATURAL GROUND HAVING A UNIFORM BEARING CAPACITY OF AT LEAST 200KPa.
2. PROVIDE PIERS, AS FOUND NECESSARY, TO MAINTAIN A UNIFORM SAFE BEARING CAPACITY. USE 450mm DIAMETER PIERS LOCATED AT ALL CORNERS AND AT 1.8m MAXIMUM SPACING. PIERS IN EXCESS OF 500mm DEEP MUST BE POURED SEPARATELY TO THE FOOTINGS.
3. IF ROCK OR SHALE IS ENCOUNTERED IN TRENCHES, ALL THE FOOTINGS MUST BE BEAR ON ROCK OR SHALE, BUT THE PIER DIAMETER MAY BE REDUCED TO 300mm.
4. WHERE THE BEARING STRATA CHANGES ALONG THE LENGTH OF THE FOOTING, PROVIDE CONSTRUCTION JOINTS CO-INCIDING WITH BLOCKWORK JOINTS AT THE POINTS OF CHANGE IN BEARING.



RETAINING WALL SANDSTONE LOGS DETAIL
3 (AND LESS) BLOCK ARRANGEMENT (1.5m MAX HEIGHT)
N.T.S

PLAN
SCALE 1:2000

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130229PC42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0585
These plans/specifications form part of the certificate issued 5 March 2018

1:2000 (AT A1)
1:4000 (AT A3)
50 0 50 100 150 200
METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	UCBC RETAINING WALLS REMOVED, STRUCTURAL DESIGN AMENDED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
OVERALL RETAINING WALL PLAN, NOTES & DETAILS

PLAN No: 11018511/CC141 B
FILE No: 11018511CC141
SHEET SIZE: A1 ORIGINAL

Plotted: 29 January, 2018 4:53:32 PM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC141.dwg

NOT USED

B

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SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: REF:

B	UCBC RETAINING WALLS REMOVED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

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AZIMUTH: MGA 56

DATUM: A.H.D

ORIGIN:

PRINCIPAL:

REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

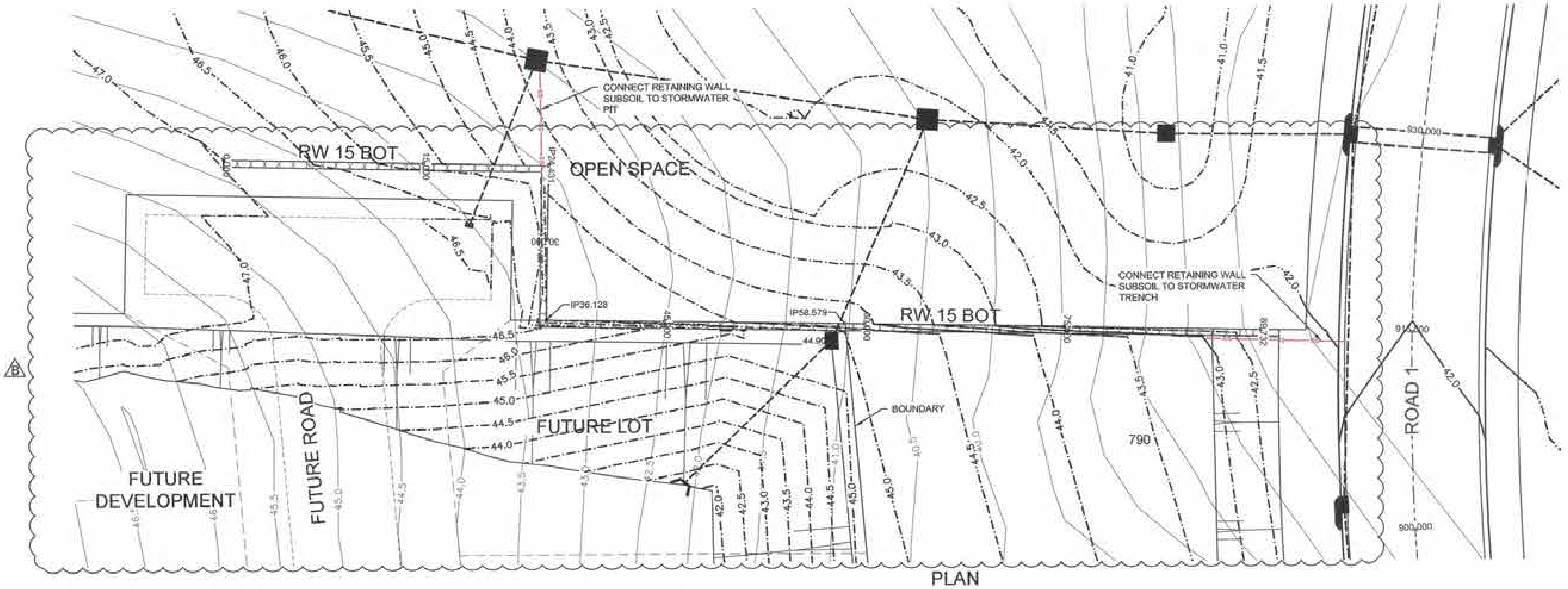
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
NOT USED

PLAN No: 11018511/CC142 B

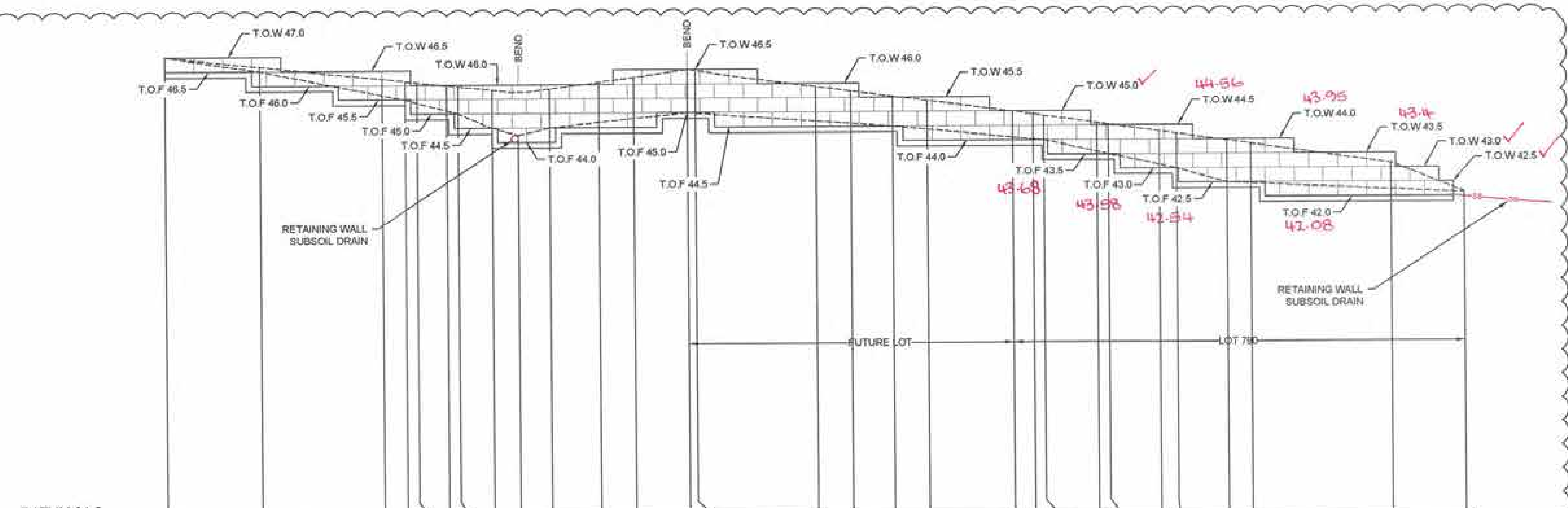
FILE No: 11018511CC142

SHEET SIZE: A1 ORIGINAL

Plotted: 29 January , 2018 4:58:41 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC142.dwg



PLAN
SCALE 1:200



DATUM 31.0

TOE OF WALL GROUND LEVELS	47.000	46.500	45.646	45.482	45.378	45.104	45.000	44.500	44.250	44.500	44.678	44.805	45.000	44.980	44.687	44.602	44.500	44.384	44.100	44.034	44.000	43.590	43.500	43.127	43.000	42.500	42.463	42.244	42.130
TOP OF WALL GROUND LEVELS	47.000	46.654	46.210	46.125	46.083	45.974	45.932	45.809		45.845	46.062	46.217	46.454	46.418	45.880	45.723	45.537	45.382	45.000	44.899	44.848	44.589	44.532	44.285	44.201	43.966	43.838	43.153	42.133
CHAINAGE	0.000	5.564	15.000	16.620	17.408	18.482	20.273	22.605	24.431	26.508	30.000	32.412	36.128	36.688	45.000	47.415	50.290	52.688	58.579	60.000	60.725	64.386	65.200	68.688	69.873	73.356	75.000	84.688	89.732

LONGITUDINAL SECTION RW 15 BOT
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

RW 15 BOT

CHAINAGE	EASTING	NORTHING	BEARING
0	286331.61	6281888.68	45°45'07.27"
24.43	286349.11	6281903.72	
36.13	286357.28	6281895.34	
58.58	286373.28	6281911.09	
89.73	286395.52	6281932.91	45°32'14.59"

REFER TO INHOUSE CONSULTING ENGINEERS REF 16370 Dwg No. S1 FOR STRUCTURAL CERTIFICATION.

LEGEND
TYPE 2 - SANDSTONE LOGS

CONSTRUCTION CERTIFICATE
Certificate No. 20130229C42
Date of Issue 5 March 2018
Issuing Officer [signature]
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: [signature] IAN VINCENT MYERS Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

1:200 (AT A1) 1:400 (AT A3) 4 2 0 4 8 12 16 20 METRES
1:100 (AT A1) 1:200 (AT A3) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

B	STRUCTURAL DESIGN AMENDED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

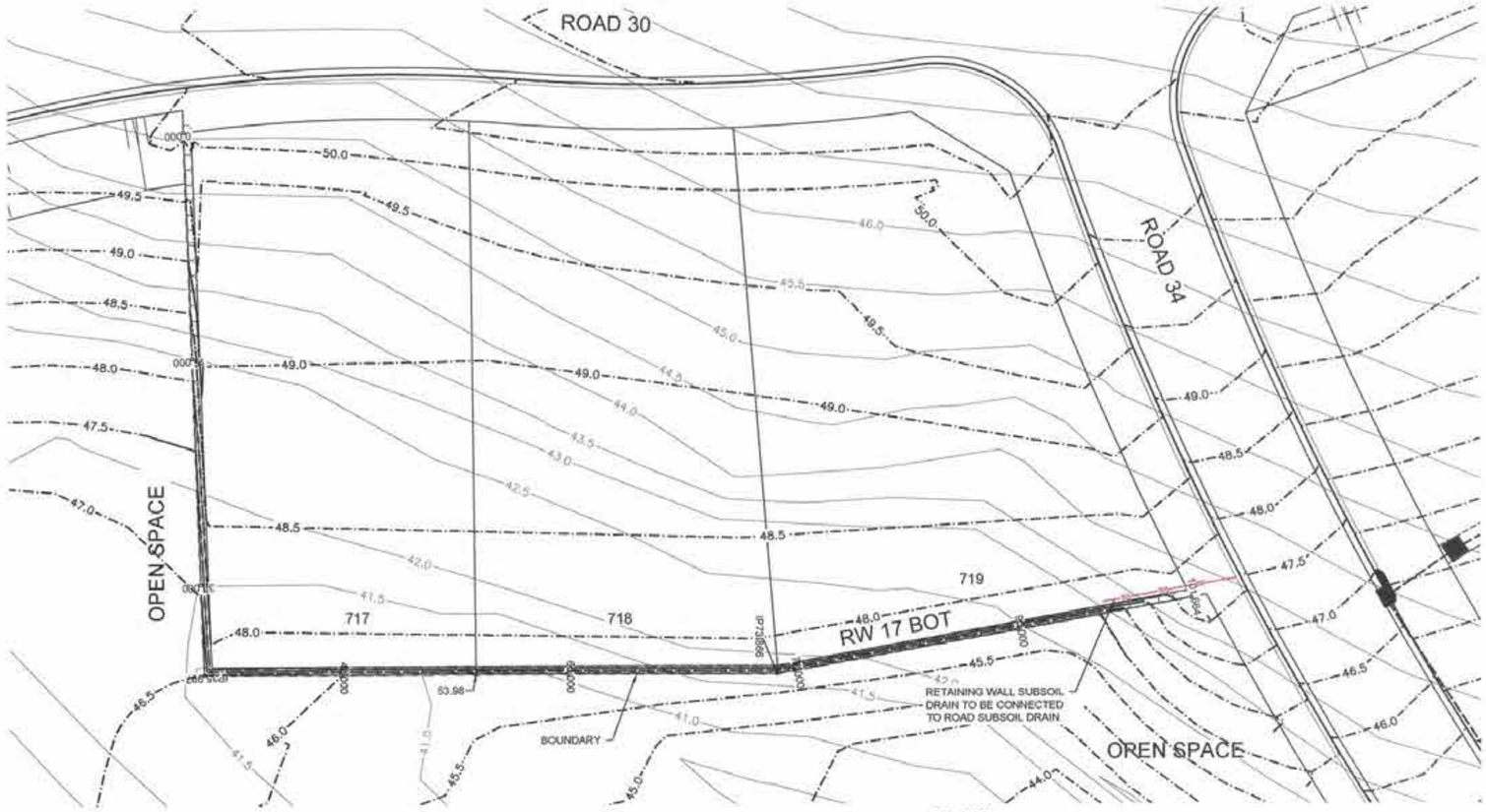
PRINCIPAL:
REDBANK
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
RETAINING WALL PLAN AND SECTION SHEET 2 OF 10

PLAN No: 11018511/CC143 B
FILE No: 11018511CC143
SHEET SIZE: A1 ORIGINAL

Plotted: 9 February , 2018 5:37:06 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CDICC\YEOMANS\11018511CC143.dwg



PLAN
SCALE 1:200

CONSTRUCTION CERTIFICATE

Certificate No. 20130229CC42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

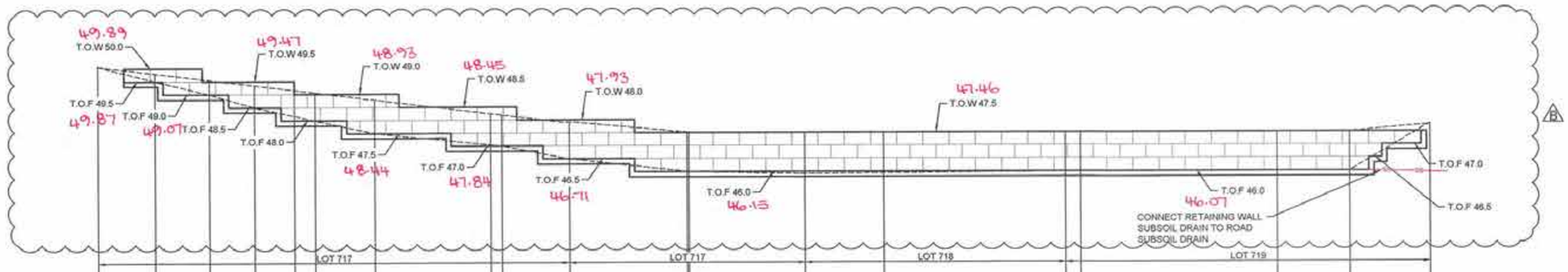
WORKS AS EXECUTED SHOWN IN RED

SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: 01.08.18 REF: 16800-11

A REFER TO INHOUSE CONSULTING ENGINEERS REF 16370 Dwg No. S1 FOR STRUCTURAL CERTIFICATION.



B

DATUM 40.0																				
TOE OF WALL GROUND LEVELS	50.065	49.500	49.000	48.488	48.165	47.991	47.499	47.044	47.000	46.500	46.008	46.000	45.912	45.838	45.991	45.992	46.003	46.007	47.800	
TOP OF WALL GROUND LEVELS	50.061	49.795	49.545	49.334	49.151	49.055	48.279	48.241	48.189	48.847	47.510	47.504	47.500	47.500	47.500	47.500	47.500	47.503	47.800	
CHAINAGE	0.000	4.379	8.508	11.980	15.000	16.575	21.133	30.000	30.849	35.997	45.000	45.141	53.975	60.000	73.866	75.000	90.000	95.548	101.664	

LONGITUDINAL SECTION RW 17
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

LEGEND
TYPE 2 - SANDSTONE LOGS

RW 17 BOT			
CHAINAGE	EASTING	NORTHING	BEARING
0	286272.75	6281913.27	102°01'25.05"
36	286307.95	6281906.77	
73.87	286317.09	6281942.52	
101.66	286318.84	6281970.26	3°36'16.49"

1:200 (AT A1) 1:400 (AT A3) 4 2 0 4 8 12 16 20 METRES
1:100 (AT A1) 1:200 (AT A3) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

B	STRUCTURAL DESIGN AMENDED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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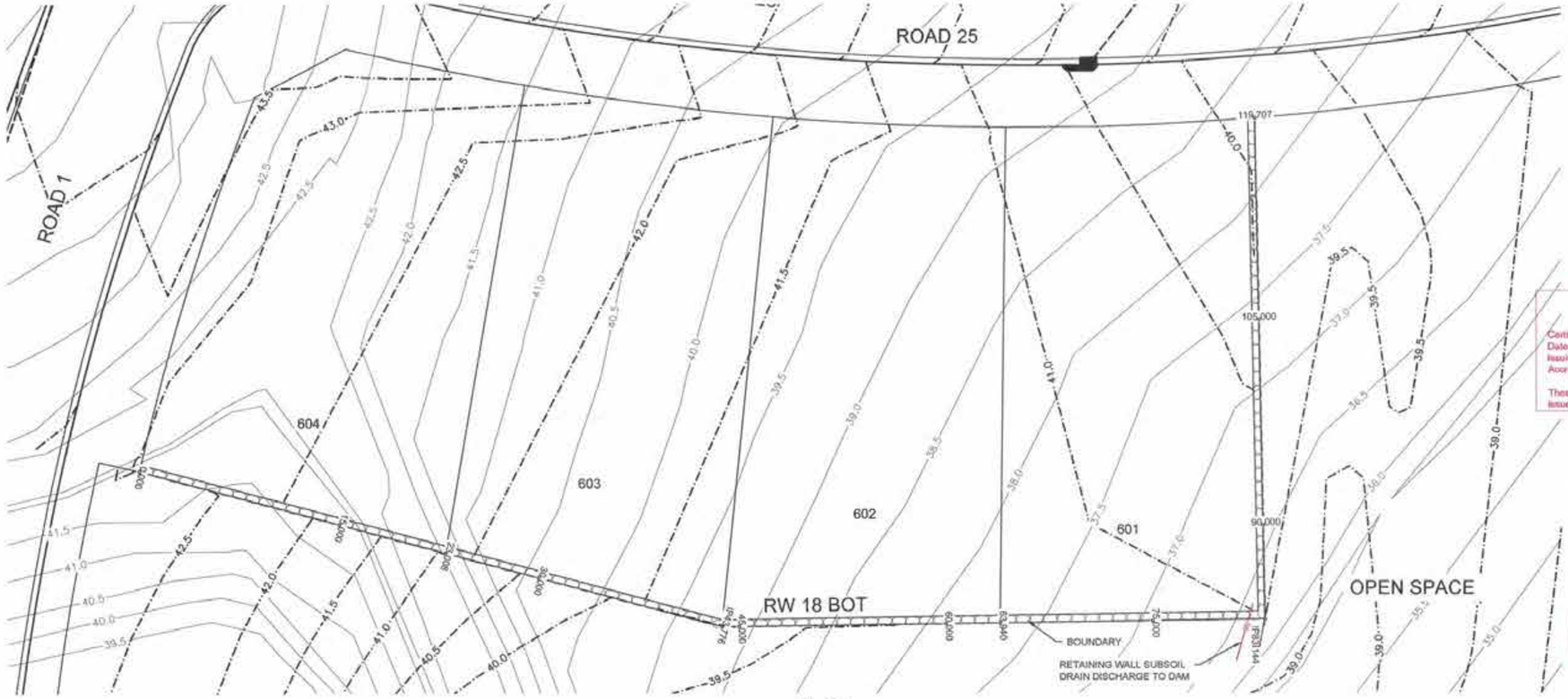
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
RETAINING WALL PLAN
AND SECTION SHEET 3 OF 10

PLAN No: 11018511/CC144 B
FILE No: 11018511CC144
SHEET SIZE: A1 ORIGINAL

Plotted: 9 February , 2018 5:39:39 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC144.dwg

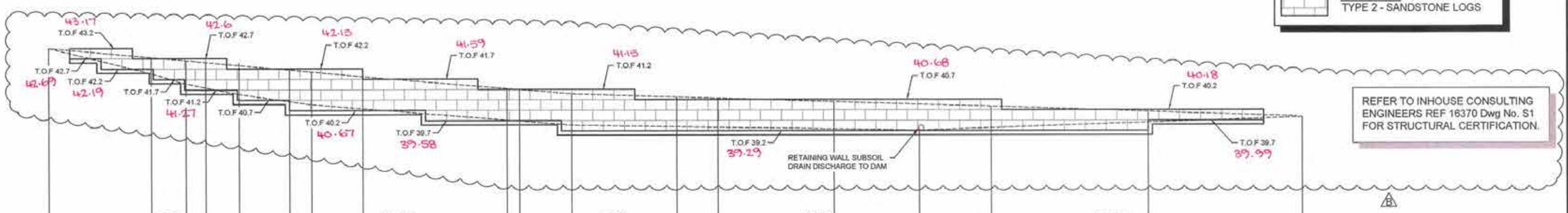


PLAN
SCALE 1:200

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01·08·18 REF: 16800-11

LEGEND
TYPE 2 - SANDSTONE LOGS



REFER TO INHOUSE CONSULTING ENGINEERS REF 16370 Dwg No. S1 FOR STRUCTURAL CERTIFICATION.

DATUM 33.0

TOE OF WALL GROUND LEVELS	43.220	42.000	41.500	41.313	41.000	40.651	40.500	40.303	39.748	39.699	39.500	39.424	39.395	39.311	39.250	39.367	39.621	39.871
TOP OF WALL GROUND LEVELS	43.219	42.769	42.616	42.529	42.383	42.161	42.064	41.839	41.256	41.205	41.001	40.847	40.785	40.617		40.393	40.143	39.871
CHAINAGE	0.000	9.791	13.103	15.000	18.170	23.008	25.097	30.000	43.776	45.000	49.973	60.000	63.940	75.000	83.144	90.000	105.000	119.707

LONGITUDINAL SECTION RW 18
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

RW 18 BOT

CHAINAGE	EASTING	NORTHING	BEARING
0	286372.96	6282007.5	69°38'17.38"
43.78	286414	6282022.73	
83.14	286445.78	6282045.96	
119.71	286424.08	6282075.39	323°35'37.02"

1:200 (AT A1) 1:400 (AT A3) 4 2 0 4 8 12 16 20 METRES
1:100 (AT A1) 1:200 (AT A3) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

B	STRUCTURAL DESIGN AMENDED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
RETAINING WALL PLAN
AND SECTION SHEET 4 OF 10

PLAN No: 11018511/CC145 B
FILE No: 11018511CC145
SHEET SIZE: A1 ORIGINAL

Plotted: 9 February , 2018 5:36:06 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511\CC145.dwg

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B

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SIGNATURE: .....

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: REF:

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	UCBC RETAINING WALLS REMOVED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
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AZIMUTH: MGA 56
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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
NOT USED

PLAN No: 11018511/CC146 B
FILE No: 11018511CC146
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 4:59:53 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC146.dwg

NOT USED

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SIGNATURE: .....

IAN VINCENT MYERS
Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: REF:

B	UCBC RETAINING WALLS REMOVED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

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AZIMUTH: MGA 56

DATUM: A.H.D

ORIGIN:

PRINCIPAL:

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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
NOT USED

PLAN No: 11018511/CC147 B

FILE No: 11018511CC147

SHEET SIZE: A1 ORIGINAL

Plotted: 25 January, 2018 5:00:02 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\ACC\YEOMANS\11018511CC147.dwg

NOT USED

B

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Registered Land Surveyor

VINCE MORGAN SURVEYORS PTY LTD

DATE: REF:

B	UCBC RETAINING WALLS REMOVED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	AMENDMENT	DES	DRN	CKD	APR	DATE

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS

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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL:

REDBANK

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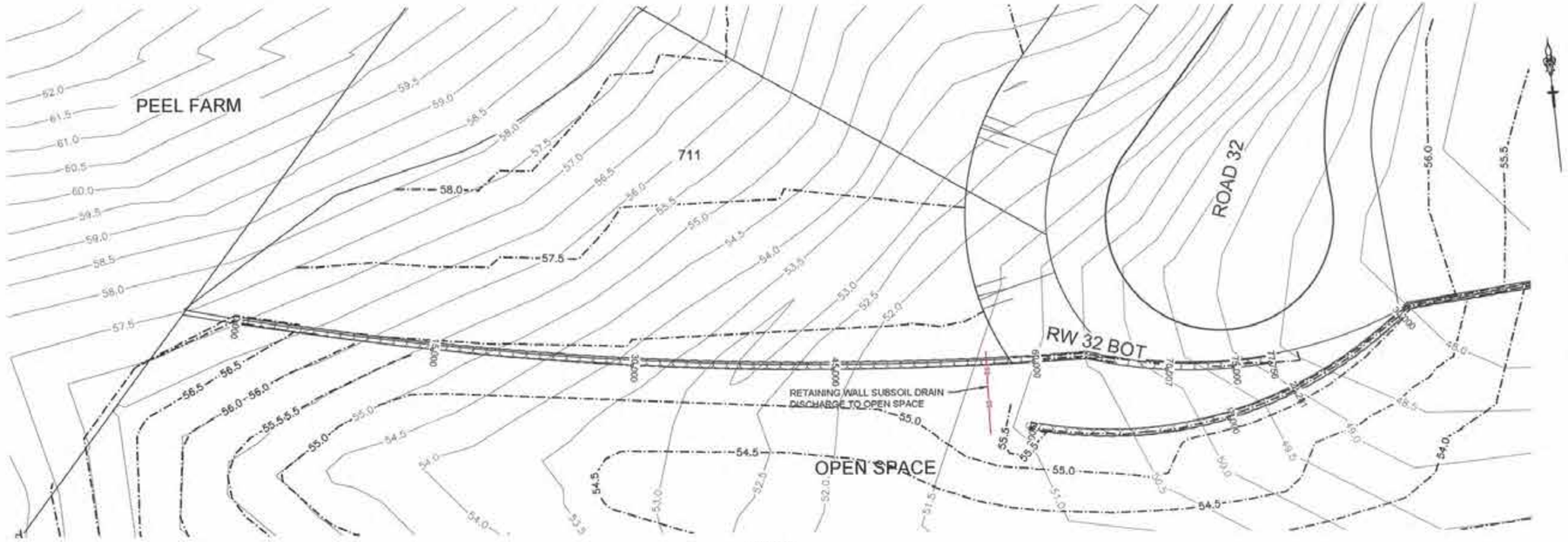
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
NOT USED

PLAN No: 11018511/CC148 B
FILE No: 11018511CC148
SHEET SIZE: A1 ORIGINAL

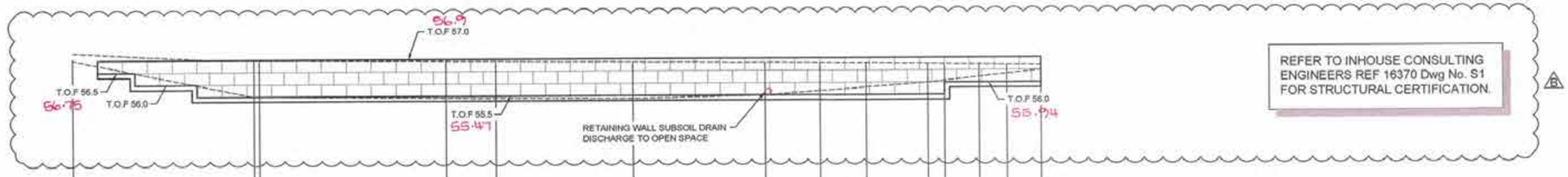
Plotted: 25 January , 2018 5:00:11 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC148.dwg



PLAN
SCALE 1:200

CONSTRUCTION CERTIFICATE
Certificate No. 20130229:C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0585
These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MORGAN
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01·08·18 REF: 16800-11



REFER TO INHOUSE CONSULTING ENGINEERS REF 16370 Dwg No. S1 FOR STRUCTURAL CERTIFICATION.

DATUM 49.0																		
TOE OF WALL GROUND LEVELS	57.000		55.500	55.495	55.428	55.413	55.371	55.500	55.699	55.811	55.811	56.000	56.074	56.226	56.348	56.500		
TOP OF WALL GROUND LEVELS	57.000		56.967	56.965	56.928	56.913	56.871	56.531	56.814	56.800	56.800	56.764	56.795	56.736	56.719	56.700		
CHAINAGE	0.000		14.573	15.000	30.000	34.000	45.000	59.588	60.000	63.689	63.689	68.860	70.007	72.776	75.000	77.766		

LONGITUDINAL SECTION RW 32 BOT
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100

LEGEND
TYPE 2 - SANDSTONE LOGS

RW 32 BOT

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286082.36	6281828.65	105°39'25.61"		
31.84	286113.19	6281820.01		-248.82	63.69
63.69	286145.21	6281819.45			
68.23	286149.52	6281817.94		-34.25	9.09
72.78	286154.08	6281817.61			
75.27	286156.57	6281817.42		-33.43	4.98
77.76	286159.06	6281817.61	85°39'12.87"		

1:200 (AT A1) 1:400 (AT A3) 4 2 0 4 8 12 16 20 METRES
1:100 (AT A1) 1:200 (AT A3) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	STRUCTURAL DESIGN AMENDED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
RETAINING WALL PLAN
AND SECTION SHEET 8 OF 10

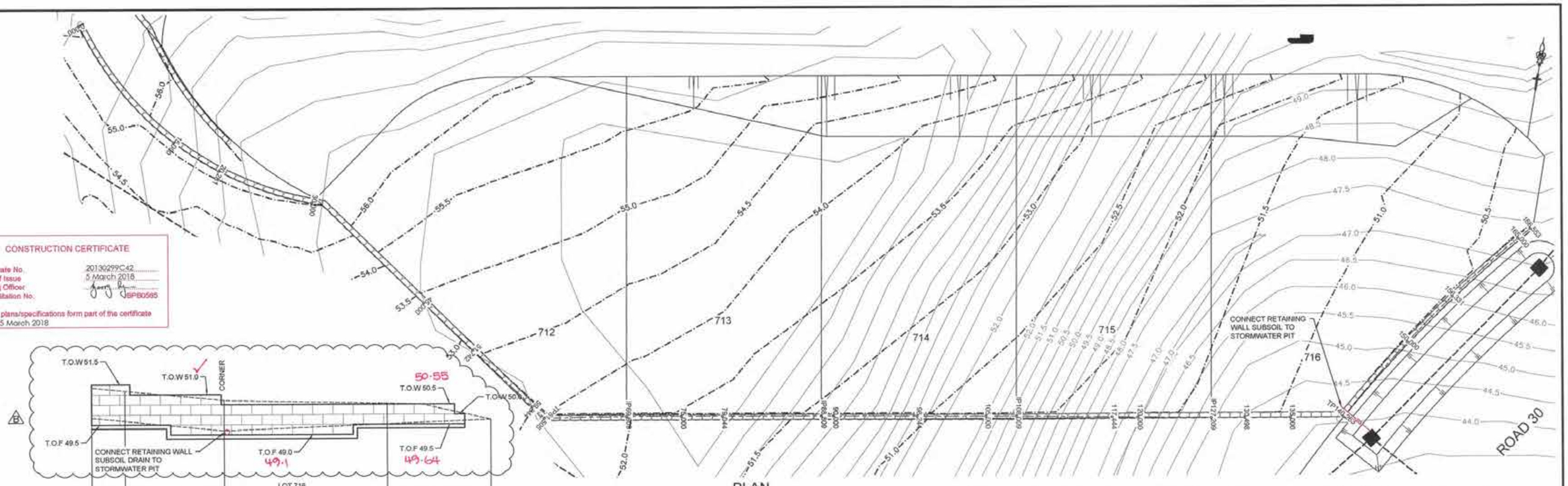
PLAN No: 11018511/CC149 B
FILE No: 11018511CC149
SHEET SIZE: A1 ORIGINAL

Plotted: 9 February , 2018 5:35:40 PM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC149.dwg

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0595

These plans/specifications form part of the certificate issued5 March 2018



PLAN
SCALE 1:200

DATUM 45.0							
TOE OF WALL GROUND LEVELS	49.840	49.879		49.200		49.521	49.726
TOP OF WALL GROUND LEVELS	51.340	51.176		50.730		50.535	50.000
CHAINAGE	127.209	130.488		140.263		156.331	166.553

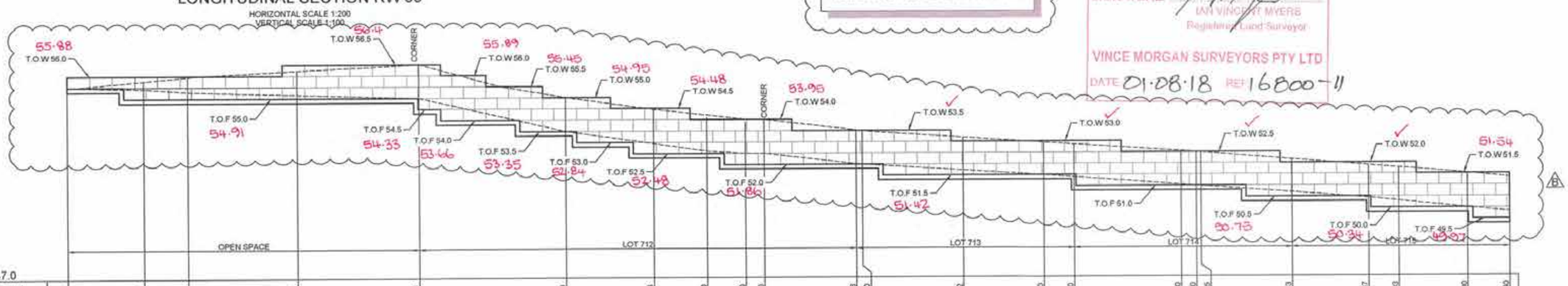
LEGEND
TYPE 2 - SANDSTONE LOGS

RW 33 BOT					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286140.76	6281814.54	106°32'16.41"		
15.52	286156.98	6281809.72		-31.42	31.04
31.04	286169.93	6281820.61			
46.27	286185.13	6281821.6		-1826.66	30.47
61.51	286200.31	6281822.85			
69.61	286205.8	6281828.99			
98.61	286218.35	6281843.35			
108.01	286231.18	6281857.63			
127.21	286244.07	6281871.56			
140.26	286252.73	6281881.62			
153.41	286250.34	6281894.61		110.93	26.29
166.55	286251.06	6281907.8	3°08'07.30"		

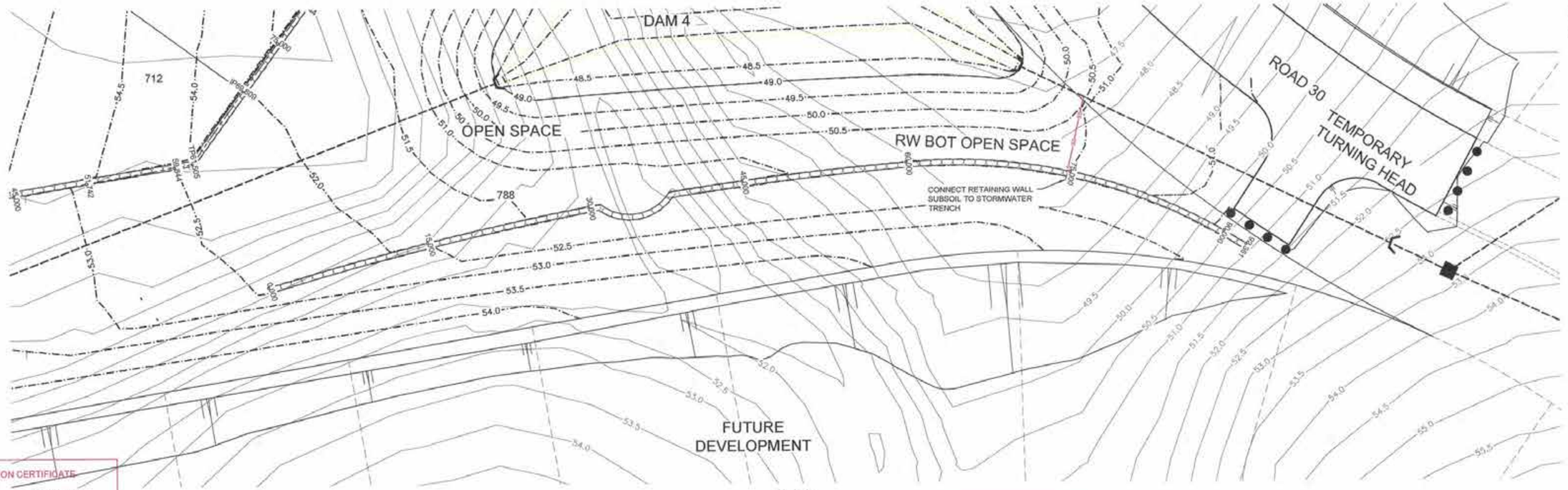
REFER TO INHOUSE CONSULTING ENGINEERS REF 16370 Dwg No. S1 FOR STRUCTURAL CERTIFICATION.

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF 16800-11

LONGITUDINAL SECTION RW 33
HORIZONTAL SCALE 1:200
VERTICAL SCALE 1:100



| DATUM 47.0 | | | | | | |

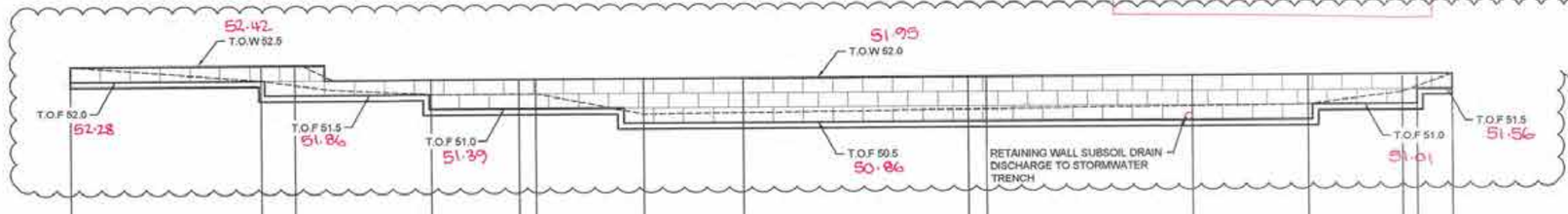


PLAN
SCALE 1:200

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERE
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01·08·18 REF 16800-11

REFER TO INHOUSE CONSULTING ENGINEERS REF 16370 Dwg No. S1 FOR STRUCTURAL CERTIFICATION.



LEGEND
TYPE 2 - SANDSTONE LOGS

DATUM 44.0

TOE OF WALL GROUND LEVELS	52.600		52.000	51.901		51.500		51.500	51.500	51.500		50.900	50.915		50.949	50.952		50.983	51.000		51.500	51.577	52.000
TOP OF WALL GROUND LEVELS	52.500		52.500	52.500		52.000		52.000	52.000	52.000		52.000	52.000		52.000	52.000		52.000	52.000		52.000	52.000	52.000
CHAINAGE	0.000		12.752	15.000		24.143		30.000	31.132	31.132		38.323	45.000		60.000	61.220		75.000	82.730		89.008	90.000	92.381

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

1:200 (AT A1)
1:400 (AT A3)
4 2 0 4 8 12 16 20
METRES

1:100 (AT A1)
1:200 (AT A3)
2 1 0 1 2 3 4 5 6 7 8 9 10
METRES

RW BOT OPEN SPACE

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	286206.05	6281810.92	78°34'18.06"		
15.57	286221.33	6281814.01		277.45	31.13
31.13	286236.85	6281815.37			
34.73	286240.29	6281812		-4.23	7.19
38.32	286243.19	6281815.85			
49.77	286254.62	6281816.59		277.45	22.9
61.22	286266.07	6281816.38			
76.79	286282.19	6281815.85		48.53	31.14
92.36	286294.79	6281805.78	128°37'53.62"		

B	STRUCTURAL DESIGN AMENDED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL:
REDBANK

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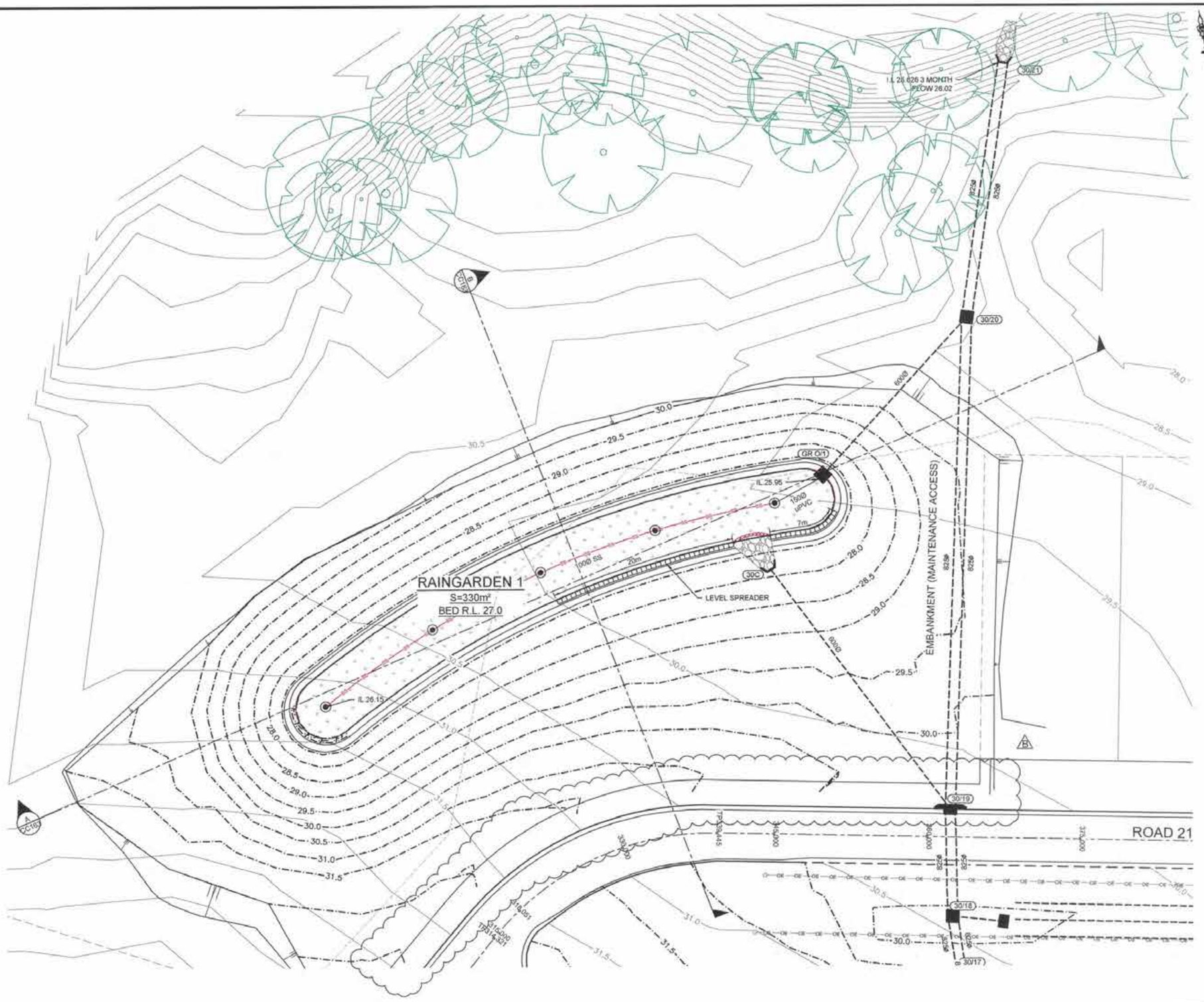
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
RETAINING WALL PLAN
AND SECTION SHEET 10 OF 10

PLAN No: 11018511/CC151 B
FILE No: 11018511CC151
SHEET SIZE: A1 ORIGINAL

Plotted: 9 February , 2018 5:34:20 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC151.dwg



1:200 (AT A1)
1:400 (AT A3)

4 2 0 4 8 12 16 20
METRES

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

NOTE

PROPOSED LOCATION / FOOTPRINT OF RAINGARDEN :

1. BULK EARTHWORKS CONSTRUCTION TO BE UNDERTAKEN TO INVERT OF FILTER MEDIA OF RAINGARDEN WITH THIS CIVIL CONSTRUCTION CERTIFICATE, AS WELL AS INLET AND OUTLET STRUCTURES.
2. SUITABLE SAFETY PROTECTIONS AND VISUAL SCREENINGS TO BE APPLIED TO THE PERIMETER OF THIS WATER QUALITY LOCATION / FOOTPRINTS UNTIL THEY RECEIVE THEIR 'FINAL CONSTRUCTION'.
3. 'FINAL CONSTRUCTION' OF RAINGARDEN TO BE TARGETED WHEN 80% OF THE UPSTREAM LOTS HAVE THEIR DWELLINGS COMPLETED.
4. IT IS ANTICIPATED THAT THE PERIOD BETWEEN PRACTICAL COMPLETION BEING AWARDED BY EITHER AN ACCREDITED CERTIFIER OR COUNCIL FOR CIVIL WORKS, AND THE 'FINAL CONSTRUCTION' OF THESE ELEMENTS WILL BE BETWEEN 18 MONTHS TO 2 YEARS.
5. APPROPRIATE BONDS TO VALUE OF THE ESTABLISHED CONTRACT AMOUNT OF WORKS WITH THE APPOINTED CIVIL CONTRACTOR, TO BE LODGED BETWEEN DEVELOPER AND COUNCIL IN ORDER TO ATTAIN PRACTICAL COMPLETION / SUBDIVISION CERTIFICATE FROM COUNCIL, PRIOR TO THESE WATER QUALITY ELEMENTS RECEIVING THEIR 'FINAL CONSTRUCTION'.

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	ROAD BOUNDARY AMENDED	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/05/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
RAINGARDEN 1

PLAN No: 11018511/CC161 B
FILE No: 11018511CC161
SHEET SIZE: A1 ORIGINAL

Plotted: 9 February , 2018 5:37:52 PM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC161.dwg

MEDIA MATERIAL IN BIO FILTRATION

DEFINITION:
THE MEDIA DESCRIPTION SHALL BE IN ACCORDANCE WITH AS1726-1993 AND SIMILAR TO M165 BY BENEDICTS SOIL AND SAND

SEDIMENT		SIZE(mm)
BOULDERS		>200
COBBLES		63-200
GRAVELS	COURSE	20-63
	MEDIUM	6-20
	FINE	2.36-6
SANDS	COURSE	0.6-2.36
	MEDIUM	0.2-0.6
	FINE	0.075-0.2
SILTS	COURSE	0.02-0.075
	MEDIUM	0.006-0.02
	FINE	0.002-0.006
CLAYS	COLLOIDAL	<0.002

MIX:
THE PREFERRED MEDIA MIX AND MIX PERCENTAGE SHALL BE ACCORDING TO TABLE 1.1

TABLE 1.1

GRAVEL	<5%
SAND	>75%
SILT	<10%
CLAY	<5%
OM	5%-10%

IN REFERENCE TO TABLE 1.1 THE FOLLOWING PERFORMANCE PARAMETERS SHALL BE APPLIED.

- HYDRAULIC CONDUCTIVITY 100mm/HR (±20%)
  -DETERMINED BY THE McINTYRE AND JAKOBSEN TEST METHOD (1993) AND CARRIED OUT BY AN INDEPENDENT NATA REGISTERED SOIL LABORATORY
- ELECTRICAL CONDUCTIVITY <2dS/m
- PHOSPHORUS CONCENTRATION <20mg/kg
- NITROGEN DRAWDOWN >0.5
- CIRCUMNEUTRAL pH
- SANDY LOAM TO LOAMY SAND TEXTURE
- FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 25mm DIAMETER
- FREE OF BRUSH OR SEED FROM WEEDS

IMMEDIATELY PRIOR TO DELIVERY TO THE SITE THE MEDIA SHALL BE SUBJECTED TO A PARTICLE SIZE DISTRIBUTION TEST IN ACCORDANCE WITH AS1141 - SAMPLING AND TESTING AGGREGATES, TO CONFIRM COMPLIANCE WITH THE ABOVE PERCENTAGES OF SAND, SILT, CLAY AND ORGANIC MATTER . IF COMPLIANCE IS NOT ACHIEVED THEN THE MEDIA SHALL BE SUBJECTED TO A FURTHER HYDRAULIC CONDUCTIVITY TEST BY OTHERS AS DESCRIBED EARLIER. DELIVERY SHALL NOT PROCEED UNTIL THE SUPERINTENDENT IS SATISFIED THAT THE MEDIA ACHIEVES THE DESIRED HYDRAULIC CONDUCTIVITY STANDARD.

PLACEMENT;
THE MEDIA SHALL BE PLACED IN MAX 300mm LIFTS AND LOOSELY COMPACTED.

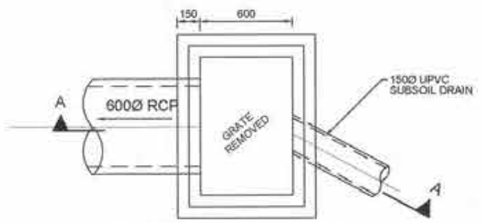
BRIDGING MATERIAL CRITERIA:
PRIOR TO PLACEMENT IN THE BIO RETENTION BASIN, CERTIFICATION IS TO BE PROVIDED THAT THE TRANSITION LAYER MATERIAL:
I. IS A CLEAN, WASHED WELL-GRADED COARSE SAND OR COARSE SAND BLEND CONTAINING LITTLE OR NO FINES (< 2%), AND
II. SATISFIES THE BRIDGING CRITERIA D15 (TRANSITION LAYER) ≤ 5 X D85 (FILTER MEDIA)
WHERE: D15 IS THE 15TH PERCENTILE PARTICLE SIZE IN THE TRANSITION LAYER MATERIAL (I.E., 15% OF THE SAND IS SMALLER THAN D15 MM), AND D85 IS THE 85TH PERCENTILE PARTICLE SIZE IN THE FILTER MEDIA

PRIOR TO PLACEMENT IN THE BIO RETENTION BASIN, CERTIFICATION IS TO BE PROVIDED THAT THE DRAINAGE LAYER MATERIAL:
I. IS A CLEAN WASHED 5 MM GRAVEL, SUCH AS A 2-5 MM WASHED SCREENINGS.
II. SATISFIES THE BRIDGING CRITERIA D15 (DRAINAGE LAYER) ≤ 5 X D85 (TRANSITION LAYER)
WHERE: D15 (DRAINAGE LAYER) IS THE 15TH PERCENTILE PARTICLE SIZE IN THE DRAINAGE LAYER MATERIAL (I.E., 15% OF THE GRAVEL IS SMALL THAN D15 MM), AND
D85 (TRANSITION LAYER) IS THE 85TH PERCENTILE PARTICLE SIZE IN THE TRANSITION LAYER MATERIAL.

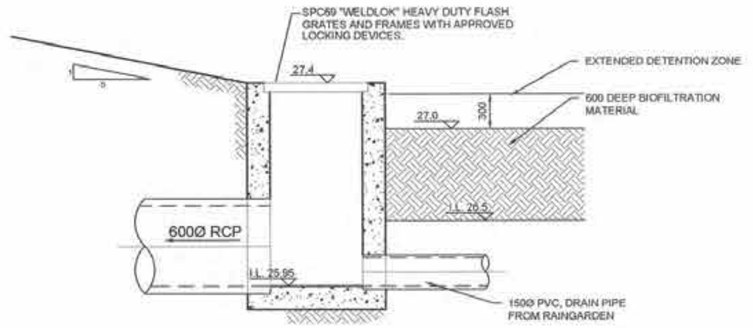
INSPECTION/HOLD POINTS

DURING CONSTRUCTION, IT IS CRITICAL THAT THE DESIGNER UNDERTAKE INSPECTIONS AT KEY POINTS, TO ENSURE THAT BIORETENTION SYSTEMS ARE INSTALLED ACCORDING TO THEIR DESIGN INTENT. THE FOLLOWING HOLD POINTS ARE REQUIRED:

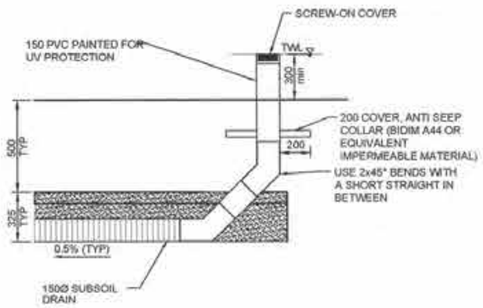
- COMPLETION OF BASIN BULK EARTHWORKS AND INSPECTION OF SUBGRADE INCLUDING REMOVAL OF ALL SEDIMENT.
- INSTALLATION OF HDPE LINER.
- INSTALLATION OF INLET PITS AND PIPES.
- INSTALLATION OF OUTLET PITS AND PIPES.
- INSTALLATION OF SLOTTED PIPES AND FLUSHING POINTS.
- VALIDATION/MANUFACTURER SPECIFICATION OF BIORETENTION MEDIA, TRANSITION AND DRAINAGE LAYER SHALL BE SUPPLIED PRIOR TO INSTALLATION.
- INSTALLATION OF DRAINAGE LAYER
- INSTALLATION OF TRANSITION LAYER (100mm).
- INSTALLATION OF FILTER MEDIA (500mm).
- COMPLETED WORKS, INCLUDING SCOUR PADS.
- PLACEMENT OF JUTE MAT AND PLANTING.
- CERTIFICATION OF PLANT SPECIES AND DENSITY BY HORTICULTURIST / ECOLOGIST/ LANDSCAPE ARCHITECT / ENVIRONMENTAL ENGINEER.

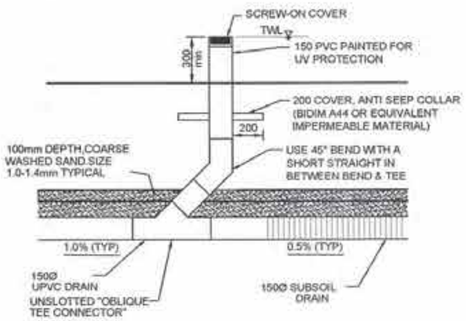


RAINGARDEN OUTLET JUNCTION PIT GR O/1 PLAN
SCALE 1:20

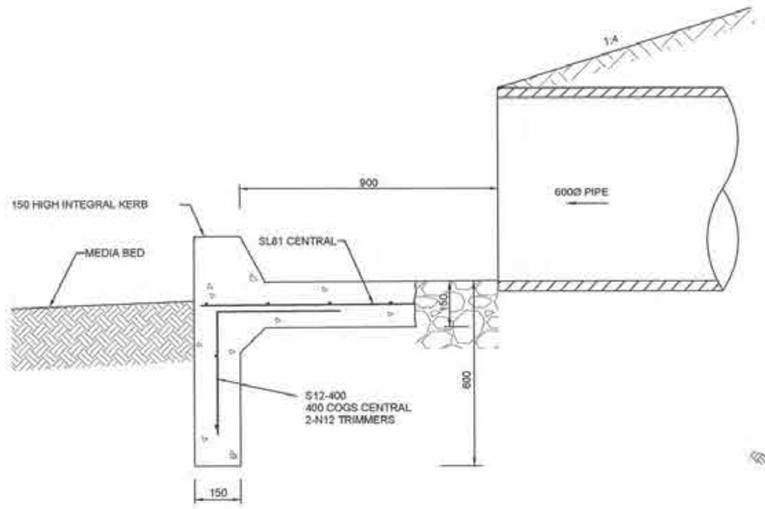


SECTION A
SCALE 1:20

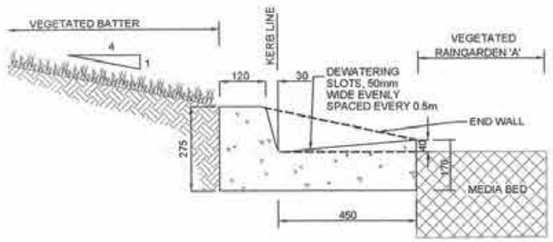




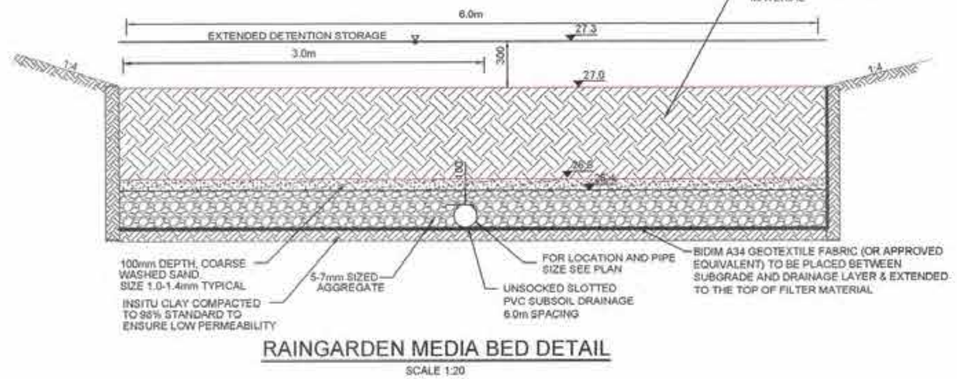
RODDING EYE/SUBSOIL DETAIL
SCALE 1:20



SECTION C
SCALE N.T.S



LEVEL SPREADER KERB PROFILE
SCALE 1:10



RAINGARDEN MEDIA BED DETAIL
SCALE 1:20

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF 16800-11

NOTE - TREATMENT OF SOILS

- COMPACT EXISTING CLAY SUB-GRADE AND WALLS TO 98% STANDARD TO ENSURE LOW PERMEABILITY.
- ANY UNSUITABLE (POROUS) MATERIAL ENCOUNTERED DURING RAINGARDEN EXCAVATIONS SHALL BE OVER EXCAVATED MIN 300mm AND BACKFILLED WITH SELECTED CLAY AND COMPACTED TO 98% STANDARD COMPACTION.

CONSTRUCTION CERTIFICATE

Certificate No.	20130299C42
Date of Issue	5 March 2018
Issuing Officer	
Accreditation No.	BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

1:20 (AT A1) 400 200 0 400 800 1200 1600 2000 MILLIMETRES

V 1:100 (AT A1) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

H 1:200 (AT A1) 4 2 0 4 8 12 16 20 METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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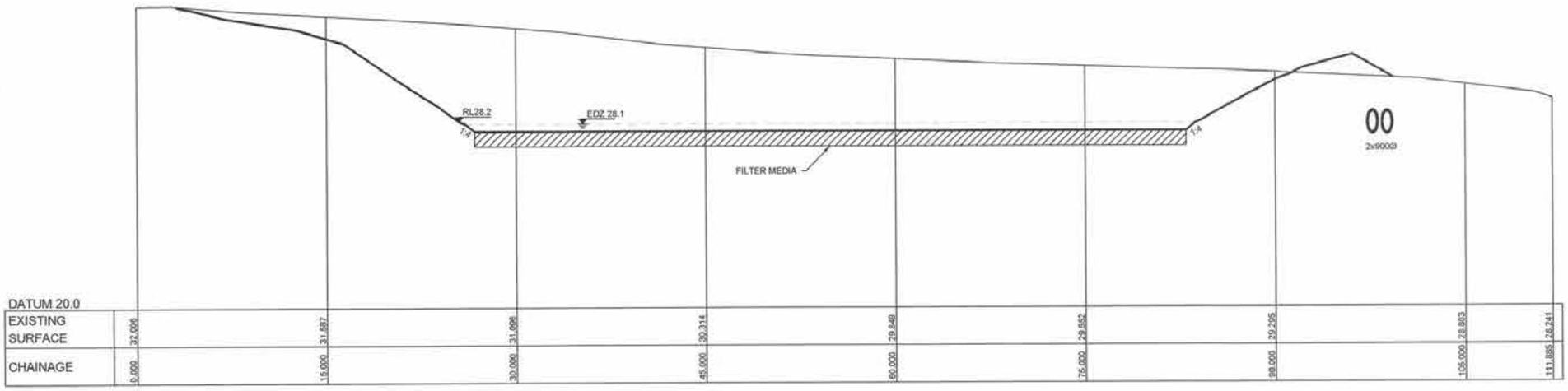
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
RAINGARDEN 1 NOTES AND DETAILS

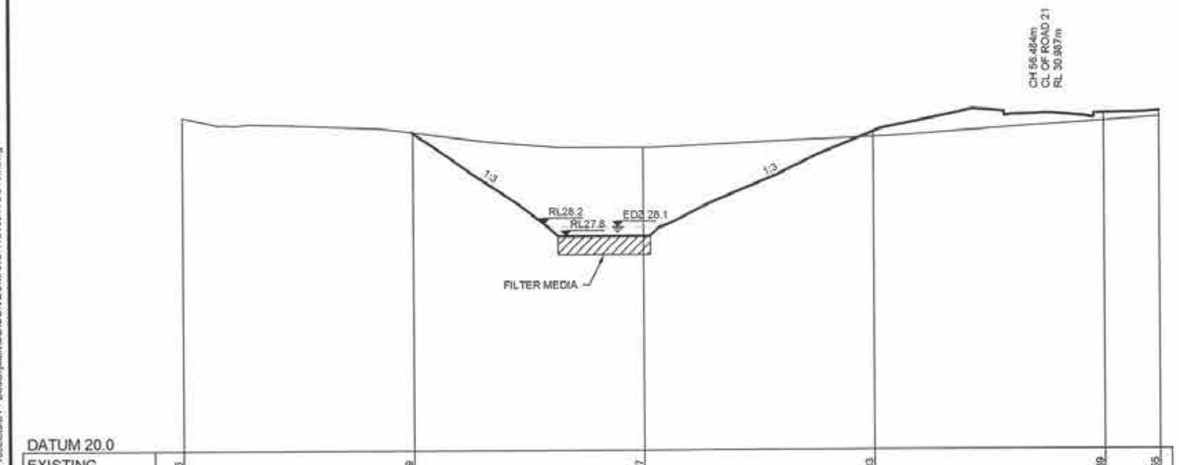
PLAN No: 11018511/CC162 A
FILE No: 11018511CC162
SHEET SIZE: A1 ORIGINAL

Plotted: 29 January , 2018 5:01:45 PM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC162.dwg



DATUM 20.0									
EXISTING SURFACE	32.006	31.587	31.095	30.314	29.849	29.552	29.295	28.803	28.241
CHAINAGE	0.000	15.000	30.000	45.000	60.000	75.000	90.000	105.000	111.885

SECTION A
SCALE H 1:200
V 1:100
CC161



DATUM 20.0							
EXISTING SURFACE	30.916	30.409	29.907	30.233	30.739	30.855	
CHAINAGE	0.000	15.000	30.000	45.000	60.000	63.614	

SECTION B
SCALE H 1:200
V 1:100
CC161

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No: 20130299C42
Date of Issue: 5 March 2018
Issuing Officer: .....
Accreditation No.: BPB0585
These plans/specifications form part of the certificate issued 5 March 2018

V 1:100 (AT A1) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES
H 1:200 (AT A1) 4 2 0 4 8 12 16 20 METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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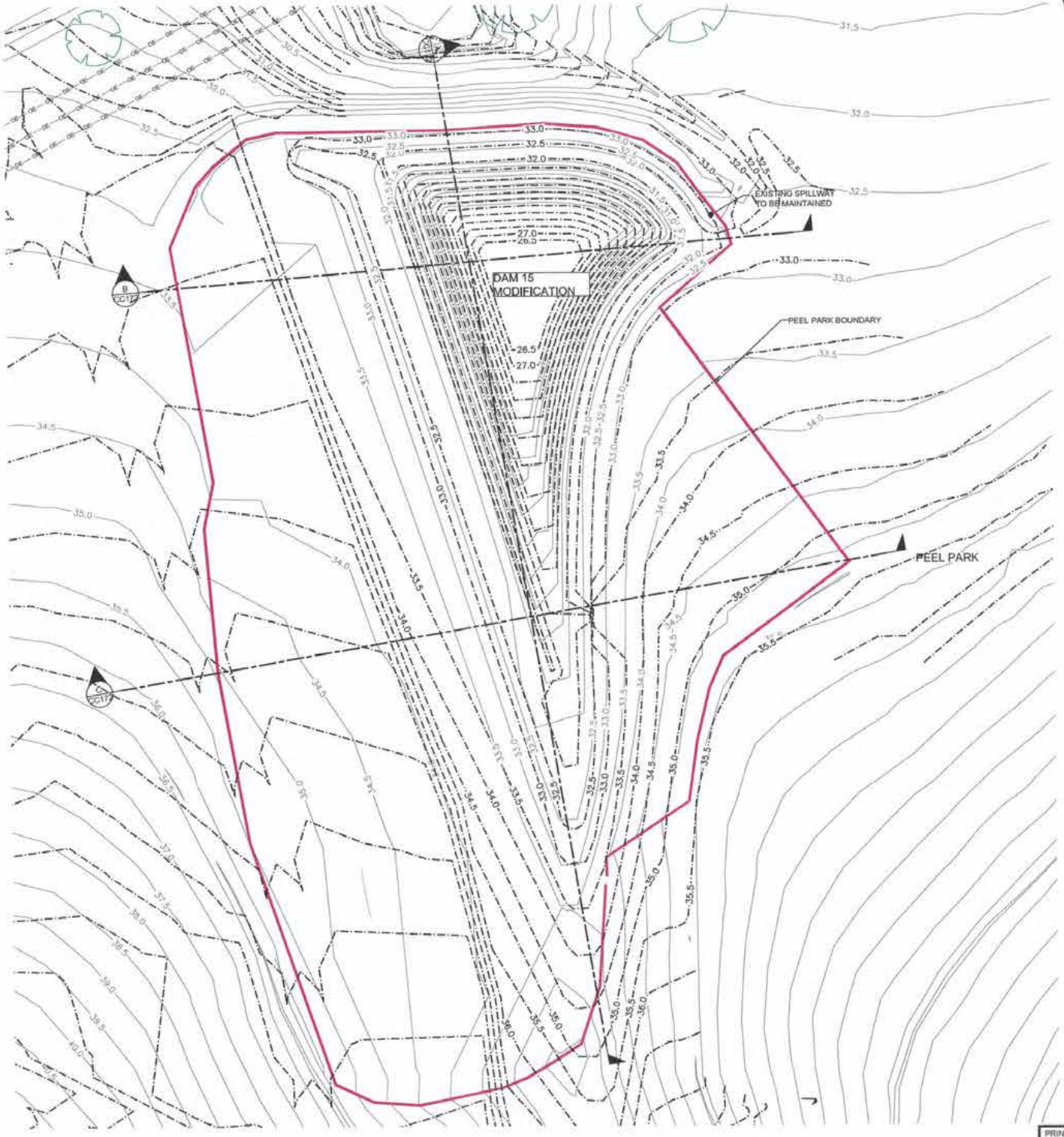
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
RAINGARDEN 1 SECTIONS

PLAN No: 11018511/CC163 A
FILE No: 11018511CC163
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 5:01:52 PM File Name: J:\11\18\5 - Redbank North Richmond Residential Precincts\01 - Descriptions\CD\CC\YEOMANS\11018511CC163.dwg



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

10 0 10 20 30 40 50
METRES

CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

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DAM DECOMMISSIONING - DAM 15 PROCESS (REF DAM DECOMMISSIONING & HERITAGE IMPACT STATEMENT)

1. INSTALL PUMP AND FLOATING INLET & OUTLET HOSE WITH DISCHARGE (OUTLET) POINT TO BE DIRECTED ACROSS LANDFORM CONTOUR AND INTO AREA OF THICK EXISTING GRASS WITHIN 10m OF DAM DOWNSTREAM FACE WITH OUTLET TO CAGE WRAPPED IN SILT FENCE
2. START ARCHIVAL RECORDING OF DAM AT THIS POINT. ALL RECORDING TO BE UNDERTAKEN WITH REFERENCE TO NSW HERITAGE OFFICE ARCHIVAL RECORDING GUIDELINE, DATED JUNE 1998. ALL SIGNIFICANT INFRASTRUCTURE (INCLUDING BUT NOT LIMITED TO VALVES, PIPES, STRUCTURES) TO BE CAREFULLY REMOVED IN AS LARGE SECTIONS AS POSSIBLE, LABELLED AND STORED IN A SECURE CONTAINER ONSITE FOR SEPARATE ASSESSMENT BY HERITAGE CONSULTANT.
3. CHECK MIN DEPTH OF WATER IN DAM. IF OVER 1m TURN ON PUMP UNTIL MIN DEPTH OF 1m ACHIEVED. IF AT OR UNDER 1m MIN DEPTH CONTACT ECOLOGIST TO BE PRESENT FOR IDENTIFYING AND RELOCATION OF FAUNA.
4. ALL SOIL AND EROSION CONTROLS TO BE CHECKED IN PLACE AND FUNCTIONAL BY CONTRACTOR / SUPERINTENDENT AND PRINCIPAL. SEE SOIL & EROSION CONTROLS - PHASE 1.
5. BULK EARTHWORKS APPROVED TO START BY ECOLOGIST / HERITAGE / CONTAMINATION CONSULTANT TO REMOVE 1m OF DAM WALL.
6. ARCHIVAL PHOTO RECORDING.
7. BULK EARTHWORKS TO REMOVE A FURTHER 1m.
8. ARCHIVAL PHOTO RECORDING.
9. REPEAT (7) & (8) UNTIL LANDFORM DESIGN CONTOURS ACHIEVED, WITH AT ALL TIMES UNEXPECTED FINDS PROTOCOL TO BE COMPLIED WITH FOR EUROPEAN AND ECOLOGY.
   a. PIPE / VALVE / DAM CORE FOR EXAMPLE, MATERIAL DISCOVERED.
   b. STOP ALL WORK, SUPERVISOR CONTACTED, WITHIN 1 HOUR.
   c. SITE SUPERVISOR TO NOTIFY CONTRACTOR SYSTEMS OFFICER AND PM, WITHIN 1 HOUR.
   d. IF ECOLOGICAL SUPERINTENDENT / PRINCIPLE / CONSULTANT TO INSPECT SAME DAY AND IF NECESSARY FIND RECOVERED AND RELOCATED.
   e. IF HERITAGE SUPERINTENDENT / PRINCIPAL / CONSULTANT TO INSPECT WITH 24 HOURS AND IF NECESSARY FIND EXTRACTED, LABELLED AND STORED.
   f. ALL OTHER PROTOCOLS AS PER CONTRACTOR "EMERGENCY AND INCIDENT PREPAREDNESS AND RESPONSE - ON SITE" REQUIREMENTS
10. FINAL ARCHIVAL PHOTO RECORDING.
11. INSPECTION BY ECOLOGIST / HERITAGE / CONTAMINATION CONSULTANT.

NOTES

1. DAM 15 MODIFICATION SHOULD BE UNDERTAKEN FOLLOWING THE TASKS AS PER "NORTH RICHMOND - IMPACT ASSESSMENT PROPOSED DAM No. 12 REMOVAL" REPORT PREPARED BY BIO ENGINEERED SOLUTIONS, DATED 25TH FEBRUARY 2015, REFERENCE 1573 DAM 15 D.

AMENDMENTS TO THE BULK EARTHWORK DAM 15 MODIFICATIONS

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	AMENDMENTS TO DAM 15 MODIFICATIONS	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

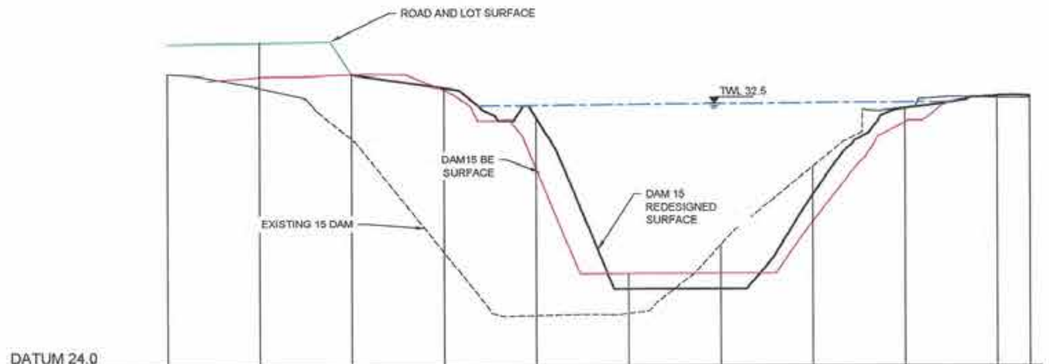
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DAM MODIFICATION - DAM 15
PLAN

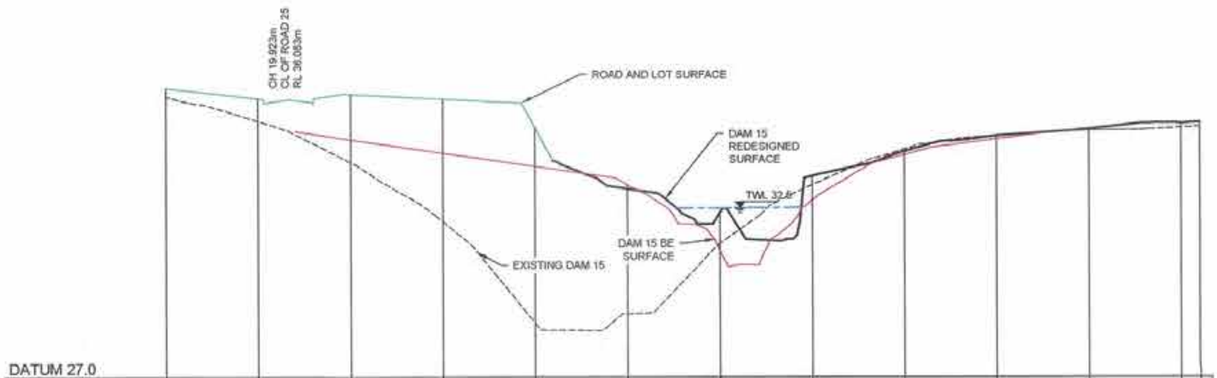
PLAN No: 11018511/CC171 B
FILE No: 11018511CC171
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 8:14:35 AM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC171.dwg



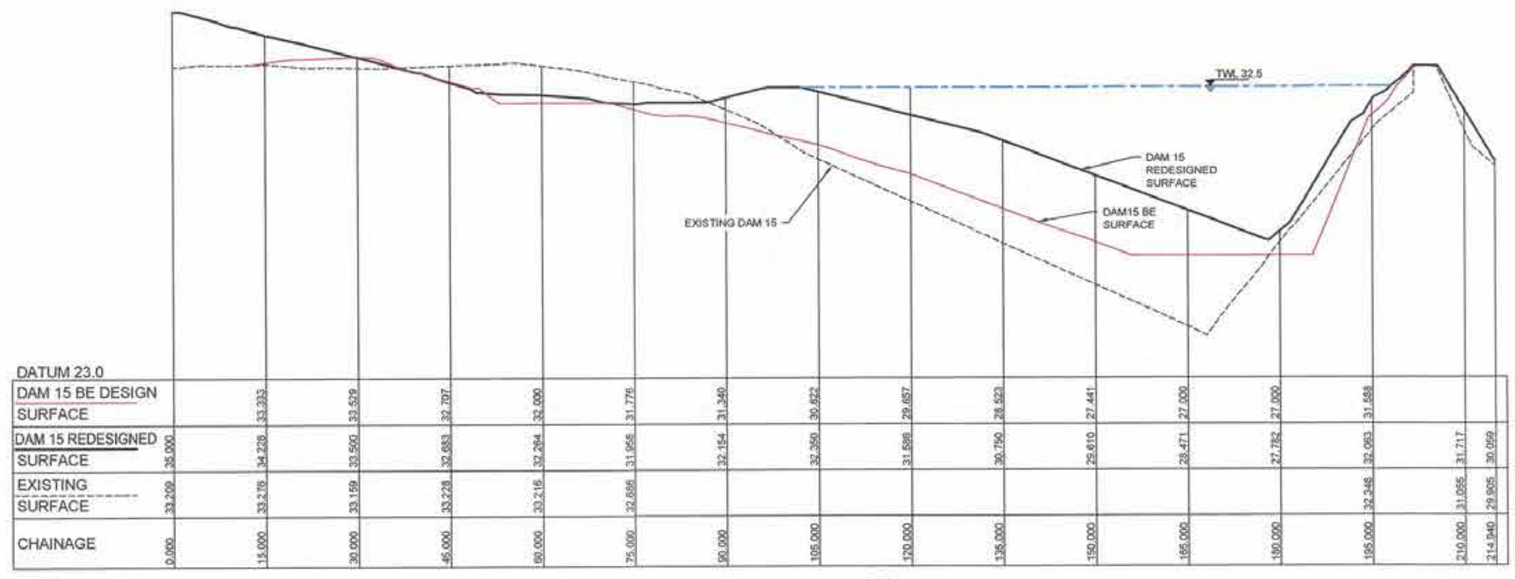
DATUM 24.0												
DAM 15 BE DESIGN SURFACE		33.427	33.520	33.017	30.493	27.000	27.000	28.898	31.839			
DAM 15 REDESIGNED SURFACE		33.499	33.070	32.086	28.500	28.500	29.584	32.396	32.800	32.791		
EXISTING SURFACE	33.534	33.071				32.334	32.296	32.498	32.738	32.737		
CHAINAGE	0.000	15.000	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	140.321	

SECTION B
SCALE H 1:500 V 1:100
CC171



DATUM 27.0													
DAM 15 BE DESIGN SURFACE			34.762	34.322	33.882	33.268	31.131	32.772	34.270	34.779	35.095		
DAM 15 REDESIGNED SURFACE						33.148	32.378	33.556	34.367	34.884	35.109	35.296	35.327
EXISTING SURFACE	36.154	36.359	34.013					33.268	34.442	34.883	35.099	35.151	35.185
CHAINAGE	0.000	15.000	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	150.000	165.000	166.062

SECTION C
SCALE H 1:500 V 1:100
CC171



DATUM 23.0														
DAM 15 BE DESIGN SURFACE		33.333	33.529	32.707	32.000	31.776	31.340	30.622	29.657	28.523	27.441	27.000	27.000	31.588
DAM 15 REDESIGNED SURFACE	35.000	34.228	33.500	32.683	32.264	31.958	32.154	32.350	31.598	30.790	29.610	28.471	27.782	32.063	31.717	30.059
EXISTING SURFACE	33.209	33.278	33.159	33.228	33.216	32.686								32.248	31.055	29.805
CHAINAGE	0.000	15.000	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	150.000	165.000	180.000	195.000	210.000	214.940

SECTION A
SCALE H 1:500 V 1:100
CC171

H 1:500 (AT A1) 10 0 10 20 30 40 50 METRES

V 1:100 (AT A1) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01·08·18 REF: 16800-11

AMENDMENTS TO THE BULK EARTHWORK DAM 15 MODIFICATIONS
B

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	AMENDMENTS TO DAM 15 MODIFICATIONS	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/08/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

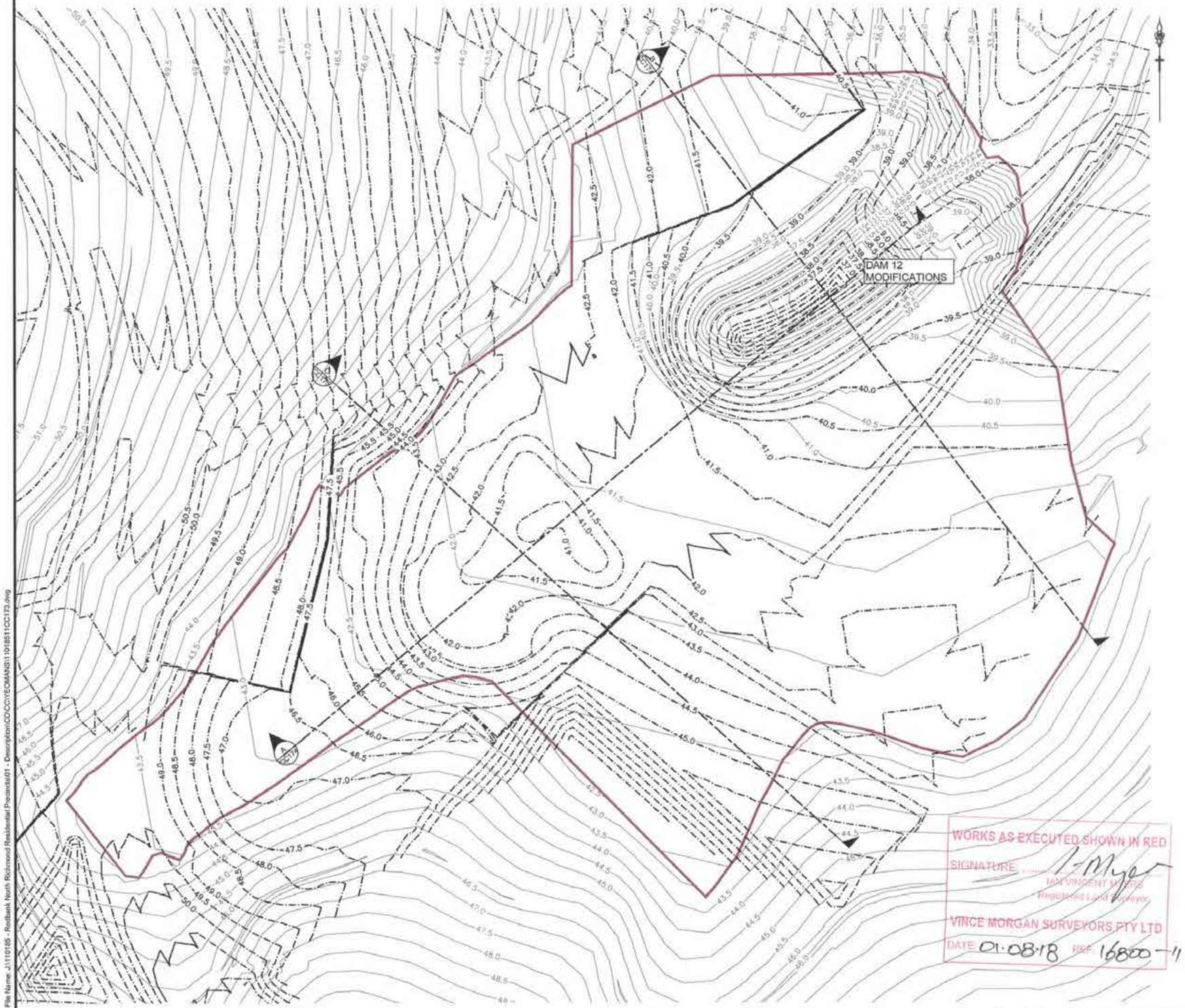
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DAM MODIFICATION - DAM 15
SECTIONS

PLAN No: 11018511/CC172 B
FILE No: 11018511CC172
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 8:15:09 AM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Descriptions\CD\CC\YEOMANS\11018511CC172.dwg



CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

DAM DECOMMISSIONING - DAM 12 PROCESS (REF DAM DECOMMISSIONING & HERITAGE IMPACT STATEMENT)

1. INSTALL PUMP AND FLOATING INLET & OUTLET HOSE WITH DISCHARGE (OUTLET) POINT TO BE DIRECTED ACROSS LANDFORM CONTOUR AND INTO AREA OF THICK EXISTING GRASS WITHIN 10m OF DAM DOWNSTREAM FACE WITH OUTLET TO CAGE WRAPPED IN SILT FENCE.
2. START ARCHIVAL RECORDING OF DAM AT THIS POINT. ALL RECORDING TO BE UNDERTAKEN WITH REFERENCE TO NSW HERITAGE OFFICE ARCHIVAL RECORDING GUIDELINE, DATED JUNE 1998. ALL SIGNIFICANT INFRASTRUCTURE (INCLUDING BUT NOT LIMITED TO VALVES, PIPES, STRUCTURES) TO BE CAREFULLY REMOVED IN AS LARGE SECTIONS AS POSSIBLE, LABELLED AND STORED IN A SECURE CONTAINER ONSITE FOR SEPARATE ASSESSMENT BY HERITAGE CONSULTANT.
3. CHECK MIN DEPTH OF WATER IN DAM. IF OVER 1m TURN ON PUMP UNTIL MIN DEPTH OF 1m ACHIEVED. IF AT OR UNDER 1m MIN DEPTH CONTACT ECOLOGIST TO BE PRESENT FOR IDENTIFYING AND RELOCATION OF FAUNA.
4. ALL SOIL AND EROSION CONTROLS TO BE CHECKED IN PLACE AND FUNCTIONAL BY CONTRACTOR / SUPERINTENDENT AND PRINCIPAL. SEE SOIL & EROSION CONTROLS - PHASE 1.
5. BULK EARTHWORKS APPROVED TO START BY ECOLOGIST / HERITAGE / CONTAMINATION CONSULTANT TO REMOVE 1m OF DAM WALL.
6. ARCHIVAL PHOTO RECORDING.
7. BULK EARTHWORKS TO REMOVE A FURTHER 1m.
8. ARCHIVAL PHOTO RECORDING.
9. REPEAT (7) & (8) UNTIL LANDFORM DESIGN CONTOURS ACHIEVED, WITH AT ALL TIMES UNEXPECTED FINDS PROTOCOL TO BE COMPLIED WITH FOR EUROPEAN AND ECOLOGY.
   a. PIPE / VALVE / DAM CORE FOR EXAMPLE, MATERIAL DISCOVERED.
   b. STOP ALL WORK, SUPERVISOR CONTACTED, WITHIN 1 HOUR.
   c. SITE SUPERVISOR TO NOTIFY CONTRACTOR SYSTEMS OFFICER AND PM, WITHIN 1 HOUR.
   d. IF ECOLOGICAL SUPERINTENDENT / PRINCIPLE / CONSULTANT TO INSPECT SAME DAY AND IF NECESSARY FIND RECOVERED AND RELOCATED.
   e. IF HERITAGE SUPERINTENDENT / PRINCIPAL / CONSULTANT TO INSPECT WITH 24 HOURS AND IF NECESSARY FIND EXTRACTED, LABELLED AND STORED.
   f. ALL OTHER PROTOCOLS AS PER CONTRACTOR "EMERGENCY AND INCIDENT PREPAREDNESS AND RESPONSE - ON SITE" REQUIREMENTS
10. FINAL ARCHIVAL PHOTO RECORDING.
11. INSPECTION BY ECOLOGIST / HERITAGE / CONTAMINATION CONSULTANT.

NOTES
1. DAM 12 MODIFICATION SHOULD BE UNDERTAKEN FOLLOWING THE TASKS AS PER "NORTH RICHMOND - IMPACT ASSESSMENT PROPOSED DAM No. 12 REMOVAL" REPORT PREPARED BY BIO ENGINEERED SOLUTIONS, DATED 25TH FEBRUARY 2015, REFERENCE 1573 DAM 12 D.

AMENDMENTS TO THE BULK EARTHWORK DAM 12 MODIFICATIONS

1:500 (AT A1)
1:1000 (AT A3)
10 0 10 20 30 40 50
METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	AMENDMENTS TO DAM 12 MODIFICATIONS	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

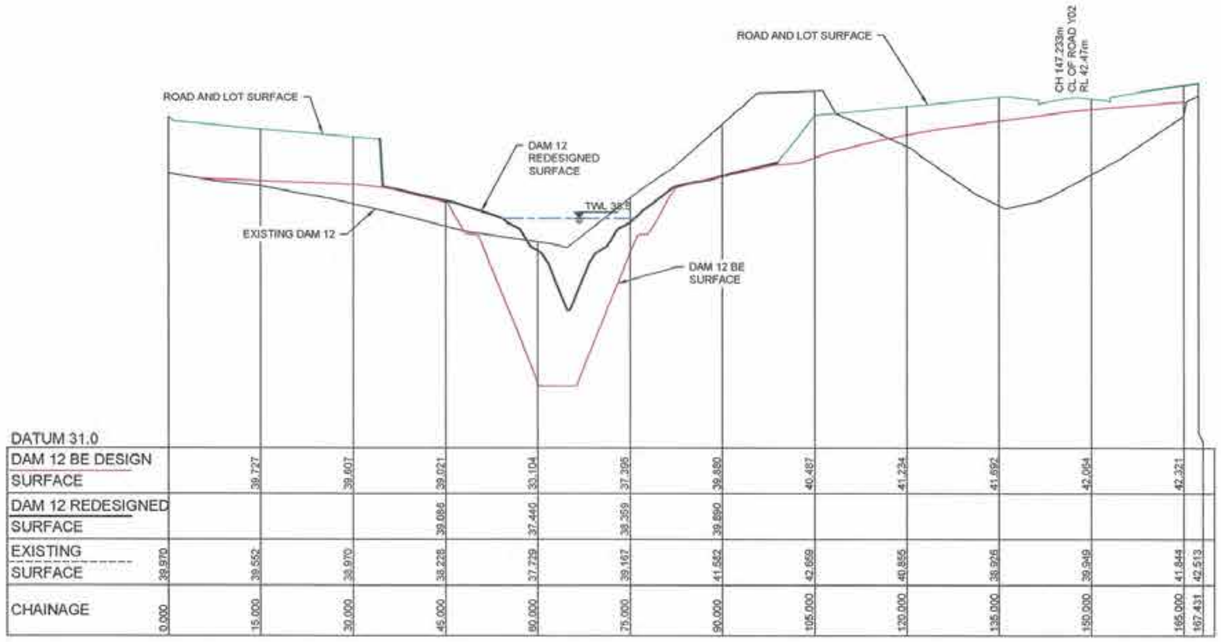
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DAM MODIFICATION - DAM 12
PLAN

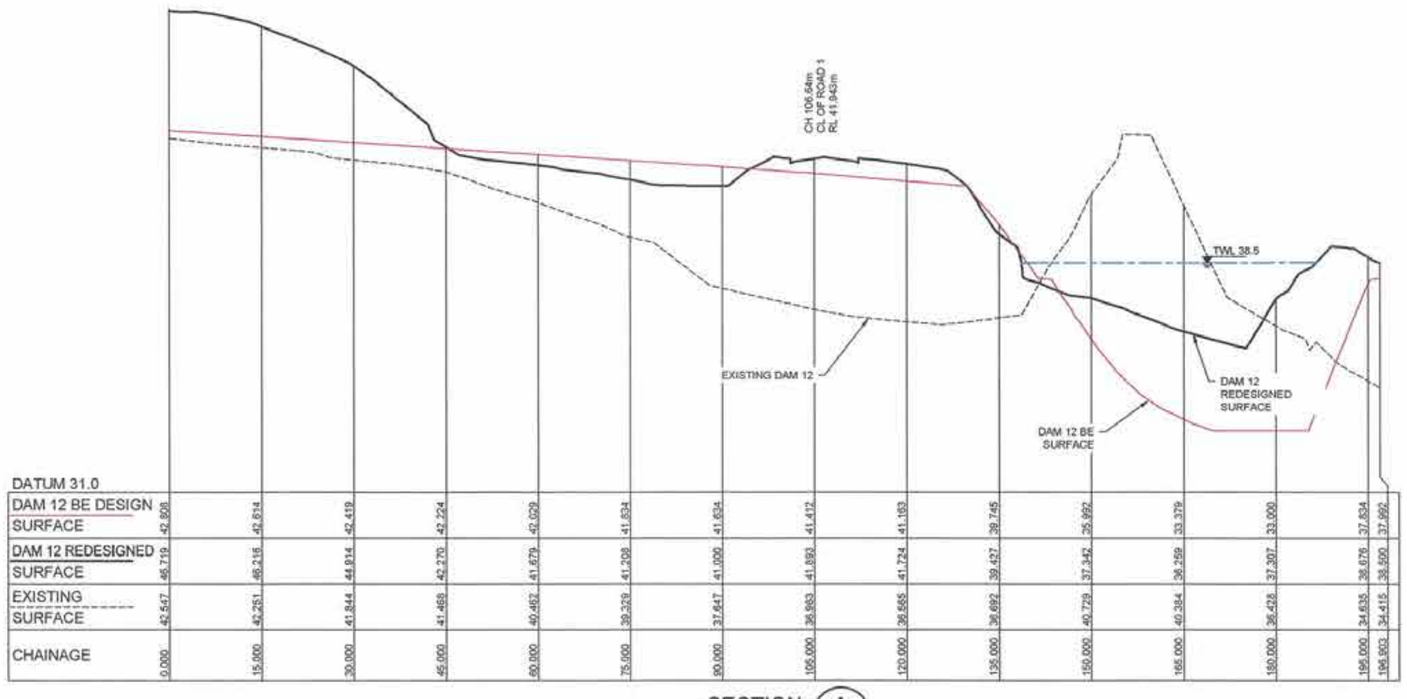
PLAN No: 11018511/CC173 B
FILE No: 11018511CC173
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 8:15:34 AM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC173.dwg



DATUM 31.0													
DAM 12 BE DESIGN SURFACE		39.727	39.607	39.021	33.104	37.395	39.880	40.487	41.234	41.692	42.064	42.321	
DAM 12 REDESIGNED SURFACE				39.086	37.449	38.359	39.890	42.669	40.855	38.926	39.949	41.844	42.513
EXISTING SURFACE	39.970	39.552	39.970	39.428	37.729	39.167	41.582						
CHAINAGE	0.000	15.000	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	150.000	165.000	167.431

SECTION B (CC173)
SCALE H 1:500
V 1:100



DATUM 31.0														
DAM 12 BE DESIGN SURFACE	42.808	42.614	42.419	42.224	42.029	41.834	41.834	41.412	41.163	39.745	25.992	33.379	33.000	37.834	37.992
DAM 12 REDESIGNED SURFACE	46.719	46.216	44.914	42.270	41.679	41.208	41.000	41.093	41.724	39.427	37.342	36.269	37.307	38.676	38.500
EXISTING SURFACE	42.547	40.251	41.844	41.459	40.462	39.329	37.647	36.983	36.685	36.692	40.729	40.384	36.428	34.635	34.415
CHAINAGE	0.000	15.000	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	150.000	165.000	180.000	195.000	196.903

SECTION A (CC173)
SCALE H 1:500
V 1:100

H 1:500 (AT A1) 10 0 10 20 30 40 50 METRES

V 1:100 (AT A1) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

AMENDMENTS TO THE BULK EARTHWORK DAM 12 MODIFICATIONS
B

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0568
These plans/specifications form part of the certificate issued 5 March 2018

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	AMENDMENTS TO DAM 12 MODIFICATIONS	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

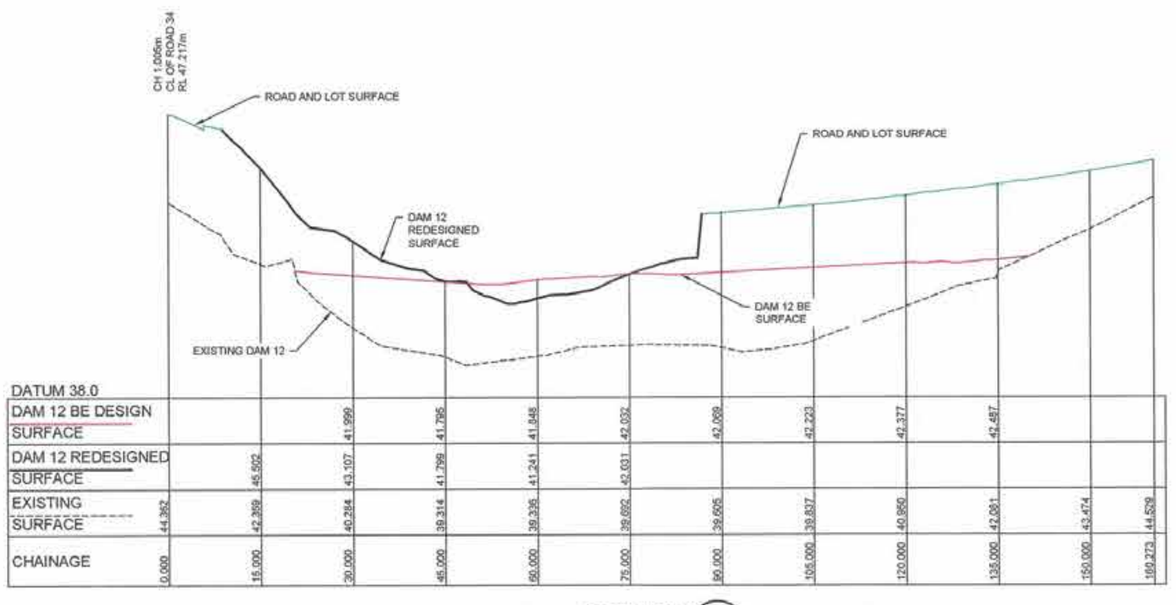
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE.

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DAM MODIFICATION - DAM 12
SECTIONS SHEET 1 OF 2

PLAN No: 11018511/CC174 B
FILE No: 11018511CC174
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February, 2018 8:15:56 AM File Name: J:\11\18511 - Redbank North Richmond Residential Precincts\01 - Design\civil\CDs\CIVIL\EOMANS11018511CC174.dwg



DATUM 38.0												
DAM 12 BE DESIGN SURFACE			41.999	41.795	41.848	42.032	42.069	42.223	42.377	42.457		
DAM 12 REDESIGNED SURFACE		45.502	43.107	41.799	41.241	42.031						
EXISTING SURFACE	44.362	42.359	40.284	39.314	39.336	39.692	39.605	39.837	40.950	42.081	43.474	44.529
CHAINAGE	0.000	15.000	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	150.000	160.273

SECTION C
SCALE H 1:500
V 1:100
CC173

H 1:500 (AT A1) 10 0 10 20 30 40 50 METRES

V 1:100 (AT A1) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

AMENDMENTS TO THE BULK EARTHWORK DAM 12 MODIFICATIONS
B

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE: ..... IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0585
These plans/specifications form part of the certificate issued 5 March 2018

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	AMENDMENTS TO DAM 12 MODIFICATIONS	MP	YG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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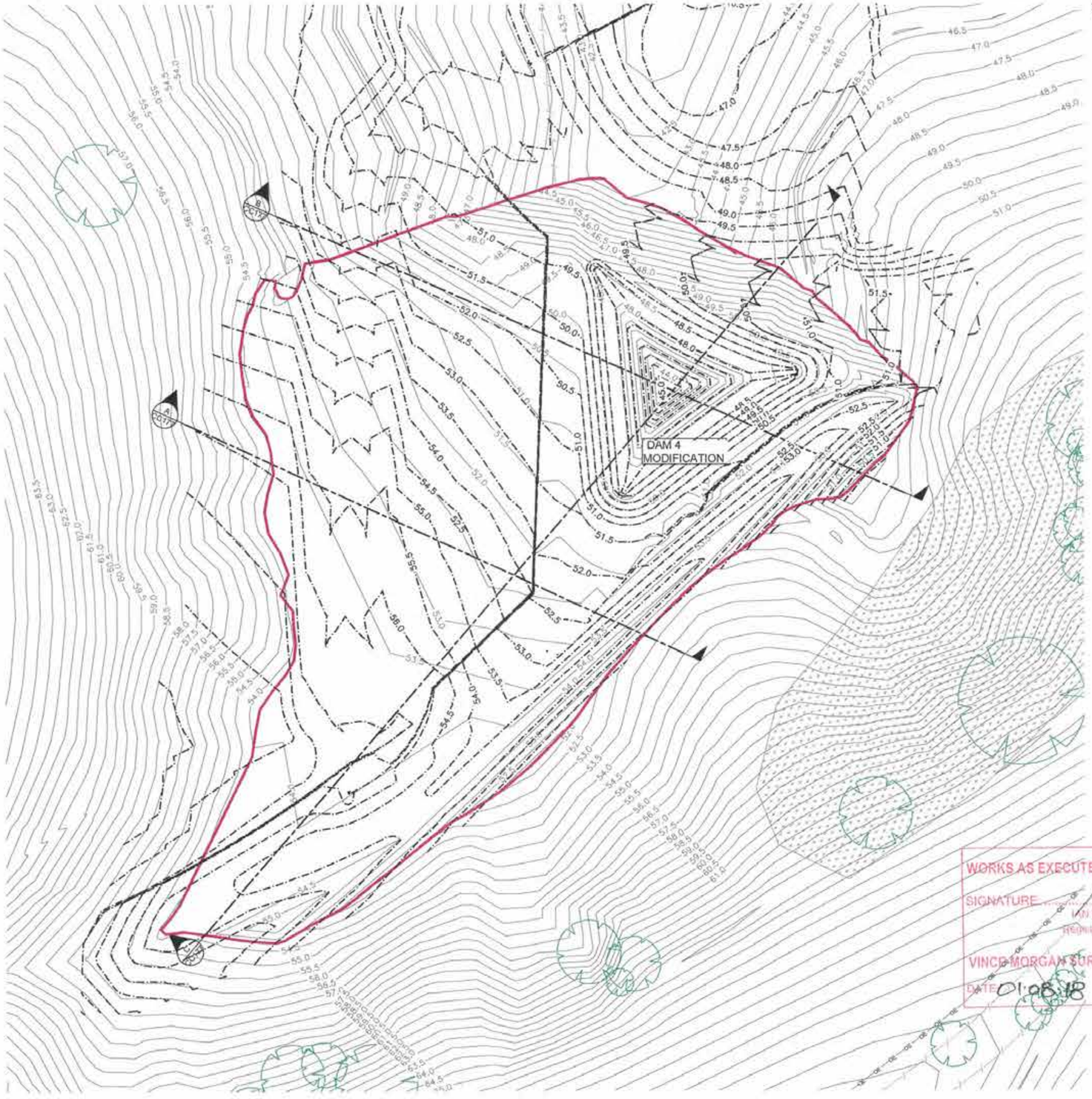
ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DAM MODIFICATION - DAM 12
SECTIONS SHEET 2 OF 2

PLAN No: 11018511/CC175 B
FILE No: 11018511CC175
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 8:16:13 AM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CDC\YEOMANS\11018511CC175.dwg



CONSTRUCTION CERTIFICATE

Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

DAM DECOMMISSIONING - DAM 4 PROCESS (REF DAM DECOMMISSIONING & HERITAGE IMPACT STATEMENT)

1. INSTALL PUMP AND FLOATING INLET & OUTLET HOSE WITH DISCHARGE (OUTLET) POINT TO BE DIRECTED ACROSS LANDFORM CONTOUR AND INTO AREA OF THICK EXISTING GRASS WITHIN 10m OF DAM DOWNSTREAM FACE WITH OUTLET TO CAGE WRAPPED IN SILT FENCE
2. START ARCHIVAL RECORDING OF DAM AT THIS POINT. ALL RECORDING TO BE UNDERTAKEN WITH REFERENCE TO NSW HERITAGE OFFICE ARCHIVAL RECORDING GUIDELINE, DATED JUNE 1998. ALL SIGNIFICANT INFRASTRUCTURE (INCLUDING BUT NOT LIMITED TO VALVES, PIPES, STRUCTURES) TO BE CAREFULLY REMOVED IN AS LARGE SECTIONS AS POSSIBLE, LABELLED AND STORED IN A SECURE CONTAINER ONSITE FOR SEPARATE ASSESSMENT BY HERITAGE CONSULTANT.
3. CHECK MIN DEPTH OF WATER IN DAM. IF OVER 1m TURN ON PUMP UNTIL MIN DEPTH OF 1m ACHIEVED. IF AT OR UNDER 1m MIN DEPTH CONTACT ECOLOGIST TO BE PRESENT FOR IDENTIFYING AND RELOCATION OF FAUNA.
4. ALL SOIL AND EROSION CONTROLS TO BE CHECKED IN PLACE AND FUNCTIONAL BY CONTRACTOR / SUPERINTENDENT AND PRINCIPAL. SEE SOIL & EROSION CONTROLS - PHASE 1.
5. BULK EARTHWORKS APPROVED TO START BY ECOLOGIST / HERITAGE / CONTAMINATION CONSULTANT TO REMOVE 1m OF DAM WALL.
6. ARCHIVAL PHOTO RECORDING.
7. BULK EARTHWORKS TO REMOVE A FURTHER 1m.
8. ARCHIVAL PHOTO RECORDING.
9. REPEAT (7) & (8) UNTIL LANDFORM DESIGN CONTOURS ACHIEVED, WITH AT ALL TIMES UNEXPECTED FINDS PROTOCOL TO BE COMPLIED WITH FOR EUROPEAN AND ECOLOGY.
   a. PIPE / VALVE / DAM CORE FOR EXAMPLE, MATERIAL DISCOVERED.
   b. STOP ALL WORK, SUPERVISOR CONTACTED, WITHIN 1 HOUR.
   c. SITE SUPERVISOR TO NOTIFY CONTRACTOR SYSTEMS OFFICER AND PM, WITHIN 1 HOUR.
   d. IF ECOLOGICAL SUPERINTENDENT / PRINCIPLE / CONSULTANT TO INSPECT SAME DAY AND IF NECESSARY FIND RECOVERED AND RELOCATED.
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   f. ALL OTHER PROTOCOLS AS PER CONTRACTOR "EMERGENCY AND INCIDENT PREPAREDNESS AND RESPONSE - ON SITE" REQUIREMENTS
10. FINAL ARCHIVAL PHOTO RECORDING.
11. INSPECTION BY ECOLOGIST / HERITAGE / CONTAMINATION CONSULTANT.

NOTES

1. DAM 4 MODIFICATION SHOULD BE UNDERTAKEN FOLLOWING THE TASKS AS PER "NORTH RICHMOND - IMPACT ASSESSMENT PROPOSED DAM No. 4 REMOVAL" REPORT PREPARED BY BIO ENGINEERED SOLUTIONS, DATED 25TH FEBRUARY 2015, REFERENCE 1573 DAM 4 C.

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE
IAN VINCENT MORGAN
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF 16800 - 11

AMENDMENTS TO THE BULK EARTHWORK DAM 4 MODIFICATIONS

1:500 (AT A1)
1:1000 (AT A3)
10 0 10 20 30 40 50
METRES

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	AMENDMENTS TO DAM 2 MODIFICATIONS	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
PO Box 4366 PENRITH WESTFIELD NSW 2750
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AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

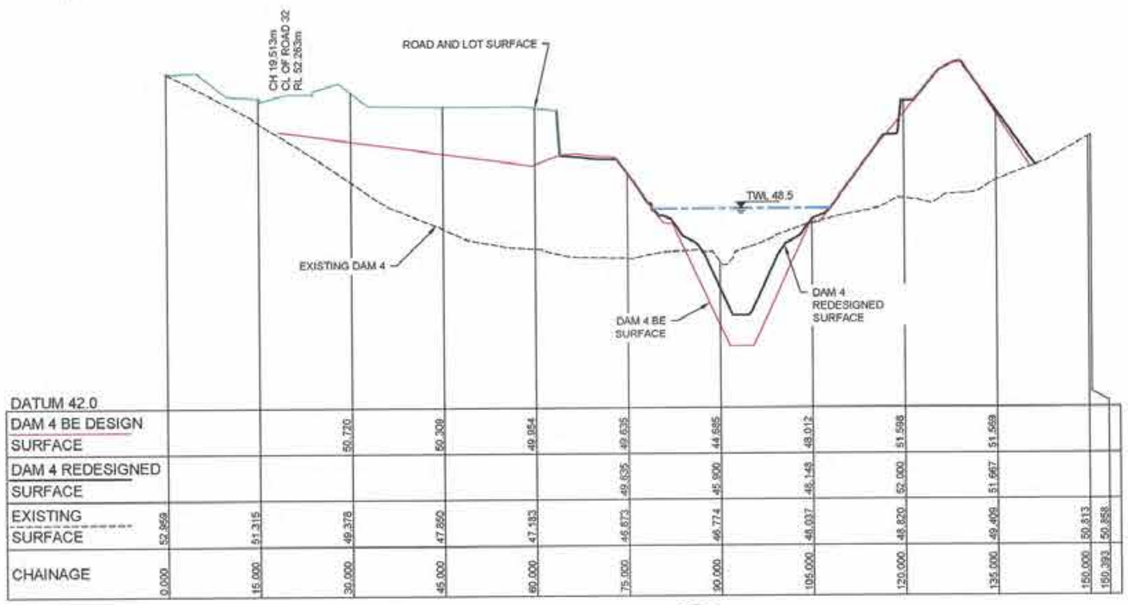
THIS DRAWING MUST NOT BE USED FOR CONSTRUCTION UNLESS SIGNED AS PART OF AN APPROVED CONSTRUCTION CERTIFICATE

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DAM MODIFICATION - DAM 4
PLAN

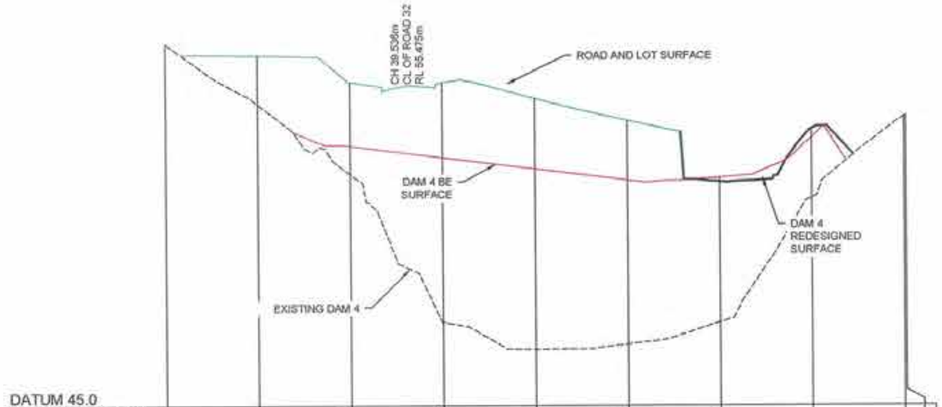
PLAN No: 11018511/CC176 B
FILE No: 11018511CC176
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 8:16:37 AM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\VECMAN\5111018511CC176.dwg



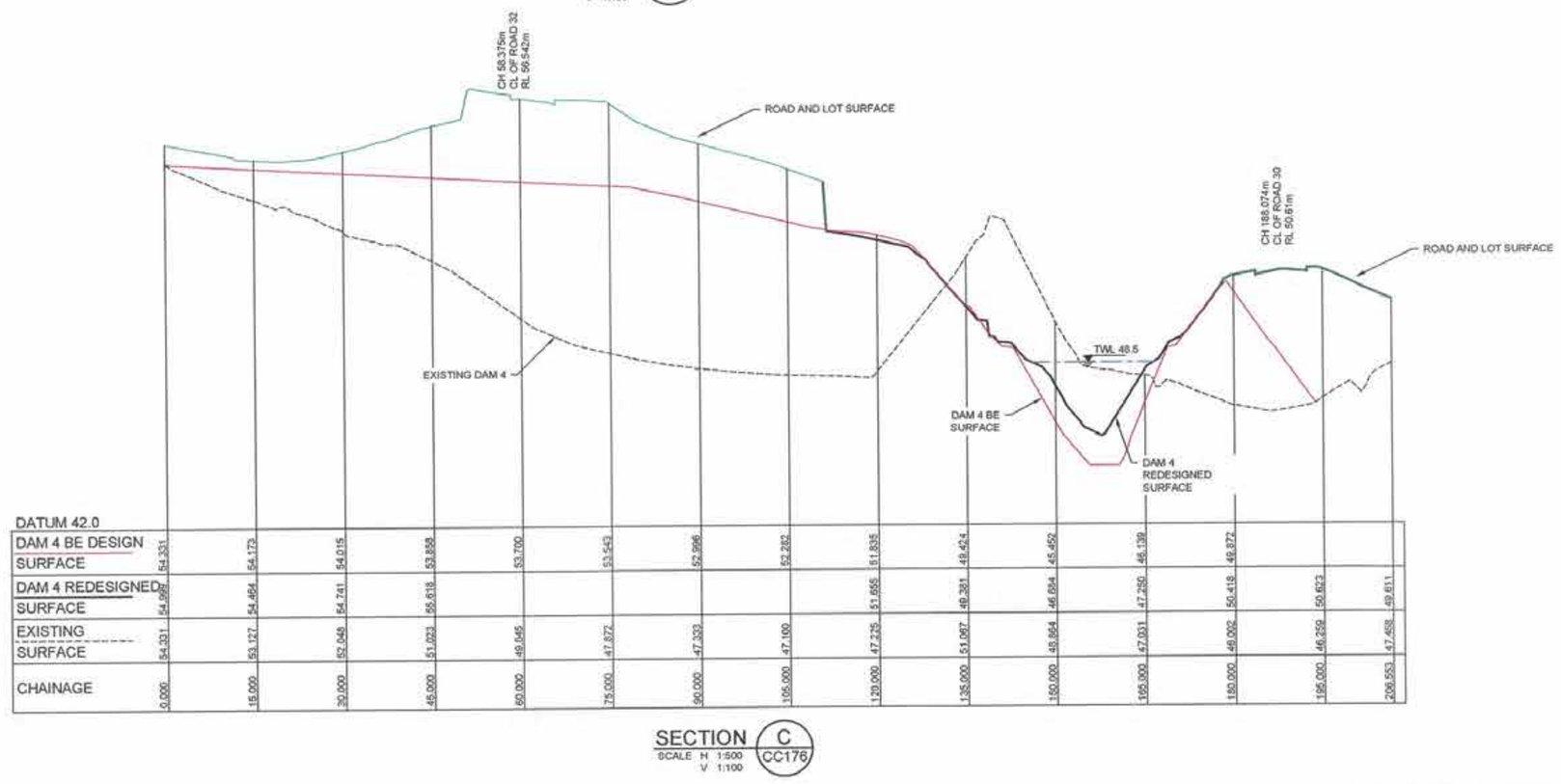
DATUM 42.0													
DAM 4 BE DESIGN SURFACE			50.720	50.309	49.954	49.635	44.685	48.012	51.598	51.569			
DAM 4 REDESIGNED SURFACE						49.635	45.900	48.148	52.000	51.667			
EXISTING SURFACE	52.959	51.315	49.378	47.850	47.193	46.673	46.774	48.037	48.820	49.409	50.613	50.858	
CHAINAGE	0.000	15.000	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	150.000	150.393	

SECTION B (CC176)
SCALE H 1:500 V 1:100



DATUM 45.0												
DAM 4 BE DESIGN SURFACE			53.489	53.114	52.739	52.363	52.442	53.744				
DAM 4 REDESIGNED SURFACE							52.309	54.027				
EXISTING SURFACE	56.626	54.846	52.563	47.735	46.842	47.002	47.720	51.776	54.419	54.492		
CHAINAGE	0.000	15.000	30.000	45.000	60.000	75.000	90.000	105.000	120.000	120.319		

SECTION A (CC176)
SCALE H 1:500 V 1:100



DATUM 42.0																			
DAM 4 BE DESIGN SURFACE	54.331	54.172	54.015	53.858	53.700	53.543	52.996	52.282	51.835	49.424	48.452	46.139	49.872						
DAM 4 REDESIGNED SURFACE	54.967	54.464	54.741	55.618					51.655	49.381	46.684	47.260	50.418	50.623	49.611				
EXISTING SURFACE	54.331	53.127	52.048	51.023	49.645	47.872	47.333	47.100	47.225	51.067	49.864	47.031	49.002	49.259	47.408				
CHAINAGE	0.000	15.000	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	150.000	165.000	180.000	195.000	206.553				

SECTION C (CC176)
SCALE H 1:500 V 1:100

H 1:500 (AT A1) 10 0 10 20 30 40 50 METRES

V 1:100 (AT A1) 2 1 0 1 2 3 4 5 6 7 8 9 10 METRES

CONSTRUCTION CERTIFICATE

Certificate No. 20130229C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565

These plans/specifications form part of the certificate issued 5 March 2018

AMENDMENTS TO THE BULK EARTHWORK DAM 4 MODIFICATIONS B

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF: 16800-11

AMENDMENT		DES	DRN	CKD	APR	DATE
B	AMENDMENTS TO DAM 2 MODIFICATIONS	MP	TG	RO	RO	25/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
DAM MODIFICATION - DAM 4
SECTIONS

PLAN No: 11018511/CC177 B
FILE No: 11018511CC177
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February - 2018 8:17:13 AM File Name: J:\11\0185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018611CC177.dwg

PHASE 2 - PRE-CIVIL WORKS COMMENCEMENT

SEDIMENT BASIN 7
SEDIMENT BASIN 8
SEDIMENT BASIN 5
EXISTING ELECTRICAL EASEMENT
PEEL PARK PROPERTY BOUNDARY
BASIN 15 TO BE USED AS TEMPORARY SEDIMENT BASIN
EXISTING SEDIMENT BASIN TO BE DECOMMISSIONED AND FILLED IN PHASE 1 - 11018511/BE45
MAINTAIN SITE ACCESS
SEDIMENT BASIN 4
SEDIMENT BASIN 6 IS NOW NOT REQUIRED TO ATTAIN THE REQUIRED STORAGE VOLUME AND HAS BEEN REMOVED. FLOW DIVERTED TO SEDIMENT BASIN 5
EXTERNAL CATCHMENT TO BE DIVERTED AROUND THE SITE
DAM 11
PEEL FARM
STOCKPILE
SEDIMENT BASIN 3
CIVIL / LANDSCAPE CONTRACTOR SITE COMPOUND, MATERIAL STOCKPILE, ALL VEHICLE / PLANT PARKING.
ROAD 1
ROAD 2
ROAD 2A
ROAD 25
ROAD 25A
ROAD 26
ROAD 26A
ROAD 27
ROAD 27A
ROAD 30
ROAD 32
ROAD 34
ROAD 40
ROAD YA22
HAUL ROAD

LEGEND

- SEDIMENT FENCE
- EXISTING CONTOURS (47.0)
- DESIGN CONTOURS (48.0)
- ATF FENCE
- CATCH DRAIN
- STABILISED SITE ACCESS
- STRAW BALES
- SEDIMENT BASIN
- PROTECTIVE FENCE TO CPW, RIPARIAN CORRIDOR AND UNDISTURBED LAND
- STAR PICKET / FLAGGING
- TREES TO BE RETAINED AND PROTECTED WITH SUITABLE STAR PICKET & PARAWEB UNLESS WITHIN AREAS EXCLUDED BY OTHER PROTECTIVE FENCE (ie. CPW)
- STOCKPILE
- SITE COMPOUND
- CUMBERLAND PLAIN WOODS (CPW)
- REFER TO SEPARATE DA PACKAGE FOR PEEL FARM WORKS

NOTE

PHASE 2 - SOIL & WATER MANAGEMENT

1. MAINTAIN PROTECTIVE FENCING AND SITE ACCESS AS INSTALLED ON BULK EARTHWORKS PHASE.
2. MAINTAIN EXISTING SEDIMENT BASINS.
3. MAINTAIN SEDIMENT FENCES AS INSTALLED.

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01·08·18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No: 20130299C42
Date of Issue: 5 March 2018
Issuing Officer:
Accreditation No: BPB0085
These plans/specifications form part of the certificate issued 5 March 2018

LAYOUT KEY
SCALE : N.T.S

1:2000 (AT A1)
1:4000 (AT A3)
50 0 50 100 150 200
METRES

B	SEDIMENT BASINS REVISION	MP	LS	RO	MS	26/07/17
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/09/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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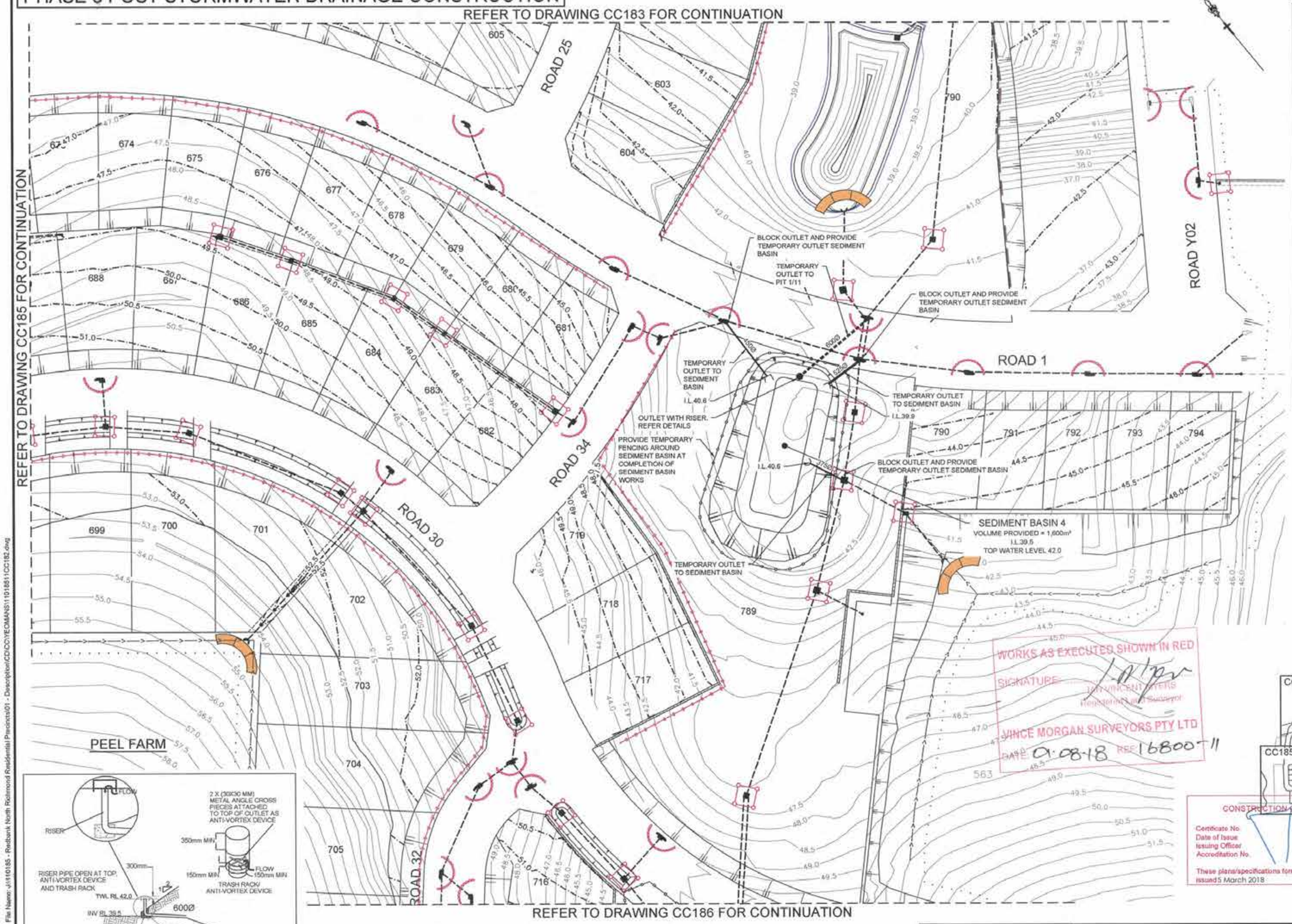
ISSUED FOR CONSTRUCTION APPROVAL

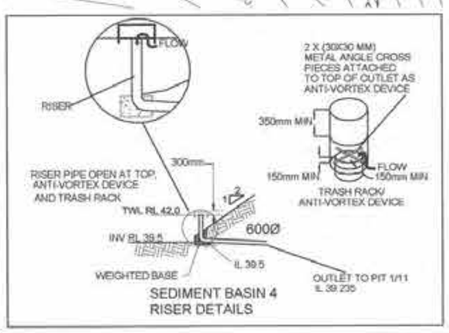
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PHASE 2
PRE-CIVIL WORKS COMMENCEMENT

PLAN No: 11018511/CC181 B
FILE No: 11018511CC181
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January, 2018 5:03:10 PM File Name: J:\11\185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC181.dwg

PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION





SEDIMENT BASIN 4
RISER DETAILS

LEGEND

SEDIMENT FENCE	
EXISTING CONTOURS	47.0
DESIGN CONTOURS	47.0
ATF FENCE	
CATCH DRAIN	
STABILISED SITE ACCESS	
STRAW BALES	
PROTECTIVE FENCE TO CPW, RIPARIAN CORRIDOR AND UNDISTURBED LAND	
STAR PICKET / FLAGGING	
TREES TO BE RETAINED AND PROTECTED WITH SUITABLE STAR PICKET & PARAWEB UNLESS WITHIN AREAS EXCLUDED BY OTHER PROTECTIVE FENCE (ie. CPW)	
STOCKPILE	STOCKPILE
SITE COMPOUND	
CUMBERLAND PLAIN WOODS (CPW)	
FILTER ROLLS (AT KERB INLET PIT)	
SURFACE INLET SEDIMENT TRAP	

PHASE 3
SOIL AND WATER MANAGEMENT

1. MAINTAIN SEDIMENT FENCE .
2. PLACE STRAW BALE FILTER TO HEADWALL INLET & OUTLETS.
3. PLACE FILTER ROLL AT KI PITS.
4. PLACE SURFACE INLET SEDIMENT TRAP AT GSIP.
5. MAINTAIN SEDIMENT BASIN AND CATCH DRAINS TO SEDIMENT BASIN

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

LAYOUT KEY
SCALE : N.T.S

1:500 (AT A1)
1:1000 (AT A3)
10 0 10 20 30 40 50
METRES

B	OPEN SPACE AND STORMWATER AMENDMENTS	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL:
REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PHASE 3 POST STORMWATER
DRAINAGE CONSTRUCTION SHEET 1 OF 6

PLAN No: 11018511/CC182 B
FILE No: 11018511CC182
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 8:37:00 AM File Name: J:\11018511 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC182.dwg

PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION

REFER TO DRAWING CC187 FOR CONTINUATION

REFER TO DRAWING CC184 FOR CONTINUATION

REFER TO DRAWING CC182 FOR CONTINUATION

ROAD 21A

ROAD 25

ROAD 24

ROAD 26A

ROAD 26

INTERCEPT EXISTING 825Ø PIPELINE AND CONSTRUCT JUNCTION PIT 4/10, REMOVE EXISTING HEADWALL AND PIPELINE TO PIT 4/10

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

10 0 10 20 30 40 50
METRES

CONSTRUCTION CERTIFICATE

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Date of Issue 5 March 2018
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Accreditation No. BPB0565

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WORKS AS EXECUTED SHOWN IN RED
SIGNATURE
IAN VINCENT MEYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF 16800-11

LEGEND

- SEDIMENT FENCE
- EXISTING CONTOURS 47.0
- DESIGN CONTOURS 47.0
- ATF FENCE
- CATCH DRAIN
- STABILISED SITE ACCESS
- STRAW BALES
- PROTECTIVE FENCE TO CPW, RIPARIAN CORRIDOR AND UNDISTURBED LAND
- STAR PICKET / FLAGGING
- TREES TO BE RETAINED AND PROTECTED WITH SUITABLE STAR PICKET & PARAWEB UNLESS WITHIN AREAS EXCLUDED BY OTHER PROTECTIVE FENCE (ie. CPW)
- STOCKPILE (STOCKPILE)
- SITE COMPOUND
- CUMBERLAND PLAIN WOODS (CPW)
- FILTER ROLLS (AT KERB INLET PIT)
- SURFACE INLET SEDIMENT TRAP

PHASE 3
SOIL AND WATER MANAGEMENT

1. MAINTAIN SEDIMENT FENCE
2. PLACE STRAW BALE FILTER TO HEADWALL INLET & OUTLETS.
3. PLACE FILTER ROLL AT KI PITS.
4. PLACE SURFACE INLET SEDIMENT TRAP AT GSIP.
5. MAINTAIN SEDIMENT BASIN AND CATCH DRAINS TO SEDIMENT BASIN

LAYOUT KEY
SCALE : N.T.S

	AMENDMENT	DES	DRN	CKD	APR	DATE
B	OPEN SPACE AND STORMWATER AMENDMENTS	MP	CC	RO	RO	09/01/18
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PHASE 3 POST STORMWATER
DRAINAGE CONSTRUCTION SHEET 2 OF 6

PLAN No: 11018511/CC183 B
FILE No: 11018511CC183
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 8:37:32 AM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC183.dwg

PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION

LEGEND

- SEDIMENT FENCE
- EXISTING CONTOURS — 47.0
- DESIGN CONTOURS — 47.0
- ATF FENCE
- CATCH DRAIN
- EXISTING OVERHEAD ELECTRICAL LINE — OE
- STABILISED SITE ACCESS
- STRAW BALES
- PROTECTIVE FENCE TO CPW, RIPARIAN CORRIDOR AND UNDISTURBED LAND
- STAR PICKET / FLAGGING
- TREES TO BE RETAINED AND PROTECTED WITH SUITABLE STAR PICKET & PARAWEB UNLESS WITHIN AREAS EXCLUDED BY OTHER PROTECTIVE FENCE (ie. CPW)
- STOCKPILE
- SITE COMPOUND
- CUMBERLAND PLAIN WOODS (CPW)
- FILTER ROLLS (AT KERB INLET PIT)
- SURFACE INLET SEDIMENT TRAP

CONSTRUCTION CERTIFICATE

Certificate No. 20130229C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0585

These plans/specifications form part of the certificate issued 5 March 2018

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE:
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE: 01.08.18 REF: 16800-11

SEDIMENT BASIN 5
VOLUME PROVIDED = 3,150m³
I.L 28.0
TOP WATER LEVEL 29.8
EMBANKMENT RL 30.0

SPILLWAY RL 29.80

PROVIDE TEMPORARY OUTLET TO SEDIMENT BASIN 5

TAILOUT DRAIN TO SEDIMENT BASIN 7

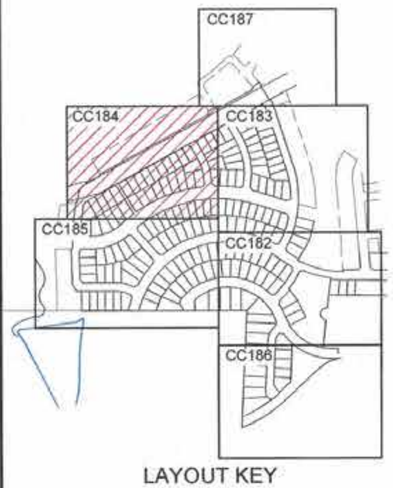
ROAD 21
ROAD 21A
ROAD 23
ROAD 26A
ROAD 26

REFER TO DRAWING CC183 FOR CONTINUATION

REFER TO DRAWING CC186 FOR CONTINUATION

PHASE 3
SOIL AND WATER MANAGEMENT

1. MAINTAIN SEDIMENT FENCE .
2. PLACE STRAW BALE FILTER TO HEADWALL INLET & OUTLETS.
3. PLACE FILTER ROLL AT KI PITS.
4. PLACE SURFACE INLET SEDIMENT TRAP AT GSIP.
5. MAINTAIN SEDIMENT BASIN AND CATCH DRAINS TO SEDIMENT BASIN



LAYOUT KEY
SCALE : N.T.S

1:500 (AT A1)
1:1000 (AT A3)
10 0 10 20 30 40 50
METRES

B	SEDIMENT BASINS REVISION	MP	LS	RO	MS	26/07/17
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PHASE 3 POST STORMWATER
DRAINAGE CONSTRUCTION SHEET 3 OF 6

PLAN No: 11018511/CC184 B
FILE No: 11018511CC184
SHEET SIZE: A1 ORIGINAL

Plotted: 29 January , 2018 5:04:18 PM File Name: J:\11 10185 - Redbank North Richmond Residential Precincts\01 - Description\CDC\CYEOMANS\11018511CC184.dwg

PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION

REFER TO DRAWING CC184 FOR CONTINUATION

LEGEND

- SEDIMENT FENCE
- EXISTING CONTOURS 47.0
- DESIGN CONTOURS 47.0
- ATF FENCE
- CATCH DRAIN
- STABILISED SITE ACCESS
- STRAW BALES
- PROTECTIVE FENCE TO CPW, RIPARIAN CORRIDOR AND UNDISTURBED LAND
- STAR PICKET / FLAGGING
- TREES TO BE RETAINED AND PROTECTED WITH SUITABLE STAR PICKET & PARAWEB UNLESS WITHIN AREAS EXCLUDED BY OTHER PROTECTIVE FENCE (ie. CPW)
- STOCKPILE
- SITE COMPOUND
- CUMBERLAND PLAIN WOODS (CPW)
- FILTER ROLLS (AT KERB INLET PIT)
- SURFACE INLET SEDIMENT TRAP

ROAD 26A
ROAD 26
ROAD 21
ROAD 27
ROAD 1
ROAD 30

TAILOUT DRAIN TO SEDIMENT BASIN 5

PEEL FARM

LAYOUT KEY
SCALE : N.T.S

CC187
CC184 CC183
CC185 CC182
CC186

REFER TO DRAWING CC182 FOR CONTINUATION

C
WORKS AS EXECUTED SHOWN IN RED
SIGNATURE
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

1:500 (AT A1)
1:1000 (AT A3)
10 0 10 20 30 40 50
METRES

PHASE 3
SOIL AND WATER MANAGEMENT

1. MAINTAIN SEDIMENT FENCE.
2. PLACE STRAW BALE FILTER TO HEADWALL INLET & OUTLETS.
3. PLACE FILTER ROLL AT KI PITS.
4. PLACE SURFACE INLET SEDIMENT TRAP AT GSIP.
5. MAINTAIN SEDIMENT BASIN AND CATCH DRAINS TO SEDIMENT BASIN

	AMENDMENT	DES	DRN	CKD	APR	DATE
C	TEMPORARY TURNING HEAD REDESIGNED	MP	CC	RO	RO	09/01/18
B	SEDIMENT BASINS REVISION	MP	LS	RO	MS	26/07/17
A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17

J. WYNDHAM PRINCE CONSULTING CIVIL INFRASTRUCTURE ENGINEERS & PROJECT MANAGERS
PO Box 4966 PENRITH WESTFIELD NSW 2750
P 02 4720 3300 F 02 4720 3399 W www.jwprince.com.au E jwp@jwprince.com.au

AZIMUTH: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

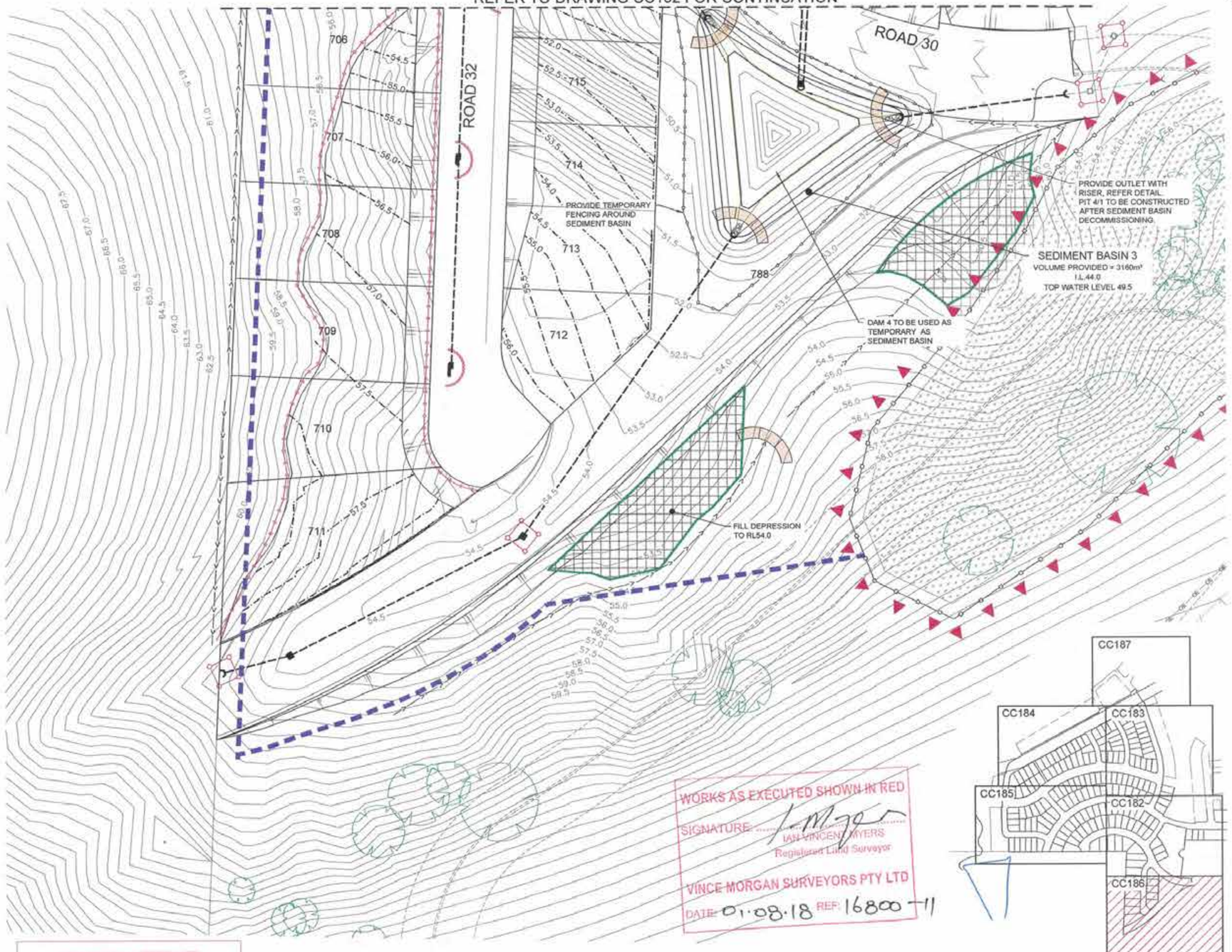
REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION SHEET 4 OF 6

PLAN No: 11018511/CC185 C
FILE No: 11018511CC185
SHEET SIZE: A1 ORIGINAL

Plotted: 12 February , 2018 8:49:29 AM File Name: J:\110185 - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC185.dwg

PHASE 3 POST STORMWATER DRAINAGE CONSTRUCTION

REFER TO DRAWING CC182 FOR CONTINUATION



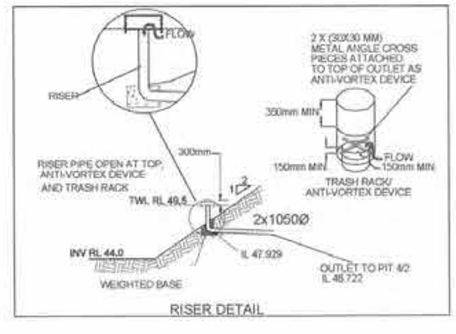
LEGEND

SEDIMENT FENCE	
EXISTING CONTOURS	47.0
DESIGN CONTOURS	47.0
ATF FENCE	
CATCH DRAIN	
STABILISED SITE ACCESS	
STRAW BALES	
PROTECTIVE FENCE TO CPW, RIPARIAN CORRIDOR AND UNDISTURBED LAND	
STAR PICKET / FLAGGING	
TREES TO BE RETAINED AND PROTECTED WITH SUITABLE STAR PICKET & PARAWEB UNLESS WITHIN AREAS EXCLUDED BY OTHER PROTECTIVE FENCE (ie. CPW)	
STOCKPILE	STOCKPILE
SITE COMPOUND	
CUMBERLAND PLAIN WOODS (CPW)	
FILTER ROLLS (AT KERB INLET PIT)	
SURFACE INLET SEDIMENT TRAP	

PHASE 3
SOIL AND WATER MANAGEMENT

1. MAINTAIN SEDIMENT FENCE .
2. PLACE STRAW BALE FILTER TO HEADWALL INLET & OUTLETS.
3. PLACE FILTER ROLL AT KI PITS.
4. PLACE SURFACE INLET SEDIMENT TRAP AT GSIP.
5. MAINTAIN SEDIMENT BASIN AND CATCH DRAINS TO SEDIMENT BASIN

LAYOUT KEY
SCALE : N.T.S



RISER DETAIL

WORKS AS EXECUTED SHOWN IN RED
SIGNATURE .....
IAN VINCENT MYERS
Registered Land Surveyor
VINCE MORGAN SURVEYORS PTY LTD
DATE 01.08.18 REF: 16800-11

CONSTRUCTION CERTIFICATE
Certificate No. 20130299C42
Date of Issue 5 March 2018
Issuing Officer .....
Accreditation No. BPB0565
These plans/specifications form part of the certificate issued 5 March 2018

1:500 (AT A1)
1:1000 (AT A3)
10 0 10 20 30 40 50
METRES

A	ISSUE FOR CONSTRUCTION APPROVAL	MP	MG	RO	MS	15/06/17
	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: MGA 56
DATUM: A.H.D
ORIGIN:

PRINCIPAL: REDBANK

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

ISSUED FOR CONSTRUCTION APPROVAL

REDBANK YEOMANS NORTH
NORTH RICHMOND STAGE 11
PHASE 3 POST STORMWATER
DRAINAGE CONSTRUCTION SHEET 5 OF 6

PLAN No: 11018511/CC186 A
FILE No: 11018511CC186
SHEET SIZE: A1 ORIGINAL

Plotted: 25 January , 2018 5:04:59 PM File Name: J:\11018S - Redbank North Richmond Residential Precincts\01 - Description\CD\CC\YEOMANS\11018511CC186.dwg