Prepared by:

Orion Consulting

CONSULT AUSTRALIA
Member Firm

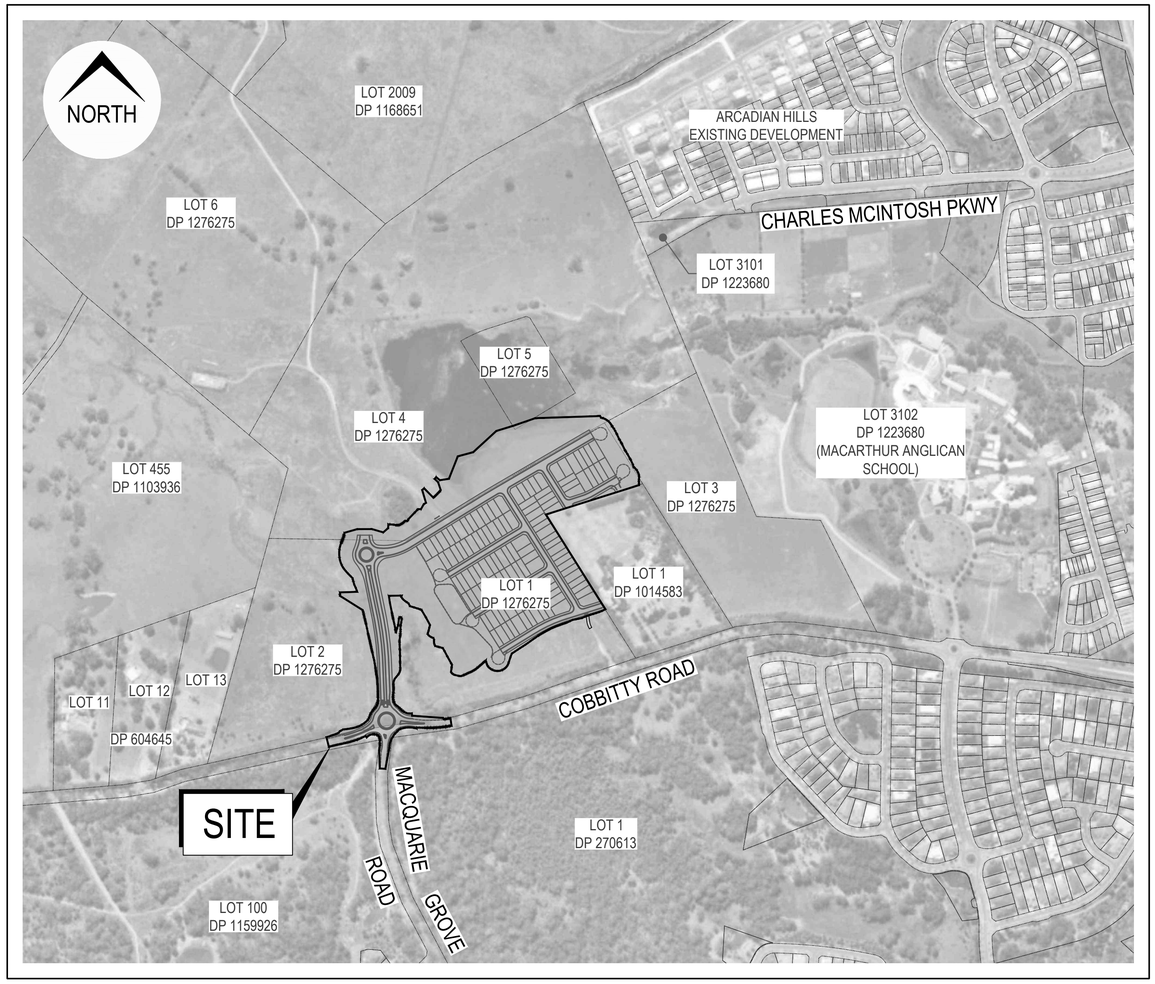
Prepared for:

mirvac

LGA:

camden council

DA: 2022/176/1



SITE / LOCATION (Image courtesy of Nearmap 20.02.2022)

LOT 1, D.P. 1276275

531 COBBITTY ROAD, COBBITTY (TRANCHE 3, STAGE 1) ROAD & DRAINAGE DESIGN

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP

Project No. 21-0258 Set No. 09 Milestone SWC Plan 000 Revision F

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WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
D	WP	AP/CS	AP/CS	AP/CS	24/03/2023	UPDATED RELFECTING S.455 APPROVAL
C	WP	AP/CS	AP/CS	AP/CS	21/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	CS	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:

For: mirvac

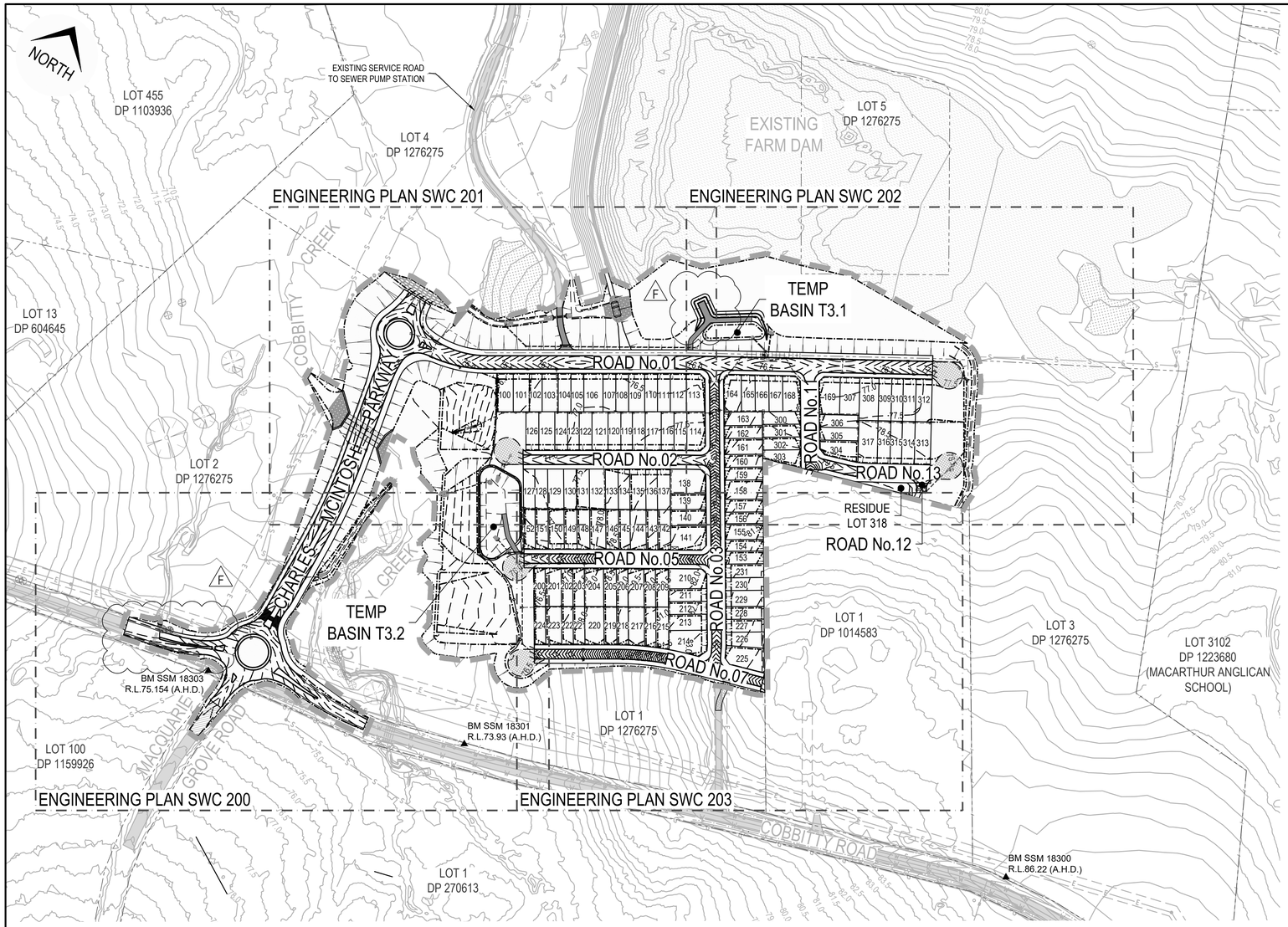
By: Orion Consulting

ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title: PLAN INDEX

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	001	F



GENERAL NOTES

G1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH CAMDEN COUNCIL'S ENGINEERING DESIGN SPECIFICATIONS (CURRENT EDITION) AND ENGINEERING CONSTRUCTION SPECIFICATIONS AND TO THE REQUIREMENTS OF THE PRINCIPAL CERTIFYING AUTHORITY.

G2. INSPECTIONS BY CERTIFYING AUTHORITY ARE REQUIRED AT THE FOLLOWING STAGES AND THE WORKS APPROVED PRIOR TO CONTINUANCE OF ANY FUTURE WORK:
- (a) FOLLOWING INSTALLATION OF EROSION AND SEDIMENT CONTROL STRUCTURES/MEASURES;
- (b) PRIOR TO BACKFILLING PIPELINES, SUBSOIL DRAINS AND DAMS;
- (c) PRIOR TO CASTING OF PITS AND OTHER CONCRETE STRUCTURES, INCLUDING KERB AND GUTTER BUT FOLLOWING PLACEMENT OF FOOTINGS, FORMWORK, AND REINFORCEMENT;
- (d) PRIOR TO PLACEMENT OF SUB BASE AND ALL SUBSEQUENT PAVEMENT LAYERS, A PROOF ROLLER TEST OF EACH PAVEMENT LAYER IS REQUIRED;
- (e) FORMWORKS PRIOR TO POURING CONCRETE IN PARKING AREA FOR FOOTPATH CROSSING AND OTHER ASSOCIATED WORK;
- (f) PRIOR TO BACKFILLING PUBLIC UTILITY CROSSINGS IN ROAD RESERVES; AND
- (g) FINAL INSPECTIONS AFTER ALL WORKS ARE COMPLETED AND 'WORKS AS EXECUTED' PLANS HAVE BEEN SUBMITTED TO COUNCIL.

G3. NO TREES ARE TO BE REMOVED UNLESS APPROVAL IS GRANTED BY COUNCIL'S LANDSCAPE COMPLIANCE OFFICER OR AS AUTHORISED BY DEVELOPMENT CONSENT.

G4. MAKE SMOOTH JUNCTIONS WITH EXISTING WORKS.

G5. NO WORK IS TO BE CARRIED OUT ON COUNCIL PROPERTY OR ADJOINING PROPERTIES WITHOUT THE WRITTEN PERMISSION FROM THE OWNER/S.

G6. VEHICULAR ACCESS AND ALL UTILITIES/SERVICES ARE TO BE MAINTAINED AT ALL TIMES TO ADJOINING PROPERTIES AFFECTED BY CONSTRUCTION.

G7. ALL RUBBISH, BUILDINGS, SHEDS AND FENCES TO BE REMOVED TO SATISFACTION OF COUNCIL'S ENGINEER.

G8. COUNCIL ENGINEERS HAVE DISCRETION TO VARY, AS CONSIDERED NECESSARY, THE ENGINEERING REQUIREMENTS IN RESPECT OF A PARTICULAR SUBDIVISION OR DEVELOPMENT HAVING REGARD TO THE SITE CONTEXT.

EARTHWORKS NOTES

E1. EARTHWORKS ARE TO BE CARRIED OUT TO THE SATISFACTION OF THE COUNCIL. UNSUITABLE MATERIALS ARE TO BE REMOVED FROM ROADS AND LOTS PRIOR TO FILLING. THE CONTRACTOR IS TO ARRANGE AND MAKE AVAILABLE COMPACTION TESTING RESULTS FOR ALL AREAS THAT CONTAIN FILL IN EXCESS OF 200mm.

E2. COMPACTION OF EARTHWORKS SHALL CONTINUE UNTIL A DRY DENSITY RATIO OF 95% FOR SITE FILLING AND 100% FOR ROAD PAVEMENT SUBGRADES HAS BEEN ACHIEVED IN ACCORDANCE WITH TEST METHOD AS1289.5.3.1 OR AS1289.5.1.1. THE CONTROL TESTING OF EARTHWORKS SHALL BE IN ACCORDANCE WITH THE GUIDELINES IN AS3798. WHERE IT IS PROPOSED TO USE TEST METHOD AS1289.5.8.1 TO DETERMINE THE FIELD DENSITY, A SAND REPLACEMENT METHOD SHALL BE USED TO CONFIRM THE RESULTS.

E3. THE SUITABLE QUALIFIED GEOTECHNICAL ENGINEER, SHALL HAVE A LEVEL 1 RESPONSIBILITY FOR ALL FILLING AS DEFINED IN AS3798, AND AT THE END OF THE WORKS SHALL CONFIRM THE EARTHWORKS COMPLY WITH THE REQUIREMENTS OF THE SPECIFICATION AND DRAWINGS BY WRITTEN NOTIFICATION.

E4. IN AREAS TO BE FILLED WHERE THE SLOPE OF THE NATURAL SURFACE EXCEEDS 1(V):4(H), BENCHES ARE TO BE CUT TO PREVENT SLIPPING OF THE PLACED FILL MATERIAL AS REQUIRED BY THE COUNCIL.

E5. ALL BATTERS ARE TO BE SCARIFIED TO A DEPTH OF 50mm TO ASSIST WITH ADHESION OF TOPSOIL TO BATTER FACE.

E6. PROVIDE MINIMUM 150mm AND MAXIMUM 300mm TOPSOIL ON FOOTPATHS, FILLED AREAS AND ALL OTHER AREAS DISTURBED DURING CONSTRUCTION. TOPSOILED AREAS TO BE STABILISED WITH APPROVED VEGETATION A MAXIMUM OF 14 DAYS AFTER TOPSOILING AND ARE TO BE WATERED TO ENSURE GERMINATION.

E7. THE CONTRACTOR SHALL CONTROL SEDIMENTATION, EROSION AND POLLUTION DURING CONSTRUCTION IN ACCORDANCE WITH THE REQUIREMENTS OF 'MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION' PRODUCED BY LANDCOM. MEASURES MUST BE REVIEWED FOR SUITABILITY AND MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT.

E8. A MINIMUM 1m WIDE, CONTINUOUS STRIP OF COUCH GRASS SHALL BE PLACED BEHIND THE BACK OF ALL KERBS AND OTHER CONCRETE STRUCTURES IMMEDIATELY AFTER THE COMPLETION OF THE FOOTPATH GRADING OR OTHER ELEMENTS AS APPLICABLE, AND SHALL BE MAINTAINED AND REPLACED AS REQUIRED DURING THE CONSTRUCTION MAINTENANCE PERIOD.

LEGEND

	EXISTING	PROPOSED	FUTURE
UTILITY - ELECTRICITY, GAS, SEWER, WATER, TELECOMS, NBN, OPTIC FIBRE	E, G, S, W, T, NBN, OF	E, G, S, W, T, NBN, OF	
CONTOUR LINE & LABEL	20.0	20.0	
LOT NUMBER & BOUNDARY	LOT #	LOT #	
APPROXIMATE LIMIT OF WORKS OR STAGE			
APPROXIMATE EXTENT OF EXISTING VEGETATION			
APPROXIMATE EXTENT OF EXISTING FARM DAM			
ROAD, NUMBER, CONTROL LINE, CHAINAGE & CHAINAGE MARK	CHC, ROAD	CHC	
COUNCIL STANDARD KERB & GUTTER		K&G RK	
EXISTING CADASTRAL BOUNDARY			
TEMPORARY TURNING HEAD			
TEMPORARY TRANSITION PAVEMENT			
EXISTING ROAD PAVEMENT			
INDICATIVE DRIVEWAY LOCATION			
COUNCIL STANDARD CONCRETE FOOTPATH & KERB RAMP			
STORMWATER DRAINAGE PIPE AND STRUCTURE			
STORMWATER DRAINAGE PIPE AND STUB			
TEMPORARY STORMWATER DRAINAGE PIPE AND STUB			
EASEMENT (REFER LEGEND)	(A) (B) (C)	(A) (B) (C)	
BATTER			
RETAINING WALL & LABEL		RW01	
DIVERSION SWALE			
EXISTING TREE TO BE RETAINED			
EXISTING TREE TO BE REMOVED			
100 YEAR ARI INTERIM POST DEVELOPMENT FLOOD EXTENTS			

ROADWORKS NOTES

R1. SUBGRADES AND SUB BASES ARE TO BE COMPACTED IN ACCORDANCE WITH COUNCIL'S CONSTRUCTION SPECIFICATION. DENSITY TESTS AND CONFIRMATION THAT THE RESULTS HAVE SATISFIED THE REQUIREMENTS OF THE ENGINEERING SPECIFICATION MUST BE PROVIDED TO COUNCIL AND APPROVAL OBTAINED PRIOR TO THE NEXT LAYER BEING INSTALLED.

R2. SUBSOIL DRAINS TO BE PROVIDED ON BOTH SIDES OF ROADS (EXCEPT WHERE THERE IS STORMWATER DRAINAGE IMMEDIATELY BELOW).

R3. 150 X 50 H.D. GALVANISED STEEL KERB OUTLETS TO BE PLACED IN ALL KERB TYPES ON LOW SIDE OF LOTS WHERE REQUIRED (LOTS THAT DRAIN TO STREET). THE OUTLET IS TO CONTINUE ACROSS FOOTWAY TO 300mm WITHIN THE PROPERTY BOUNDARY. AN ELBOW SHALL BE INSTALLED TO BRING THE PIPE TO THE SURFACE AND THE PIPE END CAPPED TO PREVENT ENTRY OF FOREIGN MATERIAL.

R4. LIPLESS PRAM CROSSINGS ARE TO BE PROVIDED AS SHOWN AND WHERE REQUIRED BY COUNCIL.

R5. SERVICE CONDUITS TO BE PLACED AS DIRECTED BY ALL PUBLIC UTILITY AUTHORITIES INCLUDING BUT NOT LIMITED TO ENDEAVOUR ENERGY, TELSTRA AND SYDNEY WATER.

R6. PROPOSED UTILITIES AND SERVICES CROSSING EXISTING ROADS SHALL BE PROVIDED FOR USING A TRENCHLESS TECHNIQUE SO AS NOT TO DAMAGE THE EXISTING SURFACE. ALL SERVICE CONDUITS UNDER ROADS MUST BE LAID TO A MINIMUM DEPTH OF 750mm.

R7. ALL TEMPORARY ROADS MUST BE TEMPORARILY SEALED WITH A SINGLE COAT FLUSH SEAL.

R8. ALL PERMANENT ROADS MUST BE SEALED IN ACCORDANCE WITH THE APPROVED DRAWINGS, GEOTECHNICAL REPORT AND COUNCIL SPECIFICATION.

R9. SIGNPOSTING AND LINE MARKING SHALL CONFORM TO AS1742.2, 'RTA SUPPLEMENT TO AUSTRALIAN STANDARDS AS1742', THE 'RTA DELINEATION' GUIDELINES AND RMS SIGNS DATABASE. RAISED RETRO-REFLECTIVE PAVEMENT MARKERS TO CONFORM TO AS/NZS1906.1 AND AS1906.3 ARE TO BE PROVIDED. ALL APRONS AND KERB FACE ON CENTRAL ISLANDS OF ROUNDABOUTS AND ALL OTHER ISLANDS TO BE DELINEATED BY REFLECTIVE WHITE MARKING.

R10. ALL LOT NUMBERS AND STREET NAMES MUST BE STENCILLED ON KERB FACE.

R11. STREET SIGNS TO COUNCIL STANDARD MUST BE INSTALLED BY THE CONTRACTOR.

STORMWATER NOTES

S1. ALL PIPES TO BE SPIGOT AND SOCKET, RUBBER RING JOINTED.

S2. ALL LONGITUDINAL PIPELINES IN ROADS MUST BE LOCATED UNDER KERB AND GUTTER AND BE BACKFILLED WITH APPROVED GRANULAR MATERIAL UNLESS OTHERWISE APPROVED BY THE COUNCIL ENGINEER.

S3. DRAINAGE LINES MUST BE BACKFILLED WITH APPROVED GRANULAR MATERIAL IN TRAFFICABLE AREAS. 3m OF SUBSOIL DRAINAGE WRAPPED IN GEOTEXTILE STOCKING MUST BE PROVIDED TO ALL DOWNSTREAM PITS.

S4. ALL GULLY PITS TO COUNCIL'S STANDARD AND LINTELS CENTRALLY PLACED AT SAG PITS.

S5. ALL PITS MUST BE BENCHED AND STREAMLINED. REINFORCEMENT AND GALVANISED STEP IRONS MUST BE PROVIDED TO ALL PITS OVER 1.2m DEEP AS MEASURED FROM THE TOP OF KERB TO THE INVERT OF THE PIT.

S6. CONCRETE IS TO HAVE MINIMUM COMPRESSIVE STRENGTH OF 32MPa AT 28 DAYS UNLESS OTHERWISE APPROVED BY THE COUNCIL ENGINEER.

S7. ALL INTERALLOTMENT DRAINAGE MUST HAVE A MINIMUM PIPE DIAMETER OF 150mm AND A MINIMUM GRADE OF 1% UNLESS OTHERWISE APPROVED BY THE COUNCIL ENGINEER.

S8. ALL INTERALLOTMENT DRAINAGE LINES MUST BE LAID CENTRALLY WITHIN DRAINAGE EASEMENTS. INSPECTION PITS MUST BE PROVIDED FOR EACH LOT AND AT ALL CHANGES OF GRADE AND DIRECTION.

S9. INTERALLOTMENT DRAINAGE LINES MUST BE INSTALLED AFTER SYDNEY WATER SEWERAGE LINES HAVE BEEN INSTALLED WHERE SEWER IS PROPOSED ADJACENT TO INTERALLOTMENT DRAINAGE LINES.

S10. 1% AEP OVERLAND FLOW PATHS MUST BE FORMED AND SHOWN ON 'WORKS AS EXECUTED' DRAWINGS.

S11. ALL PLANS (BOTH DESIGN AND WAE) ARE TO CLEARLY DELINEATE THE EXTENT/LOCATION OF FLOOD LINES INCLUDING THE 5% AEP, 1% AEP AND PMF, WHERE THE PMF HAS BEEN DETERMINED.

S12. ADEQUATE PROVISION IS TO BE MADE TO PREVENT SCOURING AND SEDIMENTATION FOR ALL DRAINAGE WORKS IN ACCORDANCE WITH COUNCIL'S REQUIREMENTS.

S13. PIT LINTELS ARE TO BE STENCILLED WITH APPLICABLE DISTINCTION STENCIL AVAILABLE FROM COUNCIL.

S14. CATCH DRAINS MUST BE CONSTRUCTED AS REQUIRED BY THE APPROVED PLANS OR THE PRINCIPAL CERTIFYING AUTHORITY.

S15. SOIL AND WATER MANAGEMENT PLANS ARE TO BE PREPARED FOR ALL DISTURBED SITES AND ADHERED TO AT ALL TIMES DURING THE CONSTRUCTION AND MAINTENANCE PERIODS. PLANS MUST ADDRESS AND MAKE PROVISION FOR THE DYNAMIC NATURE OF THE SITE FOR EACH STAGE OF THE DEVELOPMENT.

SURVEY SET OUT INFORMATION NOTES

SU1. ALL SITE SET OUT AND CONTROL POINTS ARE TO BE CERTIFIED BY A REGISTERED SURVEYOR.

SU2. 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:
- (a) CERTIFIED CONSTRUCTION CERTIFICATE DRAWINGS.
- (b) 2D DRAFTING BASE (ELECTRONIC FILE).
- (c) 3D DTM (ELECTRONIC FILE).

SU3. ANY DISCREPANCY BETWEEN ANY OF THE INFORMATION CONTAINED WITHIN THESE FILES IS TO BE BROUGHT TO THE ATTENTION OF THE SUPERINTENDENT PRIOR TO CONSTRUCTION WHO WILL SEEK CLARIFICATION AND ISSUE INSTRUCTIONS ON THE APPROPRIATE COURSE OF ACTION.

SURVEY PROVIDED BY GEOLYSE (DATED 20/12/2018)

COORDINATES: M.G.A 2020 — DATUM: A.H.D.
COORDINATES ORIGIN: SSM18303 — LEVELS ORIGIN: R.L. 75.154

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
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ORION GROUP

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UTILITIES SHOWN ARE DIAGRAMMATIC ONLY AND MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY, LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES/STANDARDS.

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
D	WP	AP/CS	AP/CS	AP/CS	24/03/2023	UPDATED REFLECTING S.455 APPROVAL
C	WP	AP/CS	AP/CS	AP/CS	21/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	-	-	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale: 0 20 40 60 80 100 120 140 160 180 200
SCALE 1:2000 (A1) SCALE 1:4000 (A3)

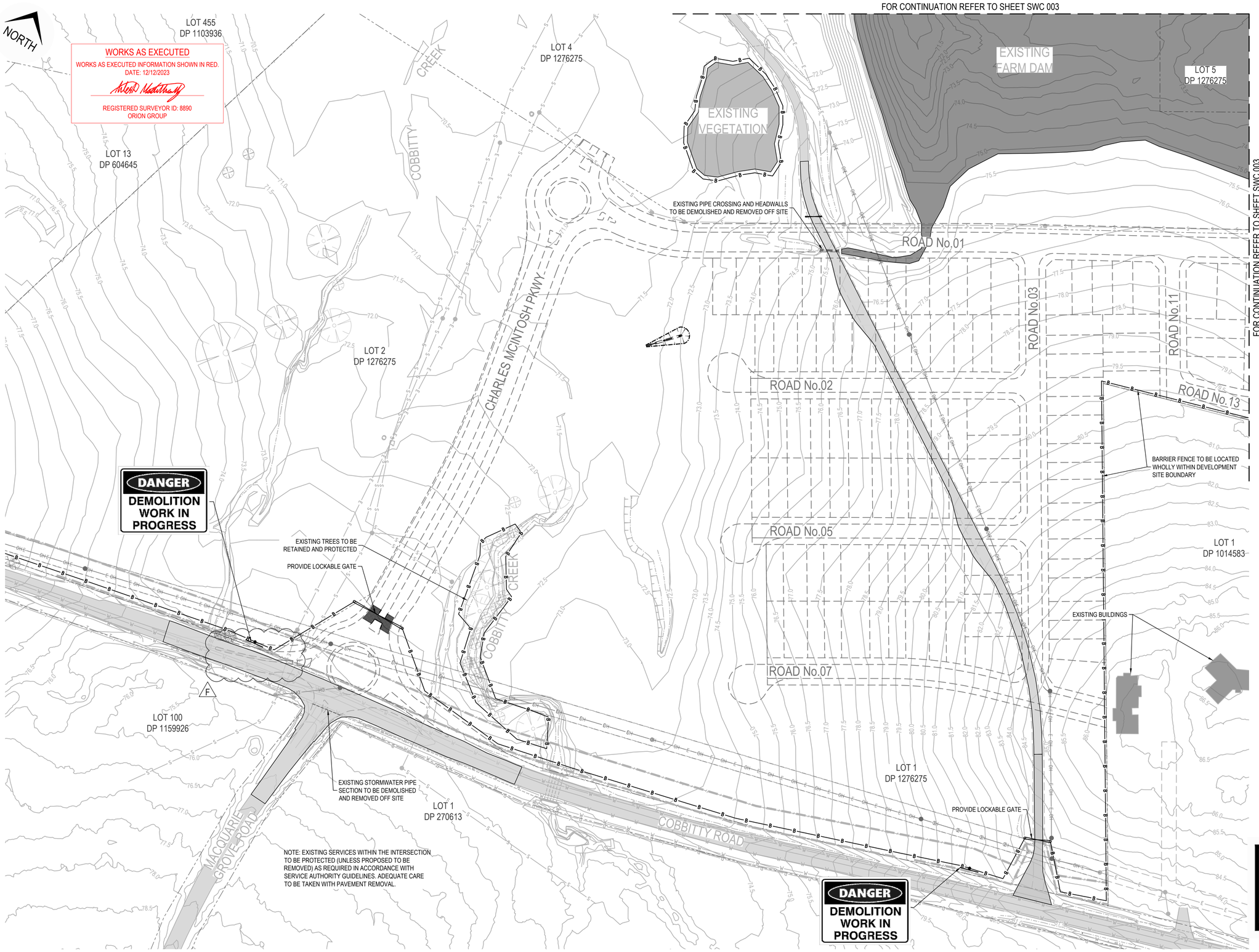
For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au
JAS-ANZ WWW.JAS-ANZ.ORG/REGISTER

Project: LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title: GENERAL ARRANGEMENT PLAN, NOTES & LEGEND

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	002	F



LEGEND

EXISTING CONTOURS	20.0
EXISTING BITUMEN ROAD TO BE DEMOLISHED AND REMOVED OFFSITE TO APPROVED WASTE FACILITY	
EXISTING FARM DAM PERMANENT WATER LEVEL TO BE LOWERED TO RL. 73.5 (MIN.) TO FACILITATE PROPSOED WORKS	
EXISTING VEGETATED AREA TO BE RETAINED (UNDER THIS APPROVAL)	
EXISTING BITUMEN DRIVEWAY TO BE RETAINED AND REMAIN UNDISTURBED DURING CONSTRUCTION WORKS	
EXISTING ROAD PAVEMENT	
EXISTING OVERHEAD POWER LINE AND/OR POWER POLE TO BE REMOVED	OH
EXISTING CONCRETE PIPE & HEADWALL TO BE DEMOLISHED	
EXISTING FENCE TO BE REMOVED	
BARRIER FENCE	B B
EXISTING TREES TO BE REMOVED	
EXISTING TREES TO BE RETAINED	

1. SURVEY PROVIDED BY GEOLYSE (DATE 20th DECEMBER 2018)
2. CONTRACTOR TO ESTABLISH EXTENT OF ALL EXISTING SERVICES WITHIN THE EXTENT OF WORKS.
3. CONTRACTOR TO GAIN ALL NECESSARY APPROVALS & PERMITS TO DEMOLISH, CAP OR REMOVE EXISTING SERVICES AS REQUIRED.
4. CONTRACTOR TO ALLOW FOR THE DEMOLITION OF ALL EXISTING STRUCTURES & FEATURES (ABOVE & BELOW GROUND) ON THE SITE REQUIRED, INCLUDING BUILDINGS, FENCES, EXISTING PAVEMENT, DRAINAGE, SIGNS ETC.
5. ALL DEMOLITION WORKS SHALL COMPLY WITH THE PROVISIONS OF AS2601:2001 THE DEMOLITION OF STRUCTURES.
6. REMOVAL OF EXISTING ELECTRICAL INFRASTRUCTURE TO BE COMPLETED IN ACCORDANCE WITH ELECTRICAL CONSULTANTS SPECIFICATIONS & DRAWINGS.
7. EXISTING SERVICES TO BE LOCATED FROM BYDA PLANS AND ONSITE SERVICES LOCATION.
8. TREE REMOVAL SHALL BE IN ACCORDANCE WITH CAMDEN COUNCIL'S REQUIREMENTS AND SPECIFICATIONS.
9. UNLESS ADJUSTMENT IS PROPOSED, EXISTING SEWER MAINTENANCE SHAFTS & COVERS TO BE PROTECTED FROM DAMAGE BY PLANT AND CONSTRUCTION ACTIVITY.

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DANGER
DEMOLITION WORK IN PROGRESS

"DANGER - DEMOLITION IN PROGRESS", OR SIMILAR MESSAGE SHALL BE MAINTAINED ON THE FENCING AT APPROPRIATE PLACES TO WARN THE PUBLIC.

UTILITIES SHOWN ARE DIAGRAMMATIC ONLY AND MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY, LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES/STANDARDS.

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	21/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	-	-	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale: 0 10 20 30 40 50 60 70 80 90 100
SCALE 1:1000 (A1) SCALE 1:2000 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

JAS-ANZ SUSTAINABLE REGISTRATION ISO 9001 ISO 14001 ISO 45001 WWW.JAS-ANZ.ORG/REGISTER

Project: LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title: DEMOLITION & TREE REMOVAL PLAN SHEET 01 OF 02

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	003	F

NORTH

LOT 4
DP 1276275

EXISTING FARM DAM

LOT 5
DP 1276275

EXISTING VEGETATION

EXISTING PIPE CROSSING AND HEADWALLS TO BE DEMOLISHED AND REMOVED OFF SITE

ROAD No.01

ROAD No.02

ROAD No.03

ROAD No.11

ROAD No.13

ROAD No.12

LOT 1
DP 1276275

LOT 1
DP 1014583

BARRIER FENCE TO BE LOCATED WHOLLY WITHIN DEVELOPMENT SITE BOUNDARY

LOT 3
DP 1276275

LOT 3102
DP 1223680
(MACARTHUR ANGLICAN SCHOOL)

FOR CONTINUATION REFER TO SHEET SWC 002

FOR CONTINUATION REFER TO SHEET SWC 002

LEGEND

EXISTING CONTOURS	20.0
EXISTING BITUMEN SERVICE ROAD TO BE DEMOLISHED AND REMOVED OFFSITE TO APPROVED WASTE FACILITY	
EXISTING FARM DAM PERMANENT WATER LEVEL TO BE LOWERED TO RL. 73.5 (MIN.) TO FACILITATE PROPSOED WORKS	
EXISTING VEGETATED AREA TO BE RETAINED (UNDER THIS APPROVAL)	
EXISTING ROAD PAVEMENT	
EXISTING OVERHEAD POWER LINE AND/OR POWER POLE TO BE REMOVED	OH
EXISTING CONCRETE PIPE & HEADWALL TO BE DEMOLISHED	
EXISTING FENCE TO BE REMOVED	
BARRIER FENCE	B B
EXISTING TREES TO BE REMOVED	
EXISTING TREES TO BE RETAINED	

1. SURVEY PROVIDED BY GEOLYSE (DATE 20th DECEMBER 2018)
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WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

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UTILITIES SHOWN ARE DIAGRAMMATIC ONLY AND MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS.

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ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	21/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	-	-	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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

For: mirvac

By: Orion Consulting
JAS-ANZ WWW.JAS-ANZ.ORG/REGISTER
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
DEMOLITION & TREE REMOVAL PLAN
SHEET 02 OF 02

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	004	E

NORTH

LOT 455
DP 1103936

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

LOT 13
DP 604645

LOT 4
DP 1276275

LOT 5
DP 1276275

LOT 2
DP 1276275

LOT 3
DP 1276275

LOT 1
DP 1014583

LOT 100
DP 1159926

LOT 1
DP 270613

LOT 1
DP 1276275

CREEK

COBBITTY CREEK

EXISTING VEGETATION

EXISTING FARM DAM

TEMP BASIN T3.1

TEMP BASIN T3.2

CHARLES McINTOSH PKWY

COBBITTY ROAD

MACQUARIE GROVE ROAD

ROAD No.01

ROAD No.02

ROAD No.03

ROAD No.05

ROAD No.07

ROAD No.11

ROAD No.12

ROAD No.13

A 010 — CH 0.0, CH 15.0, CH 30.0, CH 45.0, CH 60.0, CH 75.0, CH 90.0, CH 105.0, CH 120.0, CH 135.0, CH 150.0, CH 165.0, CH 180.0, CH 195.0, CH 210.0, CH 225.0, CH 240.0, CH 255.0, CH 270.0, CH 285.0, CH 300.0, CH 315.0, CH 330.0, CH 345.0, CH 360.0, CH 375.0, CH 390.0, CH 405.0, CH 420.0, CH 435.0, CH 450.0, CH 465.0, CH 480.0, CH 495.0, CH 513.520, CH 517.0

B 011 — CH 0.0, CH 15.0, CH 30.0, CH 45.0, CH 60.0, CH 75.0, CH 90.0, CH 105.0, CH 120.0, CH 135.0, CH 150.0, CH 165.0, CH 180.0, CH 195.0, CH 210.0, CH 225.0, CH 240.0, CH 255.0, CH 270.0, CH 285.0, CH 300.0, CH 315.0, CH 330.0, CH 345.0, CH 360.0, CH 374.050

C 012 — CH 0.0, CH 15.0, CH 30.0, CH 45.0, CH 60.0, CH 75.0, CH 90.0, CH 105.0, CH 120.0, CH 135.0, CH 150.0, CH 165.0, CH 180.0, CH 195.0, CH 210.0, CH 225.0, CH 240.0, CH 255.0, CH 270.0, CH 285.0, CH 300.0, CH 315.0, CH 321.776

D 013 — CH 0.0, CH 15.0, CH 30.0, CH 45.0, CH 60.0, CH 75.0, CH 90.0, CH 105.0, CH 120.0, CH 135.0, CH 150.0, CH 165.0, CH 180.0, CH 195.0, CH 210.0, CH 225.0

E 013 — CH 0.0, CH 15.0, CH 30.0, CH 45.0, CH 60.0, CH 75.0, CH 90.0, CH 105.0, CH 120.0, CH 135.0, CH 150.0, CH 165.0, CH 175.168

F

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ISSUED FOR **SUBDIVISION WORKS CERTIFICATE**

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	21/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
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SCALE 1:1000 (A1)
SCALE 1:2000 (A3)

For: mirvac

By: Orion Consulting
JAS-ANZ
WWW.JAS-ANZ.ORG/REGISTER
ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
SITE REGRADING
ALIGNMENT PLAN

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	005	F

NORTH

LOT 455
DP 1103936

LOT 4
DP 1276275

LOT 5
DP 1276275

LOT 13
DP 604645

LOT 2
DP 1276275

LOT 3
DP 1276275

LOT 100
DP 1159926

LOT 1
DP 270613

LOT 1
DP 1276275

CREEK

COBBITTY CREEK

COBBITTY ROAD

CHARLES McINTOSH PKWY

MACQUARIE GROVE ROAD

EXISTING FARM DAM

EXISTING VEGETATION

TEMP BASIN T3.1

TEMP BASIN T3.2

ROAD No.01

ROAD No.02

ROAD No.03

ROAD No.05

ROAD No.07

ROAD No.11

ROAD No.12

ROAD No.13

RESIDUE LOT 318

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

TEMPORARY STACKED ROCK RETAINING WALL RW07
REFER TO SHEET SWC 701 FOR DETAILS

EXISTING VEGETATION TO BE RETAINED AND PROTECTED DURING CONSTRUCTION

HIGH FLOW BYPASS TAILOUT DRAIN

3m WIDE TAIL OUT DRAIN

PROVIDE 1V:5H BATTER TO MATCH EXISTING SURFACE

REGRADE AREA FROM TOE OF BATTER AT 1% NOM. TO HEADWALL

PROVIDE 1V:5H BATTER TO MATCH EXISTING SURFACE

FOR FARM DAM INTERFACE REFER TO SHEETS SWC 600-601 FOR DETAILS

FOR INTERNAL BATTERS & WALLS REFER TO SHEETS SWC 700-712 FOR LOT BENCHING AND RETAINING WALL INFORMATION.

PROVIDE UPSTREAM CLEAN WATER DIVERSION CHANNEL TO FACILITATE EARTHWORKS

MATCH EXISTING LEVELS AT BOUNDARY. ALL WORKS TO BE CARRIED OUT WHOLLY WITHIN DEVELOPMENT SITE

BATTER MAX. 1V:10H

FOR INTERNAL BATTERS & WALLS REFER TO SHEETS SWC 700-712 FOR LOT BENCHING AND RETAINING WALL INFORMATION.

PROVIDE 1V:5H BATTER TO MATCH EXISTING SURFACE

PROVIDE 1V:5H BATTER TO MATCH EXISTING SURFACE

ALL WORKS TO BE CARRIED OUT WHOLLY WITHIN EXISTING ROAD RESERVE

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VOLUMES

CUT -	31,289m³
FILL -	92,562m³
IMPORT -	61,273m³

NOTES:
- THESE VOLUMES ARE RAW / IN SITU ONLY. (EXISTING SURFACE STRIPPED 300mm TO BULK EARTHWORKS SURFACE).
- NO BULKING FACTOR HAS BEEN APPLIED.
- NO ALLOWANCE HAS BEEN MADE FOR UNSUITABLE MATERIAL ASSOCIATED WITH EXISTING DAMS SUCH AS WATER, MUD, SLUDGE ETC.
- TOPSOIL ASSUMED TO BE AN AVERAGE OF 300mm DEEP, ALLOWANCE FOR 300mm TOPSOIL ON LOTS AND VERGE AREAS.
- NO ALLOWANCE HAS BEEN MADE FOR SERVICE TRENCHING, STORMWATER TRENCHES OR TREE PITS.

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LEGEND

APPROXIMATE EXTENT OF FILL		APPROXIMATE EXTENT OF CUT	
	0.0 - 0.05m		0.0 - 0.05m
	0.05 - 0.5m		0.05 - 0.5m
	0.5 - 1.0m		0.5 - 1.0m
	1.0 - 1.5m		1.0 - 1.5m
	1.5 - 2.0m		1.5 - 2.0m
	2.0 - 2.5m		2.0 - 2.5m
	2.5 - 3.0m		2.5 - 3.0m
	3.0 - 3.5m		3.0 - 3.5m
	3.5 - 4.0m		3.5 - 4.0m
	4.0 - 4.5m		4.0 - 4.5m
	> 4.5m		> 4.5m

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
D	WP	AP/CS	AP/CS	AP/CS	24/03/2023	UPDATED RELFECTING S.455 APPROVAL
C	WP	AP/CS	AP/CS	AP/CS	21/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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For: mirvac

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JAS-ANZ
SUSTAINABLE CERTIFICATION
WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
SITE REGRADING PLAN

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	006	F

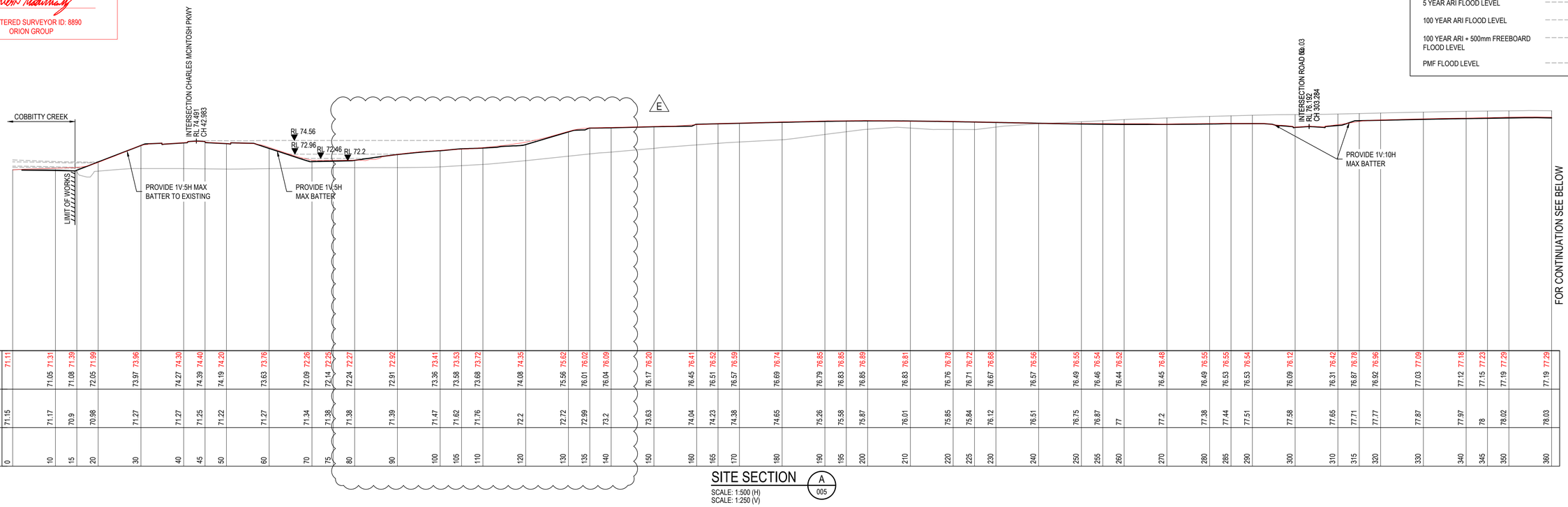
WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

- FINISHED DESIGN SURFACE LEVEL
- EXISTING SURFACE
- EXISTING LOT BOUNDARY
- 5 YEAR ARI FLOOD LEVEL
- 100 YEAR ARI FLOOD LEVEL
- 100 YEAR ARI + 500mm FREEBOARD FLOOD LEVEL
- PMF FLOOD LEVEL



DATUM R.L. 50

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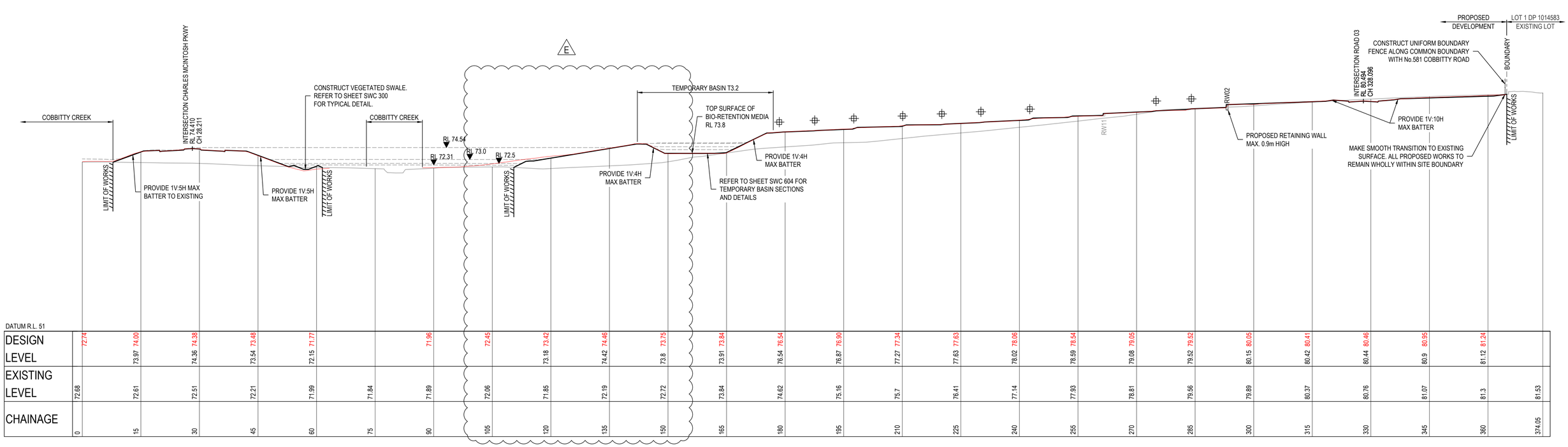
WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

- FINISHED DESIGN SURFACE LEVEL
- EXISTING SURFACE
- EXISTING LOT BOUNDARY
- MAX 0.3m HIGH 1V:4H BATTER REFER TO SHEET SWC 700 FOR DETAIL
- PROPOSED RETAINING WALL REFER TO SHEET SWC 700 FOR DETAIL
- 5 YEAR ARI FLOOD LEVEL
- 100 YEAR ARI FLOOD LEVEL
- 100 YEAR ARI + 500mm FREEBOARD FLOOD LEVEL
- PMF FLOOD LEVEL



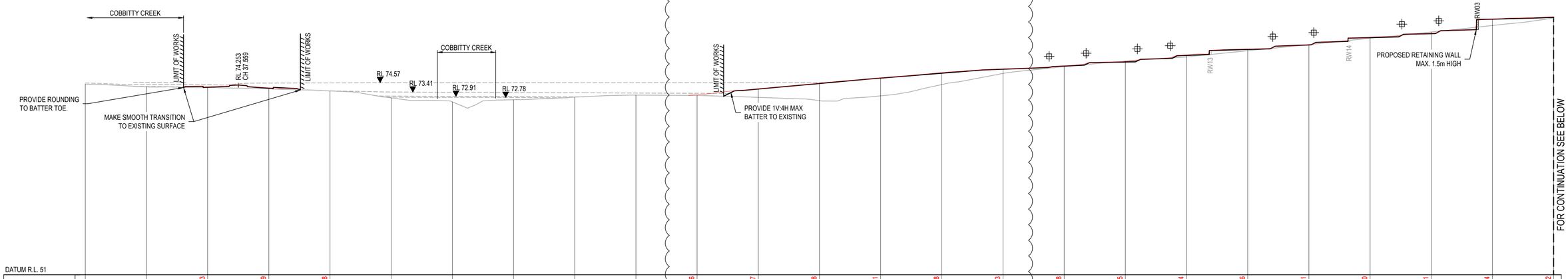
DATUM R.L. 51

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WORKS AS EXECUTED

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REGISTERED SURVEYOR ID: 8890
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DATUM R.L. 51

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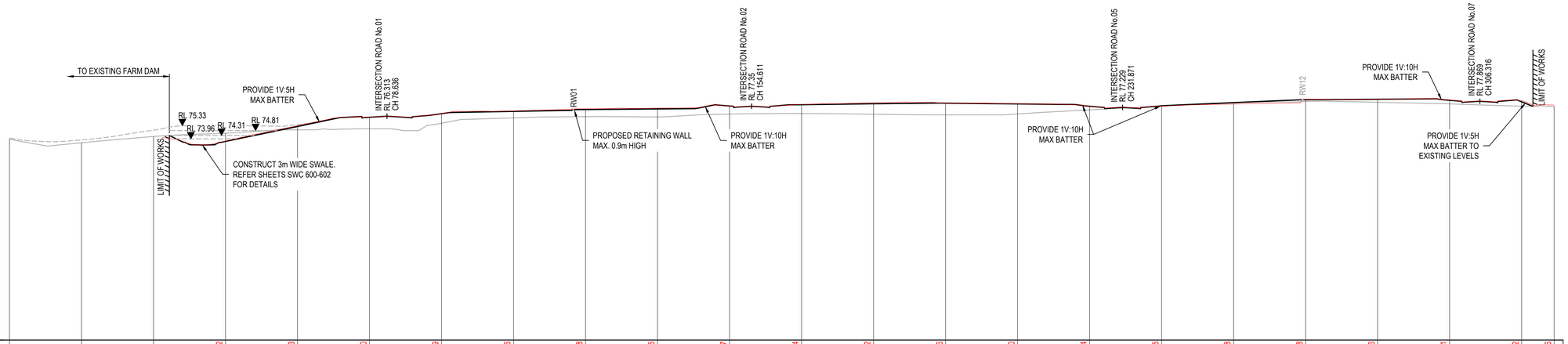
WORKS AS EXECUTED

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DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

- FINISHED DESIGN SURFACE LEVEL
- EXISTING SURFACE
- EXISTING LOT BOUNDARY
- PROPOSED RETAINING WALL REFER TO SHEET SWC 700 FOR DETAIL
- 5 YEAR ARI FLOOD LEVEL
- 100 YEAR ARI FLOOD LEVEL
- 100 YEAR ARI + 500mm FREEBOARD FLOOD LEVEL
- PMF FLOOD LEVEL



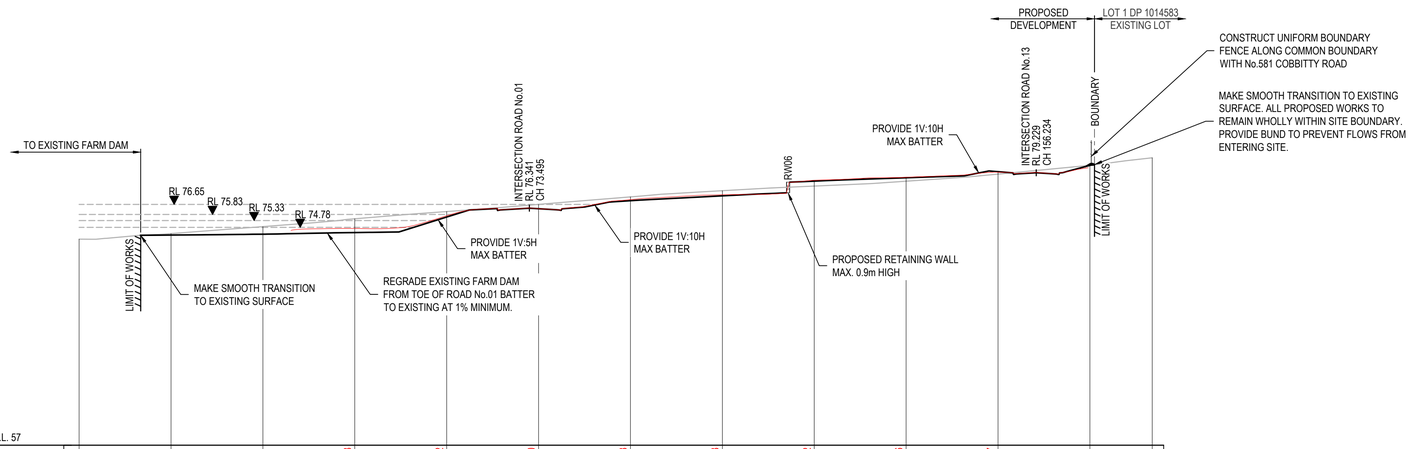
DATUM R.L. 53

DESIGN LEVEL				73.72	75.33	76.20	76.59	76.86	77.08	77.15	77.37	77.54	77.72	77.66	77.60	77.34	77.35	77.58	78.08	78.06	78.01	77.92	77.46			
		73.69	75.24	76.2	76.58	76.81	77.01	77.07	77.37	77.51	77.61	77.67	77.59	77.35	77.4	77.73	78.03	78.08	77.97	77.81						
EXISTING LEVEL	73.92	73.55	74.2	74.55	74.89	74.99	75.58	76.13	76.26	76.24	76.53	76.59	76.52	76.45	76.55	76.97	77.38	77.72	77.84	77.76	77.6	77.36	77.33			
CHAINAGE	0	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	321.776			

SITE SECTION D

SCALE: 1:500 (H)
SCALE: 1:250 (V)

005



DATUM R.L. 57

DESIGN LEVEL			74.68	75.72	76.30	77.03	77.43	78.62	78.86	79.27					
		74.15	74.22	74.35	75.62	76.3	76.95	77.35	78.55	78.82	79.32	79.83			
EXISTING LEVEL	73.81	74.27	74.84	75.48	76.07	76.65	77.26	77.77	78.15	78.54	79.12	79.84	80.45		
CHAINAGE	0	15	30	45	60	75	90	105	120	135	150	165	175.168		

SITE SECTION E

SCALE: 1:500 (H)
SCALE: 1:250 (V)

005

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	21/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	-	-	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 2.5 5 7.5 10 12.5 15 17.5 20 22.5 25
SCALE 1:250 (A1) SCALE 1:500 (A3)
0 5 10 15 20 25 30 35 40 45 50
SCALE 1:500 (A1) SCALE 1:1000 (A3)

For: mirvac

By: Orion Consulting

ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
SITE REGRADING SECTIONS
SHEET 04 OF 04

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	013	E

NORTH

WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP

LOT 455
DP 1103936

LOT 4
DP 1276275

LOT 5
DP 1276275

LOT 2
DP 1276275

LOT 3
DP 1276275

LOT 1
DP 1014583

LOT 1
DP 1276275

LOT 1
DP 270613

LOT 100
DP 1159926

EXISTING FARM DAM

EXISTING VEGETATION

CREEK

COBBITTY CREEK

CHARLES MCINTOSH PKWY

COBBITTY ROAD

MACQUARIE GROVE ROAD

ROAD No.01

ROAD No.02

ROAD No.03

ROAD No.05

ROAD No.07

ROAD No.11

ROAD No.12

ROAD No.13

STAGE 1

STAGE 2

STAGE 3

RESIDUE LOT 318

BM SSM 18303
R.L.75.154 (A.H.D.)

BM SSM 18301
R.L.73.93 (A.H.D.)

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	21/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	-	-	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 10 20 30 40 50 60 70 80 90 100
SCALE 1:1000 (A1) SCALE 1:2000 (A3)

For: mirvac

By: Orion Consulting
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SUSTAINABLE CERTIFICATION
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Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title: STAGING PLAN

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	021	F

1. Erosion Hazard and Sediment Basins

Site Name: Mirvac Residential - Cobbitty CC01

Site Location: LOT 1, DP 1276275. No.531 COBBITTY ROAD, COBBITTY

Precinct/Stage: CC01

Other Details:

Site area	Sub-catchment or Name of Structure						Notes
	T3.1	T3.2					
Total catchment area (ha)	4.02	2.96					
Disturbed catchment area (ha)	3.19	2.94					
Soil analysis (enter sediment type if known, or laboratory particle size data)							
Sediment Type (C , F or D) if known:	C	C					From Appendix C (if known)
% sand (fraction 0.02 to 2.00 mm)							Enter the percentage of each soil fraction. E.g. enter 10 for 10%
% silt (fraction 0.002 to 0.02 mm)							
% clay (fraction finer than 0.002 mm)							
Dispersion percentage							E.g. enter 10 for dispersion of 10%
% of whole soil dispersible							See Section 6.3.3(e). Auto-calculated
Soil Texture Group	C	C					Automatic calculation from above
Rainfall data							
Design rainfall depth (no of days)	2	2					See Section 6.3.4 and, particularly, Table 6.3 on pages 6-24 and 6-25.
Design rainfall depth (percentile)	80	80					
x-day , y-percentile rainfall event (mm)	16.8	16.8					
Rainfall R-factor (if known)							Only need to enter one or the other here
IFD: 2-year, 6-hour storm (if known)	7.83	7.83					
RUSLE Factors							
Rainfall erosivity (*R*-factor)	1480	1480					Auto-filled from above
Soil erodibility (*K*-factor)	0.034	0.034					
Slope length (m)	150	200					
Slope gradient (%)	4	2					RUSLE LS factor calculated for a high rill/interrill ratio.
Length/gradient (*LS*-factor)	1.27	0.58					
Erosion control practice (*P*-factor)	1.3	1.3	1.3	1.3	1.3	1.3	
Ground cover (*C*-factor)	1	1	1	1	1	1	
Sediment Basin Design Criteria (for Type D/F basins only. Leave blank for Type C basins)							
Storage (soil) zone design (no of months)	2	2	2	2	2	2	Minimum is generally 2 months
Cv (Volumetric runoff coefficient)	0.5	0.5					See Table F2, page F-4 in Appendix F
Calculations and Type D/F Sediment Basin Volumes							
Soil loss (t/ha/yr)	83	38					
Soil Loss Class	1	1					See Table 4.2, page 4-13
Soil loss (m^3/ha/yr)	64	29					Conversion to cubic metres
Sediment basin storage (soil) volume (m^3)	34	14					See Sections 6.3.4(i) for calculations
Sediment basin settling (water) volume (m^3)	338	249					See Sections 6.3.4(i) for calculations
Sediment basin total volume (m^3)	372	263					

FOR CONTINUATION REFER TO INSET "A"

NORTH

WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP

UTILITIES SHOWN ARE DIAGRAMMATIC ONLY AND MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY, LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES/STANDARDS.

BEFORE YOU DIG www.byda.com.au

TAIL OUT TO BE TURFED

EXISTING FARM DAM

EXISTING VEGETATION

LOT 5 DP 1276275

TEMP BASIN T3.1

PROPOSED BASIN TO BE USED AS SEDIMENT BASIN DURING CONSTRUCTION

ROAD No.01

ROAD No.02

ROAD No.03

ROAD No.11

ROAD No.13

ROAD No.12

CONSTRUCT UPSTREAM CLEAN WATER DIVERSION CHANNEL

LOT 3 DP 1276275

RESIDUE LOT 318

CONSTRUCT SPOON DRAIN TO DIRECT LOCAL UPSTREAM SHEET FLOWS INTO DIVERSION CHANNEL REFER TO SHEET 202 FOR DETAILS.

CHARLES MCINTOSH PKWY

COBBITTY CREEK

TURF BOTTOM 2m OF BATTER WITHIN COBBITTY CREEK ZONE. (TYP.).

TEMP BASIN T3.2

PROPOSED BASIN TO BE USED AS SEDIMENT BASIN DURING CONSTRUCTION

CONSTRUCT CATCH DRAIN ALONG TOP OF BATTER TO DIRECT FLOWS INTO BASIN REFER TO SHEET 203 FOR DETAILS.

ROAD No.05

ROAD No.07

PROVIDE A TYPE 2 STABILISED ACCESS POINT TO COUNCIL SPECIFICATIONS. REFER TO SHEET 101 FOR DETAILS. PROVIDE LOCKABLE GATE

LOT 100 DP 1159926

LOT 1 DP 1014583

BARRIER FENCE ADJACENT TO 581 COBBITTY ROAD TO BE LOCATED WHOLLY WITHIN DEVELOPMENT SITE BOUNDARY

LOT 1 DP 1276275

LOT 1 DP 270613

COBBITTY ROAD

INSET "A"

FOR CONTINUATION REFER ABOVE

LEGEND

- CONTOURS
- STABILISED SITE ACCESS
- POSSIBLE STOCKPILE LOCATION
- BARRIER FENCE
- SEDIMENT FENCE
- CATCH DRAIN / DIVERSION SWALE
- PIT INLET FILTER (GEOTEXTILE OR MESH & GRAVEL)
- STRAW BALE FILTER
- GREEN WASTE BIN (1 x 2.5 x 2.5m)
- MASONRY WASTE BIN (1 x 2.5 x 2.5m)
- WASTE BINS x 4 - 1 x MIXED MATERIAL, 1 x PAPER / CARDBOARD, 1 x METAL & 1 x TREATED TIMBER
- SEDIMENT BASIN T3.1 CATCHMENT
- SEDIMENT BASIN T3.2 CATCHMENT
- EXTERNAL CATCHMENT

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
D	WP	AP/CS	AP/CS	AP/CS	24/03/2023	UPDATED RELFECTING S.455 APPROVAL
C	WP	AP/CS	AP/CS	AP/CS	21/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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

For: mirvac

By: Orion Consulting
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Project: LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title: SEDIMENT & EROSION CONTROL PLAN

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	100	F

EROSION & SEDIMENT CONTROL NOTES

SC1. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH LANDCOM'S 'MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION'.

SC2. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED PRIOR TO THE COMMENCEMENT OF ANY WORK BEING CARRIED OUT. ALL MEASURES SHALL BE MAINTAINED AND KEPT IN PLACE FOR THE DURATION OF THE WORKS AND MAY ONLY BE REMOVED UPON FINAL STABILISATION OF THE SITE.

SC3. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED AS INDICATED ON THE APPROVED DRAWINGS. THE ACTUAL LOCATION AND EXTENT OF SOIL AND WATER MANAGEMENT DEVICES SHALL BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT.

SC4. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF EROSION AND SEDIMENTATION TO THE SATISFACTION OF COUNCIL AND SHALL INFORM ALL SUBCONTRACTORS AND ALL EMPLOYEES OF THEIR RESPONSIBILITIES WITH REGARDS EROSION AND SEDIMENT CONTROL.

SC5. THE CONTRACTOR SHALL REGULARLY MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES TO THE SATISFACTION OF THE SUPERINTENDENT AND COUNCIL. REPAIRS AND MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED, PARTICULARLY AFTER STORM EVENTS.

SC6. A SELF AUDITING PROGRAM SHALL BE ESTABLISHED BASED ON A CHECK SHEET DEVELOPED FOR THE SITE. A SITE INSPECTION USING THE CHECK SHEET SHALL BE MADE BY THE SITE SUPERVISOR AT LEAST WEEKLY, IMMEDIATELY BEFORE SITE CLOSURE, AND IMMEDIATELY FOLLOWING RAINFALL EVENTS GREATER THAN 5 MM IN 24 HOURS.

SC7. SITE ACCESS SHALL ONLY BE ACHIEVED VIA A TRUCK SHAKER AT THE DESIGNATED ACCESS POINT AS SHOWN ON THE APPROVED PLANS. THE TRUCK SHAKER IS TO BE REGULARLY MAINTAINED TO ENSURE EFFECTIVENESS.

SC8. DUST CONTROL MEASURES SHALL BE IMPLEMENTED CONTINUOUSLY DURING CONSTRUCTION WORKS. SUCH MEASURES ARE TO BE TO THE SATISFACTION OF THE SUPERINTENDENT AND COUNCIL.

SC9. THE AREAS OVER STORMWATER AND SEWER LINES AND ELECTRICITY, TELEPHONE AND GAS SUPPLY TRENCHES ARE TO BE SEEDED AND MULCHED AS SOON AS POSSIBLE BUT NO LATER THAN WITHIN 14 DAYS AFTER BACKFILL.

SC10. NO MORE THAN 150m OF TRENCH IS TO BE OPEN AT ANY ONE TIME.

SC11. STOCKPILES SHALL BE IN LOW MOUNDS NO MORE THAN 2m HIGH AND NOT LOCATED WITHIN 5m OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS.

SC12. THE CONTRACTOR SHALL STABILISE ALL STOCKPILES AND DISTURBED AREAS, BY HYDROSEEDING OR AS DIRECTED BY THE SUPERINTENDENT OR COUNCIL, AS SOON AS THEY ARE FORMED TO FINAL LEVELS. ALL SEEDED AREAS SHALL BE WATERED AT LEAST TWICE WEEKLY UNTIL GRASS COVER IS ESTABLISHED.

SC13. ALL TEMPORARY EARTH BERMS, DIVERSION AND SEDIMENT BASIN EMBANKMENTS ARE TO BE TRACK ROLLED, SEEDED OR MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED;

SC14. ALL FILLS ARE TO BE LEFT WITH A WINDROW AT LEAST 200mm HIGH AT THE TOP OF THE SLOPE AT THE END OF EACH DAY'S EARTHWORKS, AND ALL EARTHWORK AREAS SHALL BE ROLLED EACH EVENING TO "SEAL" THE EARTHWORKS;

SC15. STABILISATION OF ALL CUT AND FILL SLOPES SHALL BE COMMENCED WITHIN 14 DAYS OF COMPLETION OF FORMATION;

SC16. UPON COMPLETION OF FINAL EARTHWORKS OR AFTER WRITTEN DIRECTION OF COUNCIL, IMMEDIATE SILT CONSERVATION TREATMENTS SHALL BE APPLIED SO AS TO RENDER AREAS THAT HAVE BEEN DISTURBED, EROSION PROOF WITHIN 14 DAYS;

SC17. ALL EROSION AND SEDIMENT CONTROL MEASURES AFFECTED BY WORKS SHALL BE RE-ESTABLISHED PRIOR TO THE COMPLETION OF EACH DAY'S WORK.

SC18. ALL TOPSOIL IS TO BE STOCKPILED ON SITE FOR RE-USE (AWAY FROM TREES AND DRAINAGE LINES). MEASURES SHALL BE APPLIED TO PREVENT EROSION OF THE STOCKPILES;

SC19. A STRIP OF TURF IS TO BE PLACED IMMEDIATELY BEHIND THE KERB AND GUTTER ON ALL NEW ROADS AND AT ADDITIONAL LOCATIONS AS DETERMINED BY THE COUNCIL ENGINEER;

SC20. TOPSOIL SHALL BE RE-SPREAD ON DISTURBED AREAS AS REQUIRED AND STABILISED AS SOON AS POSSIBLE AND WITHIN 14 DAYS OF DISTURBANCE. ALL DISTURBED AREAS SHALL BE LEFT SCARIFIED TO ENCOURAGE WATER INFILTRATION AND ASSIST WITH KEYING OF TOPSOIL.

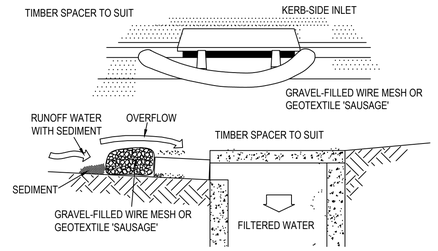
SC21. SEDIMENT BASINS SHALL BE MAINTAINED FOR THE ENTIRE DURATION OF THE PROJECT OR UNTIL SUCH TIME AS ALL DISTURBED AREAS ARE STABILISED.

SC22. ANY BASINS TO BE DE-SILTED SHALL BE FLOCCULATED TO SETTLE ANY SUSPENDED SOLIDS. UPON APPROVAL FROM COUNCIL, CLEAR WATER SHALL THEN BE PUMPED OUT IN A MANNER THAT WILL NOT CAUSE DOWNSTREAM EROSION. WHEN DRY, THE SILT SHALL BE MIXED WITH TOPSOIL FOR FUTURE SPREADING OR REMOVED FROM SITE.

SC23. THE CONTRACTOR SHALL MAINTAIN A LOGBOOK DETAILING:
- (a) RECORDS OF ALL RAINFALL;
- (b) DAILY CONDITION OF ALL EROSION AND SEDIMENT CONTROL MEASURES;
- (c) ANY APPLICATION OF FLOCCULATION AGENTS TO SEDIMENT BASINS;
- (d) METHOD AND VOLUME OF WATER DISCHARGED FROM BASINS; AND
- (e) ANY ADDITIONAL REMEDIAL WORKS REQUIRED.

THE LOGBOOK SHALL BE MADE AVAILABLE TO ANY AUTHORISED PERSON UPON REQUEST AND ISSUED TO THE PROJECT MANAGER UPON COMPLETION OF WORKS.

SC24. ALL FINAL EROSION PREVENTION MEASURES, INCLUDING ESTABLISHMENT OF GRASSING, ARE TO BE COMPLETED PRIOR TO THE SUBDIVISIONS FINAL INSPECTION.

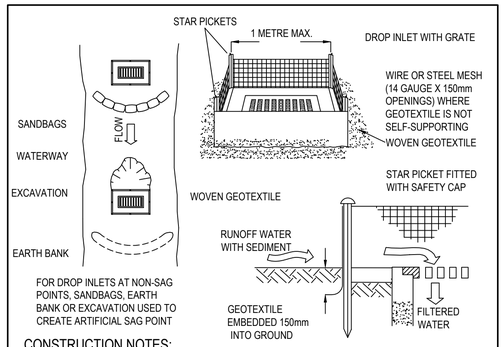


NOTE: THIS PRACTICE ONLY TO BE USED WHERE SPECIFIED IN AN APPROVED SWMP/ESCP.

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 TO 50mm GRAVEL.
3. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH X 400mm WIDE.
4. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
5. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
6. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY FIRMLY ABUT EACH OTHER AND SEDIMENT-LADEN WATERS CANNOT PASS BETWEEN.

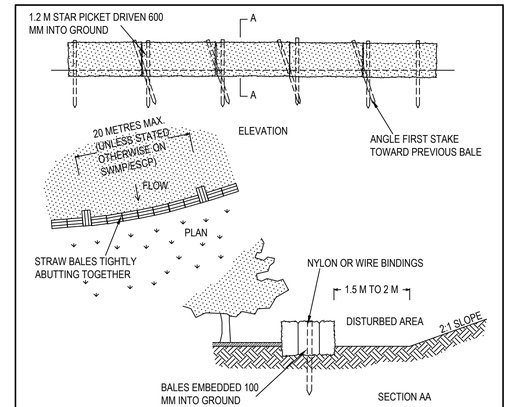
MESH AND GRAVEL INLET FILTER — SD 6-11



CONSTRUCTION NOTES:

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. FOLLOW STANDARD DRAWING 6-7 AND STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOFABRIC.REDUCE THE PICKET SPACING TO 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.

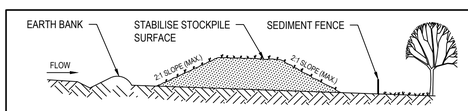
GEOTEXTILE INLET FILTER — SD 6-12



CONSTRUCTION NOTES:

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

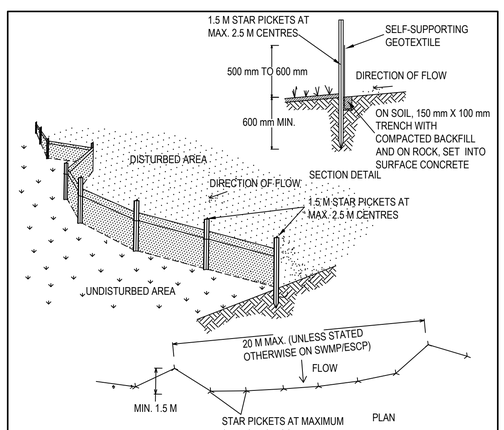
STRAW BALE FILTER — SD 6-7



CONSTRUCTION NOTES:

1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
4. ALL STOCKPILES ARE TO BE LOCATED AND PLACED IN ACCORDANCE WITH THE CONTRACTOR'S EROSION AND SEDIMENT CONTROL PLAN.
5. WHERE STOCKPILES ARE TEMPORARY (<14 DAYS) NO STABILISATION IS REQUIRED. REVIEW THE ADEQUACY OF SEDIMENT CONTROLS IF RAINFALL IS PREDICTED.
6. WHERE STOCKPILES ARE TEMPORARY (<14 DAYS) THE FOLLOWING ADDITIONAL CONTROLS ARE REQUIRED:
   -MAXIMUM BATTER SLOPE REDUCED TO 1:4
   -CONSTRUCT A CONTOUR DRAIN ON THE LOW SIDE OF THE STOCKPILE, AND DISCHARGING THROUGH A STRAW BALE OR 200mm HIGH GRAVEL DAM
   -ESTABLISH GRASS COVER TO SURFACE OF STOCKPILE WITHIN 14 DAYS, USING HYDROMULCH WITH A 75:25 MIX OF SEASONAL AND PERMANENT GRASS SEEDS, AND A STRAW MULCH THICKNESS OF NO LESS THAN 5mm.
7. CONSTRUCT EARTH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWING 6-8) 1 TO 2 METRES DOWNSLOPE.

STOCKPILES — SD 4-1



CONSTRUCTION NOTES:

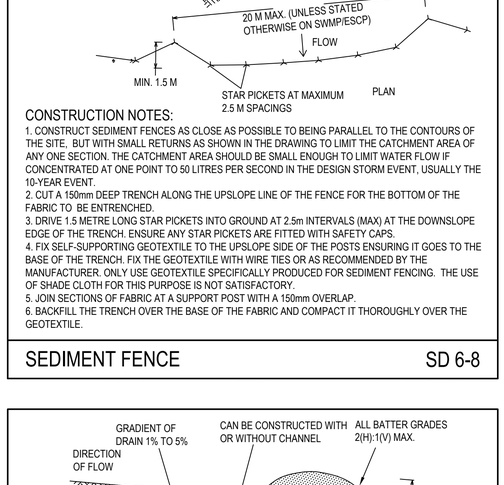
1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY THE 10-YEAR EVENT.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND AT 2.5m INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

SEDIMENT FENCE — SD 6-8

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 500 MM DEEP AND 1,200 MM 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 100 MM TO HELP BOND COMPACTED FILL TO THE EXISTING SUBSTRATE.
6. SPREAD THE FILL IN 100 MM TO 150 MM 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
(APPLIES TO 'TYPE D' AND 'TYPE F' SOILS ONLY) — SD 6-4



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.

EARTH BANK (LOW FLOW) — SD 5-5

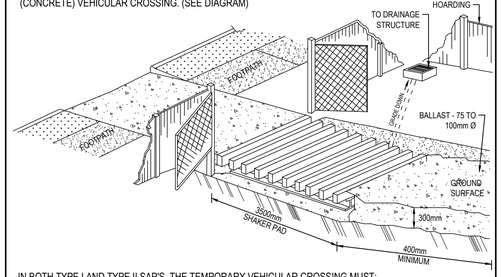
CONSTRUCTION NOTES:

1. INSTALL A 400mm MINIMUM WIDE ROLL OF TURF ON THE FOOTPATH NEXT TO THE KERB AND AT THE SAME LEVEL AS THE TOP OF THE KERB.
2. LAY 1.4 METRE LONG TURF STRIPS NORMAL TO THE KERB EVERY 10m.
3. REHABILITATE DISTURBED SOIL BEHIND THE TURF STRIP FOLLOWING THE ESCP/SWMP.

KERBSIDE TURF STRIP — SD 6-13

STABILISED ACCESS POINT-TYPE 2

THE TYPE II SAP DESIGN IS MORE DEFINED IN THAT IT REQUIRES AN AREA OF BALLAST WITHIN THE SITE COMBINED WITH A SHAKER PAD; ADJACENT THE SHAKER PAD AND IN THE PUBLIC WAY IS A TEMPORARY (CONCRETE) VEHICULAR CROSSING. (SEE DIAGRAM)



IN BOTH TYPE I AND TYPE II SAP'S, THE TEMPORARY VEHICULAR CROSSING MUST:
- CONNECT TO AN EXISTING GUTTER LAYBACK (WHERE THE KERB AND GUTTER EXIST) . IF A GUTTER LAYBACK DOES NOT EXIST THEN THE CONNECTION MUST BE MADE TO THE GUTTER BY REMOVING THE ADJCENT KERB SECTION ONLY.
- CONNECT TO A DISH CROSSING (WHERE KERB AND GUTTER DOES NOT EXIST). IF A DISH CROSSING DOES NOT EXIST, THEN IT MUST BE CONSTRUCTED IN ACCORDANCE WITH DETAILS CONTAINED IN COUNCIL'S ISSUED FOOTPATH CROSSING LEVELS.

IT SHOULD BE NOTED THAT THESE TYPES OF SAPS ARE CONSIDERED TO BE APPLICABLE FOR THE MAJORITY OF ACTIVITIES HOWEVER SOME SITES MAY REQUIRE SPECIAL CONSIDERATION.

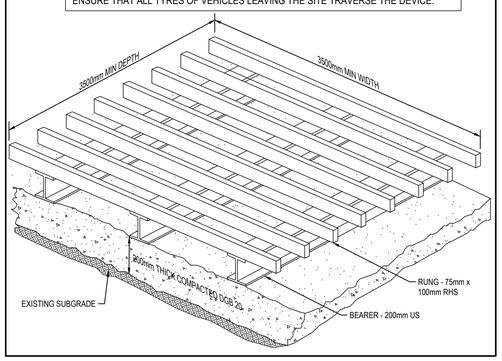
SHAKER PAD (CATTLE GRID)

A CORRECTLY DESIGNED AND INSTALLED SHAKER PAD WILL ASSIST IN PREVENTING SEDIMENT TRANSFERE FROM A SITE. ANY STABILISED ACCESS POINT (SAP) CAN BE DESIGNED WITH A SHAKER PAD (COMPULSOPRY IN TYPE II SAP'S)

SHAKER PADS CAN BE DESIGNED AND CONSTRUCTED TO ENABLE RE-USE ON FUTURE PROJECTS.

THE SHAKER PAD:
- MUST BE DESIGNED AND CERTIFIED BY A PRACTICING STRUCTURAL ENGINEER. THE CERTIFIED DESIGN SHOULD BE SUBMITTED WITH THE RELEVENT APPLICATION.
- CAN BE CONSTRUCTED FROM ANY SUITABLE MATERIAL.
- MUST BE LOCATED ON A SUITABLY PREPARED AND COMPACTED SUB-GRADE/BASE MATERIAL.
- MUST BE SITUATED SUCH THAT THE RUNGS OF THE SHAKER PAD ARE LEVEL WITH THE ADJOINING NATURAL SURFACE.
- MUST BE A MINIMUM OF 3.5m IN LENGTH.
- MUST BE A MINIMUM OF 3.5m IN WIDTH.
- MUST HAVE CLEAR SPACING BETWEEN RUNGS OF 200 - 250mm.
- RUNGS MUST HAVE A MAXIMUM WIDTH (BEARING AREA) OF 75mm.
- MUST HAVE A MINIMUM CLEAR DEPTH OF 300mm IE FORM THE ROP OF THE RUNG TO THE FINISHED SUB-GRADE/BASE LEVEL.

THE SHAKER PAD MUST BE PROVIDED WITH SUITABLE BARRIERS AT THE SIDES TO ENSURE THAT ALL TYRES OF VEHICLES LEAVING THE SITE TRAVERSE THE DEVICE.



WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	21/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:

For: mirvac

By: Orion Consulting
JAS-ANZ SUSTAINABLE CERTIFICATION ISO 9001 ISO 14001 ISO 45001 WWW.JAS-ANZ.ORG/REGISTER
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project: LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title: SEDIMENT & EROSION CONTROL NOTES & DETAILS

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	101	E

FOR CONTINUATION REFER TO SHEET SWC 201

NORTH

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

CONSTRUCT 1.2m WIDE FOOTPATH TO COUNCIL STANDARD

EXTEND EXISTING PIPES AND CONSTRUCT NEW ROCK APRON.

REFER SHEETS SWC 206-207 FOR DETAILS ON PROPOSED ROUNDABOUT LAYOUT

EXISTING ELECTRICAL OVERHEAD LINES/ POLES TO BE REMOVED/RELOCATED SUBJECT TO ELECTRICAL DESIGN AND APPROVAL

ADJUST MANHOLE TO SUIT PROPOSED FINISH SURFACE LEVELS

CHARLES MCINTOSH PKWY

ALL EXISTING TREES WITHIN PROXIMITY OF WORKS TO REMAIN UNDISTURBED DURING CONSTRUCTION

CONSTRUCT VEGETATED SWALE PLANTED WITH EFFECTIVE NUTRIENT REMOVAL PLANTS. REFER TO SHEET SWC 300 FOR TYPICAL DETAIL.

CONSTRUCT 2.5m WIDE SHARED PATH TO COUNCIL STANDARD

COBBITTY CREEK

1V:5H MAX. BATTER TO EXISTING LEVELS

EXISTING 3 x 600 RCP CULVERTS TO BE RETAINED. CULVERT EXTENSION AND NEW HEADWALL ON NORTH SIDE (OUTLET). REFER DRAINAGE LONG SECTIONS

1V:5H MAX. BATTER TO EXISTING LEVELS

BM SSM 18303
R.L.75.154 (A.H.D.)

LOT 100
DP 1159926

BREAK INTO EXISTING STORMWATER PIPE AND CONSTRUCT NEW KERB INLET PIT AT SAG

1V:5H MAX. BATTER TO EXISTING LEVELS

EXISTING ELECTRICAL OVERHEAD LINES/ POLES TO BE REMOVED/RELOCATED SUBJECT TO ELECTRICAL DESIGN AND APPROVAL

BREAK INTO EXISTING STORMWATER PIPE AND CONSTRUCT NEW KERB INLET PIT

MILL AND RESHEET EXISTING PAVEMENT TO MATCH EXISTING BITUMEN LEVELS. MAKE GOOD EXISTING CONSTRUCTION.

GROVE ROAD

LOT 1
DP 270613

EXISTING 5 x RCP CULVERTS TO BE RETAINED

COBBITTY ROAD

BM SSM 18301
R.L.73.93 (A.H.D.)

LOT 1
DP 270613

TEMP BASIN T3.2

NOT CONSTRUCTED
TEMPORARY GPT

REFER TO SHEET SWC 604 FOR BASIN SECTIONS AND DETAILS

TEMPORARY TRAFFICABLE 900 SQ. GRATE TO BE CONVERTED TO E.K.I. WITH LINTEL AT FUTURE STAGE

ROAD No.05

PROVIDE CAPPED STUB FOR FUTURE CONNECTION

CONSTRUCT TEMPORARY TURNING HEAD WITH REFLECTORISED GUIDE POSTS AT 1.5 C/C

PROVIDE CATCH DRAIN ALONG TOP OF BATTER TO DIRECT FLOWS INTO BASIN REFER TO DETAIL 'A' ON SHEET 203
NOT CONSTRUCTED

TEMPORARY PEDESTRIAN FENCING

PROVIDE CAPPED STUB FOR FUTURE CONNECTION

1V:5H MAX. BATTER TO EXISTING LEVELS

ROAD No.07

PROVIDE CAPPED STUB FOR FUTURE CONNECTION

LOCALLY GRADE OUT FLAT SPOT

CONSTRUCT TEMPORARY TURNING HEAD WITH REFLECTORISED GUIDE POSTS AT 1.5 C/C

TEMPORARY TRAFFICABLE 900 SQ. GRATE TO BE CONVERTED TO E.K.I. WITH LINTEL AT FUTURE STAGE

FOR CONTINUATION REFER TO SHEET SWC 203

LEGEND

LIMIT OF WORKS BOUNDARY	
DENOTES TRANSITION PAVEMENT	
DENOTES PRE-DEVELOPED 100YR ARI FLOOD LEVEL EXTENT	
DENOTES 100YR ARI + 500mm FREEBOARD FLOOD LEVEL EXTENT	
DENOTES 5YR ARI FLOOD LEVEL EXTENT	
INDICATIVE DRIVEWAY LOCATIONS (NOT PART OF CIVIL WORKS)	
DENOTES ROOF WATER CONNECTION IN KERB TO COUNCIL STANDARD	

WAE LEGEND

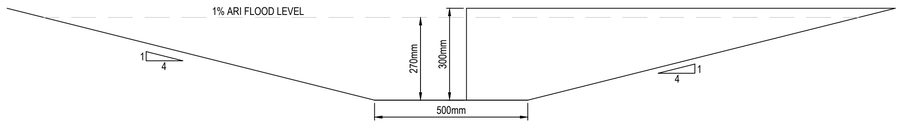
- DENOTES 100YR ARI FLOOD LEVEL EXTENT
- DENOTES 100YR ARI FPL EXTENT
- DENOTES 5YR ARI FLOOD LEVEL EXTENT
- DENOTES PMF EXTENT

SUPPLIED BY CHRISTOPHER SCHOLES (ORION GROUP)
REFER TO FLOOD MODEL DATA FOR MORE DETAIL.

EASEMENTS	
(A)	DENOTES 0.9m WIDE MAINTENANCE EASEMENT
(B)	DENOTES 1.5m WIDE DRAINAGE EASEMENT

NOTE:

- FOR ALL INTERNAL WALLS AND BATTERS REFER TO SHEETS SWC 700-712 FOR RETAINING WALL AND LOT BENCHING DETAILS.



C = 0.4
I_{100} = 223mm/hr
A = 2.17 Ha

CIA = 0.538 m^3/s
CHANNEL SLOPE = 2.0% (MAX)
CHANNEL CAPACITY = 0.636 m^3/s

VELOCITY (MAX.) = 1.25 m/s
MAJOR VxD (MAX.) = 0.374

DETAIL 'A' - COBBITTY ROAD CATCH DRAIN SECTION
NTS

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	21/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 5 10 15 20 25 30 35 40 45 50
SCALE 1:500 (A1) SCALE 1:1000 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
ENGINEERING PLAN
SHEET 01 OF 04

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	200	F

NORTH

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

WAE LEGEND

- DENOTES 100YR ARI FLOOD LEVEL EXTENT
- DENOTES 100YR ARI FPL EXTENT
- DENOTES 5YR ARI FLOOD LEVEL EXTENT
- DENOTES PMF EXTENT

SUPPLIED BY CHRISTOPHER SCHOLES (ORION GROUP)
REFER TO FLOOD MODEL DATA FOR MORE DETAIL.

EASEMENTS	
(A)	DENOTES 0.9m WIDE MAINTENANCE EASEMENT
(B)	DENOTES 1.5m WIDE DRAINAGE EASEMENT
(C)	DENOTES 2.0m WIDE DRAINAGE EASEMENT

LEGEND

- LIMIT OF WORKS BOUNDARY
- INDICATIVE DRIVEWAY LOCATIONS (NOT PART OF CIVIL WORKS)
- RETAINING WALL
- LANDSCAPING WALL
- MASONRY WALL
- MASONRY WALL WITH OFFSET FOOTING
- DENOTES 100YR ARI FLOOD LEVEL EXTENT
- DENOTES 100YR ARI + 500mm FREEBOARD FLOOD LEVEL EXTENT
- DENOTES 5YR ARI FLOOD LEVEL EXTENT
- DENOTES ROOF WATER CONNECTION IN KERB TO COUNCIL STANDARD
- DENOTES PROPOSED SUBSTATION PAD LOCATION AND EASEMENTS. ENSURE A FLAT PAD IS PROVIDED FOR PLINTH.

NOTE:

- FOR ALL INTERNAL WALLS AND BATTERS REFER TO SHEETS SWC 700-712 FOR RETAINING WALL AND LOT BENCHING DETAILS.

CONSTRUCT TEMPORARY STACKED ROCK RETAINING WALL TO COUNCIL STANDARD. REFER TO SHEET SWC 701 FOR DETAIL

PROVIDE JERSEY KERBS

LIMIT OF ROAD WORKS CH 306.010

PROVIDE PEDESTRIAN SAFETY FENCE

EXISTING SERVICE ROAD TO SEWER PUMP STATION

EXISTING VEGETATION

EXISTING ELECTRICAL OVERHEAD LINES/ POLES TO BE REMOVED/RELOCATED SUBJECT TO ELECTRICAL DESIGN AND APPROVAL

HIGH FLOW BYPASS TAILOUT DRAIN

EXISTING MANHOLE DESIGN AND FOUNDATION MATERIAL TO BE VERIFIED BY A SUITABLY QUALIFIED STRUCTURAL ENGINEER. ADJUST MANHOLE PIT LEVEL TO SUIT PROPOSED FINISH SURFACE LEVELS

CONSTRUCT TEMPORARY 3m WIDE SWALE REFER SHEETS SWC 600-603 FOR SECTIONS AND DETAILS

REFER SHEETS SWC 600-603 FOR DAM INTERFACE AND OUTLET CONFIGURATION DETAILS & SECTIONS

CONSTRUCT 2.5m WIDE SHARED PATH TO COUNCIL STANDARD

PROPOSED NEW 4.5m WIDE SERVICE ROAD AND LOCKABLE GATE

CONSTRUCT 1.2m WIDE FOOTPATH TO COUNCIL STANDARD

ROAD No.01

CAPPED STUB FOR FUTURE CONNECTION.

PROVIDE CAPPED STUB FOR FUTURE CONNECTION

CONSTRUCT 2.5m WIDE SHARED PATH TO COUNCIL STANDARD

MIN. 15m LONG, 1m WIDE VEGETATED SWALE PLANTED WITH EFFECTIVE NUTRIENT REMOVAL PLANTS. REFER SHEET SWC 300 FOR TYPICAL DETAIL.

REFER SHEET SWC 606 FOR CULVERT AND HEADWALL DETAILS

PROVIDE PEDESTRIAN SAFETY FENCE

CONSTRUCT TEMPORARY TURNING HEAD WITH REFLECTORISED GUIDE POSTS AT 1.5 C/C

TEMPORARY PEDESTRIAN FENCING

TEMPORARY TRAFFICABLE 900 SQ. GRATE TO BE CONVERTED TO E.K.I. WITH LINTEL AT FUTURE STAGE

PROVIDE CAPPED STUB FOR FUTURE CONNECTION

TEMPORARY GPT NOT CONSTRUCTED

LIMIT OF ROAD WORKS CH 1287.008

REFER TO SHEET SWC 604 FOR BASIN SECTIONS AND DETAILS

TEMP BASIN T3.2

LIMIT OF ROAD WORKS CH 74.170

TEMPORARY GPT NOT CONSTRUCTED

CONSTRUCT VEGETATED SWALE PLANTED WITH EFFECTIVE NUTRIENT REMOVAL PLANTS. REFER SHEET SWC 300 FOR TYPICAL DETAIL.

CHARLES MCINTOSH PKWY

ROAD No.02

ROAD No.03

ROAD No.05

LOT 2
DP 1276275

FOR CONTINUATION REFER TO SHEET SWC 200

FOR CONTINUATION REFER TO SHEET SWC 202

FOR CONTINUATION REFER TO SHEET SWC 203

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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Rev	Drawn	Design	Check	Appd.	Date	Revision Description

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JAS-ANZ SUSTAINABLE CERTIFICATION ISO 9001 ISO 14001 WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
ENGINEERING PLAN
SHEET 02 OF 04

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	201	F

NORTH

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

WAE LEGEND

- DENOTES 100YR ARI FLOOD LEVEL EXTENT
- DENOTES 100YR ARI FPL EXTENT
- DENOTES 5YR ARI FLOOD LEVEL EXTENT
- DENOTES PMF EXTENT

SUPPLIED BY CHRISTOPHER SCHOLES (ORION GROUP)
REFER TO FLOOD MODEL DATA FOR MORE DETAIL.

LEGEND

- LIMIT OF WORKS BOUNDARY
- INDICATIVE DRIVEWAY LOCATIONS (NOT PART OF CIVIL WORKS)
- RETAINING WALL
- LANDSCAPING WALL
- DENOTES 100YR ARI FLOOD LEVEL EXTENT
- DENOTES 100YR ARI + 500mm FREEBOARD FLOOD LEVEL EXTENT
- DENOTES 5YR ARI FLOOD LEVEL EXTENT
- DENOTES ROOF WATER CONNECTION IN KERB TO COUNCIL STANDARD
- DENOTES PROPOSED SUBSTATION PAD LOCATION AND EASEMENTS. ENSURE A FLAT PAD IS PROVIDED FOR PLINTH.

NOTE:

- FOR ALL INTERNAL WALLS AND BATTERS REFER TO SHEETS SWC 700-712 FOR RETAINING WALL AND LOT BENCHING DETAILS.

EASEMENTS	
(A)	DENOTES 0.9m WIDE MAINTENANCE EASEMENT
(B)	DENOTES 1.5m WIDE DRAINAGE EASEMENT
(C)	DENOTES 2.0m WIDE DRAINAGE EASEMENT

EXISTING FARM DAM

LOT 5 DP 1276275

LOT 4 DP 1276275

LOT 1 DP 1014583

RESIDUE LOT 318

REFER SHEETS SWC 600-603 FOR DAM INTERFACE DETAILS

REFER SHEETS SWC 600-603 FOR BASIN SECTIONS AND DETAILS

TEMP BASIN T3.1

EXISTING MANHOLE DESIGN AND FOUNDATION MATERIAL TO BE VERIFIED BY A SUITABLY QUALIFIED STRUCTURAL ENGINEER. ADJUST MANHOLE PIT LEVEL TO SUIT PROPOSED FINISH SURFACE LEVELS

TEMPORARY GPT AND MAINTENANCE BAY

CONSTRUCT 1.2m WIDE FOOTPATH TO COUNCIL STANDARD

CONSTRUCT 2.5m WIDE SHARED PATH TO COUNCIL STANDARD

LIMIT OF ROAD WORKS CH 420.485

PROVIDE CAPPED STUB FOR FUTURE CONNECTION

TEMPORARY JUNCTION PIT TO BE CONVERTED TO E.K.I. WITH LINTEL AT FUTURE STAGE

PROVIDE CAPPED STUB FOR FUTURE CONNECTION

CONSTRUCT TEMPORARY TURNING HEAD WITH REFLECTORISED GUIDE POSTS AT 1.5 C/C

BATTER MAX 1V:4H

CONSTRUCT DIVERSION CHANNEL TO DEFLECT UPSTREAM UNDISTURBED FLOWS AROUND DEVELOPMENT FOOTPRINT. REFER TO SHEET SWC 300 FOR TYPICAL DETAIL.

TEMPORARY TRAFFICABLE 900 SQ. GRATE TO BE CONVERTED TO E.K.I. WITH LINTEL AT FUTURE STAGE

PROVIDE CAPPED STUB FOR FUTURE CONNECTION

LIMIT OF ROAD WORKS KTP 99.217

CONSTRUCT TEMPORARY TURNING HEAD WITH REFLECTORISED GUIDE POSTS AT 1.5 C/C

SURFACE INLET PIT LOCATED IN CORNER OF LOT 87 TO FACILITATE OVERLAND FLOW DRAINAGE FROM LOT 1 IN DP 1014583

MATCH TO EXISTING LEVELS AT BOUNDARY

PROVIDE CAPPED STUB FOR FUTURE CONNECTION

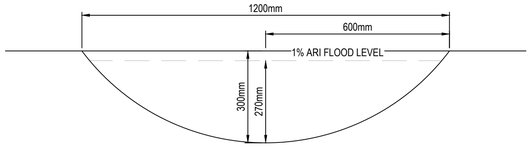
CONSTRUCT UNIFORM BOUNDARY FENCE ALONG COMMON BOUNDARY WITH 581 COBBITTY ROAD

CONSTRUCT SPOON DRAIN TO DEFLECT LOCAL UPSTREAM SHEET FLOW INTO DIVERSION CHANNEL
NOT CONSTRUCTED REFER TO DETAIL 'A'.

TEMPORARY TRAFFICABLE 900 SQ. GRATE TO BE CONVERTED TO SAG PIT AT FUTURE STAGE

PROVIDE CAPPED STUB FOR FUTURE CONNECTION

ROAD No.01
ROAD No.02
ROAD No.03
ROAD No.11
ROAD No.12
ROAD No.13



C = 0.4
$^{100}I_5$ = 223mm/hr
A = 1.023 Ha

CIA = 0.256 m^3/s
CHANNEL SLOPE = 2.0% (MAX)
CHANNEL CAPACITY = 0.329 m^3/s

VELOCITY (MAX.) = 1.296 m/s
MAJOR VxD (MAX.) = 0.389

DETAIL 'A' - SPOON DRAIN SECTION
NTS

FOR CONTINUATION REFER TO SHEET SWC 201

FOR CONTINUATION REFER TO SHEET SWC 203

FOR CONTINUATION REFER TO SHEET SWC 203

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
C	WP	AP/CS	AP/CS	AP/CS	21/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 5 10 15 20 25 30 35 40 45 50
SCALE 1:500 (A1) SCALE 1:1000 (A3)

For: mirvac

By: Orion Consulting
JAS-ANZ
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
ENGINEERING PLAN
SHEET 03 OF 04

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	202	F

FOR CONTINUATION REFER TO SHEET SWC 201

FOR CONTINUATION REFER TO SHEET SWC 202

FOR CONTINUATION REFER TO SHEET SWC 200

NORTH

TEMP BASIN T3.2

LIMIT OF ROAD WORKS CH 74.170

REFER TO SHEET SWC 604 FOR BASIN SECTIONS AND DETAILS

TEMPORARY GPT NOT CONSTRUCTED

TEMPORARY TRAFFICABLE 900 SQ. GRATE TO BE CONVERTED TO E.K.I. WITH LINTEL AT FUTURE STAGE

CONSTRUCT TEMPORARY TURNING HEAD WITH REFLECTORISED GUIDE POSTS AT 1.5 C/C

PROVIDE CAPPED STUB FOR FUTURE CONNECTION

PROVIDE CATCH DRAIN ALONG TOP OF BATTER TO DIRECT FLOWS INTO BASIN REFER TO DETAIL 'A' BELOW NOT CONSTRUCTED

TEMPORARY PEDESTRIAN FENCING

LIMIT OF ROAD WORKS CH 86.255

ROAD No.05

ROAD No.07

ROAD No.03

RW10 RW11 RW12 RW13 RW14 RW15 RW16 RW17

LOT 1 DP 1014583

CONSTRUCT UNIFORM BOUNDARY FENCE ALONG COMMON BOUNDARY WITH No.581 COBBITTY ROAD

LIMIT OF ROAD WORKS CH 266.604

BATTER MAX. 1V:4H TO MATCH EXISTING LEVELS AT BOUNDARY

PROVIDE CAPPED STUB FOR FUTURE CONNECTION

CONSTRUCT TEMPORARY TURNING HEAD WITH REFLECTORISED GUIDE POSTS AT 1.5 C/C

TEMPORARY TRAFFICABLE 900 SQ. GRATE TO BE CONVERTED TO E.K.I. WITH LINTEL AT FUTURE STAGE

PROVIDE TEMPORARY DRIVEWAY CONNECTION FOR EXISTING SERVICE TRACK.

ADJUST EXISTING DRIVEWAY ALIGNMENT TO MISS PROPOSED STORMWATER PIT.

CONSTRUCT 1.2m WIDE FOOTPATH TO COUNCIL STANDARD

LOT 1 DP 1276275

BM SSM 18301 R.L.73.93 (A.H.D.)

COBBITTY ROAD

LOT 1 DP 270613

LEGEND

- LIMIT OF WORKS BOUNDARY
- INDICATIVE DRIVEWAY LOCATIONS (NOT PART OF CIVIL WORKS)
- RETAINING WALL
- LANDSCAPING WALL
- MASONRY WALL
- MASONRY WALL WITH OFFSET FOOTING
- DENOTES 100YR ARI FLOOD LEVEL EXTENT
- DENOTES 100YR ARI + 500mm FREEBOARD FLOOD LEVEL EXTENT
- DENOTES 5YR ARI FLOOD LEVEL EXTENT
- DENOTES ROOF WATER CONNECTION IN KERB TO COUNCIL STANDARD
- DENOTES PROPOSED SUBSTATION PAD LOCATION AND EASEMENTS. ENSURE A FLAT PAD IS PROVIDED FOR PLINTH.

NOTE:

- FOR ALL INTERNAL WALLS AND BATTERS REFER TO SHEETS SWC 700-712 FOR RETAINING WALL AND LOT BENCHING DETAILS.

EASEMENTS	
(A)	DENOTES 0.9m WIDE MAINTENANCE EASEMENT
(B)	DENOTES 1.5m WIDE DRAINAGE EASEMENT
(C)	DENOTES 2.0m WIDE DRAINAGE EASEMENT

WORKS AS EXECUTED

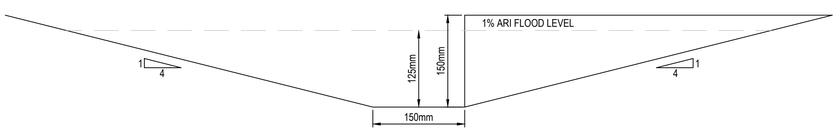
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

WAE LEGEND

- DENOTES 100YR ARI FLOOD LEVEL EXTENT
- DENOTES 100YR ARI FPL EXTENT
- DENOTES 5YR ARI FLOOD LEVEL EXTENT
- DENOTES PMF EXTENT

SUPPLIED BY CHRISTOPHER SCHOLES (ORION GROUP)
REFER TO FLOOD MODEL DATA FOR MORE DETAIL.



C = 0.4
$^{100}I_5$ = 223mm/hr
A = 0.21 Ha

CIA = 0.053 m^3/s
CHANNEL SLOPE = 2.0% (MAX)
CHANNEL CAPACITY = 0.085 m^3/s

VELOCITY (MAX.) = 0.76 m/s
MAJOR VxD (MAX.) = 0.114

DETAIL 'A' - CATCH DRAIN SECTION

NTS

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
D	WP	AP/CS	AP/CS	AP/CS	24/03/2023	UPDATED RELFECTING S.455 APPROVAL
C	WP	AP/CS	AP/CS	AP/CS	21/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale: 0 5 10 15 20 25 30 35 40 45 50
SCALE 1:500 (A1) SCALE 1:1000 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

JAS-ANZ SUSTAINABLE IDENTIFICATION ISO 9001 ISO 14001 ISO 45001 WWW.JAS-ANZ.ORG/REGISTER

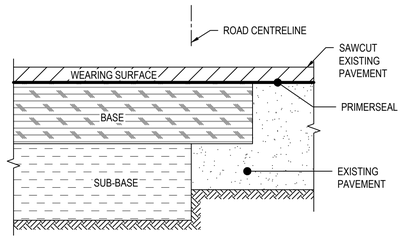
Project: LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title: ENGINEERING PLAN
SHEET 04 OF 04

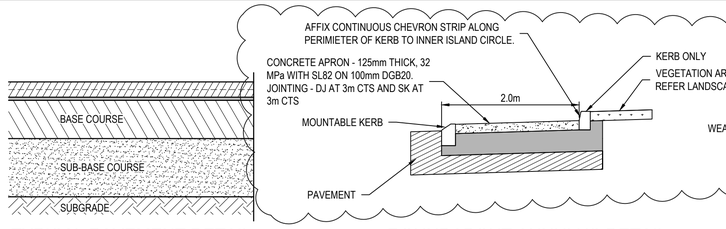
Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	203	F

LEGEND

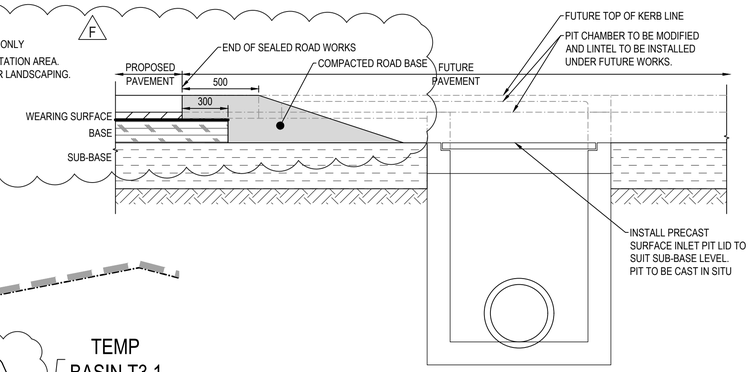
- EXISTING ROAD PAVEMENT. REFER TO DOUGLAS PARTNERS PAVEMENT REPORT 92323.07 R.002
- PROPOSED DEEP LIFT BUILD UP ON EXISTING ROAD PAVEMENT
- CONCRETE THRESHOLD
- PROPOSED FULL DEPTH DEEP LIFT
- PROPOSED FULL DEPTH PAVEMENT
- PROPOSED 75mm AC LAYER
- PROPOSED PAVEMENT TYPE 1
- PROPOSED PAVEMENT TYPE 2
- PROPOSED PAVEMENT TYPE 3
- PROPOSED PAVEMENT TYPE 4
- 150mm THICK CONCRETE, 32 MPa WITH SL82 ON 50mm BEDDING SAND
- PROPOSED 2.5m SHARED PATH. REFER TO CAMDEN COUNCIL STANDARD DRAWING SD05
- PROPOSED 1.5m FOOTPATH. REFER TO CAMDEN COUNCIL STANDARD DRAWING SD05
- INDICATIVE DRIVEWAY LOCATION (NOT PART OF CIVIL WORKS)
- PROPOSED ROUNDABOUT ANNULUS
  1. XX
  2. XX
  (VEGETATION AREA TO BE CONFIRMED)
- PROPOSED SPLITTER ISLAND AND MEDIANS. REFER TYPICAL STRUCTURAL DETAIL FOR FURTHER INFORMATION. (VEGETATION AREA TO BE CONFIRMED)



TYPICAL PAVEMENT JOINT
PAVEMENT JOINT WITH EXISTING PAVEMENT
SCALE: NOT TO SCALE



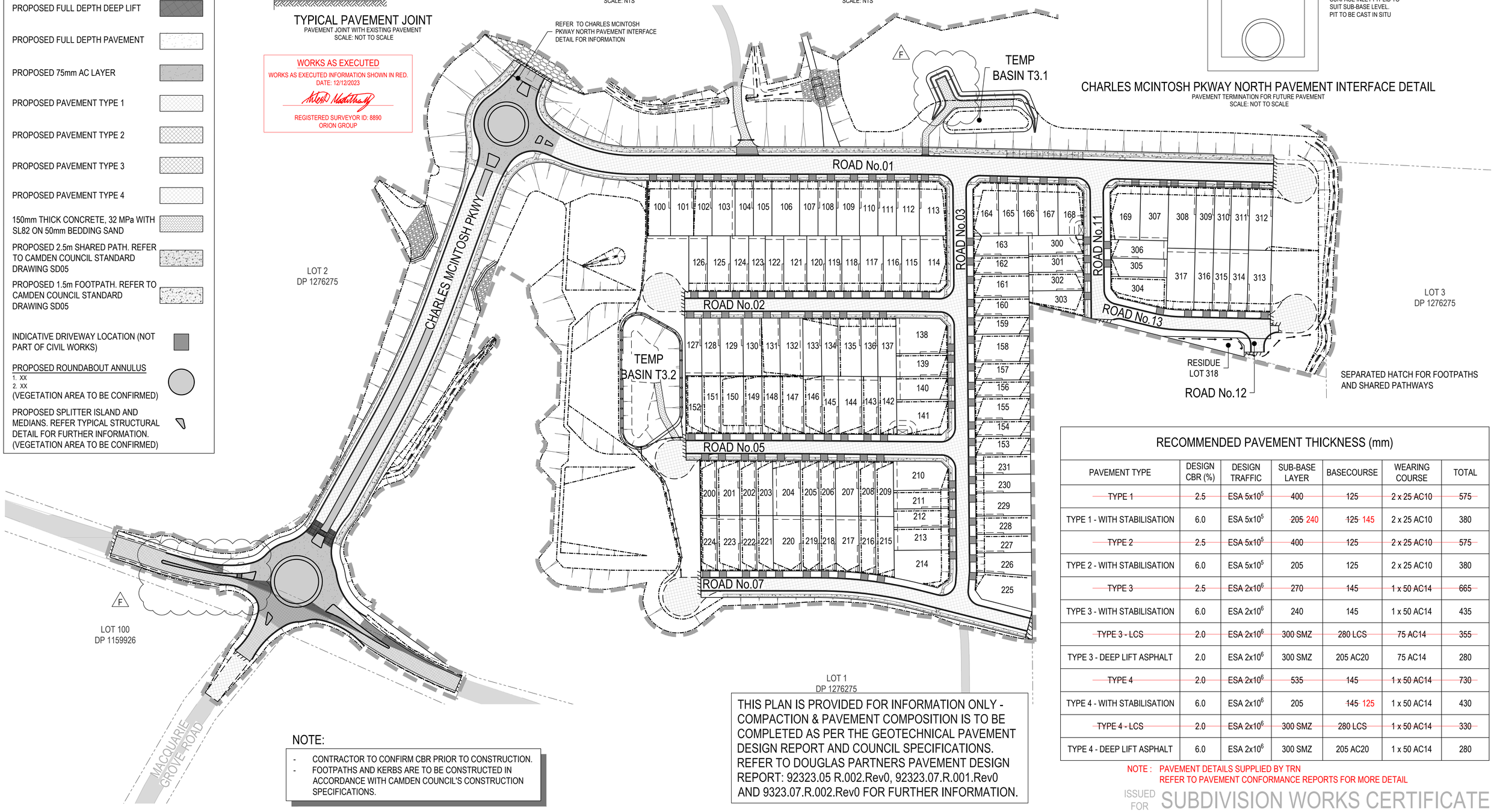
TYPICAL PAVEMENT DETAIL
SCALE: NTS



ROUNDABOUT ANNULUS DETAIL
SCALE: NTS

NORTH

WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP



CHARLES MCINTOSH PKWAY NORTH PAVEMENT INTERFACE DETAIL
PAVEMENT TERMINATION FOR FUTURE PAVEMENT
SCALE: NOT TO SCALE

SEPARATED HATCH FOR FOOTPATHS AND SHARED PATHWAYS

RECOMMENDED PAVEMENT THICKNESS (mm)

PAVEMENT TYPE	DESIGN CBR (%)	DESIGN TRAFFIC	SUB-BASE LAYER	BASECOURSE	WEARING COURSE	TOTAL
~~TYPE 1~~	~~2.5~~	~~ESA 5x10^5~~	~~400~~	~~125~~	~~2 x 25 AC10~~	~~575~~
TYPE 1 - WITH STABILISATION	6.0	ESA 5x10^5	205 240	125 145	2 x 25 AC10	380
~~TYPE 2~~	~~2.5~~	~~ESA 5x10^5~~	~~400~~	~~125~~	~~2 x 25 AC10~~	~~575~~
TYPE 2 - WITH STABILISATION	6.0	ESA 5x10^5	205	125	2 x 25 AC10	380
~~TYPE 3~~	~~2.5~~	~~ESA 2x10^6~~	~~270~~	~~145~~	~~1 x 50 AC14~~	~~665~~
TYPE 3 - WITH STABILISATION	6.0	ESA 2x10^6	240	145	1 x 50 AC14	435
~~TYPE 3 - LCS~~	~~2.0~~	~~ESA 2x10^6~~	~~300 SMZ~~	~~280 LCS~~	~~75 AC14~~	~~355~~
TYPE 3 - DEEP LIFT ASPHALT	2.0	ESA 2x10^6	300 SMZ	205 AC20	75 AC14	280
~~TYPE 4~~	~~2.0~~	~~ESA 2x10^6~~	~~535~~	~~145~~	~~1 x 50 AC14~~	~~730~~
TYPE 4 - WITH STABILISATION	6.0	ESA 2x10^6	205	145 125	1 x 50 AC14	430
~~TYPE 4 - LCS~~	~~2.0~~	~~ESA 2x10^6~~	~~300 SMZ~~	~~280 LCS~~	~~1 x 50 AC14~~	~~330~~
TYPE 4 - DEEP LIFT ASPHALT	6.0	ESA 2x10^6	300 SMZ	205 AC20	1 x 50 AC14	280

NOTE : PAVEMENT DETAILS SUPPLIED BY TRN
REFER TO PAVEMENT CONFORMANCE REPORTS FOR MORE DETAIL

NOTE:
- CONTRACTOR TO CONFIRM CBR PRIOR TO CONSTRUCTION.
- FOOTPATHS AND KERBS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH CAMDEN COUNCIL'S CONSTRUCTION SPECIFICATIONS.

THIS PLAN IS PROVIDED FOR INFORMATION ONLY - COMPACTION & PAVEMENT COMPOSITION IS TO BE COMPLETED AS PER THE GEOTECHNICAL PAVEMENT DESIGN REPORT AND COUNCIL SPECIFICATIONS. REFER TO DOUGLAS PARTNERS PAVEMENT DESIGN REPORT: 92323.05 R.002.Rev0, 92323.07.R.001.Rev0 AND 9323.07.R.002.Rev0 FOR FURTHER INFORMATION.

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	21/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0
SCALE 1:20 (A1) SCALE 1:40 (A3)
0 20 40 60 80 100 120 140 160 180 200
SCALE 1:2000 (A1) SCALE 1:4000 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au
JAS-ANZ WWW.JAS-ANZ.ORG/REGISTER

Project: LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title: PAVEMENT PLAN

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	204	F

NORTH

WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP

LOT 455
DP 1103936

LOT 4
DP 1276275

LOT 5
DP 1276275

LOT 13
DP 604645

LOT 2
DP 1276275

LOT 3
DP 1276275

LOT 1
DP 1014583

LOT 100
DP 1159926

LOT 1
DP 270613

LOT 1
DP 1276275

TEMP
BASIN T3.1

TEMP
BASIN T3.2

RESIDUE
LOT 318

CHARLES MCINTOSH PKWY

SWALE 01

ROAD No.01

ROAD No.02

ROAD No.03

ROAD No.05

ROAD No.07

ROAD No.1

ROAD No.13

ROAD No.12

MACQUARIE
GROVE ROAD

COBBITTY ROAD

SETOUT TABLE - SWALE 01							
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH
IP 1	0.000	288495.150	6233924.430	72.090	43°36'55.62"		
TC	5.670	288499.060	6233928.540	72.060	43°36'55.62"		
IP 2	9.370	288501.740	6233931.350	72.040		R = -10.000	7.400
CT	13.070	288501.820	6233935.230	72.020	1°12'33.64"		
TC	63.740	288502.890	6233985.880	71.770	1°12'33.64"		
IP 3	67.120	288502.960	6233989.270	71.750		R = 50.000	6.760
CT	70.500	288503.490	6233992.610	71.730	8°57'21.34"		
IP 4	96.740	288507.570	6234018.530		8°57'21.34"		

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F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	21/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 10 20 30 40 50 60 70 80 90 100
SCALE 1:1000 (A1)
SCALE 1:2000 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
CONTROL LINE
SETOUT PLAN

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	205	F

NORTH

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

- LIMIT OF WORKS BOUNDARY
- DENOTES TEMPORARY TRANSITION PAVEMENT
- PROPOSED GUARDRAIL

CHARLES McINTOSH PARKWAY

1.2m WIDE FOOTPATH TO COUNCIL STANDARD

2.5m WIDE SHARED PATH TO COUNCIL STANDARD

LOT 1
DP 1276275

COBBITTY CREEK

ALL EXISTING ELECTRICAL OVERHEAD LINES/POLES WITHIN LIMIT OF WORKS TO BE REMOVED/RELOCATED SUBJECT TO ELECTRICAL DESIGN AND APPROVAL

APRON

CENTRE ISLAND

ADJUST MANHOLE TO SUIT PROPOSED FINISHED SURFACE LEVELS

ALL EXISTING MANHOLE DESIGN AND FOUNDATION MATERIAL WITHIN LIMIT OF WORKS TO BE VERIFIED BY A SUITABLY QUALIFIED STRUCTURAL ENGINEER. ADJUST MANHOLE PIT LEVEL TO SUIT PROPOSED FINISH SURFACE LEVELS

EXISTING SERVICES WITHIN CONSTRUCTION EXTENTS TO BE POTHOLED, LOCATED AND CONFIRMED

MILL AND RESHEET EXISTING PAVEMENT TO MATCH EXISTING BITUMEN LEVELS. MAKE GOOD EXISTING CONSTRUCTION.

EXISTING ELECTRICAL POWER POLE TO BE REMOVED/ RELOCATED

8.1m CIRCULATING WIDTH

R-300.0

R-250.0

93°43'44"

65°20'48"

184°24'37"

COBBITTY ROAD

LOT 1
DP 270613

BREAK INTO EXISTING STORMWATER PIPE AND CONSTRUCT NEW KERB INLET PIT AT SAG

BREAK INTO EXISTING STORMWATER PIPE AND CONSTRUCT NEW KERB INLET PIT

LOT 100
DP 1159926

MILL AND RESHEET EXISTING PAVEMENT TO MATCH EXISTING BITUMEN LEVELS. MAKE GOOD EXISTING CONSTRUCTION

MACQUARIE GROVE ROAD

FOR CONTINUATION REFER INSET 'A'

FOR CONTINUATION REFER ABOVE

NORTH

LOT 2
DP 1276275

EXISTING GUARD RAILS TO BE MODIFIED TO SUIT PROPOSED ROAD DESIGN LEVELS TO MANUFACTURER'S SPECIFICATION

EXTEND EXISTING 3 x 600 RCP CULVERTS AND RECONSTRUCT NEW ROCK HEADWALL WITH SCOUR PROTECTION

78°4'27"

EXISTING CULVERT PIPES AND HEADWALL TO BE RETAINED

LOT 100
DP 1159926

INSET 'A'

BEFORE YOU DIG
www.byda.com.au

UTILITIES SHOWN ARE DIAGRAMMATIC ONLY AND MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY, LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES/STANDARDS.

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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-	-	-	-	-	-	-
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Scale:
0 2.5 5 7.5 10 12.5 15 17.5 20 22.5 25
SCALE 1:250 (A1) SCALE 1:500 (A3)

For: mirvac

By: Orion Consulting
JAS-ANZ
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
COBBITTY ROAD INTERSECTION ROUNDABOUT PLAN

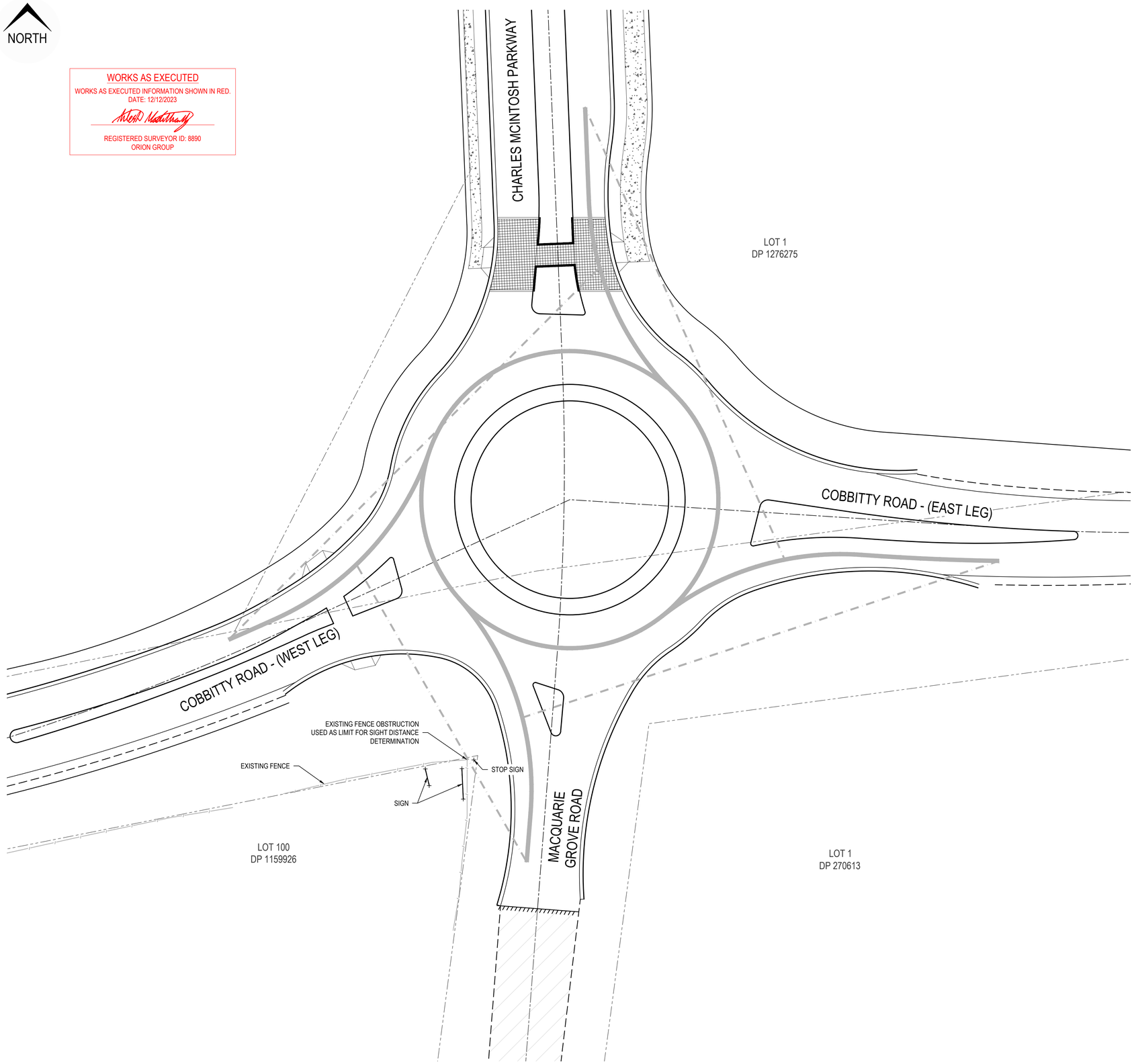
Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	206	F

NORTH

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP



DESIGN SUMMARY INFORMATION

COBBITTY ROAD & CHARLES MCINTOSH PARKWAY
PROPOSED ROUNDABOUT

DESIGN SPEED ON APPROACH ROADS (OUTSIDE OF APPROACH GEOMETRY)	80 km/hr
ISLAND RADIUS	14m
CIRCULATING CARRIAGEWAY WIDTH	8.1m
DESIGN VEHICLE (MACQUARIE GROVE ROAD AND COBBITTY ROAD)	25.0m B-DOUBLE
DESIGN VEHICLE (COBBITTY ROAD AND CHARLES MCINTOSH PARKWAY)	19.0m SEMI - TRAILER

CRITERION 2 (CRITICAL TO DESGIN) - SIGHT DISTANCE CHECKS	SIGHT DISTANCE ACHIEVED
COBBITTY ROAD - WEST LEG	70m
CHARLES MCINTOSH PARKWAY	70m
COBBITTY ROAD - EAST LEG	70m
MACQUARIE GROVE ROAD*	53m*

*NOTE:
1. DESIGN OF APPROACH CURVE, SIGNAGE AND DELINEATION ON MACQUARIE GROVE ROAD TO REDUCE APPROACH SPEED SUBJECT TO MERITS BASED ASSESSMENT.
2. ADVANCED WARNING SIGNAGE REQUIRED AS PER DRAWING SWC 800 FOR NORTH BOUND APPROACH FROM MACQUARIE GROVE ROAD AS PER REQUIREMENTS IDENTIFIED IN THE ROAD SAFETY AUDIT (CARDNO/STANTEC, 9 JUNE 2022 REF 304100732).

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	21/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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For: mirvac

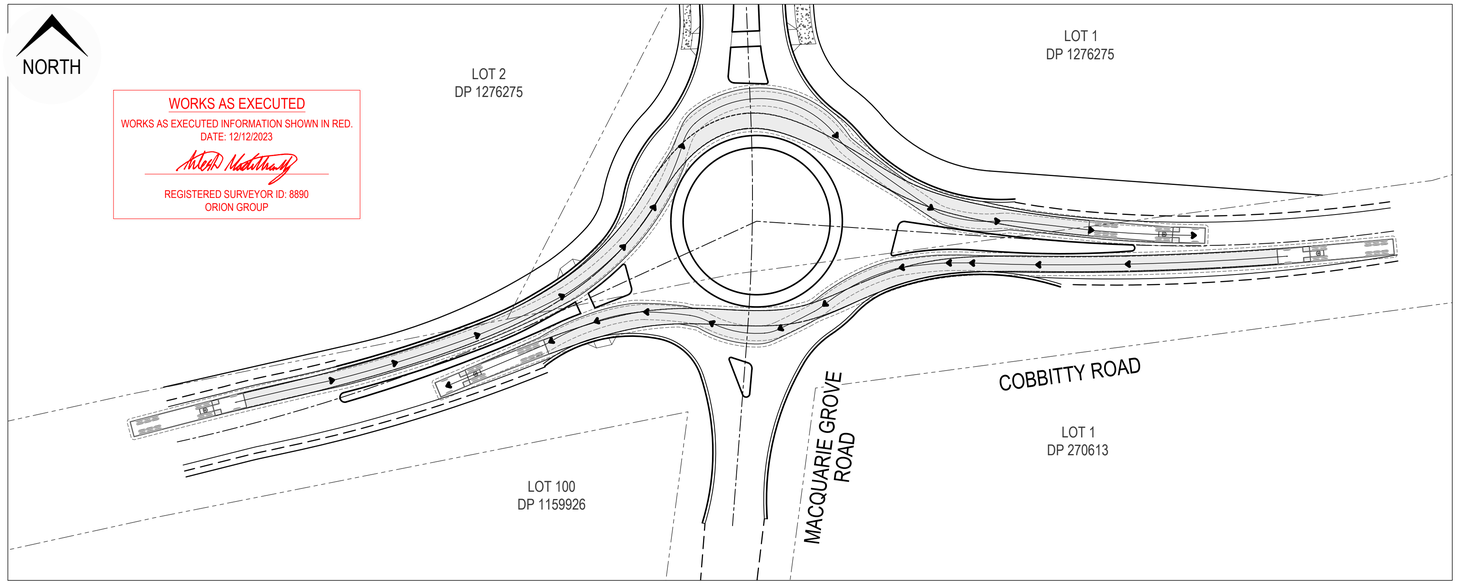
By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

JAS-ANZ
WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

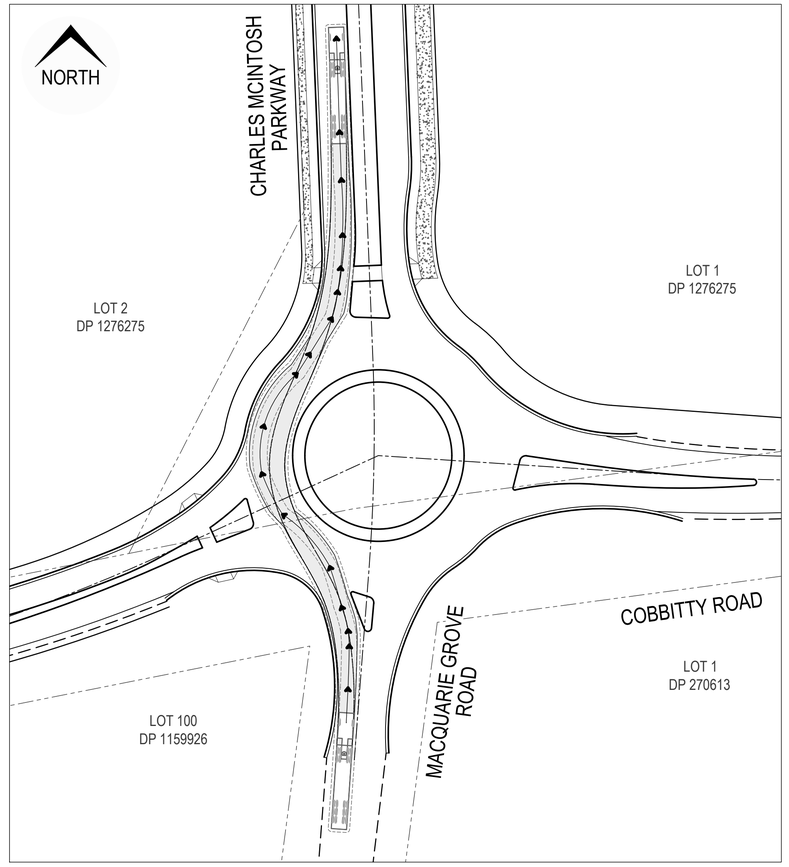
Title:
COBBITTY ROAD INTERSECTION
DESIGN SUMMARY

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	207	E



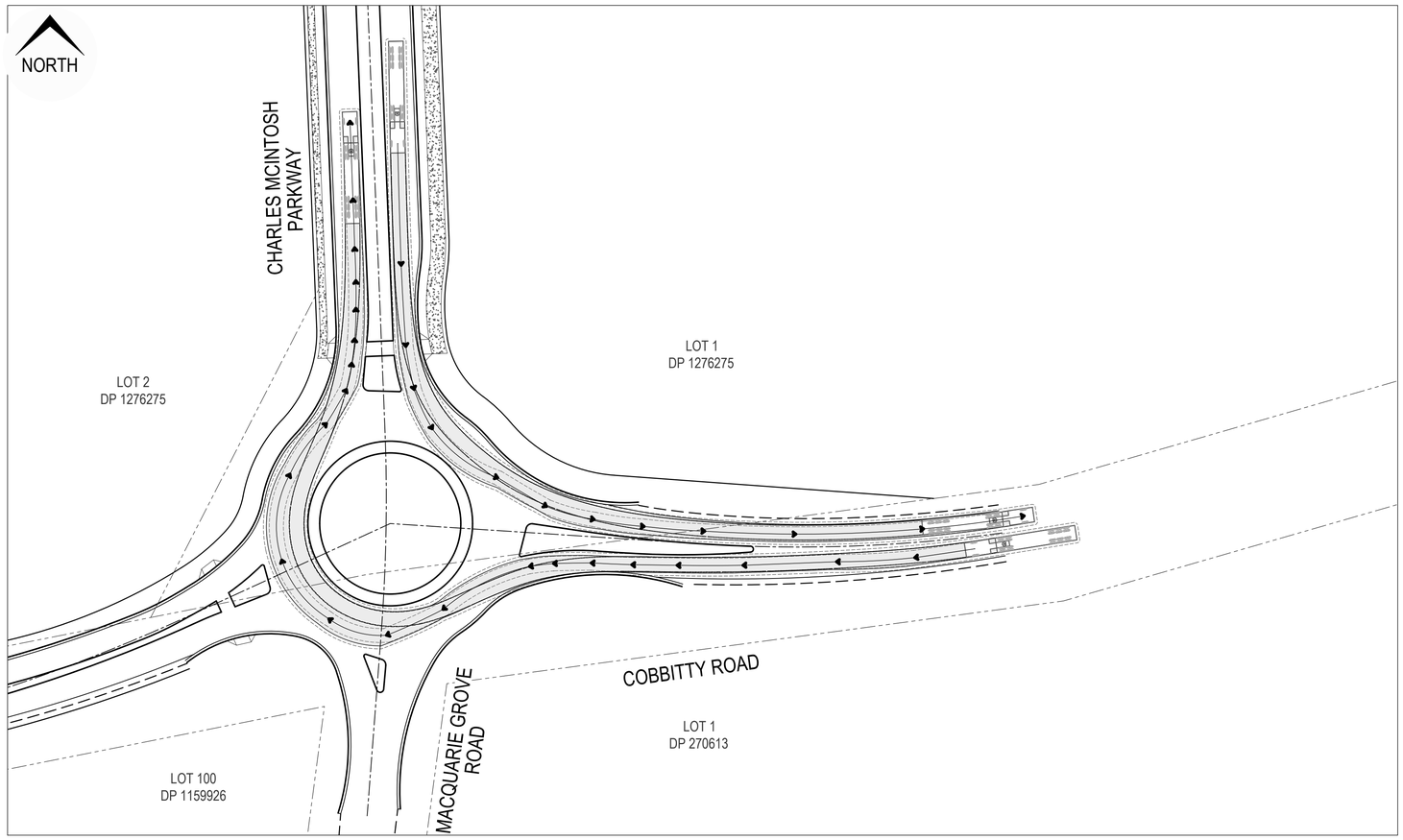
DESIGN VEHICLE TURNPATH PLAN 1 - SEMI-TRAILER (19m)

SCALE 1:500



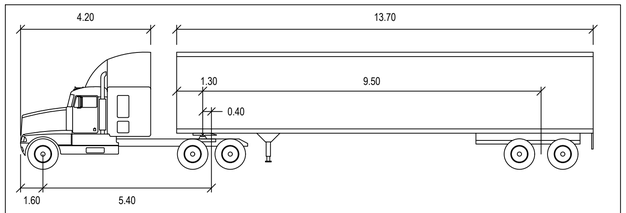
DESIGN VEHICLE TURNPATH PLAN 3 - SEMI-TRAILER (19m)

SCALE 1:500



DESIGN VEHICLE TURNPATH PLAN 2 - SEMI-TRAILER (19m)

SCALE 1:500



SEMI TRAILER (19m)

	METERS		
TRACTOR WIDTH	: 2.50	LOCK TO LOCK TIME	: 6.0
TRAILER WIDTH	: 2.50	STEERING ANGLE	: 28.4
TRACTOR TRACK	: 2.50	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	: 2.50		

LEGEND

DENOTES FRONT WHEEL TRACK	
DENOTES REAR WHEEL TRACK	
DENOTES VEHICLE BODY CLEARANCE	
DENOTES VEHICLE BODY	

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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Scale:
0 5 10 15 20 25 30 35 40 45 50
SCALE 1:500 (A1) SCALE 1:1000 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
AP/CS
TURNING PATH PLAN
SHEET 01 OF 03

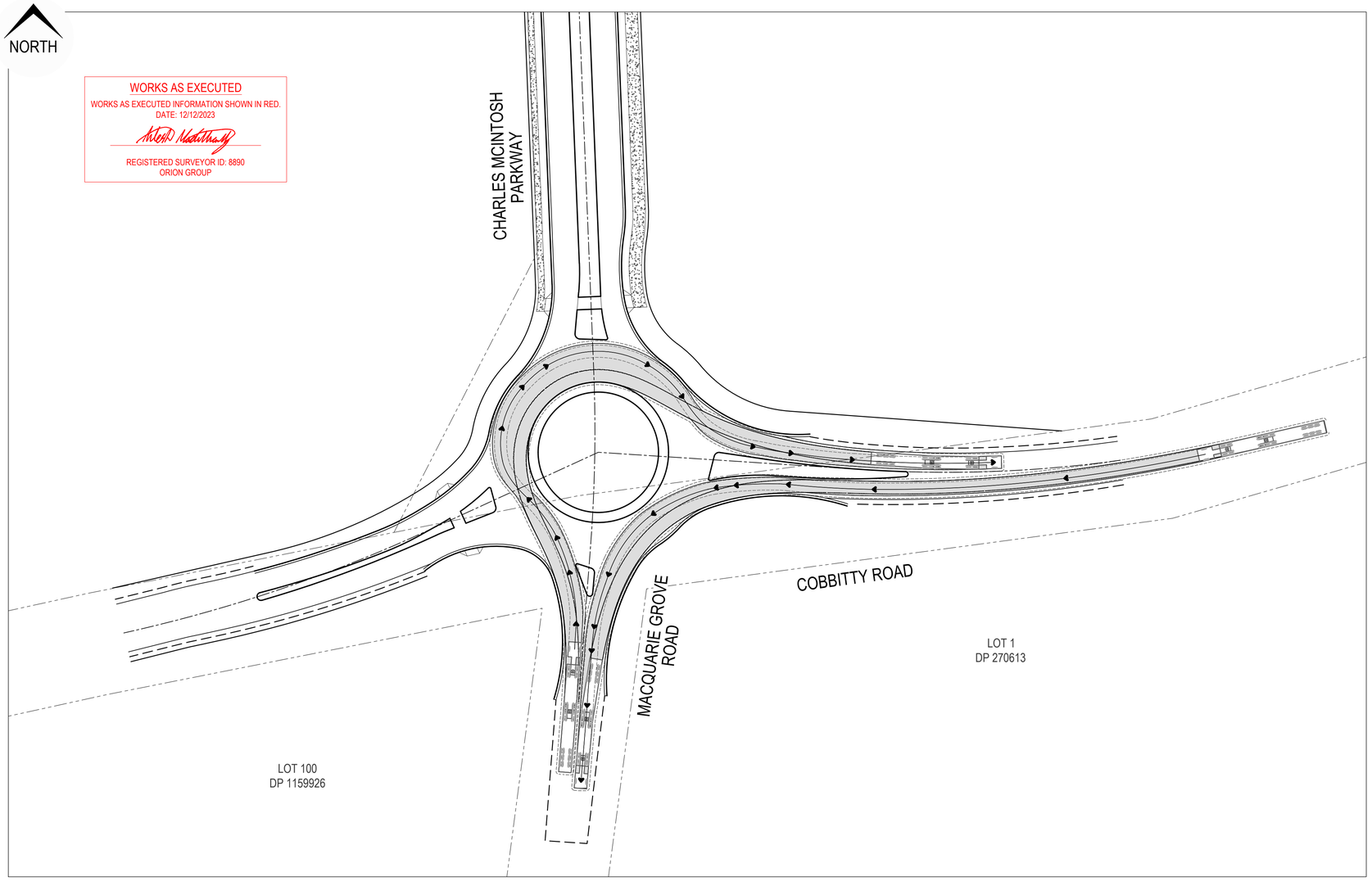
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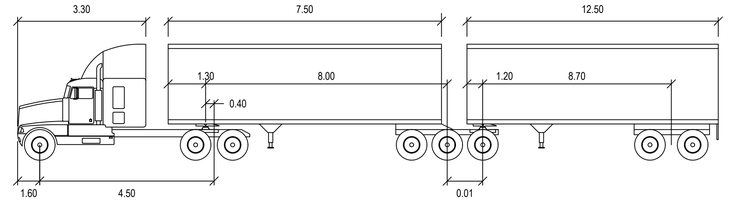
NORTH

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP





B-DOUBLE (26m)

		METERS		
TRACTOR WIDTH	:	2.50	LOCK TO LOCK TIME	: 6.0
TRAILER WIDTH	:	2.50	STEERING ANGLE	: 23.5
TRACTOR TRACK	:	2.50	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	:	2.50		

LEGEND

DENOTES FRONT WHEEL TRACK	
DENOTES REAR WHEEL TRACK	
DENOTES VEHICLE BODY CLEARANCE	
DENOTES VEHICLE BODY	

DESIGN VEHICLE TURNPATH PLAN - B-DOUBLE (26m)

SCALE 1:500

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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0 5 10 15 20 25 30 35 40 45 50
SCALE 1:500 (A1) SCALE 1:1000 (A3)

For: mirvac

By: Orion Consulting

ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
COBBITTY ROAD INTERSECTION
TURNING PATH PLAN
SHEET 02 OF 03

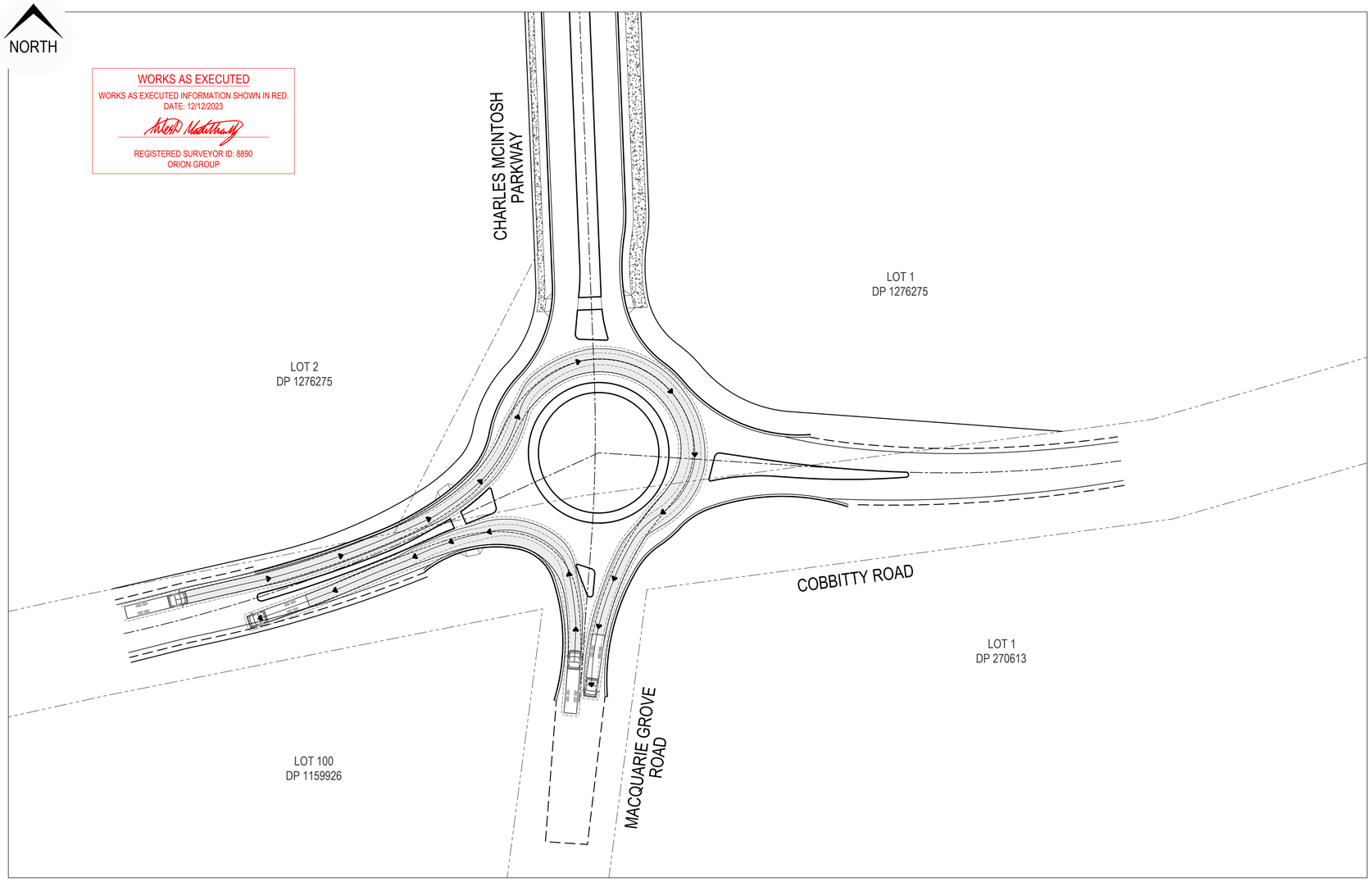
Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	211	E

NORTH

WORKS AS EXECUTED

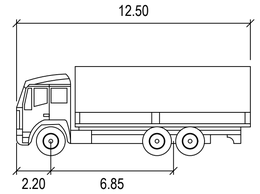
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP



DESIGN VEHICLE TURNPATH PLAN - SU TRUCK (12.5m)

SCALE 1:500



SU TRUCK (HRV EQUIVALENT)

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

LEGEND

DENOTES FRONT WHEEL TRACK	
DENOTES REAR WHEEL TRACK	
DENOTES VEHICLE BODY CLEARANCE	
DENOTES VEHICLE BODY	

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
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SCALE 1:500 (A1) SCALE 1:1000 (A3)

For: mirvac

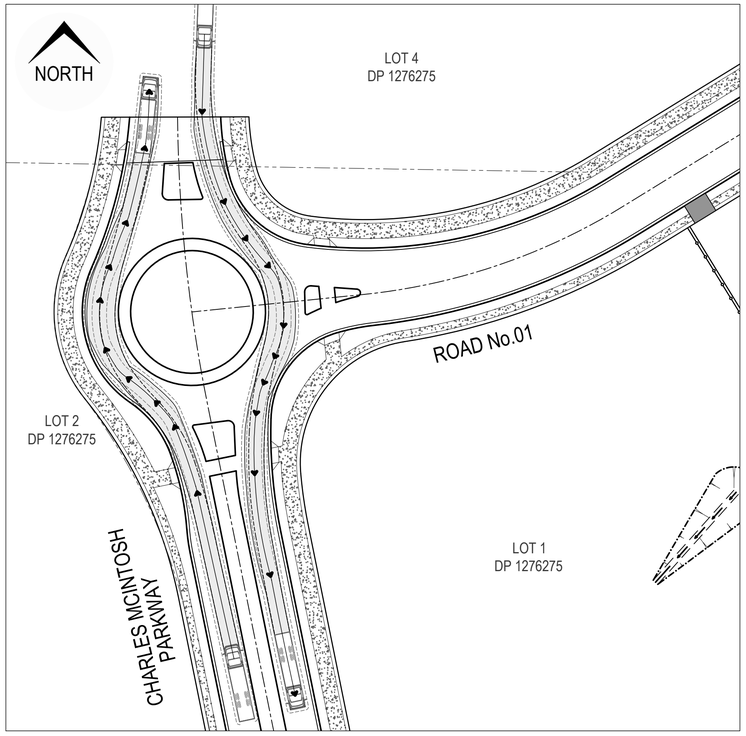
By: Orion Consulting

ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

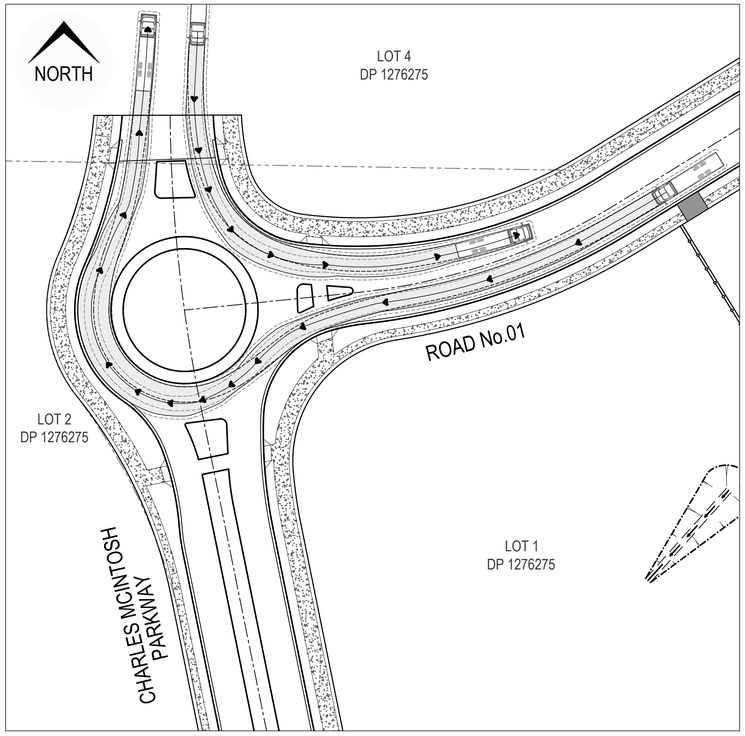
Title:
COBBITTY ROAD INTERSECTION
TURNING PATH PLAN
SHEET 03 OF 03

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	212	E



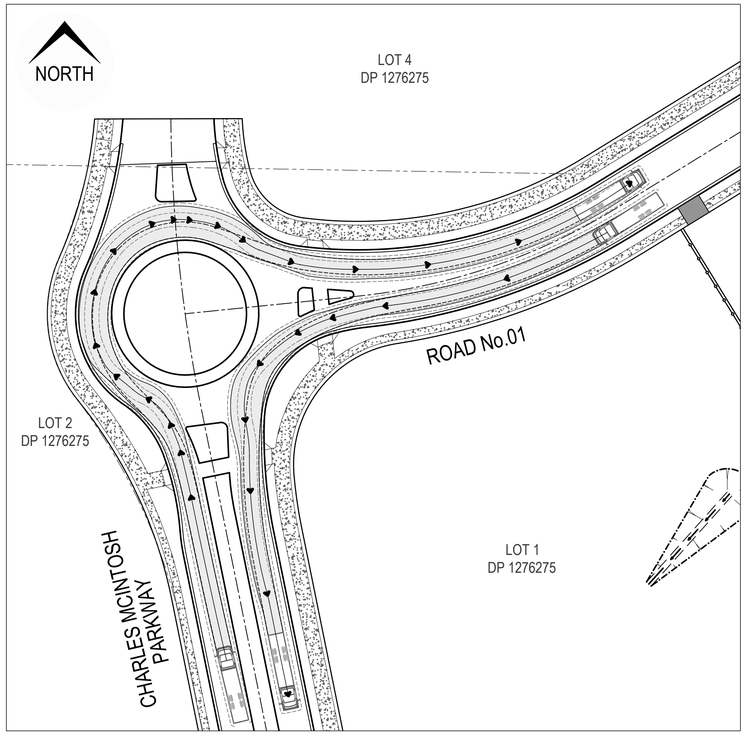
DESIGN VEHICLE TURNPATH PLAN 1 - SINGLE UNIT TRUCK / BUS (12.5m)

SCALE 1:500



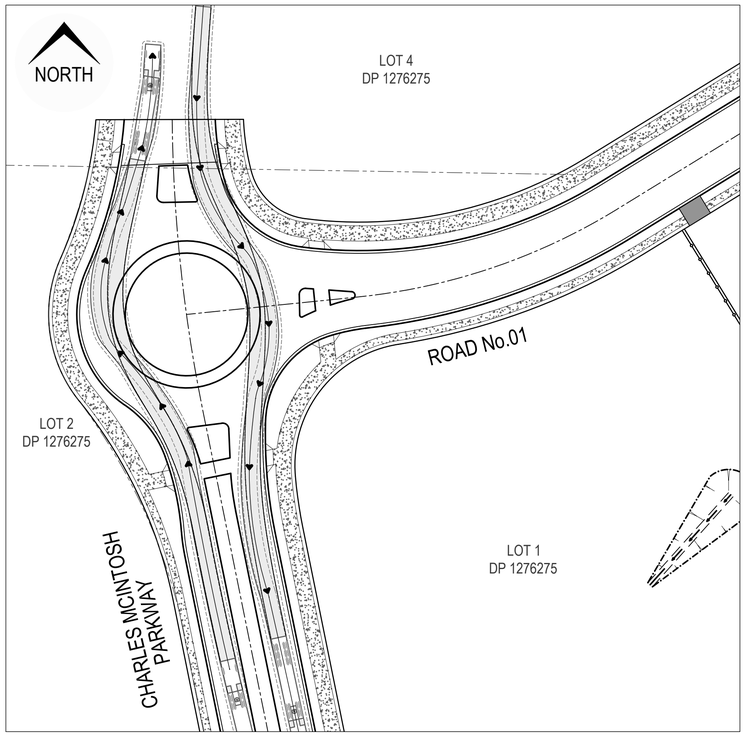
DESIGN VEHICLE TURNPATH PLAN 2 - SINGLE UNIT TRUCK / BUS (12.5m)

SCALE 1:500



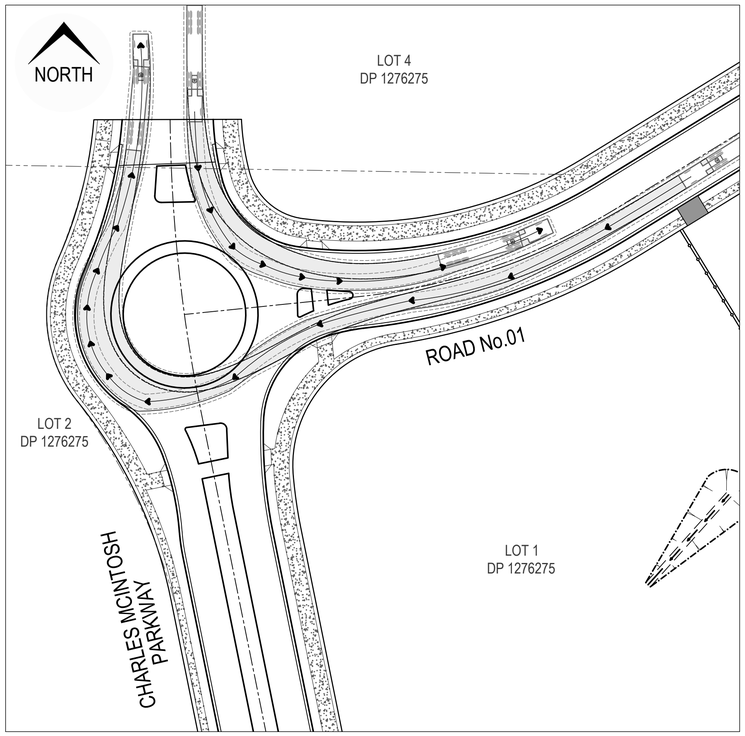
DESIGN VEHICLE TURNPATH PLAN 3 - SINGLE UNIT TRUCK / BUS (12.5m)

SCALE 1:500



CHECK VEHICLE TURNPATH PLAN 4 - SEMI TRAILER (19m)

SCALE 1:500



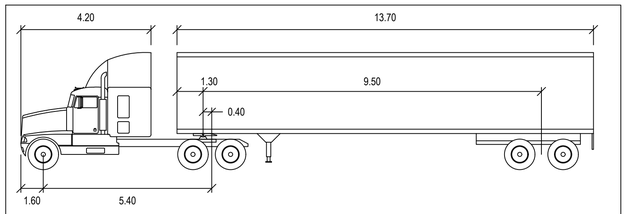
CHECK VEHICLE TURNPATH PLAN 5 - SEMI TRAILER (19m)

SCALE 1:500

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

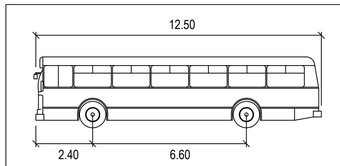


SEMI TRAILER (19m)

	METERS		
TRACTOR WIDTH	: 2.50	LOCK TO LOCK TIME	: 6.0
TRAILER WIDTH	: 2.50	STEERING ANGLE	: 28.4
TRACTOR TRACK	: 2.50	ARTICULATING ANGLE	: 70.0
TRAILER TRACK	: 2.50		

LEGEND

DENOTES FRONT WHEEL TRACK	
DENOTES REAR WHEEL TRACK	
DENOTES VEHICLE BODY CLEARANCE	
DENOTES VEHICLE BODY	



TRUCK/BUS (12.5m)

	METERS
WIDTH	: 2.50
TRACK	: 2.50
LOCK TO LOCK TIME	: 6.0
STEERING ANGLE	: 35.2

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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Scale:
0 5 10 15 20 25 30 35 40 45 50
SCALE 1:500 (A1) SCALE 1:1000 (A3)

For: mirvac

By: Orion Consulting

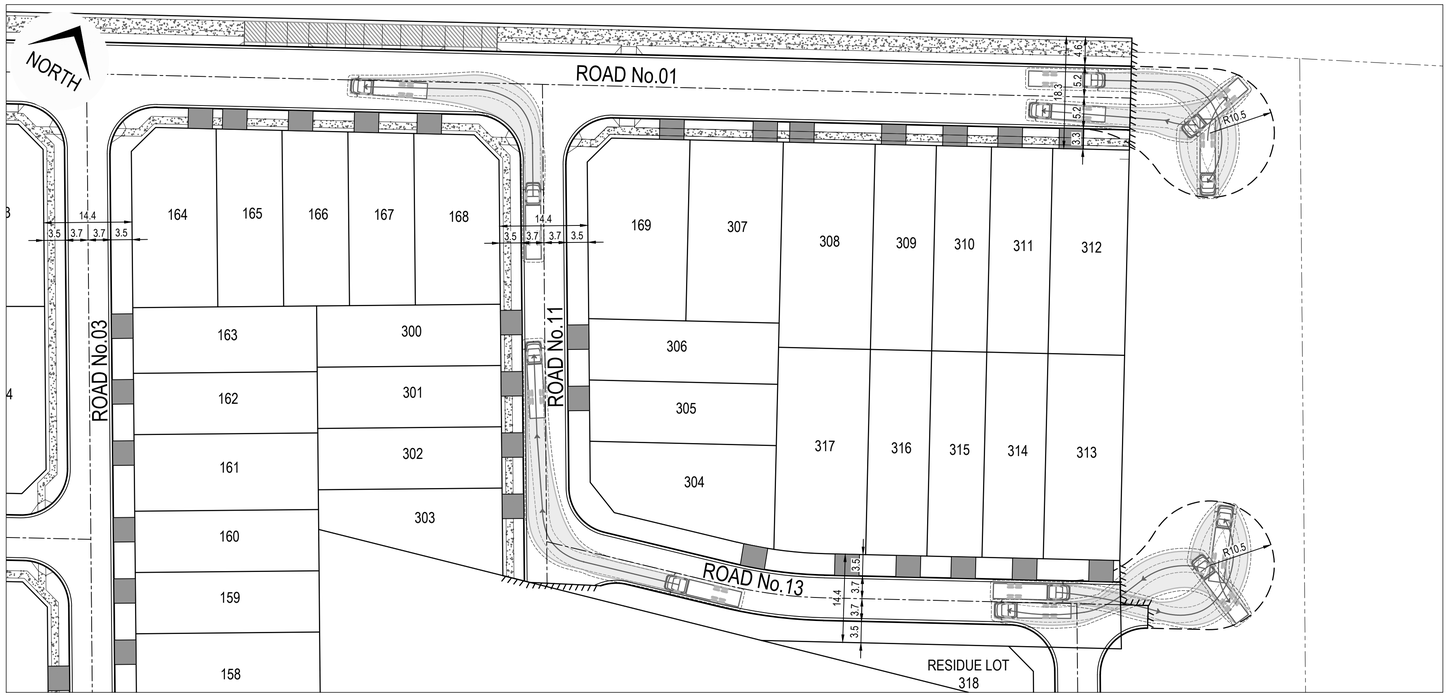
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Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

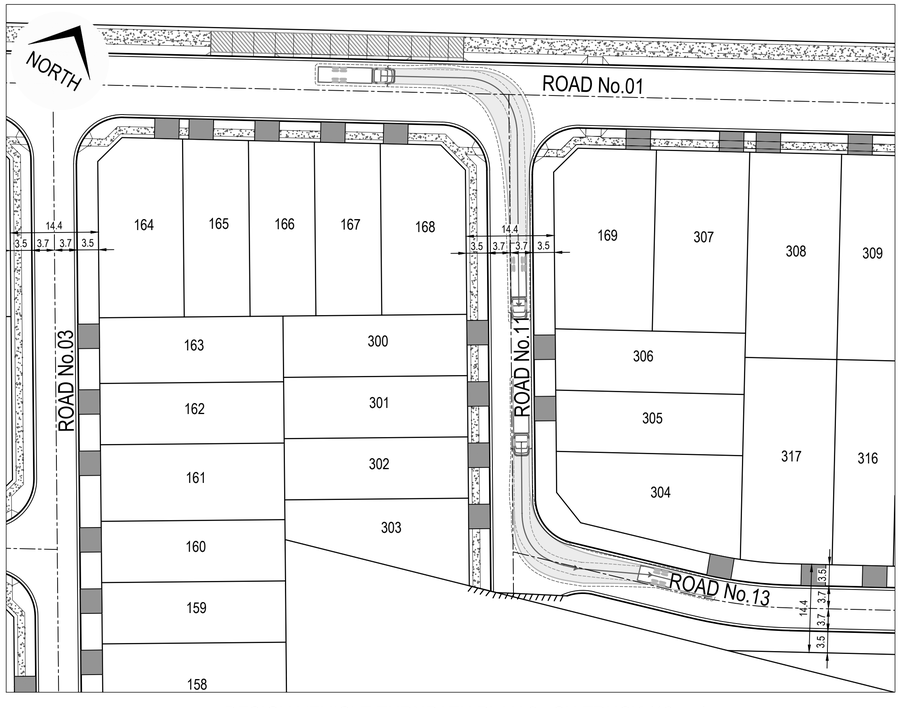
Title:
CHARLES MCINTOSH PARKWAY
INTERNAL INTERSECTION
TURNING PATH PLAN

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	213	E



DESIGN VEHICLE TURNPATH PLAN 1 - SU TRUCK (12.5m)

SCALE 1:500



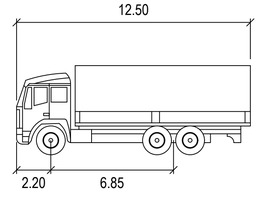
DESIGN VEHICLE TURNPATH PLAN 2 - SU TRUCK (12.5m)

SCALE 1:500

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP



SU TRUCK (HRV EQUIVALENT)

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

LEGEND	
DENOTES FRONT WHEEL TRACK	
DENOTES VEHICLE BODY CLEARANCE	
DENOTES VEHICLE BODY	

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
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SCALE 1:500 (A1) SCALE 1:1000 (A3)

For: mirvac

By: Orion Consulting

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Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

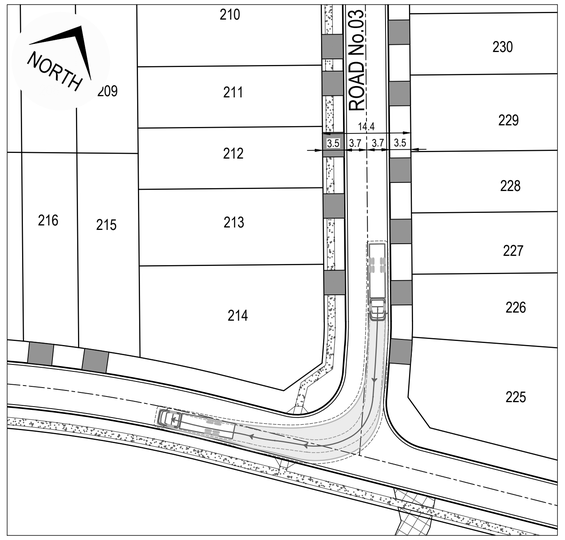
Title:
HRV TURNING PATH PLAN
SHEET 01 OF 02

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	214	E



DESIGN VEHICLE TURNPATH PLAN 3 - SU TRUCK (12.5m)

SCALE 1:500



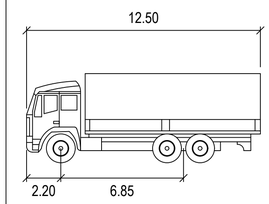
DESIGN VEHICLE TURNPATH PLAN 4 - SU TRUCK (12.5m)

SCALE 1:500

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP



SU TRUCK (HRV EQUIVALENT)

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

LEGEND

DENOTES FRONT WHEEL TRACK	
DENOTES VEHICLE BODY CLEARANCE	
DENOTES VEHICLE BODY	

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C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 5 10 15 20 25 30 35 40 45 50
SCALE 1:500 (A1) SCALE 1:1000 (A3)

For: mirvac

By: Orion Consulting

ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
HRV TURNING PATH PLAN
SHEET 02 OF 02

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	215	E

NORTH

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

CHARLES MCINTOSH PKWY

SL 102

SL 82

NON STRUCTURAL KERB ONLY + INFILL

74.0

74.5

75.0

9.0

2.715

NOTE:

- FOR ALL INTERNAL WALLS AND BATTERS REFER TO SHEETS SWC 700-712 FOR RETAINING WALL AND LOT BENCHING DETAILS.

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	YK	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

JAS-ANZ
WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

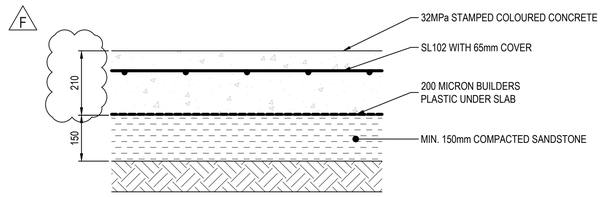
Title: THRESHOLD PAVING PLAN

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	216	E

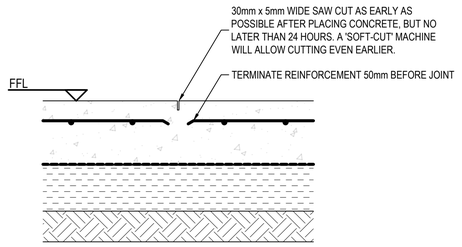
WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

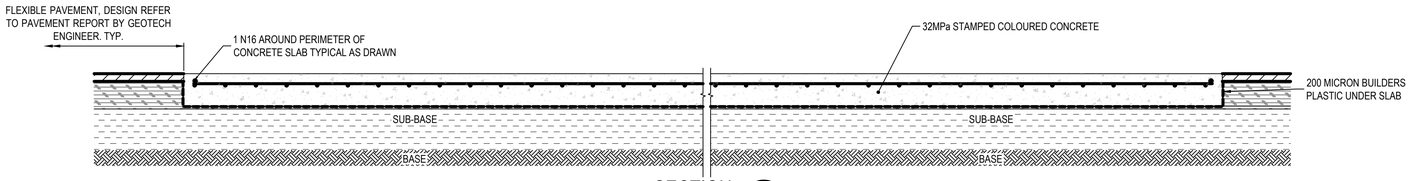
REGISTERED SURVEYOR ID: 8890
ORION GROUP



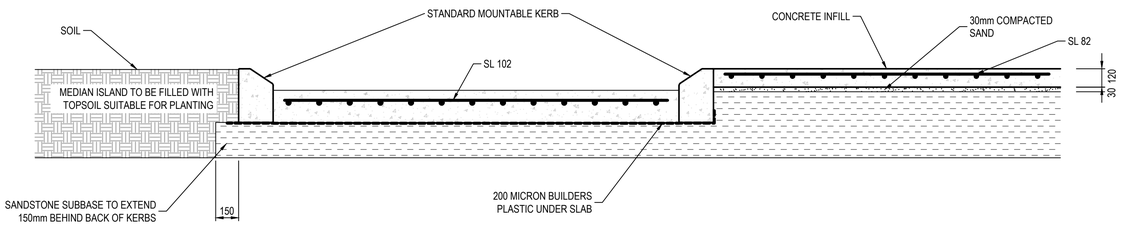
TYPICAL CONCRETE THRESHOLD DETAIL
SCALE 1:10



SJ - SAWN JOINT DETAIL
SCALE 1:10



SECTION 1/216
SCALE 1:20



SECTION 2/216
SCALE 1:20

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CA	27/09/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	YK	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0
SCALE 1:10 (A1) SCALE 1:20 (A3)
0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0
SCALE 1:20 (A1) SCALE 1:40 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

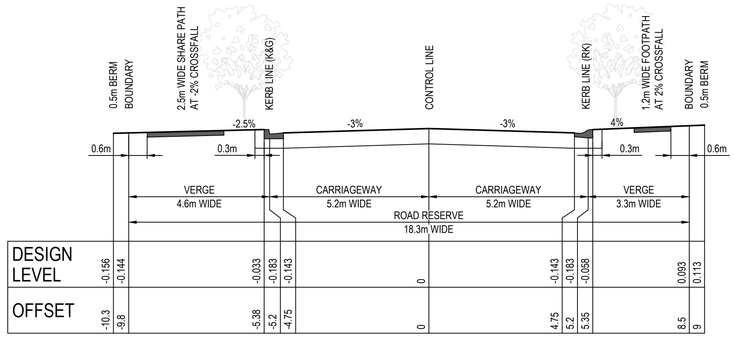
Title: THRESHOLD PAVING DETAILS

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	217	F

WORKS AS EXECUTED

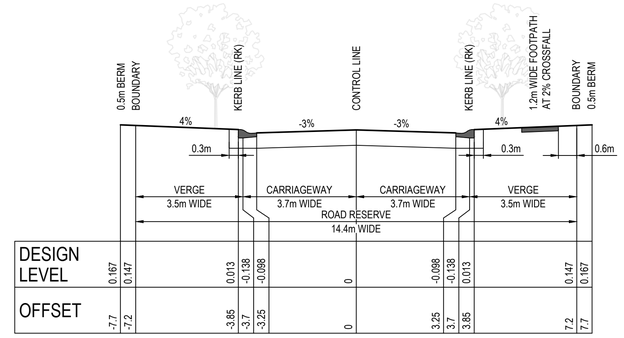
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP



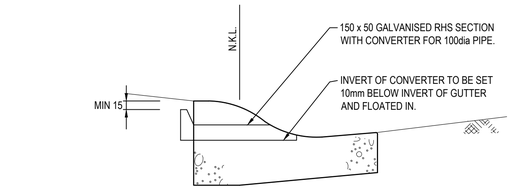
TYPICAL CROSS SECTION ROAD No.01

CH 0.0 TO END
SCALE 1:100



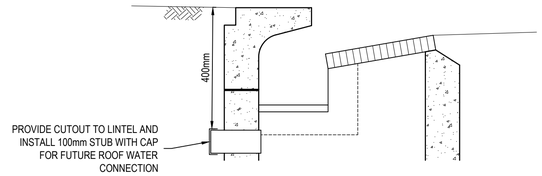
TYPICAL CROSS SECTION - ROAD No.02, No.03, No.05, No.07, No.11

ROAD No.02 - CH 1229.618 TO END
ROAD No.03 - CH 0.0 TO END
ROAD No.05 - CH 74.170 TO END
ROAD No.07 - CH 86.255 TO 266.604
ROAD No.11 - CH 0.0 TO CH 81.991
SCALE 1:100



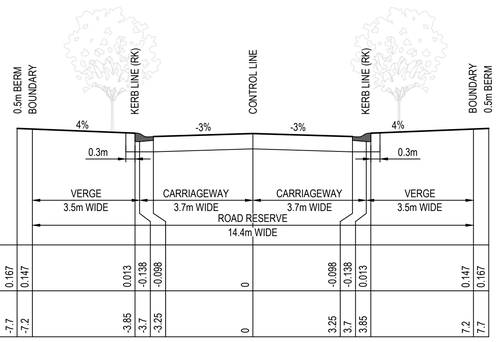
TYPICAL ROOF WATER CONNECTION WITH KERB (RK)

SCALE 1:10



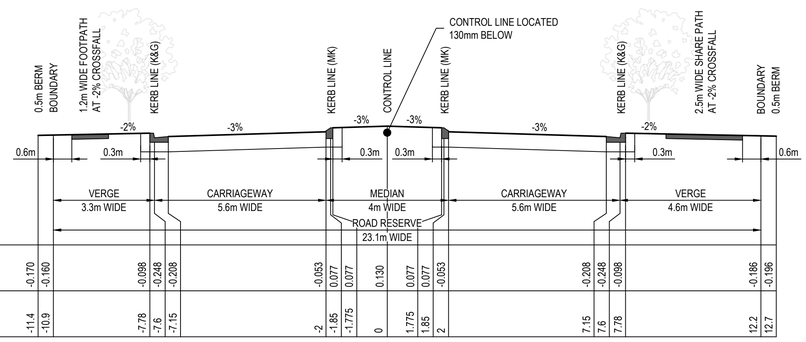
ROOF WATER CONNECTION TO REAR OF LINTEL

SCALE 1:10



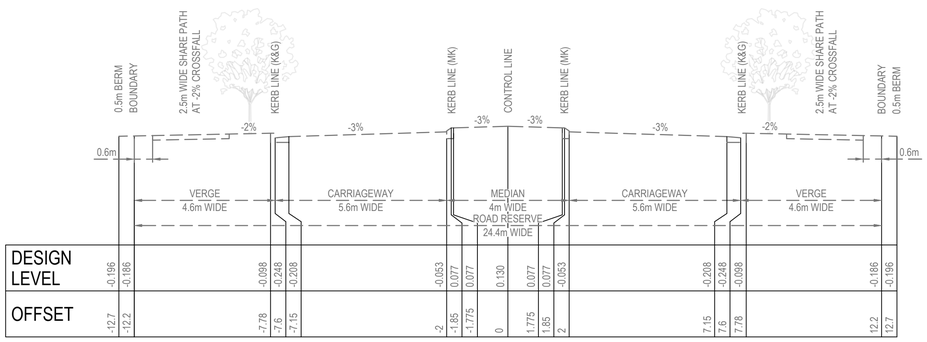
TYPICAL CROSS SECTION - ROAD No.13

ROAD No.13 - CH 46.250 TO END
SCALE 1:100



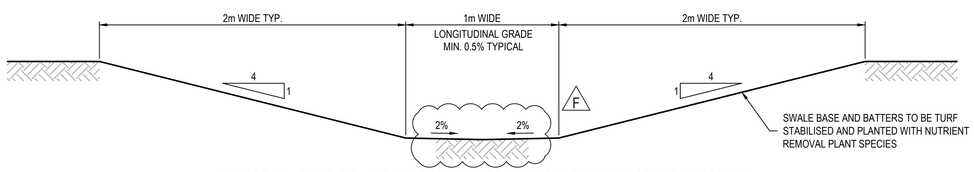
TYPICAL CROSS SECTION - CHARLES MCINTOSH PARKWAY

CH 0.0 TO END
SCALE 1:100



TYPICAL CROSS SECTION - CHARLES MCINTOSH PARKWAY (FUTURE)

SCALE 1:100



TYPICAL CROSS SECTION - PERMANENT VEGETATED SWALE

SCALE 1:20

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 1 2 3 4 5 6 7 8 9 10 — SCALE 1:100 (A1) — SCALE 1:200 (A3)
0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 — SCALE 1:20 (A1) — SCALE 1:40 (A3)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 — SCALE 1:10 (A1) — SCALE 1:20 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

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Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
TYPICAL ROAD CROSS SECTIONS

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	300	F

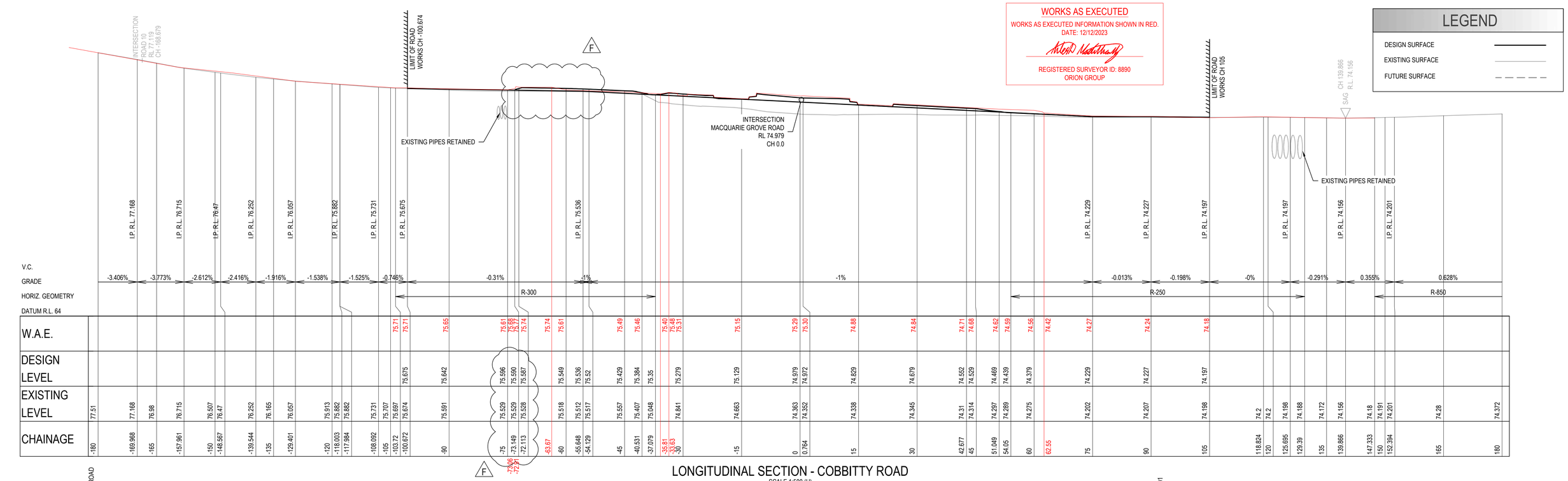
WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

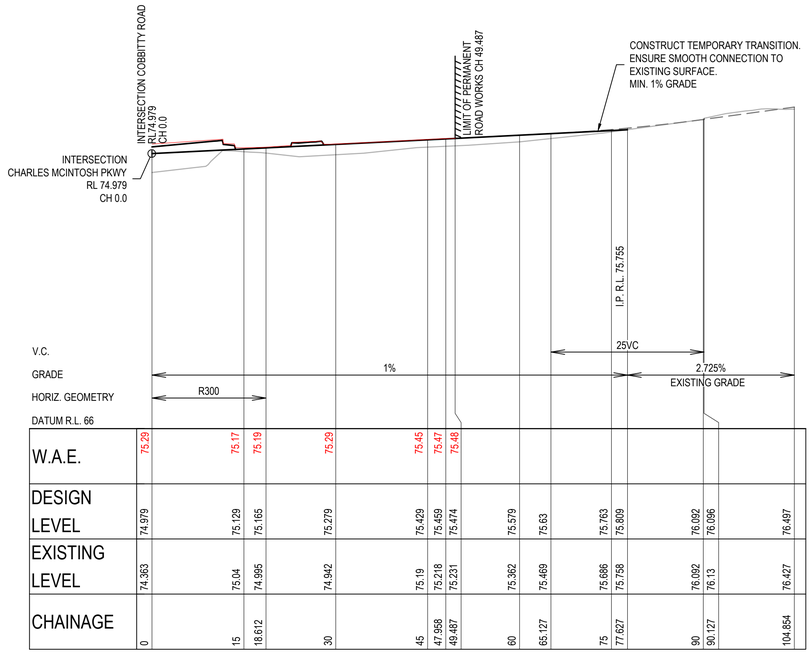
REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

- DESIGN SURFACE
- EXISTING SURFACE
- FUTURE SURFACE



| | | |



LONGITUDINAL SECTION - MACQUARIE GROVE ROAD

SCALE 1:500 (H)
SCALE 1:100 (V)

SETOUT TABLE CHARLES MCINTOSH PKWY

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288483.83	6233848.92	0°51'20.05"		
8.31	288483.95	6233857.23		-300	16.61
16.61	288483.62	6233865.53	357°40'59.61"		
94.85	288480.45	6233943.71	357°40'59.61"		
134.73	288478.84	6233983.64		-500	79.766
174.62	288470.9	6234022.81	348°32'33.89"		
258.37	288454.26	6234104.9	348°32'33.89"		
314.54	288442.91	6234160.9		250	112.342
370.71	288457.01	6234216.26	14°17'22.57"		
481.48	288484.36	6234323.61	14°17'22.57"		
608.18	288518.61	6234458.1		250	253.394
734.88	288650.88	6234500.15	72°21'47.78"		
818.62	288730.68	6234525.52	72°21'47.78"		
861.38	288771.59	6234538.53		-400	85.528
904.14	288808.81	6234559.92	60°06'44.00"		
1104.2	288982.25	6234659.61	60°06'44.00"		
1189.15	289057.1	6234702.62		390	169.909
1274.11	289143.1	6234710.03	85°04'26.33"		
1554.53	289422.49	6234734.11	85°04'26.33"		

SETOUT TABLE COBBITTY ROAD

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
-337.56	288159.61	6233758.3	74°08'41.99"		
-326.18	288170.56	6233761.41			
-304.82	288191.12	6233767.21	74°14'16.42"		
-246.24	288247.52	6233783.13		1750	117.172
-187.65	288304.87	6233795.24	78°04'26.99"		
-103.72	288386.98	6233812.59	78°04'26.99"		
-70.4	288419.72	6233819.5		-300	66.641
-37.08	288450.13	6233833.46	65°20'48.04"		
0.76	288484.52	6233849.24			
54.05	288537.7	6233845.78	93°43'44.14"		
91.72	288575.57	6233843.31		-250	75.34
129.39	288612.48	6233852.19	76°27'44.13"		
147.33	288629.92	6233856.39	76°27'44.13"		
185.22	288666.78	6233865.27		-850	75.776
223.11	288702.7	6233877.39	71°21'15.91"		
390.66	288861.46	6233930.96	71°21'15.91"		
400.21	288870.51	6233934.01		1000	19.097
409.76	288879.61	6233936.89	72°26'54.95"		
561.41	289024.2	6233982.62	72°26'54.95"		
637.61	289098.02	6234005.97		350	152.397
713.81	289174.81	6233996	97°23'46.84"		
860.21	289320	6233977.16	97°23'46.84"		

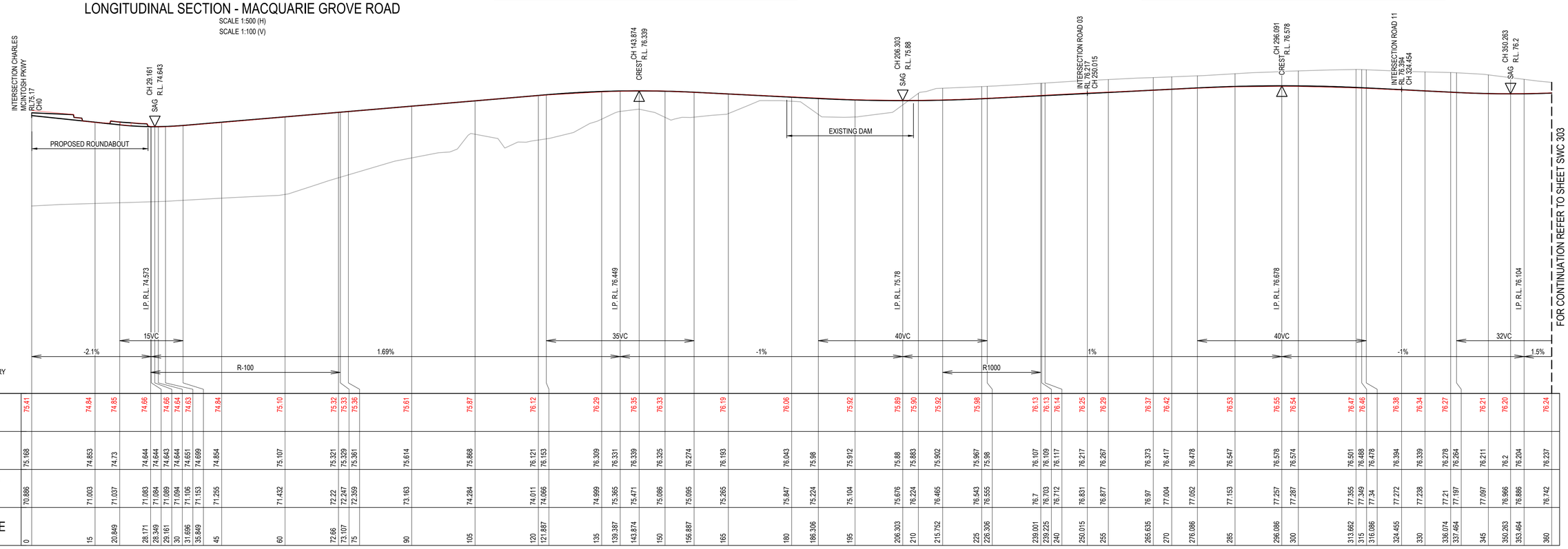
SETOUT TABLE MACQUARIE GROVE ROAD

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288483.83	6233848.92	180°51'20.05"		
9.31	288483.69	6233839.62		300	18.612
18.61	288482.97	6233830.33	184°24'36.68"		
104.85	288476.34	6233744.35	184°24'36.68"		

WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

DESIGN SURFACE
EXISTING SURFACE
FUTURE SURFACE



LONGITUDINAL SECTION - ROAD 01

SCALE 1:500 (H)
SCALE 1:100 (V)

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
-	-	-	-	-	-	-
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 5 10 15 20 25 30 35 40 45 50
SCALE 1:500 (A1) SCALE 1:1000 (A3)
0 1 2 3 4 5 6 7 8 9 10
SCALE 1:100 (A1) SCALE 1:200 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au
JAS-ANZ SUSTAINABLE CERTIFICATION ISO 9001 ISO 14001 ISO 45001 WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

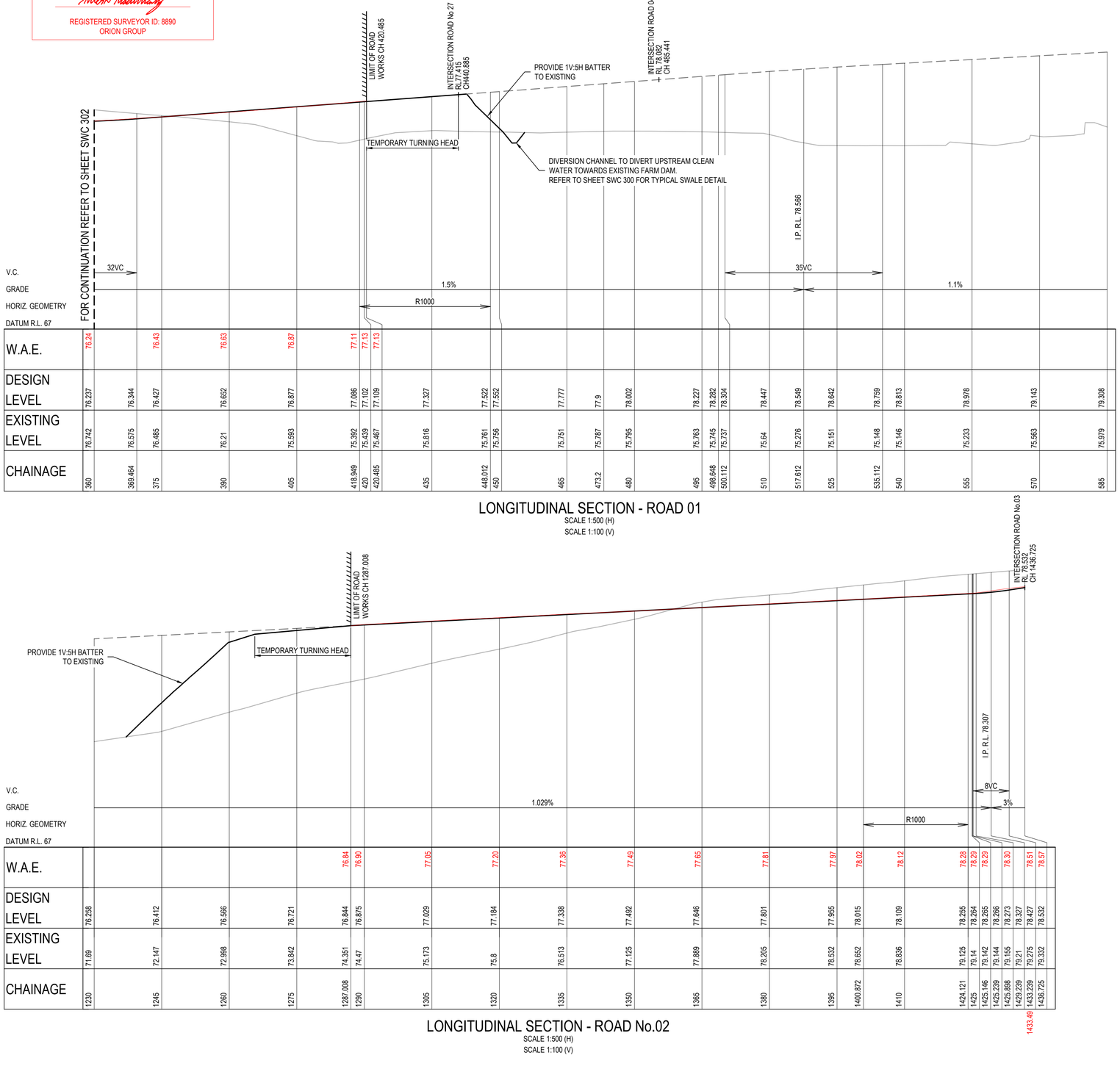
Title:
ROAD LONG SECTIONS
SHEET 02 OF 07

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	302	E

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP



LONGITUDINAL SECTION - ROAD 01

SCALE 1:500 (H)
SCALE 1:100 (V)

LONGITUDINAL SECTION - ROAD No.02

SCALE 1:500 (H)
SCALE 1:100 (V)

LEGEND

DESIGN SURFACE	———
EXISTING SURFACE	———
FUTURE SURFACE	– – – –

SETOUT TABLE ROAD 01

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288451.63	6234120.39	84°10'46.73"		
28.17	288479.65	6234123.25	84°10'46.73"		
50.64	288502.39	6234125.57		-100	44.936
73.11	288521.86	6234137.53	58°25'59.20"		
215.75	288643.4	6234212.21	58°25'59.20"		
227.38	288653.3	6234218.29		1000	23.249
239	288663.35	6234224.15	59°45'54.60"		
418.95	288818.82	6234314.76	59°45'54.61"		
433.48	288831.37	6234322.08		1000	29.062
448.01	288844.13	6234329.03	61°25'49.14"		
596.65	288974.68	6234400.11	61°25'49.14"		
607.12	288986.85	6234406.74		12.5	20.924
617.58	288992.19	6234393.95	157°20'19.26"		
834.5	289075.77	6234193.77	157°20'19.26"		
839.43	289077.68	6234189.19		35	9.853
844.36	289078.24	6234184.26	173°28'05.47"		
852.72	289079.19	6234175.95	173°28'05.47"		

SETOUT TABLE ROAD 02

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288995.83	6234157.48	57°37'17.00"		
4.71	288999.81	6234160.01	57°37'17.00"		
22.37	289014.88	6234169.56		100	35.318
40.03	289032.33	6234173.32	77°51'24.69"		
46.63	289038.78	6234174.71	77°51'24.69"		
60.25	289052.18	6234177.59		100	27.244
73.87	289065.86	6234176.76	93°28'00.00"		
189.6	289181.38	6234169.76	93°28'00.00"		
196.13	289188.56	6234169.33		12.5	13.048
202.65	289191.79	6234162.91	153°16'30.00"		
351.74	289258.83	6234029.75	153°16'30.00"		
358.47	289262.2	6234023.07		12.5	13.479
365.21	289257.9	6234016.95	215°03'24.81"		
371.95	289253.61	6234010.82		12.5	13.479
378.69	289246.18	6234011.71	276°50'19.62"		
464.57	289160.91	6234021.94	276°50'19.62"		
528.35	289096.62	6234029.65		-300	127.549
592.12	289034.87	6234010.16	252°28'43.55"		
769.14	288866.07	6233956.86	252°28'43.55"		
776.59	288858.96	6233954.62		-500	14.918
784.05	288851.91	6233952.16	250°46'09.62"		
925.73	288718.14	6233905.5	250°46'09.62"		
939.37	288705.26	6233901		500	27.295
953.02	288692.14	6233897.22	253°53'49.62"		
1017.06	288630.61	6233879.45	253°53'49.62"		
1025.53	288620.95	6233876.67		12.5	16.937
1034	288616.16	6233885.51	331°31'46.79"		
1210.58	288531.98	6234040.73	331°31'46.79"		
1220.06	288526.34	6234051.14		12.5	18.959
1229.54	288536.42	6234057.34	58°25'59.17"		
1400.87	288682.4	6234147.03	58°25'59.17"		
1412.5	288692.31	6234153.12		1000	23.249
1424.12	288702.35	6234158.97	59°45'54.66"		
1436.73	288713.24	6234165.32	59°45'54.66"		

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
-	-	-	-	-	-	-
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 5 10 15 20 25 30 35 40 45 50
SCALE 1:500 (A1) SCALE 1:1000 (A3)
0 1 2 3 4 5 6 7 8 9 10
SCALE 1:100 (A1) SCALE 1:200 (A3)

For: mirvac

By: Orion Consulting

ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

JAS-ANZ SUSTAINABLE WWW.JAS-ANZ.ORG/REGISTER

Project: LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title: ROAD LONG SECTIONS
SHEET 03 OF 07

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	303	E

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

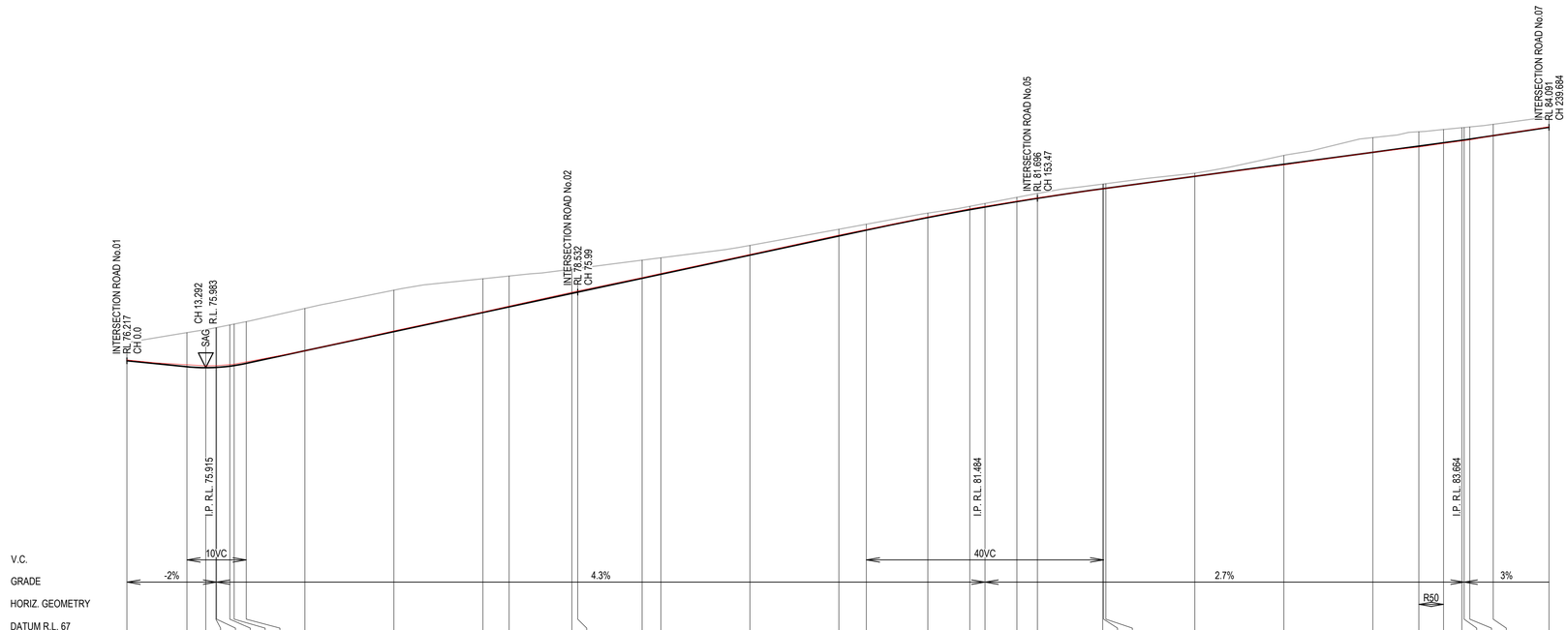
REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

DESIGN SURFACE

EXISTING SURFACE

FUTURE SURFACE



| | | |

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

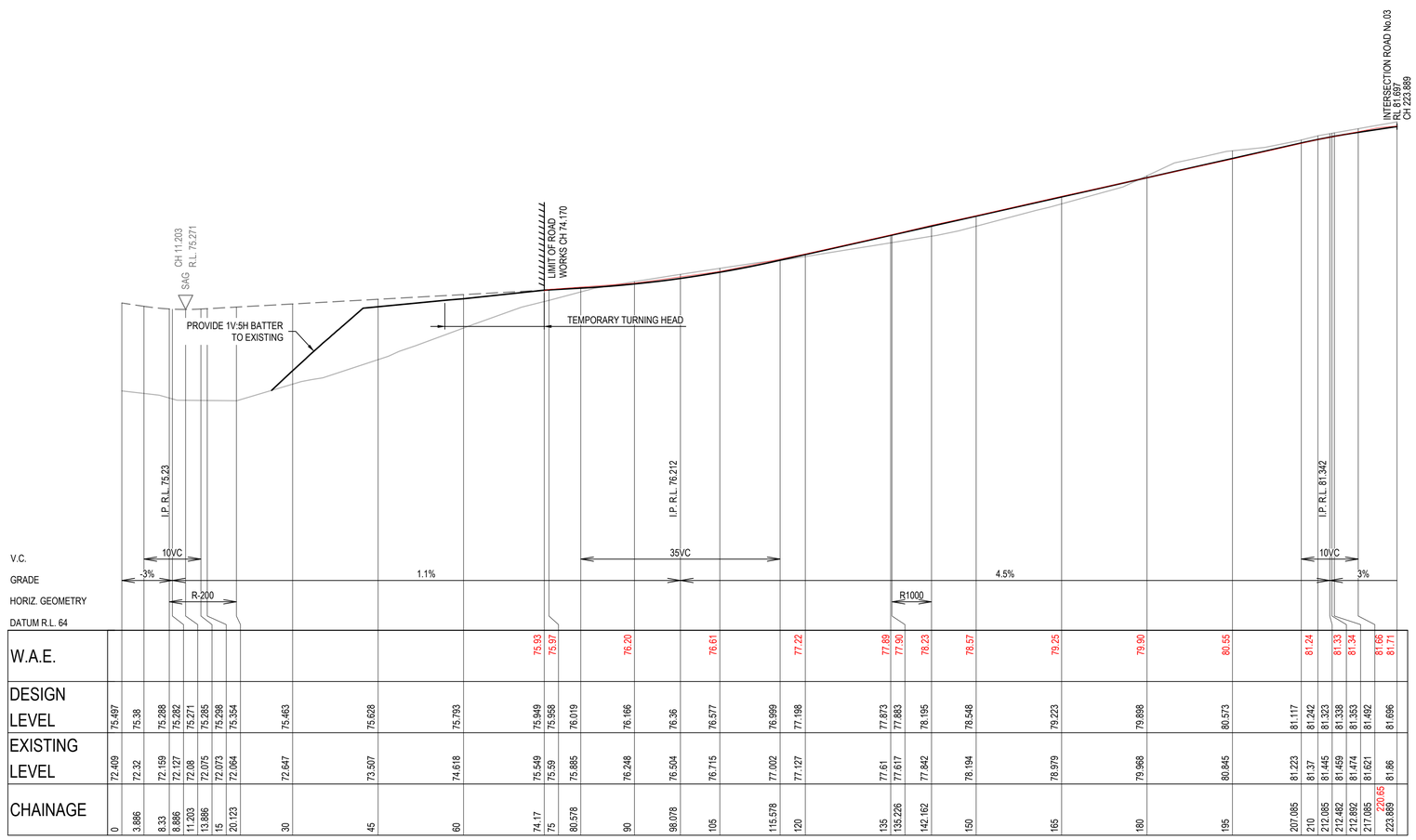
REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

DESIGN SURFACE

EXISTING SURFACE

FUTURE SURFACE



| | | |

SETOUT TABLE ROAD 07					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288597.52	6233919.86	61°55'45.26"		
38.87	288631.81	6233938.15	61°55'45.26"		
40.37	288633.14	6233938.86		-50	3.004
41.87	288634.42	6233939.64	58°29'13.93"		
150.44	288726.98	6233996.39	58°29'13.93"		
177.67	288750.3	6234010.7		220	54.445
204.89	288776.42	6234018.85	72°39'59.32"		
398.23	288960.99	6234076.45	72°39'59.32"		
488.99	289048.59	6234103.79		500	181.514
579.75	289140.19	6234098.24	93°27'59.29"		
645.85	289206.17	6234094.25	93°27'59.29"		
652.02	289212.39	6234093.87		-35	12.333
658.18	289218.36	6234095.66	73°16'35.38"		
664.79	289224.69	6234097.56	73°16'35.38"		

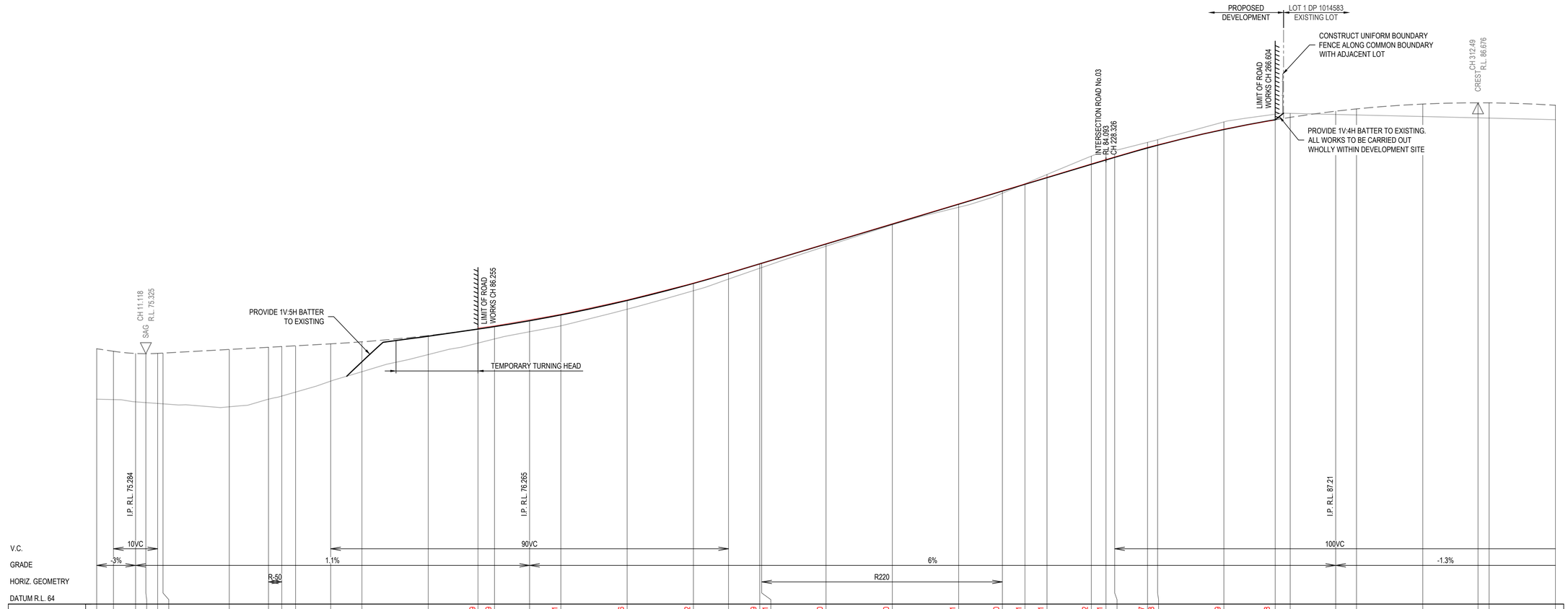
WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

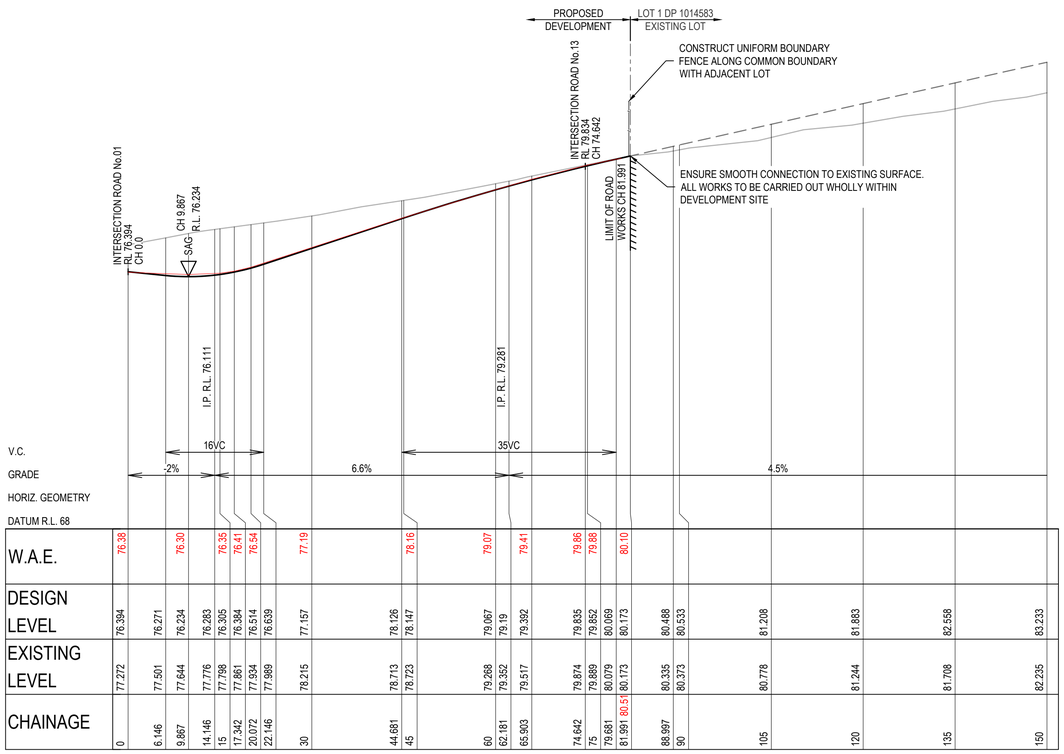
REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

- DESIGN SURFACE
- EXISTING SURFACE
- FUTURE SURFACE
- EXISTING LOT BOUNDARY

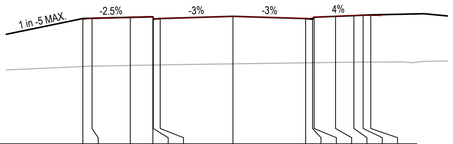


| | | | | |


PROPOSED DEVELOPMENT
LOT 1 DP 1014583 EXISTING LOT
CONSTRUCT UNIFORM BOUNDARY FENCE ALONG COMMON BOUNDARY WITH ADJACENT LOT
INTERSECTION ROAD No.13 RL 78.554 CH 74.642
ENSURE SMOOTH CONNECTION TO EXISTING SURFACE. ALL WORKS TO BE CARRIED OUT WHOLLY WITHIN DEVELOPMENT SITE
LIMIT OF ROAD WORKS CH 81.991
INTERSECTION ROAD No.01 RL 76.384 CH 0.0
CH 9.867 SAG RL. 76.234
I.P. R.L. 76.111
I.P. R.L. 79.281
V.C.
GRADE
HORIZ. GEOMETRY
DATUM R.L. 68
16VC
35VC
-2%
6.6%
4.5%

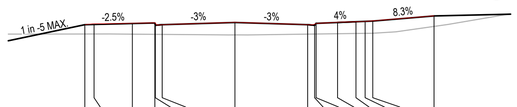
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ROAD 01



| DATUM R.L. 67 | | |

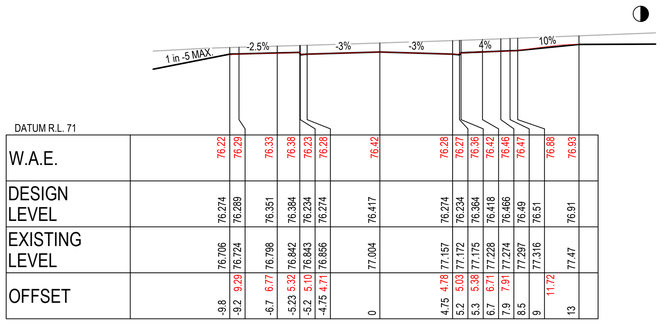
ROAD 01 (CONT.)

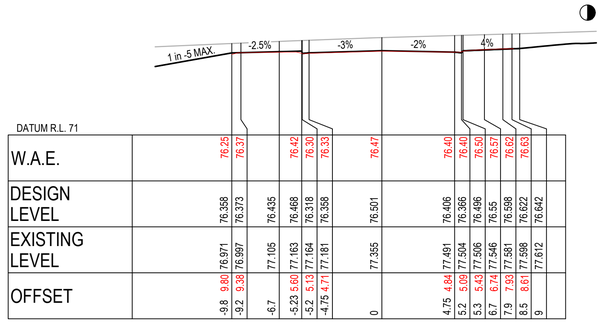


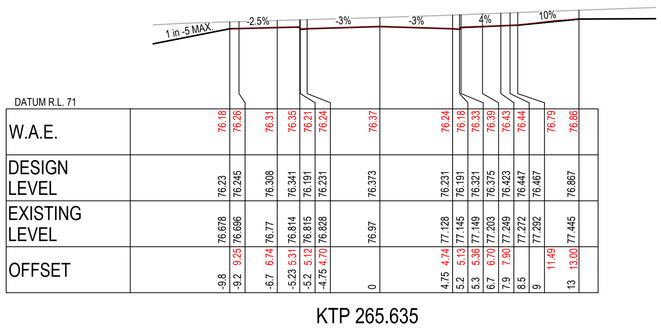
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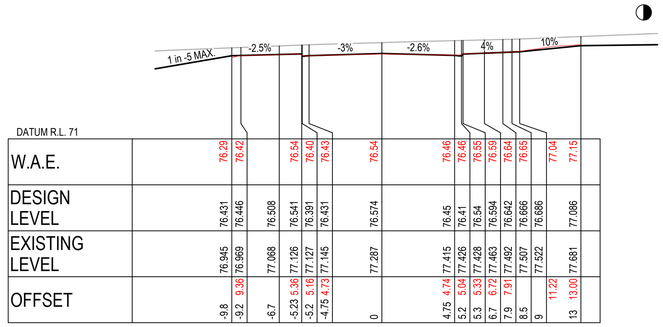
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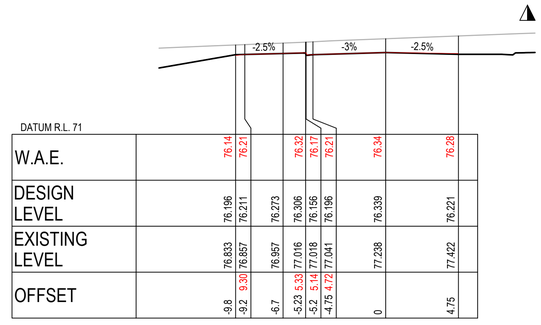
ROAD 01 (CONT.)

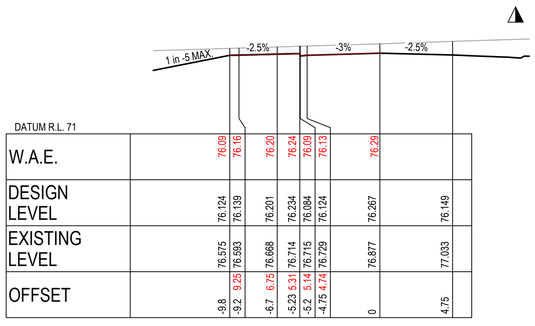


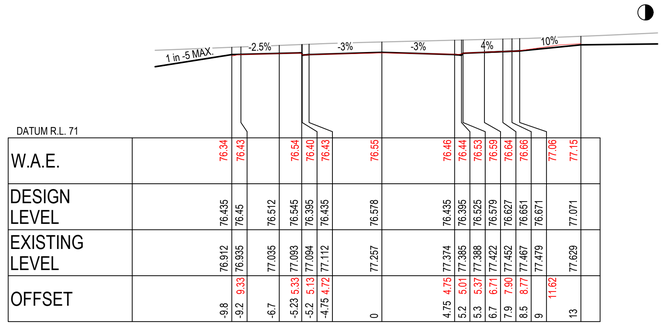


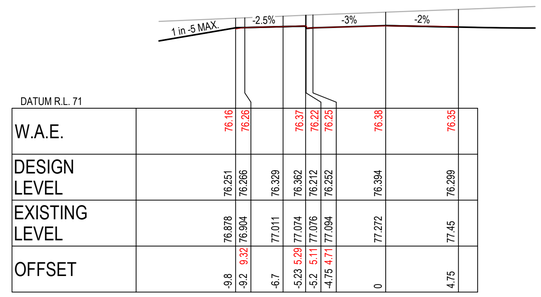


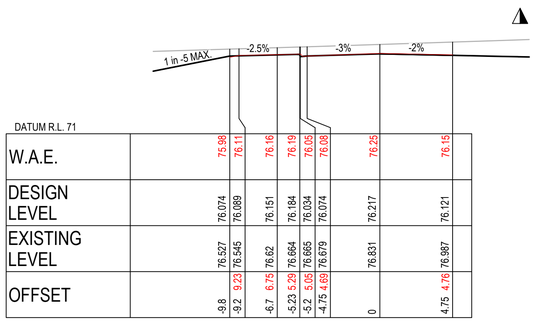


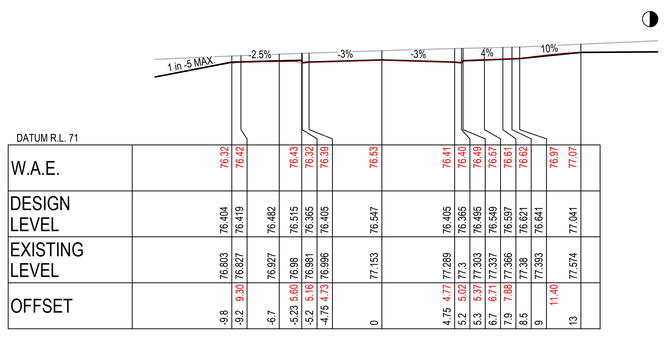


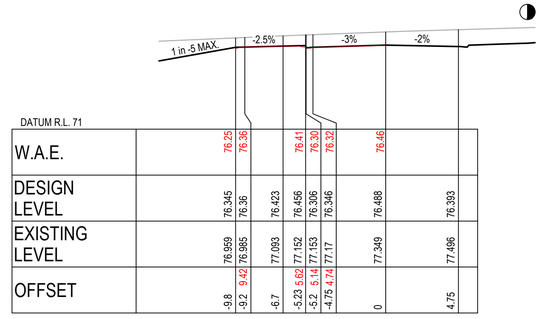












LEGEND

EXISTING SURFACE	
DESIGN SURFACE	
REFER KERB RETURN PLANS SWC 400-408 FOR GRADING BEYOND SECTION	◭
REFER ENGINEERING PLANS SWC 200-203 FOR LOT REGRADING BEYOND SECTION	◑

WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0
SCALE 1:200 (A1) SCALE 1:400 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

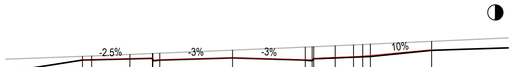
JAS-ANZ WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
ROAD CROSS SECTIONS
SHEET 03 OF 19

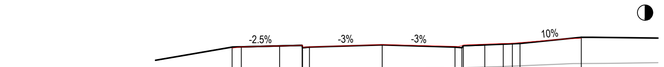
Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	312	E

ROAD 01 (CONT.)



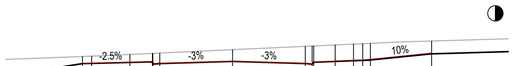
DATUM R.L. 71																									
W.A.E.			76.08	76.13		76.19	76.22		76.09	76.11		76.24			76.12	76.11	76.20	76.28	76.33	76.34			76.78	
DESIGN LEVEL		76.094		76.109		76.172	76.205		76.055	76.095		76.237			76.095	76.055	76.185	76.239	76.287	76.311	76.331		76.731	
EXISTING LEVEL		76.338		76.36		76.464	76.525		76.526	76.545		76.742			76.943	76.964	76.968	77.032	77.066	77.113	77.136		77.318	
OFFSET	-9.8		-9.2	9.25	-6.7	6.76		-5.23	5.31		-5.2	5.13	-4.75	4.71		4.75	4.75	5.2	5.01	5.3	5.35	6.7	6.69	7.9	7.86	8.5		9		13	

CH 360



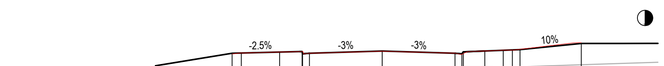
DATUM R.L. 71																									
W.A.E.			76.87	76.96		77.02	77.06		76.93	76.95		77.11			76.99	76.99	77.09	77.14	77.18	77.19			77.51	
DESIGN LEVEL		76.943		76.958		77.021	77.054		76.904	76.944		77.086			76.944	76.904	77.034	77.088	77.136	77.16	77.18		77.58	
EXISTING LEVEL		75.151		75.155		75.194	75.222		75.222	75.23		75.392			75.565	75.587	75.593	75.637	75.676	75.7	75.72		75.869	
OFFSET	-9.8		-9.2	9.25	-6.7	6.77		-5.23	5.33		-5.2	5.15	-4.75	4.72		4.75	4.74	5.2	4.97	5.3	5.35	6.7	6.71	7.9	7.92	8.5		9		13	13.00

TP 418.949



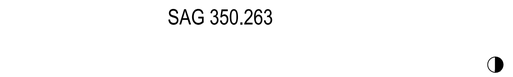
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W.A.E.			76.04	76.09		76.15	76.19		76.01	76.07		76.20			76.06	75.97	76.16	76.23	76.27	76.30			76.76	
DESIGN LEVEL		76.057		76.072		76.135	76.168		76.018	76.058		76.2			76.058	76.018	76.148	76.202	76.25	76.274	76.294		76.694	
EXISTING LEVEL		76.52		76.545		76.656	76.724		76.725	76.746		76.966			77.185	77.205	77.21	77.273	77.328	77.355	77.378		77.53	
OFFSET	-9.8		-9.2	9.25	-6.7	6.76		-5.23	5.31		-5.2	5.12	-4.75	4.70		4.75	4.74	5.2	5.16	5.3	5.21	6.7	6.72	7.9	7.88	8.5		9		13	

SAG 350.263



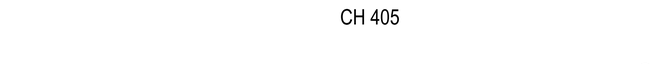
DATUM R.L. 71																									
W.A.E.			76.69	76.74		76.81	76.84		76.70	76.73		76.87			76.74	76.65	76.83	76.88	76.93	76.94			77.42	
DESIGN LEVEL		76.734		76.749		76.812	76.845		76.695	76.735		76.877			76.735	76.695	76.825	76.879	76.927	76.951	76.971		77.371	
EXISTING LEVEL		75.277		75.299		75.376	75.413		75.414	75.431		75.593			75.723	75.735	75.738	75.772	75.799	75.818	75.836		75.981	
OFFSET	-9.8		-9.2	9.28	-6.7	6.75		-5.23	5.31		-5.2	5.14	-4.75	4.70		4.76	5.19	5.2	5.56	5.3	5.73	6.7	7.91	7.9		8.5		9		13	

CH 405



DATUM R.L. 71																									
W.A.E.			76.04	76.09		76.15	76.18		76.05	76.07		76.21			76.09	76.08	76.16	76.24	76.28	76.29			76.74	
DESIGN LEVEL		76.068		76.083		76.145	76.178		76.028	76.068		76.211			76.068	76.028	76.158	76.212	76.26	76.284	76.304		76.704	
EXISTING LEVEL		76.617		76.648		76.774	76.848		76.85	76.873		77.097			77.315	77.336	77.34	77.387	77.423	77.44	77.455		77.572	
OFFSET	-9.8		-9.2	9.25	-6.7	6.78		-5.23	5.30		-5.2	5.12	-4.75	4.70		4.75	4.75	5.2	5.00	5.3	5.37	6.7	6.69	7.9	7.88	8.5		9		13	

CH 345



DATUM R.L. 71																									
W.A.E.			76.47	76.53		76.59	76.62		76.48	76.52		76.63			76.53	76.51	76.61	76.66	76.70	76.71			77.20	
DESIGN LEVEL		76.509		76.524		76.587	76.62		76.47	76.51		76.652			76.51	76.47	76.6	76.654	76.702	76.726	76.746		77.146	
EXISTING LEVEL		75.816		75.842		75.949	76.008		76.009	76.026		76.21			76.372	76.387	76.391	76.438	76.479	76.5	76.516		76.657	
OFFSET	-9.8		-9.2	9.25	-6.7	6.78		-5.23	5.31		-5.2	5.12	-4.75	4.69		4.75	4.75	5.2	4.98	5.3	5.34	6.7	6.69	7.9	7.85	8.5		9		13	

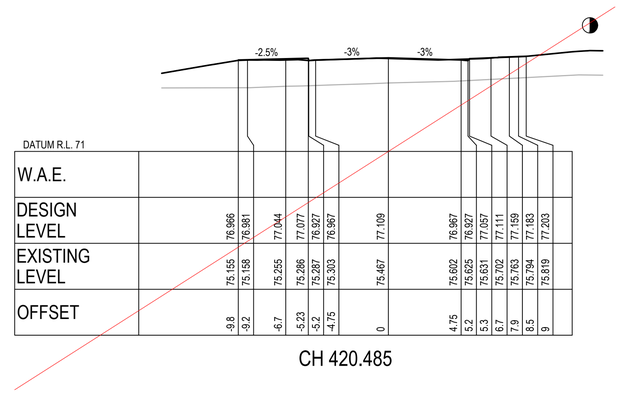
CH 390

DATUM R.L. 71																									
W.A.E.			76.09	76.15		76.22	76.26		76.12	76.15		76.27			76.16	76.16	76.15								
DESIGN LEVEL		76.135		76.15		76.212	76.245		76.095	76.135		76.278			76.135	76.095	76.225	76.279	76.327	76.351	76.371		76.771	
EXISTING LEVEL		76.742		76.766		76.874	76.948		76.95	76.973		77.21			77.393	77.41	77.414	77.464	77.499	77.516	77.531		77.647	
OFFSET	-9.8		-9.2	9.28	-6.7	6.77		-5.23	5.33		-5.2	5.13	-4.75	4.70		0.00		4.75	4.80	5.2	4.80	5.3	5.04	6.7		7.9		8.5		9		13	

KTP 336.074

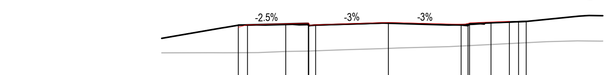
DATUM R.L. 71																									
W.A.E.			76.25	76.30		76.36	76.40		76.26	76.29		76.43			76.27	76.21	76.39	76.44	76.48	76.50			76.97	
DESIGN LEVEL		76.284		76.299		76.362	76.395		76.245	76.285		76.427			76.285	76.245	76.375	76.429	76.477	76.501	76.521		76.921	
EXISTING LEVEL		76.094		76.117		76.217	76.276		76.277	76.295		76.485			76.679	76.698	76.702	76.759	76.809	76.833	76.854		77.016	
OFFSET	-9.8		-9.2	9.23	-6.7	6.77		-5.23	5.30		-5.2	5.11	-4.75	4.69		4.75	5.16	5.2	5.53	5.3	5.76	6.7	6.69	7.9	7.85	8.5		9		13	

CH 375



DATUM R.L. 71																									
W.A.E.																									
DESIGN LEVEL		76.966		76.981		77.044			77.077			77.109			76.967										
EXISTING LEVEL		75.155		75.158		75.255			75.286			75.287			75.303										
OFFSET	-9.8		-9.2		-6.7			-5.23			-5.2		-4.75			4.75		5.2		5.3		6.7		7.9		8.5		9			

CH 420.485



DATUM R.L. 71																									
W.A.E.			76.81	76.97		77.04			77.08	76.94		76.98			77.13								77.01	77.01	77.11	77.16	77.21			
DESIGN LEVEL		76.959		76.974		77.037			77.07	76.92		76.96			77.102								76.96	76.92	77.05	77.104	77.152	77.176	77.196	
EXISTING LEVEL		75.154		75.157		75.236			75.263	75.264		75.28			75.439								75.59	75.613	75.619	75.69	75.751	75.782	75.807	
OFFSET	-9.8		-9.2	9.26	-6.7	6.78		-5.23	5.32		-5.2	5.13	-4.75	4.70		0		4.75	4.74	5.2	4.96	5.3	5.34	6.7	6.71	7.9	7.92	8.5		9	

CH 420

LEGEND

EXISTING SURFACE	
DESIGN SURFACE	
REFER KERB RETURN PLANS SWC 400-408 FOR GRADING BEYOND SECTION	◭
REFER ENGINEERING PLANS SWC 200-203 FOR LOT REGRADING BEYOND SECTION	◑

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
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SCALE 1:200 (A1) SCALE 1:400 (A3)

For: mirvac

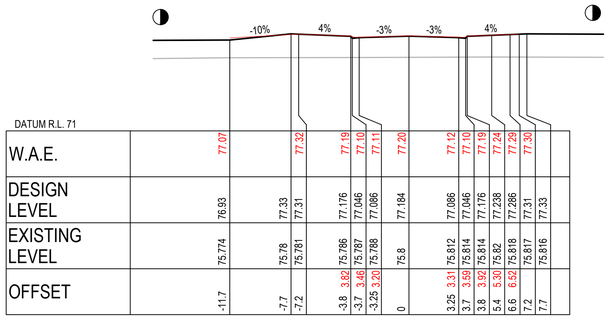
By: Orion Consulting
JAS-ANZ
WWW.JAS-ANZ.ORG/REGISTER
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
ROAD CROSS SECTIONS
SHEET 04 OF 19

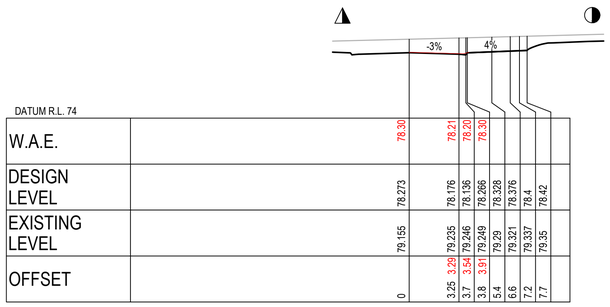
Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	313	E

ROAD 02

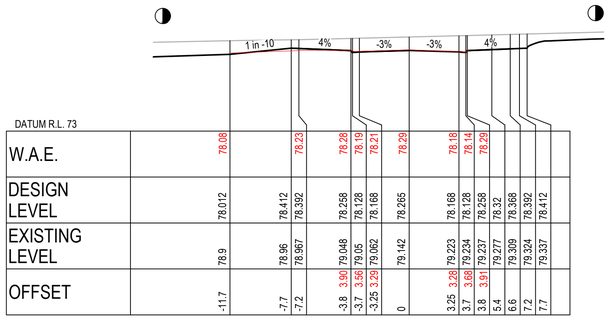


| DATUM R.L. 71 | | |

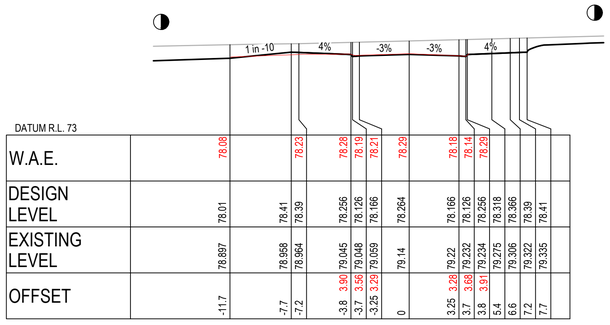
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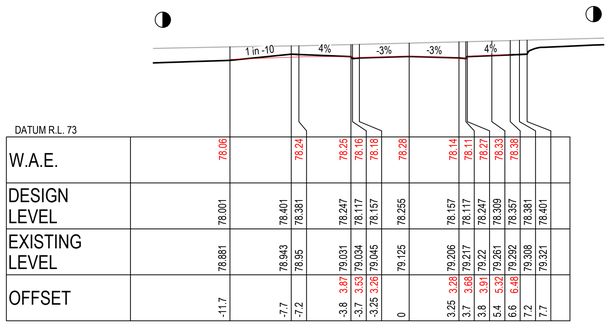
KTP 1425.898



KTP 1425.146

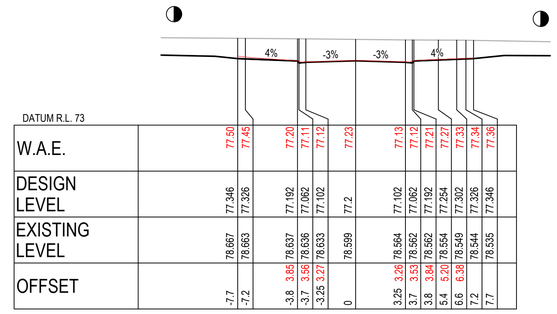


CH 1425

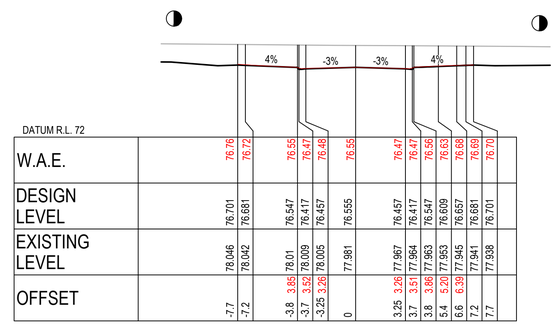


TP 1424.121

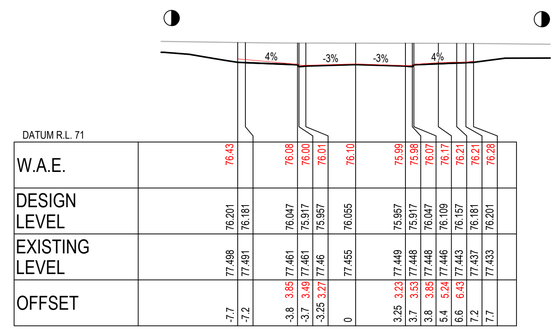
ROAD 03



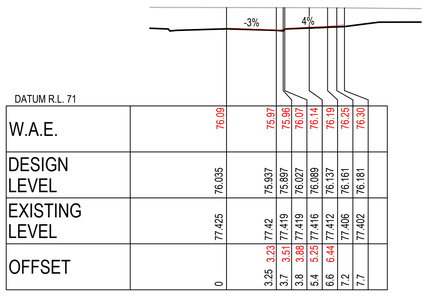
CH 45



CH 30



KTP 18.072

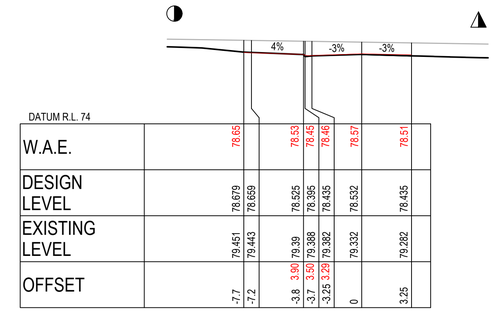


KTP 17.342

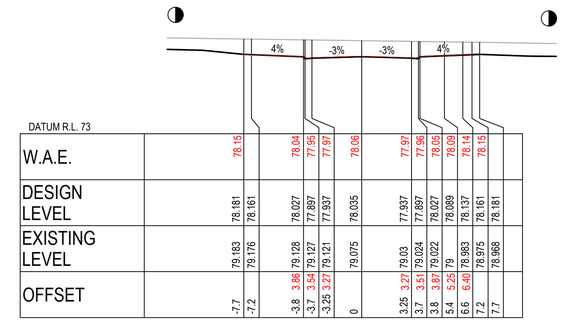
LEGEND

EXISTING SURFACE	
DESIGN SURFACE	
REFER KERB RETURN PLANS SWC 400-408 FOR GRADING BEYOND SECTION	◭
REFER ENGINEERING PLANS SWC 200-203 FOR LOT REGRADING BEYOND SECTION	◑

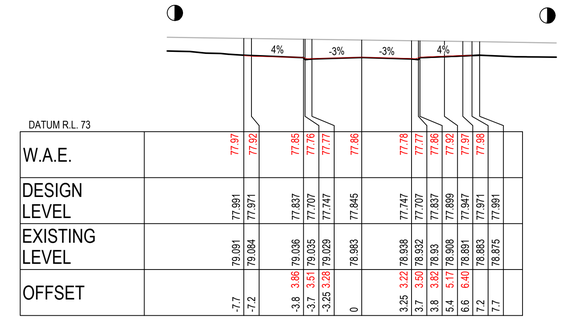
WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP



IP 75.99



KTP 64.42



CH 60

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0
SCALE 1:200 (A1) SCALE 1:400 (A3)

For: mirvac

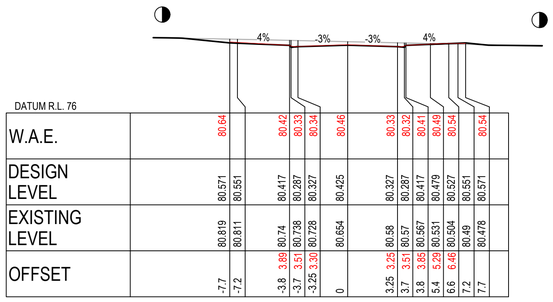
By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
ROAD CROSS SECTIONS
SHEET 06 OF 19

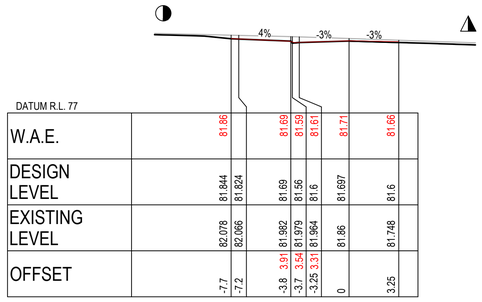
Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	315	E

ROAD 03 (CONT.)



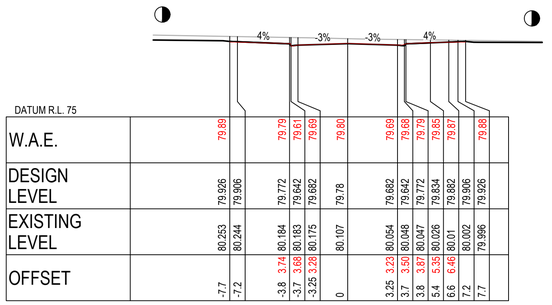
DATUM R.L. 76														
W.A.E.		80.64			80.42	80.33	80.46		80.33	80.32	80.41	80.49	80.54	80.54
DESIGN LEVEL	80.571	80.551		80.417	80.287	80.327	80.425		80.327	80.287	80.417	80.479	80.527	80.551	80.571
EXISTING LEVEL	80.819	80.811		80.74	80.738	80.728	80.654		80.58	80.57	80.567	80.531	80.504	80.49	80.478
OFFSET	-7.7	-7.2	-3.8	3.89	-3.7	3.51	-3.25	3.30	0	3.25	3.25	3.7	3.51	3.8	3.85	5.4	5.29	6.6	6.46	7.2	7.7

CH 120



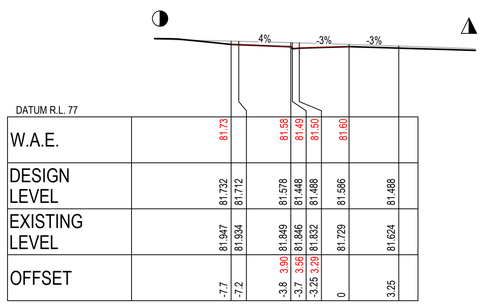
DATUM R.L. 77								
W.A.E.		81.86		81.69	81.59	81.61	81.71	81.66
DESIGN LEVEL	81.844	81.824		81.69	81.56	81.6	81.697	81.6
EXISTING LEVEL	82.078	82.066		81.982	81.979	81.964	81.86	81.748
OFFSET	-7.7	-7.2	-3.8	3.91	-3.7	3.54	-3.25	3.31	0	3.25

IP 153.47



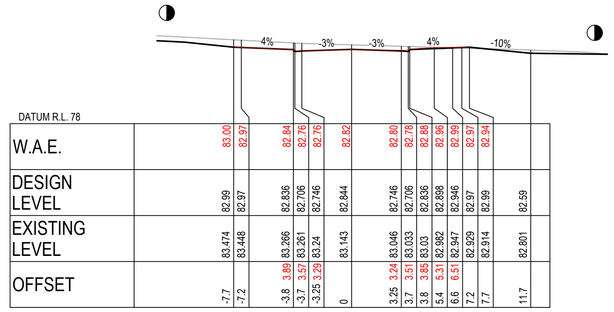
DATUM R.L. 75														
W.A.E.		79.88			79.79	79.61	79.69	79.80		79.69	79.68	79.79	79.85	79.87	79.88
DESIGN LEVEL	79.926	79.906		79.772	79.642	79.682	79.78		79.662	79.642	79.772	79.834	79.882	79.906	79.926
EXISTING LEVEL	80.253	80.244		80.184	80.183	80.175	80.107		80.054	80.048	80.047	80.026	80.01	80.002	79.996
OFFSET	-7.7	-7.2	-3.8	3.74	-3.7	3.68	-3.25	3.28	0	3.25	3.23	3.7	3.50	3.8	3.87	5.4	5.35	6.6	6.46	7.2	7.7

CH 105



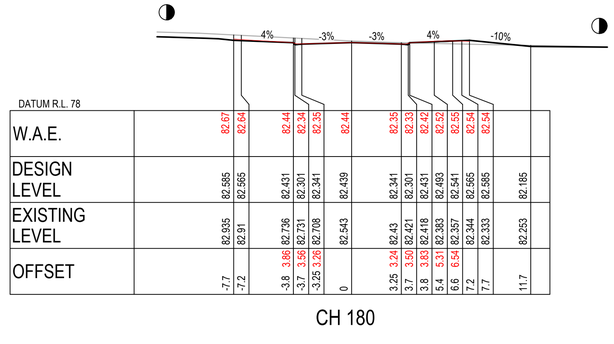
DATUM R.L. 77								
W.A.E.		81.73		81.58	81.49	81.50	81.60	
DESIGN LEVEL	81.732	81.712		81.578	81.488	81.488	81.586	81.488
EXISTING LEVEL	81.947	81.934		81.849	81.846	81.832	81.729	81.624
OFFSET	-7.7	-7.2	-3.8	3.90	-3.7	3.56	-3.25	3.29	0	3.25

CH 150



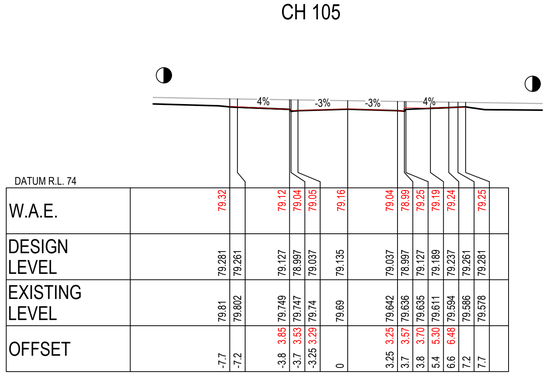
DATUM R.L. 78															
W.A.E.		83.00	82.97		82.84	82.76	82.82		82.80	82.78	82.88	82.96	82.99	82.97	82.94
DESIGN LEVEL	82.99	82.97		82.836	82.706	82.746	82.844		82.746	82.706	82.836	82.898	82.946	82.97	82.99	82.59
EXISTING LEVEL	83.474	83.448		83.266	83.261	83.24	83.143		83.046	83.033	83.03	82.962	82.947	82.929	82.914	82.801
OFFSET	-7.7	-7.2	-3.8	3.89	-3.7	3.57	-3.25	3.29	0	3.25	3.24	3.7	3.51	3.8	3.85	5.4	5.31	6.6	6.51	7.2	7.7	11.7

CH 195



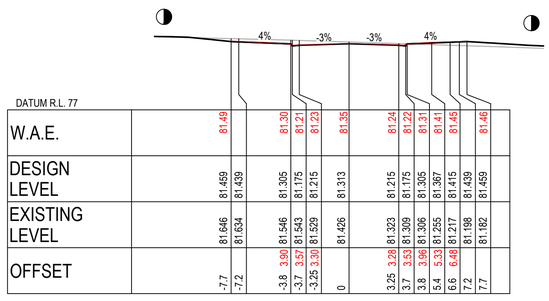
DATUM R.L. 78															
W.A.E.		82.67	82.64		82.44	82.34	82.35	82.44		82.35	82.33	82.42	82.52	82.55	82.54	82.54
DESIGN LEVEL	82.585	82.565		82.431	82.301	82.341	82.439		82.341	82.301	82.431	82.493	82.541	82.565	82.585	82.185
EXISTING LEVEL	82.935	82.91		82.736	82.731	82.708	82.543		82.43	82.421	82.418	82.383	82.357	82.344	82.333	82.253
OFFSET	-7.7	-7.2	-3.8	3.86	-3.7	3.56	-3.25	3.26	0	3.25	3.24	3.7	3.50	3.8	3.83	5.4	5.31	6.6	6.54	7.2	7.7	11.7

CH 180



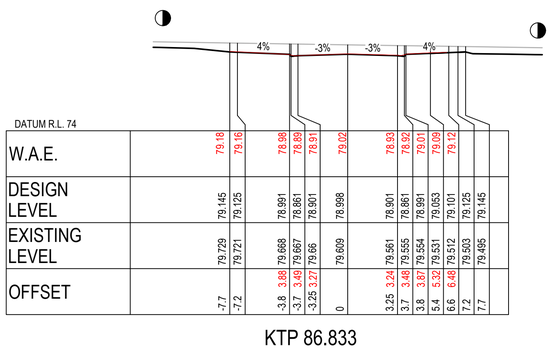
DATUM R.L. 74														
W.A.E.		79.32			79.12	79.04	79.16		79.04	78.99	79.25	79.19	79.24	79.25
DESIGN LEVEL	79.281	79.261		79.127	78.997	79.037	79.135		79.037	78.997	79.127	79.189	79.237	79.261	79.281
EXISTING LEVEL	79.81	79.802		79.749	79.747	79.74	79.69		79.642	79.636	79.635	79.611	79.594	79.586	79.578
OFFSET	-7.7	-7.2	-3.8	3.85	-3.7	3.53	-3.25	3.29	0	3.25	3.25	3.7	3.57	3.8	3.70	5.4	5.30	6.6	6.48	7.2	7.7

CH 90



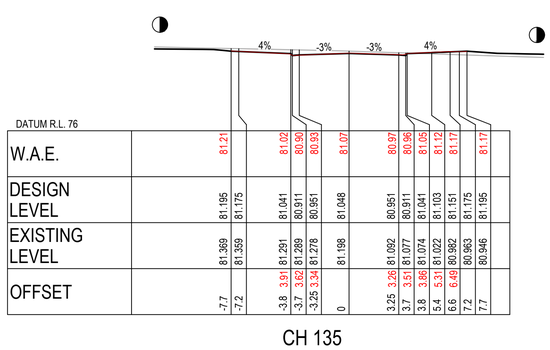
DATUM R.L. 77														
W.A.E.		81.49			81.30	81.21	81.23	81.35		81.24	81.22	81.31	81.41	81.45	81.46
DESIGN LEVEL	81.459	81.439		81.305	81.175	81.215	81.313		81.215	81.175	81.305	81.367	81.415	81.439	81.459
EXISTING LEVEL	81.646	81.634		81.546	81.543	81.529	81.426		81.323	81.309	81.306	81.255	81.217	81.198	81.182
OFFSET	-7.7	-7.2	-3.8	3.90	-3.7	3.57	-3.25	3.30	0	3.25	3.28	3.7	3.53	3.8	3.96	5.4	5.33	6.6	6.48	7.2	7.7

KTP 142.063



DATUM R.L. 74														
W.A.E.		79.18	79.16		78.98	78.89	78.91	79.02		78.93	78.92	79.01	79.08	79.12	
DESIGN LEVEL	79.145	79.125		78.991	78.861	78.901	78.998		78.901	78.861	78.991	79.053	79.101	79.125	79.145
EXISTING LEVEL	79.729	79.721		79.668	79.667	79.66	79.609		79.561	79.555	79.554	79.531	79.512	79.503	79.495
OFFSET	-7.7	-7.2	-3.8	3.88	-3.7	3.49	-3.25	3.27	0	3.25	3.24	3.7	3.48	3.8	3.87	5.4	5.32	6.6	6.48	7.2	7.7

KTP 86.833



DATUM R.L. 76														
W.A.E.		81.21			81.02	80.90	80.93	81.07		80.97	80.96	81.05	81.12	81.17	
DESIGN LEVEL	81.195	81.175		81.041	80.911	80.951	81.048		80.951	80.911	81.041	81.103	81.151	81.175	81.195
EXISTING LEVEL	81.369	81.359		81.291	81.289	81.278	81.198		81.092	81.077	81.074	81.022	80.982	80.963	80.946
OFFSET	-7.7	-7.2	-3.8	3.91	-3.7	3.62	-3.25	3.34	0	3.25	3.26	3.7	3.51	3.8	3.86	5.4	5.31	6.6	6.49	7.2	7.7

CH 135

LEGEND

EXISTING SURFACE	
DESIGN SURFACE	
REFER KERB RETURN PLANS SWC 400-408 FOR GRADING BEYOND SECTION	◭
REFER ENGINEERING PLANS SWC 200-203 FOR LOT REGRADING BEYOND SECTION	◑

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0
SCALE 1:200 (A1) SCALE 1:400 (A3)

For: mirvac

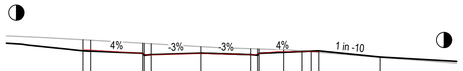
By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
ROAD CROSS SECTIONS
SHEET 07 OF 19

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	316	E

ROAD 03 (CONT.)



DATUM R.L. 78

| | | |

ROAD 05



DATUM R.L. 72																							
W.A.E.			76.77	76.76			76.61	76.51	76.52	76.61			76.48	76.47	76.57	76.68	76.70	76.73	76.75				
DESIGN LEVEL		76.724	76.704		76.57	76.44	76.48	76.577		76.48	76.44	76.57	76.632	76.68	76.704	76.724							
EXISTING LEVEL		76.455	76.472		76.587	76.59	76.605	76.715		76.823	76.838	76.842	76.895	76.935	76.955	76.972							
OFFSET	-7.7		-7.2		-3.8	3.88	-3.7	3.56	-3.25	3.26	0		3.25	3.23	3.7	3.50	3.8	3.84	5.4	5.24	6.6	6.44	7.2	7.7

CH 105



DATUM R.L. 73																							
W.A.E.			78.33	78.27			78.21	78.12	78.13	78.23			78.13	78.11	78.20	78.28	78.30	78.31					
DESIGN LEVEL		78.342	78.322		78.188	78.058	78.098	78.195		78.098	78.058	78.188	78.25	78.298	78.322	78.342							
EXISTING LEVEL		77.673	77.68		77.743	77.746	77.758	77.842		77.932	77.946	77.949	77.998	78.035	78.053	78.068							
OFFSET	-7.7	7.70	-7.2	7.07	-3.8	3.82	-3.7	3.52	-3.25	3.25	0		3.25	3.27	3.7	3.50	3.8	3.88	5.4	5.28	6.6	6.43	7.2	7.7

TP 142.162



DATUM R.L. 71																							
W.A.E.			76.32	76.31			76.18	76.09	76.10	76.20			76.09	76.08	76.17	76.27	76.28	76.32	76.33				
DESIGN LEVEL		76.312	76.292		76.158	76.028	76.068	76.166		76.068	76.028	76.158	76.22	76.268	76.292	76.312							
EXISTING LEVEL		75.961	75.998		76.117	76.12	76.136	76.248		76.357	76.372	76.375	76.429	76.47	76.49	76.504							
OFFSET	-7.7		-7.2		-3.8	3.84	-3.7	3.51	-3.25	3.26	0		3.25	3.51	3.7	3.84	3.8	5.27	5.4	6.45	6.6		7.2	7.7

CH 90



DATUM R.L. 73																							
W.A.E.			78.00	77.99			77.89	77.80	77.81	77.90			77.80	77.79	77.88	77.96	77.98	77.98	77.98				
DESIGN LEVEL		78.03	78.01		77.876	77.746	77.786	77.883		77.786	77.746	77.876	77.938	77.986	78.01	78.03							
EXISTING LEVEL		77.437	77.444		77.518	77.52	77.532	77.617		77.702	77.713	77.716	77.758	77.789	77.805	77.818							
OFFSET	-7.7		-7.2		-3.8	3.86	-3.7	3.51	-3.25	3.27	0		3.25	3.48	3.8	3.84	5.4	5.24	6.6	6.45	7.2		7.7	7.8

TP 135.226



DATUM R.L. 71																							
W.A.E.			75.96	75.95			75.93	75.85	75.86	75.97			75.88	75.87	75.97	76.04	76.06	76.07	76.08				
DESIGN LEVEL		76.104	76.084		75.95	75.82	75.86	75.958		75.86	75.82	75.95	76.012	76.06	76.084	76.104							
EXISTING LEVEL		75.377	75.391		75.465	75.488	75.5	75.59		75.682	75.695	75.698	75.744	75.776	75.788	75.795							
OFFSET	-7.7		-7.2		-3.8	3.86	-3.7	3.48	-3.25	3.26	0		3.25	3.23	3.7	3.49	3.8	3.81	5.4	5.24	6.6	6.47	7.2	7.7

CH 75



DATUM R.L. 73																							
W.A.E.			78.00	77.99			77.88	77.78	77.79	77.89			77.79	77.78	77.87	77.95	77.97	77.97	77.98				
DESIGN LEVEL		78.02	78		77.866	77.736	77.776	77.873		77.776	77.736	77.866	77.928	77.976	78	78.02							
EXISTING LEVEL		77.43	77.437		77.511	77.513	77.525	77.61		77.694	77.706	77.709	77.75	77.762	77.797	77.811							
OFFSET	-7.7		-7.2		-3.8	3.87	-3.7	3.52	-3.25	3.27	0		3.25	3.25	3.7	3.49	3.8	3.82	5.4	5.23	6.6	6.42	7.2	7.7

CH 135

DATUM R.L. 71																							
W.A.E.																							
DESIGN LEVEL		76.095	76.075		75.941	75.811	75.851	75.949		75.851	75.811	75.941	76.003	76.051	76.075	76.095							
EXISTING LEVEL		75.336	75.35		75.444	75.447	75.459	75.549		75.639	75.651	75.654	75.7	75.731	75.742	75.75							
OFFSET	-7.7		-7.2		-3.8		-3.7		-3.25		0		3.25		3.7		3.8		5.4		6.6		7.2	7.7

CH 74.17

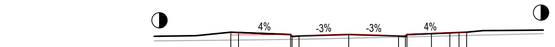
DATUM R.L. 72																							
W.A.E.			77.35	77.34			77.19	77.10	77.12	77.22			77.11	77.04	77.20	77.28	77.30	77.30	77.30				
DESIGN LEVEL		77.345	77.325		77.191	77.061	77.101	77.198		77.101	77.061	77.191	77.253	77.301	77.325	77.345							
EXISTING LEVEL		76.922	76.936		77.026	77.028	77.04	77.127		77.213	77.225	77.227	77.279	77.319	77.338	77.355							
OFFSET	-7.7		-7.2		-3.8	3.83	-3.7	3.52	-3.25	3.25	0		3.25	3.24	3.7	3.62	3.8	3.87	5.4	5.27	6.6	6.44	7.2	7.7

CH 120



DATUM R.L. 75																							
W.A.E.			79.85	79.86			79.90	79.80	79.83	79.90			79.79	79.77	79.86	79.96	79.99	80.02	80.05				
DESIGN LEVEL		80.045	80.025		79.891	79.761	79.801	79.898		79.801	79.761	79.891	79.953	79.987	80.001	80.025							
EXISTING LEVEL		79.94	79.942		79.963	79.964	79.968	79.968		79.973	79.975	79.975	79.982	79.987	79.99	79.992							
OFFSET	-7.7		-7.2		-3.8	3.86	-3.7	3.55	-3.25	3.24	0		3.25	3.26	3.7	3.54	3.8	3.87	5.4	5.24	6.6	6.43	7.2	7.7

CH 180



DATUM R.L. 74																							
W.A.E.			79.19	79.20			79.22	79.12	79.14	79.25			79.14	79.13	79.23	79.30	79.33	79.34	79.34				
DESIGN LEVEL		79.37	79.35		79.216	79.086	79.126	79.223		79.126	79.086	79.216	79.278	79.326	79.335	79.37							
EXISTING LEVEL		78.854	78.859		78.9	78.902	78.908	78.979		79.055	79.066	79.068	79.106	79.134	79.148	79.16							
OFFSET	-7.7		-7.2		-3.8	3.88	-3.7	3.56	-3.25	3.30	0		3.25	3.26	3.7	3.50	3.8	3.88	5.4	5.22	6.6	6.42	7.2	7.7

CH 165



DATUM R.L. 73																							
W.A.E.			78.63	78.62			78.54	78.45	78.46	78.57			78.48	78.47	78.55	78.63	78.65	78.66	78.67				
DESIGN LEVEL		78.695	78.675		78.541	78.411	78.451	78.548		78.451	78.411	78.541	78.603	78.651	78.675	78.695							
EXISTING LEVEL		78.04	78.045		78.089	78.092	78.105	78.194		78.284	78.286	78.299	78.343	78.376	78.393	78.406							
OFFSET	-7.7		-7.2		-3.8	3.84	-3.7	3.51	-3.25	3.29	0		3.25	3.22	3.7	3.52	3.8	3.83	5.4	5.22	6.6	6.43	7.2	7.7

CH 150

LEGEND

EXISTING SURFACE	
DESIGN SURFACE	
REFER KERB RETURN PLANS SWC 400-408 FOR GRADING BEYOND SECTION	◭
REFER ENGINEERING PLANS SWC 200-203 FOR LOT REGRADING BEYOND SECTION	◑

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0
SCALE 1:200 (A1) SCALE 1:400 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
ROAD CROSS SECTIONS
SHEET 09 OF 19

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	318	E

ROAD 05 (CONT.)



DATUM R.L. 77														
W.A.E.				81.34			81.27	81.26	81.35					
DESIGN LEVEL				81.353			81.255	81.215	81.345	81.407	81.455	81.479	81.499	
EXISTING LEVEL				81.474			81.588	81.604	81.607	81.657	81.684	81.698	81.709	
OFFSET				0			3.25	3.27	3.52	3.84	5.4	6.6	7.2	7.7

KTP 212.892



DATUM R.L. 77														
W.A.E.		81.40	81.39		81.35	81.27	81.28	81.33		81.25	81.23	81.33		
DESIGN LEVEL		81.464	81.464		81.33	81.2	81.24	81.338		81.24	81.2	81.33	81.392	
EXISTING LEVEL		81.189	81.206		81.326	81.329	81.345	81.459		81.574	81.589	81.593	81.643	81.67
OFFSET	-7.7	-7.2	-3.8	3.76	-3.7	3.44	-3.25	3.20	0	3.25	3.26	3.53	3.84	5.4

DATUM R.L. 77														
W.A.E.														
DESIGN LEVEL	81.44	81.464	81.33											
EXISTING LEVEL	81.67	81.684	81.695											
OFFSET	6.6	7.2	7.7											

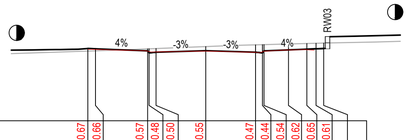
KTP 212.482



DATUM R.L. 76														
W.A.E.		81.25	81.24		81.23	81.15	81.17	81.24		81.12	81.04	81.22	81.30	81.33
DESIGN LEVEL	81.368	81.368	81.234		81.104	81.144	81.242		81.144	81.104	81.234	81.296	81.344	81.368
EXISTING LEVEL	81.088	81.106	81.231		81.235	81.251	81.37		81.486	81.502	81.506	81.559	81.586	81.6
OFFSET	-7.7	-7.2	-3.8	3.83	-3.7	3.52	-3.25	3.26	0	3.25	3.21	3.60	3.79	5.17

DATUM R.L. 76														
W.A.E.														
DESIGN LEVEL	81.388													
EXISTING LEVEL														
OFFSET	6.42	7.2	7.7											

CH 210

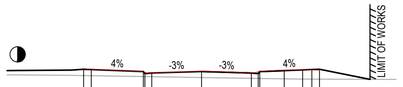


DATUM R.L. 76														
W.A.E.		80.67	80.66		80.57	80.48	80.50	80.55		80.47	80.44	80.54	80.62	80.65
DESIGN LEVEL	80.72	80.7	80.566		80.436	80.476	80.573		80.476	80.436	80.566	80.628	80.676	80.7
EXISTING LEVEL	80.551	80.568	80.695		80.699	80.717	80.845		80.957	80.968	80.971	81.013	81.044	81.06
OFFSET	-7.7	-7.2	-3.8	3.90	-3.7	3.54	-3.25	3.26	0	0.00	3.25	3.28	3.52	3.83

DATUM R.L. 76														
W.A.E.														
DESIGN LEVEL	81.444													
EXISTING LEVEL														
OFFSET	5.19	6.41	7.2	7.7										

CH 195

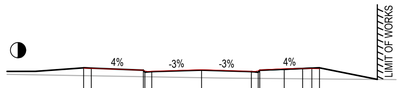
ROAD 07



DATUM R.L. 73														
W.A.E.		77.91	77.89		77.71	77.62	77.64	77.76		77.66	77.66	77.75	77.83	77.85
DESIGN LEVEL	77.879	77.859	77.725		77.595	77.635	77.733		77.635	77.595	77.725	77.787	77.835	77.859
EXISTING LEVEL	77.465	77.456	77.399		77.398	77.39	77.336		77.283	77.276	77.275	77.252	77.235	77.233
OFFSET	-7.7	-7.2	-3.8	3.84	-3.7	3.50	-3.25	3.26	0	3.25	3.21	3.47	3.80	5.24

DATUM R.L. 73														
W.A.E.														
DESIGN LEVEL	77.869													
EXISTING LEVEL														
OFFSET	6.43	7.2	7.7											

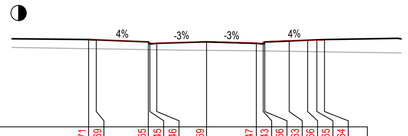
CH 120



DATUM R.L. 72														
W.A.E.		77.20	77.18		77.08	76.99	77.01	77.11		77.00	76.99	77.09	77.17	77.19
DESIGN LEVEL	77.227	77.207	77.073		76.943	76.983	77.081		76.983	76.943	77.073	77.135	77.193	77.207
EXISTING LEVEL	76.716	76.708	76.65		76.648	76.64	76.584		76.541	76.537	76.536	76.523	76.513	76.508
OFFSET	-7.7	-7.2	-3.8	3.85	-3.7	3.52	-3.25	3.28	0	3.25	3.24	3.48	3.80	5.26

DATUM R.L. 72														
W.A.E.														
DESIGN LEVEL	77.227													
EXISTING LEVEL														
OFFSET	6.44	7.2	7.7											

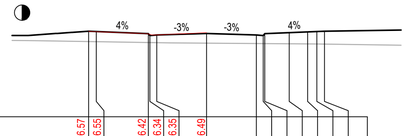
CH 105



DATUM R.L. 71														
W.A.E.		76.71	76.69		76.55	76.45	76.46	76.59		76.47	76.43	76.56	76.63	76.65
DESIGN LEVEL	76.698	76.678	76.544		76.414	76.454	76.552		76.454	76.414	76.544	76.606	76.654	76.678
EXISTING LEVEL	76.105	76.097	76.041		76.04	76.032	75.992		75.964	75.957	75.955	75.932	75.914	75.905
OFFSET	-7.7	-7.2	-3.8	3.87	-3.7	3.51	-3.25	3.27	0	3.25	3.21	3.56	3.84	5.24

DATUM R.L. 71														
W.A.E.														
DESIGN LEVEL	76.698													
EXISTING LEVEL														
OFFSET	6.38	7.2	7.7											

CH 90



DATUM R.L. 71														
W.A.E.		76.57	76.55		76.42	76.34	76.35	76.49						
DESIGN LEVEL	76.585	76.565	76.431		76.301	76.341	76.439		76.341	76.301	76.431	76.493	76.541	76.565
EXISTING LEVEL	75.91	75.902	76.847		76.845	75.838	75.806		75.781	75.778	75.777	75.765	75.756	75.751
OFFSET	-7.7	-7.2	-3.8	3.87	-3.7	3.56	-3.25	3.28	0	3.25	3.7	3.8	5.4	6.6

DATUM R.L. 71														
W.A.E.														
DESIGN LEVEL	76.585													
EXISTING LEVEL														
OFFSET	7.2	7.7												

CH 86.255

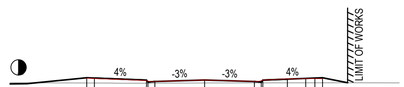
LEGEND

EXISTING SURFACE	
DESIGN SURFACE	
REFER KERB RETURN PLANS SWC 400-408 FOR GRADING BEYOND SECTION	◭
REFER ENGINEERING PLANS SWC 200-203 FOR LOT REGRADING BEYOND SECTION	◑

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

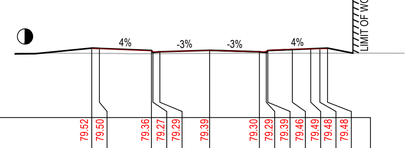
REGISTERED SURVEYOR ID: 8890
ORION GROUP



DATUM R.L. 75														
W.A.E.		79.53	79.52		79.39	79.30	79.32	79.41		79.33	79.32	79.41	79.46	79.51
DESIGN LEVEL	79.563	79.543	79.409		79.279	79.319	79.417		79.319	79.279	79.409	79.471	79.519	79.543
EXISTING LEVEL	79.22	79.218	79.205		79.205	79.207	79.222		79.228	79.228	79.229	79.231	79.232	79.233
OFFSET	-7.7	-7.2	-3.8	3.85	-3.7	3.52	-3.25	3.26	0	3.25	3.22	3.46	5.27	6.42

DATUM R.L. 75														
W.A.E.														
DESIGN LEVEL	79.563													
EXISTING LEVEL														
OFFSET	6.6	7.2	7.7											

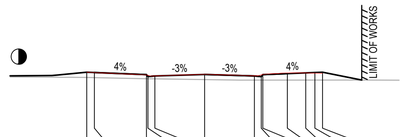
TP 150.444



DATUM R.L. 75														
W.A.E.		79.52	79.50		79.38	79.27	79.29	79.39		79.30	79.29	79.39	79.46	79.49
DESIGN LEVEL	79.536	79.516	79.382		79.252	79.292	79.39		79.292	79.252	79.382	79.444	79.492	79.516
EXISTING LEVEL	79.194	79.192	79.174		79.175	79.177	79.191		79.197	79.197	79.198	79.2	79.201	79.202
OFFSET	-7.7	-7.2	-3.8	3.86	-3.7	3.49	-3.25	3.26	0	3.25	3.21	3.46	5.21	6.41

DATUM R.L. 75														
W.A.E.														
DESIGN LEVEL	79.536													
EXISTING LEVEL														
OFFSET	6.43	7.2	7.7											

CH 150



DATUM R.L. 74														
W.A.E.		78.65	78.63		78.48	78.40	78.42	78.52		78.42	78.42	78.52	78.60	78.61
DESIGN LEVEL	78.653	78.633	78.499		78.369	78.409	78.507		78.409	78.369	78.499	78.561	78.609	78.633
EXISTING LEVEL	78.312	78.301	78.229		78.228	78.221	78.174		78.14	78.14	78.14	78.14	78.141	78.141
OFFSET	-7.7	-7.2	-3.8	3.83	-3.7	3.48	-3.25	3.23	0	3.25	3.21	3.45	5.24	6.43

DATUM R.L. 74														
W.A.E.														
DESIGN LEVEL	78.653													
EXISTING LEVEL														
OFFSET	6.6	7.2	7.7											

CH 135

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0
SCALE 1:200 (A1) SCALE 1:400 (A3)

For: mirvac

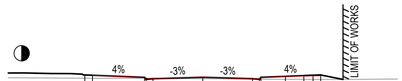
By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
ROAD CROSS SECTIONS
SHEET 10 OF 19

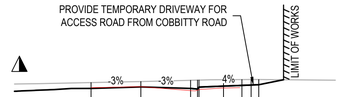
Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	319	E

ROAD 07 (CONT.)



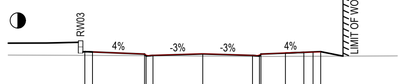
DATUM R.L. 78																									
W.A.E.				82.81			82.68	82.59	82.60	82.70			82.58	82.57	82.66	82.74	82.75	82.76	82.76						
DESIGN LEVEL		82.831		82.811			82.677	82.547	82.587	82.684			82.587	82.547	82.677	82.739	82.787	82.811	82.831						
EXISTING LEVEL		82.616		82.613			82.611	82.611	82.608	82.584			82.561	82.558	82.557	82.546	82.538	82.538	82.538						
OFFSET		-7.7		-7.2			-3.8	-3.7	-3.25	0			3.25	3.7	3.8	5.4	6.6	7.2	7.7						

TP 204.889



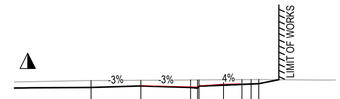
DATUM R.L. 79																									
W.A.E.				84.05			84.11			83.85			83.84	83.93	84.02	84.04									
DESIGN LEVEL		83.994		84.091			83.994	83.954	84.084	84.146			84.194	84.218	84.238										
EXISTING LEVEL		84.377		84.444			84.527	84.539	84.541	84.566			84.574	84.578	84.575										
OFFSET		-3.25	3.24	0			3.25	3.31	3.55	3.90	5.25	6.46													

IP 228.326



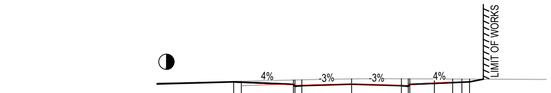
DATUM R.L. 77																									
W.A.E.				82.21			82.09	81.99	82.00	82.11			82.00	81.99	82.08	82.16	82.19	82.21	82.22						
DESIGN LEVEL		82.237		82.217			82.083	81.953	81.993	82.091			81.993	81.953	82.083	82.145	82.193	82.217	82.237						
EXISTING LEVEL		81.995		81.993			81.977	81.976	81.973	81.949			81.926	81.928	81.928	81.932	81.936	81.938	81.939						
OFFSET		-7.7		-7.2			-3.8	-3.7	-3.25	0			3.25	3.7	3.8	5.4	6.6	7.2	7.7						

CH 195



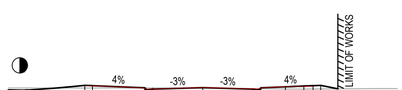
DATUM R.L. 79																									
W.A.E.				83.92			83.84			83.84			83.84	83.91	84.01	84.05									
DESIGN LEVEL		83.794		83.892			83.794	83.754	83.864	83.946			83.994	84.018	84.038										
EXISTING LEVEL		84.244		84.262			84.283	84.266	84.287	84.297			84.305	84.309	84.312										
OFFSET		-3.25		0			3.25	3.26	3.87	5.25	6.48														

CH 225



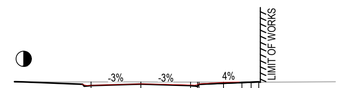
DATUM R.L. 81																									
W.A.E.				85.37			85.48	85.39	85.41	85.49			85.39	85.37	85.48	85.54	85.57								
DESIGN LEVEL		85.616		85.596			85.462	85.332	85.372	85.469			85.372	85.332	85.462	85.524	85.572	85.596	85.616						
EXISTING LEVEL		85.646		85.658			85.738	85.741	85.752	85.81			85.819	85.817	85.817	85.81	85.805	85.802	85.8						
OFFSET		-7.7		-7.2			-3.8	-3.7	-3.25	0			3.25	3.7	3.8	5.4	6.6	7.2	7.7						

CH 255



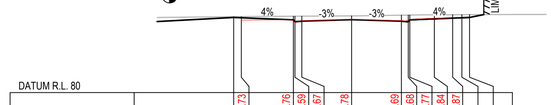
DATUM R.L. 77																									
W.A.E.				81.30			81.17	81.08	81.10	81.20			81.11	81.10	81.18	81.25	81.28	81.27	81.27						
DESIGN LEVEL		81.337		81.317			81.183	81.053	81.093	81.191			81.093	81.053	81.183	81.245	81.293	81.317	81.337						
EXISTING LEVEL		81.168		81.168			81.168	81.168	81.166	81.153			81.127	81.123	81.122	81.108	81.1	81.104	81.106						
OFFSET		-7.7		-7.2			-3.8	-3.7	-3.25	0			3.25	3.7	3.8	5.4	6.6	7.2	7.7						

CH 180



DATUM R.L. 79																									
W.A.E.				83.29	83.20	83.21		83.31			83.23	83.23	83.31	83.40	83.43										
DESIGN LEVEL				83.193			83.29			83.193	83.153	83.283	83.345	83.393	83.417	83.437									
EXISTING LEVEL				83.433			83.432			83.42	83.42	83.42	83.418	83.417	83.417	83.416									
OFFSET		3.86	3.50	-3.25	3.25	0				3.25	3.26	3.53	3.84	5.26	6.44										

KTP 214.979

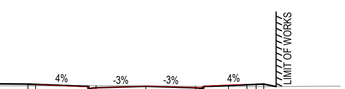


DATUM R.L. 80																									
W.A.E.				84.73			84.76	84.59	84.67	84.78			84.69	84.68	84.77	84.84	84.87								
DESIGN LEVEL		84.904		84.884			84.75	84.62	84.66	84.757			84.66	84.62	84.75	84.812	84.86	84.894	84.904						
EXISTING LEVEL		84.952		84.958			84.983	84.983	84.986	85.005			85.051	85.058	85.06	85.076	85.081	85.084	85.086						
OFFSET		-7.7		-7.2			-3.8	-3.7	-3.25	0			3.25	3.7	3.8	5.4	6.6	7.2	7.7						

CH 240

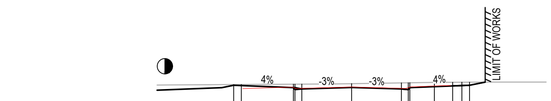
DATUM R.L. 76																									
W.A.E.				80.42			80.27	80.19	80.20	80.30			80.21	80.20	80.29	80.37	80.39	80.38	80.38						
DESIGN LEVEL		80.437		80.417			80.283	80.153	80.193	80.29			80.193	80.153	80.283	80.345	80.393	80.417	80.437						
EXISTING LEVEL		80.165		80.185			80.187	80.187	80.188	80.188			80.188	80.188	80.188	80.179	80.171	80.167	80.163						
OFFSET		-7.7		-7.2			-3.8	-3.7	-3.25	0			3.25	3.7	3.8	5.4	6.6	7.2	7.7						

CH 165



DATUM R.L. 78																									
W.A.E.				83.09			82.96	82.87	82.89	83.01			82.92	82.90	83.00	83.09	83.11								
DESIGN LEVEL		83.138		83.118			82.984	82.854	82.894	82.991			82.894	82.854	82.984	83.046	83.094	83.118	83.138						
EXISTING LEVEL		83.023		83.023			83.028	83.028	83.029	83.014			82.99	82.987	82.987	82.977	82.976	82.976	82.975						
OFFSET		-7.7		-7.2			-3.8	-3.7	-3.25	0			3.25	3.48	3.86	5.25	6.44	7.2	7.7						

CH 210



DATUM R.L. 80																									
W.A.E.				84.56			84.66	84.56	84.58	84.67			84.58	84.58	84.67	84.73	84.77								
DESIGN LEVEL		84.782		84.762			84.628	84.498	84.538	84.635			84.538	84.498	84.628	84.69	84.738	84.762	84.782						
EXISTING LEVEL		84.828		84.831			84.852	84.852	84.855	84.886			84.935	84.942	84.944	84.968	84.976	84.979	84.981						
OFFSET		-7.7		-7.2			-3.8	-3.7	-3.25	0			3.25	3.7	3.8	5.4	6.6	7.2	7.7						

KTP 237.724

LEGEND

EXISTING SURFACE	
DESIGN SURFACE	
REFER KERB RETURN PLANS SWC 400-408 FOR GRADING BEYOND SECTION	◭
REFER ENGINEERING PLANS SWC 200-203 FOR LOT REGRADING BEYOND SECTION	◑

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0
SCALE 1:200 (A1) SCALE 1:400 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

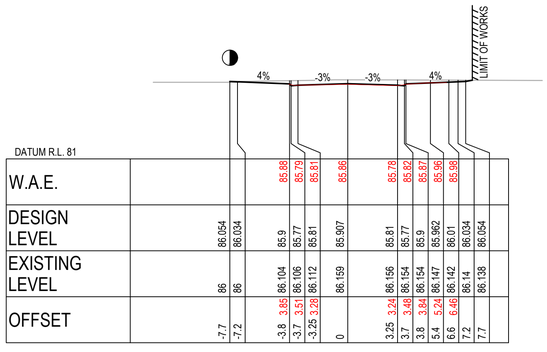
JAS-ANZ WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
ROAD CROSS SECTIONS
SHEET 11 OF 19

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	320	E

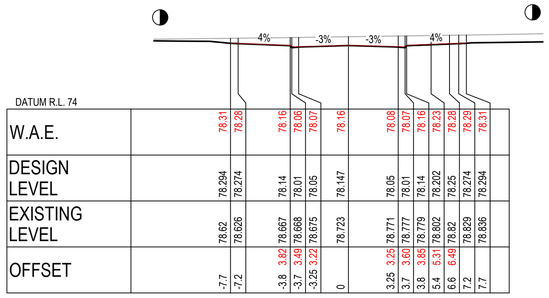
ROAD 07 (CONT.)



DATUM R.L. 81																							
W.A.E.							85.88	85.79	85.81	85.86			85.78	85.82	85.87	85.96	85.98						
DESIGN LEVEL			86.054	86.034			85.9	85.77	85.81	85.907			85.81	85.77	85.9	85.962	86.01	86.034	86.054				
EXISTING LEVEL			86	86			86.104	86.106	86.112	86.159			86.156	86.154	86.154	86.147	86.142	86.14	86.138				
OFFSET			-7.7	-7.2			-3.8	-3.7	-3.25	0			3.25	3.7	3.8	5.4	6.6	7.2	7.7				
							3.85	3.51	3.28				3.24	3.48	3.84	5.24	6.46						

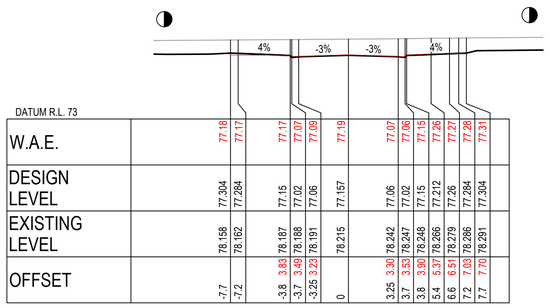
CH 266.604
CH 265.62

ROAD 11



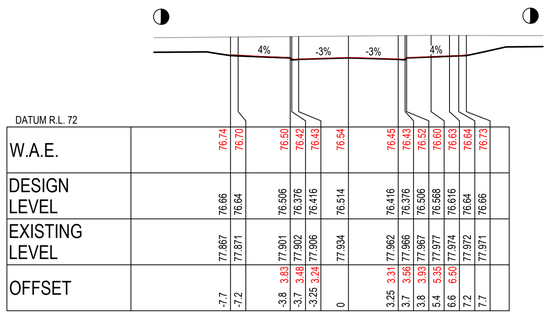
DATUM R.L. 74																							
W.A.E.			78.31	78.28			78.16	78.06	78.07	78.16			78.08	78.07	78.16	78.23	78.28	78.29	78.31				
DESIGN LEVEL			78.294	78.274			78.14	78.01	78.05	78.147			78.05	78.01	78.14	78.202	78.25	78.274	78.294				
EXISTING LEVEL			78.62	78.626			78.667	78.668	78.675	78.723			78.771	78.777	78.779	78.802	78.82	78.829	78.836				
OFFSET			-7.7	-7.2			-3.8	-3.7	-3.25	0			3.25	3.7	3.8	5.4	6.6	7.2	7.7				
							3.82	3.49	3.22				3.25	3.60	3.85	5.31	6.49						

CH 45



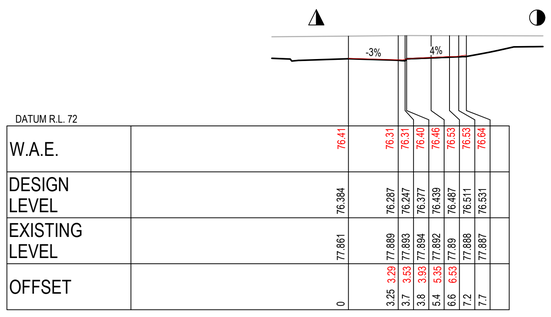
DATUM R.L. 73																							
W.A.E.			77.18	77.17			77.17	77.07	77.09	77.19			77.07	77.06	77.15	77.26	77.27	77.28	77.31				
DESIGN LEVEL			77.304	77.284			77.15	77.02	77.06	77.157			77.06	77.02	77.15	77.212	77.26	77.284	77.304				
EXISTING LEVEL			78.158	78.162			78.187	78.188	78.191	78.215			78.242	78.247	78.248	78.266	78.279	78.286	78.291				
OFFSET			-7.7	-7.2			-3.8	-3.7	-3.25	0			3.25	3.7	3.8	5.4	6.6	7.2	7.7				
							3.83	3.49	3.23				3.30	3.53	3.90	5.37	6.51	7.03	7.70				

CH 30



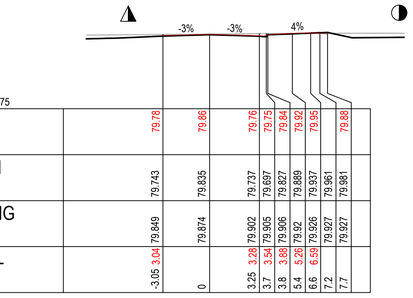
DATUM R.L. 72																							
W.A.E.			76.74	76.70			76.50	76.42	76.43	76.54			76.45	76.43	76.52	76.60	76.63	76.64	76.73				
DESIGN LEVEL			76.66	76.64			76.506	76.376	76.416	76.514			76.416	76.376	76.506	76.568	76.616	76.64	76.66				
EXISTING LEVEL			77.867	77.871			77.901	77.902	77.906	77.934			77.962	77.966	77.967	77.977	77.974	77.972	77.971				
OFFSET			-7.7	-7.2			-3.8	-3.7	-3.25	0			3.25	3.7	3.8	5.4	6.6	7.2	7.7				
							3.83	3.48	3.24				3.31	3.56	3.93	5.35	6.50						

KTP 20.072



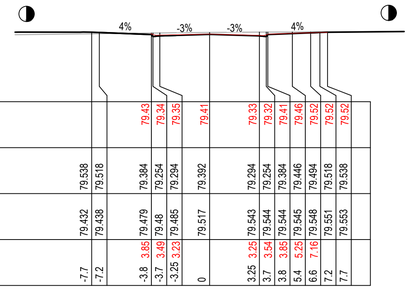
DATUM R.L. 72																							
W.A.E.							76.41						76.31	76.31	76.40	76.46	76.53	76.53	76.64				
DESIGN LEVEL							76.384						76.287	76.247	76.377	76.439	76.487	76.511	76.531				
EXISTING LEVEL							77.861						77.889	77.893	77.894	77.892	77.89	77.888	77.887				
OFFSET							0						3.25	3.7	3.8	5.4	6.6	7.2	7.7				
													3.29	3.53	3.93	5.35	6.53						

KTP 17.342



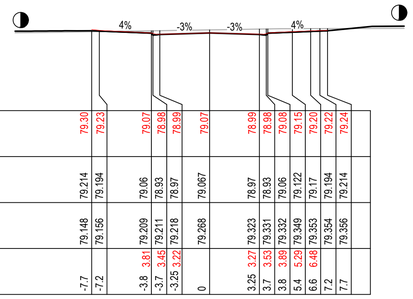
DATUM R.L. 75																							
W.A.E.			79.78	79.86			79.76	79.75	79.84	79.92	79.95		79.88										
DESIGN LEVEL			79.743	79.835			79.737	79.697	79.827	79.889	79.937	79.961	79.981										
EXISTING LEVEL			79.849	79.874			79.902	79.905	79.906	79.92	79.926	79.927	79.927										
OFFSET			-3.05	0			3.25	3.7	3.8	5.4	6.6	7.2	7.7										
			3.04				3.23	3.54	3.88	5.26	6.59												

IP 74.642



DATUM R.L. 75																							
W.A.E.							79.43	79.34	79.35	79.41			79.33	79.32	79.41	79.46	79.52	79.52	79.52				
DESIGN LEVEL			79.538	79.518			79.384	79.254	79.294	79.392			79.294	79.254	79.384	79.446	79.494	79.518	79.538				
EXISTING LEVEL			79.432	79.438			79.479	79.48	79.485	79.517			79.543	79.544	79.544	79.545	79.548	79.551	79.553				
OFFSET			-7.7	-7.2			-3.8	-3.7	-3.25	0			3.25	3.7	3.8	5.4	6.6	7.2	7.7				
							3.85	3.49	3.23				3.25	3.54	3.85	5.25	7.16						

KTP 65.903



DATUM R.L. 74																							
W.A.E.			79.30	79.23			79.07	78.98	78.99	79.07			78.99	78.98	79.08	79.15	79.20	79.22	79.24				
DESIGN LEVEL			79.214	79.194			79.06	78.93	78.97	79.067			78.97	78.93	79.06	79.122	79.17	79.194	79.214				
EXISTING LEVEL			79.148	79.156			79.209	79.211	79.218	79.268			79.323	79.331	79.332	79.349	79.353	79.354	79.356				
OFFSET			-7.7	-7.2			-3.8	-3.7	-3.25	0			3.25	3.7	3.8	5.4	6.6	7.2	7.7				
							3.81	3.45	3.22				3.27	3.53	3.89	5.29	6.48						

CH 60

LEGEND	
EXISTING SURFACE	
DESIGN SURFACE	
REFER KERB RETURN PLANS SWC 400-408 FOR GRADING BEYOND SECTION	◭
REFER ENGINEERING PLANS SWC 200-203 FOR LOT REGRADING BEYOND SECTION	◑

WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0
SCALE 1:200 (A1) SCALE 1:400 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theorionngroup.au

JAS-ANZ WWW.JAS-ANZ.ORG/REGISTER

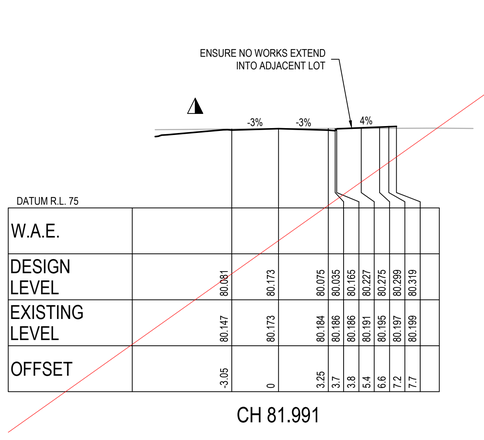
Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
ROAD CROSS SECTIONS
SHEET 12 OF 19

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	321	E

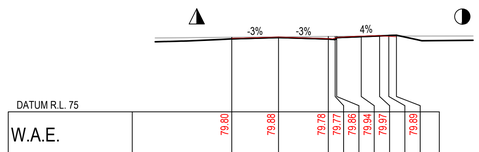
ROAD 11 (CONT.)

WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP



DATUM R.L. 75																					
W.A.E.																					
DESIGN LEVEL		80.081			80.173			80.075	80.035	80.165	80.227	80.275	80.299	80.319							
EXISTING LEVEL		80.147			80.173			80.184	80.186	80.186	80.191	80.195	80.197	80.199							
OFFSET		-3.05			0			3.25	3.7	3.8	5.4	6.6	7.2	7.7							

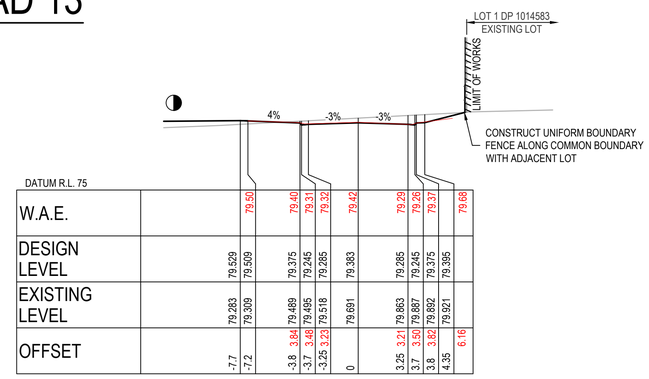
CH 81.991



DATUM R.L. 75																					
W.A.E.		79.80			79.88			79.78	79.77	79.86	79.94	79.97		79.89							
DESIGN LEVEL		79.76			79.852			79.754	79.714	79.844	79.906	79.954	79.978	79.998							
EXISTING LEVEL		79.863			79.889			79.916	79.92	79.921	79.934	79.942	79.942	79.943							
OFFSET		-3.05	3.04		0			3.25	3.28	3.53	3.88	5.26	6.58		7.2	7.7					

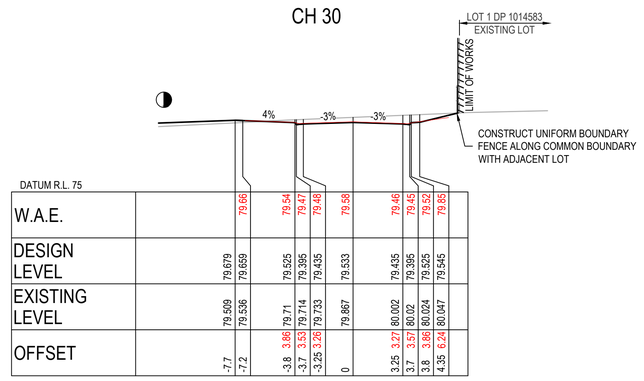
CH 75

ROAD 13



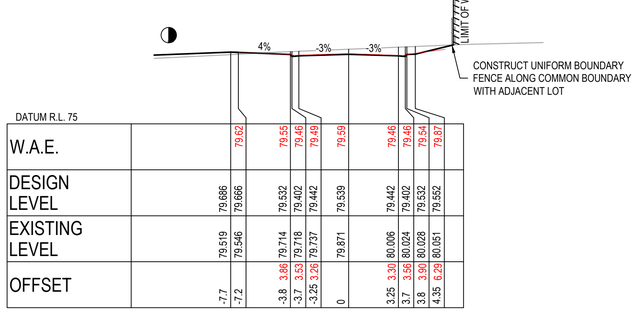
DATUM R.L. 75																					
W.A.E.			79.50			79.40	79.31	79.32	79.42			79.29	79.26	79.37		79.68					
DESIGN LEVEL		79.529	79.509			79.375	79.245	79.265	79.383			79.265	79.245	79.375	79.395						
EXISTING LEVEL		79.283	79.309			79.489	79.495	79.518	79.691			79.863	79.887	79.892	79.921						
OFFSET		-7.7	-7.2			-3.8	3.84	-3.7	3.49	-3.25	3.23	0		3.25	3.21	3.7	3.50	3.8	3.82	4.35	6.16

CH 30



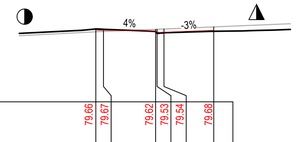
DATUM R.L. 75																					
W.A.E.			79.66			79.54	79.47	79.48	79.58			79.46	79.45	79.52	79.85						
DESIGN LEVEL		79.679	79.659			79.525	79.395	79.435	79.533			79.435	79.395	79.525	79.545						
EXISTING LEVEL		79.509	79.536			79.71	79.714	79.733	79.867			80.002	80.02	80.024	80.047						
OFFSET		-7.7	-7.2			-3.8	3.86	-3.7	3.53	-3.25	3.26	0		3.25	3.27	3.7	3.57	3.8	3.86	4.35	6.24

CH 15



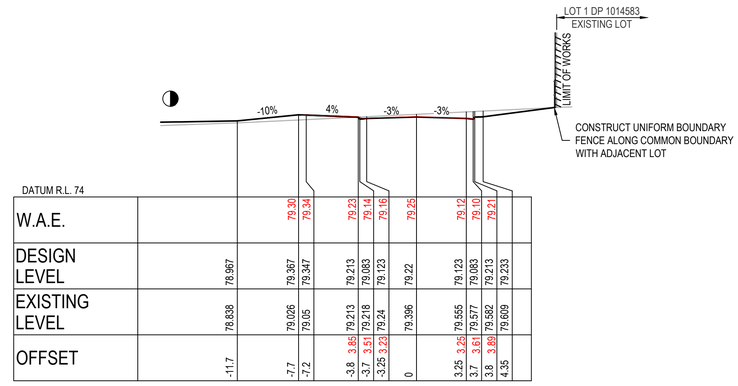
DATUM R.L. 75																					
W.A.E.			79.62			79.55	79.46	79.49	79.59			79.46	79.46	79.54	79.87						
DESIGN LEVEL		79.686	79.666			79.532	79.402	79.442	79.539			79.442	79.402	79.532	79.552						
EXISTING LEVEL		79.519	79.546			79.714	79.718	79.737	79.871			80.006	80.024	80.028	80.051						
OFFSET		-7.7	-7.2			-3.8	3.86	-3.7	3.53	-3.25	3.26	0		3.25	3.30	3.7	3.56	3.8	3.90	4.35	6.29

KTP 14.355



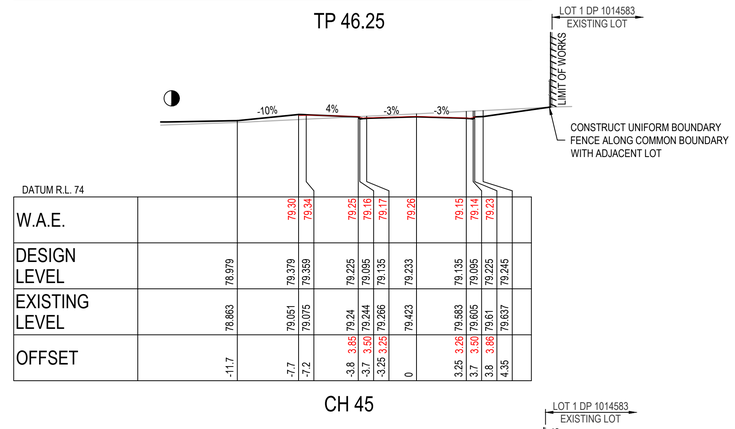
DATUM R.L. 75																					
W.A.E.			79.66			79.67			79.62		79.53		79.54		79.68						
DESIGN LEVEL		79.752	79.732			79.598			79.468		79.508		79.606								
EXISTING LEVEL		79.569	79.59			79.731			79.735		79.754		79.889								
OFFSET		-7.7	-7.2			-3.8	3.87	-3.7	3.54	-3.25	3.28	0									

KTP 8.739



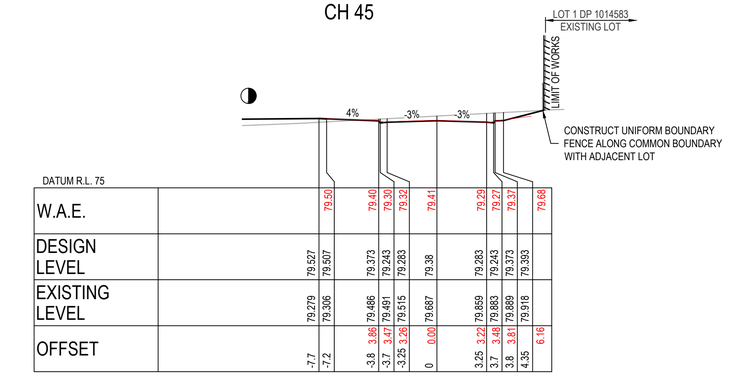
DATUM R.L. 74																					
W.A.E.			79.30	79.34		79.23	79.14	79.16	79.25			79.12	79.10	79.21							
DESIGN LEVEL		78.967	79.367	79.347		79.213	79.083	79.123	79.22			79.123	79.083	79.213	79.233						
EXISTING LEVEL		78.838	79.026	79.05		79.213	79.218	79.24	79.396			79.555	79.577	79.582	79.609						
OFFSET		-11.7	-7.7	-7.2		-3.8	3.85	-3.7	3.51	-3.25	3.23	0		3.25	3.25	3.7	3.61	3.8	3.89	4.35	

TP 46.25



DATUM R.L. 74																					
W.A.E.			79.30	79.34		79.25	79.16	79.17	79.26			79.15	79.14	79.23							
DESIGN LEVEL		78.979	79.379	79.359		79.225	79.095	79.135	79.233			79.135	79.095	79.225	79.245						
EXISTING LEVEL		78.863	79.051	79.075		79.24	79.244	79.266	79.423			79.583	79.605	79.61	79.637						
OFFSET		-11.7	-7.7	-7.2		-3.8	3.85	-3.7	3.50	-3.25	3.25	0		3.25	3.26	3.7	3.50	3.8	3.86	4.35	

CH 45



DATUM R.L. 75																					
W.A.E.			79.50			79.40	79.30	79.32	79.41			79.29	79.27	79.37		79.68					
DESIGN LEVEL		79.527	79.507			79.373	79.243	79.283	79.38			79.283	79.243	79.373	79.393						
EXISTING LEVEL		79.279	79.306			79.486	79.491	79.515	79.687			79.859	79.863	79.889	79.918						
OFFSET		-7.7	-7.2			-3.8	3.86	-3.7	3.47	-3.25	3.26	0	0.00	3.25	3.22	3.7	3.48	3.8	3.81	4.35	6.16

TP 30.268

LEGEND

EXISTING SURFACE	
DESIGN SURFACE	
REFER KERB RETURN PLANS SWC 400-408 FOR GRADING BEYOND SECTION	◭
REFER ENGINEERING PLANS SWC 200-203 FOR LOT REGRADING BEYOND SECTION	◑
EXISTING LOT BOUNDARY	

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0
SCALE 1:200 (A1) SCALE 1:400 (A3)

For: mirvac

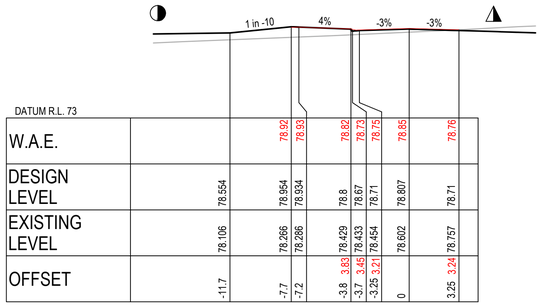
By: Orion Consulting
JAS-ANZ SUSTAINABLE ISO 9001 ISO 14001 ISO 45001 WWW.JAS-ANZ.ORG/REGISTER
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
ROAD CROSS SECTIONS
SHEET 13 OF 19

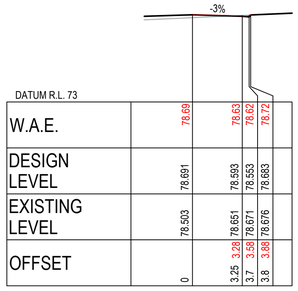
Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	322	E

ROAD 13 (CONT.)



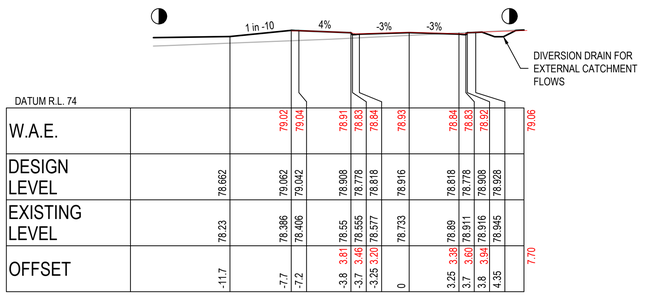
DATUM R.L. 73															
W.A.E.			78.92	78.93		78.82	78.73	78.75	78.85		78.76				
DESIGN LEVEL	78.554		78.954	78.934		78.8	78.67	78.71	78.807		78.71				
EXISTING LEVEL	78.106		78.266	78.286		78.429	78.433	78.454	78.602		78.757				
OFFSET	-11.7		-7.7	-7.2		-3.8	3.83	-3.7	3.46	-3.25	3.21	0		3.25	3.24

IP 87.559



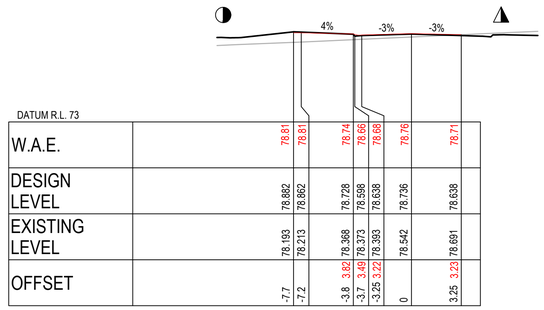
DATUM R.L. 73															
W.A.E.			78.69			78.63	78.62	78.72							
DESIGN LEVEL	78.691					78.593	78.553	78.683							
EXISTING LEVEL	78.503					78.651	78.671	78.676							
OFFSET	0					3.25	3.29	3.7	3.58	3.8	3.88				

KTP 99.217



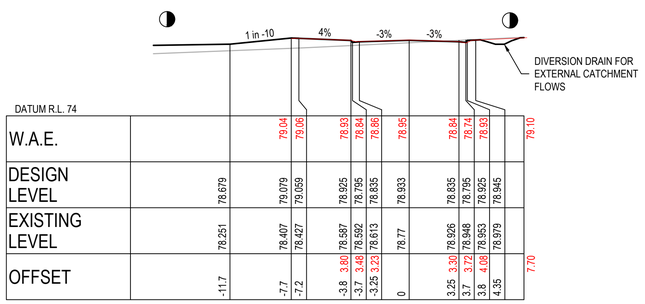
DATUM R.L. 74																	
W.A.E.			79.02	79.04		78.91	78.83	78.84	78.93		78.84	78.83	78.92				79.06
DESIGN LEVEL	78.662		79.062	79.042		78.908	78.778	78.818	78.916		78.818	78.778	78.908	78.928			
EXISTING LEVEL	78.23		78.386	78.406		78.55	78.555	78.577	78.733		78.89	78.911	78.916	78.945			
OFFSET	-11.7		-7.7	-7.2		-3.8	3.81	-3.7	3.46	-3.25	3.20	0		3.25	3.38	3.7	3.60	3.8	3.94	4.35			7.70

KTP 76.717



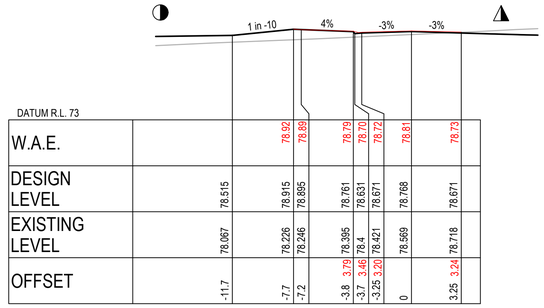
DATUM R.L. 73															
W.A.E.			78.81	78.81		78.74	78.66	78.68	78.76		78.71				
DESIGN LEVEL	78.882		78.862	78.862		78.728	78.598	78.638	78.736		78.638				
EXISTING LEVEL	78.193		78.213	78.213		78.368	78.373	78.393	78.542		78.691				
OFFSET	-7.7		-7.2	-7.2		-3.8	3.82	-3.7	3.49	-3.25	3.22	0		3.25	3.23								

CH 94.702



DATUM R.L. 74																	
W.A.E.			79.04	79.06		78.93	78.84	78.66	78.95		78.84	78.74	78.93				79.10
DESIGN LEVEL	78.679		79.079	79.059		78.925	78.795	78.835	78.933		78.835	78.795	78.925	78.945			
EXISTING LEVEL	78.251		78.407	78.427		78.587	78.592	78.613	78.77		78.926	78.948	78.953	78.979			
OFFSET	-11.7		-7.7	-7.2		-3.8	3.80	-3.7	3.46	-3.25	3.23	0		3.25	3.30	3.7	3.72	3.8	4.08	4.35			7.70

CH 75



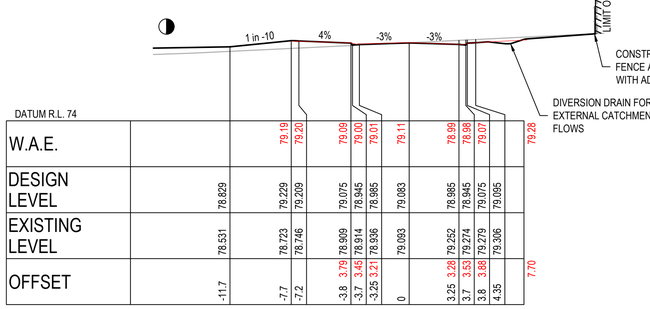
DATUM R.L. 73															
W.A.E.			78.92	78.89		78.79	78.70	78.72	78.81		78.73				
DESIGN LEVEL	78.515		78.915	78.895		78.761	78.631	78.671	78.768		78.671				
EXISTING LEVEL	78.067		78.226	78.246		78.395	78.4	78.421	78.569		78.718				
OFFSET	-11.7		-7.7	-7.2		-3.8	3.79	-3.7	3.46	-3.25	3.26	0		3.25	3.24								

TP 91.459

LOT 1 DP 1014583
EXISTING LOT

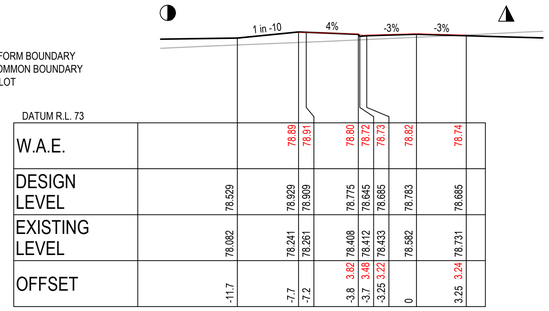
LIMIT OF WORKS

CONSTRUCT UNIFORM BOUNDARY FENCE ALONG COMMON BOUNDARY WITH ADJACENT LOT



DATUM R.L. 74																	
W.A.E.			79.19	79.20		79.09	79.00	79.01	79.11		78.99	78.98	79.07				79.28
DESIGN LEVEL	78.829		79.229	79.209		79.075	78.945	78.985	79.083		78.985	78.945	79.075	79.095			
EXISTING LEVEL	78.531		78.723	78.746		78.909	78.914	78.936	79.093		79.252	79.274	79.279	79.306			
OFFSET	-11.7		-7.7	-7.2		-3.8	3.79	-3.7	3.45	-3.25	3.21	0		3.25	3.28	3.7	3.53	3.8	3.88	4.35			7.70

CH 60



DATUM R.L. 73															
W.A.E.			78.89	78.91		78.80	78.72	78.73	78.82		78.74				
DESIGN LEVEL	78.529		78.929	78.909		78.775	78.645	78.685	78.783		78.685				
EXISTING LEVEL	78.082		78.241	78.261		78.408	78.412	78.433	78.582		78.731				
OFFSET	-11.7		-7.7	-7.2		-3.8	3.82	-3.7	3.48	-3.25	3.22	0		3.25	3.24								

CH 90

LEGEND

EXISTING SURFACE	
DESIGN SURFACE	
REFER KERB RETURN PLANS SWC 400-408 FOR GRADING BEYOND SECTION	◭
REFER ENGINEERING PLANS SWC 200-203 FOR LOT REGRADING BEYOND SECTION	◑
EXISTING LOT BOUNDARY	

WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0
SCALE 1:200 (A1) SCALE 1:400 (A3)

For: mirvac

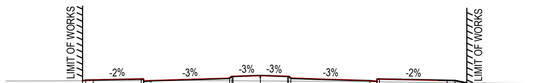
By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
ROAD CROSS SECTIONS
SHEET 14 OF 19

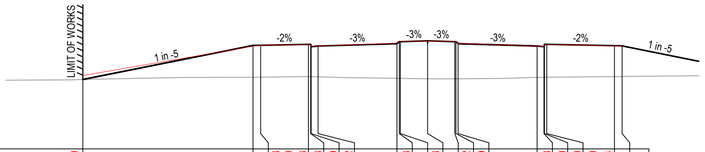
Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	323	E

CHARLES MCINTOSH PARKWAY



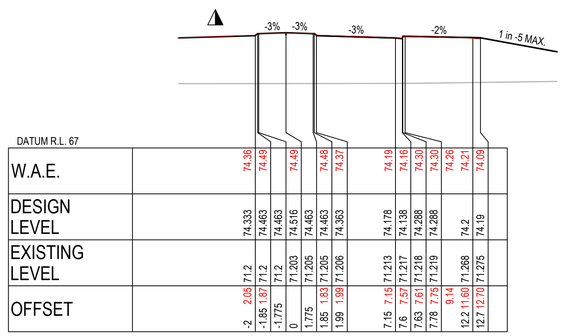
| DATUM R.L. 69 | | |

CHARLES MCINTOSH PARKWAY (CONT.)



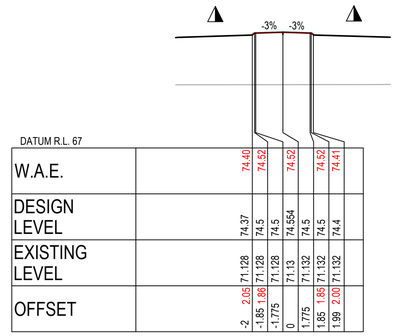
| DATUM R.L. 67 | | |

CHARLES MCINTOSH PARKWAY (CONT.)



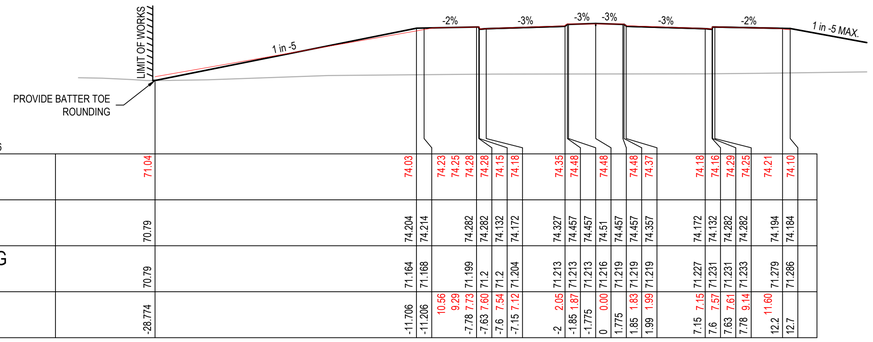
DATUM R.L. 67																							
W.A.E.			74.36		74.49		74.49		74.48		74.37		74.19		74.16		74.30		74.30		74.26		74.21		74.09
DESIGN LEVEL		74.333		74.463		74.463		74.463		74.463		74.363		74.178		74.138		74.288		74.288		74.2		74.19	
EXISTING LEVEL		71.2		71.2		71.2		71.203		71.205		71.206		71.213		71.217		71.218		71.219		71.268		71.275	
OFFSET	-2		-1.85		-1.775		0		1.775		1.85		1.99	7.15		7.6		7.63		7.78		12.2		12.7	

KTP 236.288



DATUM R.L. 67																							
W.A.E.			74.40		74.52		74.52		74.52		74.41												
DESIGN LEVEL		74.37		74.5		74.5		74.554		74.5													
EXISTING LEVEL		71.128		71.128		71.128		71.13		71.132													
OFFSET	-2		-1.85		-1.775		0		1.775		1.85		1.99										

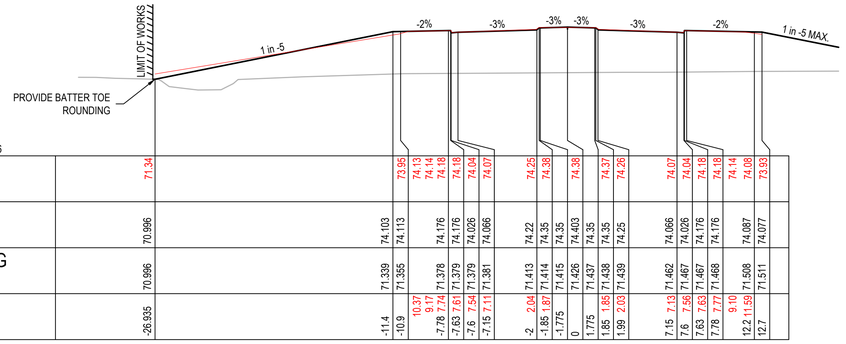
CH 240



DATUM R.L. 66																							
W.A.E.		71.04					74.03		74.23		74.25		74.26		74.26		74.15		74.18		74.35		74.48		74.48
DESIGN LEVEL		70.79				74.204		74.214				74.282		74.282		74.132		74.172		74.327		74.457		74.457	
EXISTING LEVEL		70.79				71.164		71.168				71.199		71.2		71.2		71.204		71.213		71.213		71.216	
OFFSET	-28.774				-11.706		-11.206		10.56		9.29		7.73	7.60		7.54		7.12	-2	2.05	-1.85	1.87	-1.775		0	0.00

W.A.E.			74.48		74.37				74.18		74.16		74.29		74.25		74.21		74.10					
DESIGN LEVEL		74.457		74.457		74.357				74.172		74.132		74.282		74.282		74.194		74.184			
EXISTING LEVEL		71.219		71.219		71.219				71.227		71.231		71.231		71.233		71.279		71.286			
OFFSET	1.775		1.85		1.99				7.15		7.6		7.63		7.78		11.60		12.7				

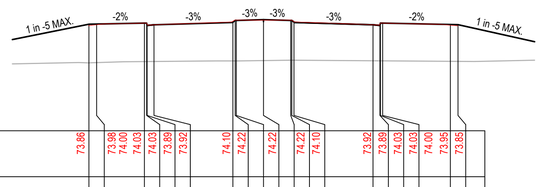
KTP 235.669



DATUM R.L. 66																							
W.A.E.		71.34					73.95		74.13		74.14		74.18		74.18		74.04		74.07		74.25		74.38		74.38
DESIGN LEVEL		70.996				74.103		74.113				74.176		74.176		74.026		74.066		74.22		74.35		74.35	
EXISTING LEVEL		70.996				71.339		71.355				71.378		71.379		71.379		71.381		71.413		71.414		71.426	
OFFSET	26.935				-11.4		-10.9		10.37		9.17		7.74	7.61		7.54		7.11	-2	2.04	-1.85	1.87	-1.775		0	

W.A.E.			74.37		74.38		74.37		74.26		74.07		74.04		74.18		74.18		74.14		74.08		73.93	
DESIGN LEVEL		74.403		74.35		74.35		74.35		74.25		74.066		74.026		74.176		74.176		74.087		74.077	
EXISTING LEVEL		71.437		71.438		71.439				71.462		71.467		71.467		71.468		71.508		71.511			
OFFSET	1.775		1.85		1.99				7.15		7.6		7.63		7.78		9.10		12.2		12.7			

CH 225



DATUM R.L. 67																							
W.A.E.			73.86				73.98		74.00		74.03		74.03		73.89		73.92		74.10		74.22		74.22	
DESIGN LEVEL		73.953		73.963				74.026				74.026		74.026		73.876		73.916		74.07		74.2		74.253	
EXISTING LEVEL		71.434		71.449				71.517				71.518		71.518		71.518		71.523		71.56		71.559		71.581	
OFFSET	-11.4		-10.9		10.40		9.18		7.75	7.62		7.58		7.11	-2	2.08	-1.85	1.88	-1.775		0		1.775		1.85

W.A.E.			74.22		74.22		74.10				73.92		73.89		74.03		74.00		73.95		73.85			
DESIGN LEVEL		74.2		74.2		74.1				73.916		73.876		74.026		74.026		73.937		73.927			
EXISTING LEVEL		71.606		71.607		71.607				71.568		71.565		71.565		71.564		71.531		71.527			
OFFSET	1.775		1.85		1.99				7.15	7.12		7.57		7.63		7.76		9.12		11.57				

CH 210

LEGEND

EXISTING SURFACE	
DESIGN SURFACE	
REFER KERB RETURN PLANS SWC 400-408 FOR GRADING BEYOND SECTION	◭
REFER ENGINEERING PLANS SWC 200-203 FOR LOT REGRADING BEYOND SECTION	◑

WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0
SCALE 1:200 (A1) SCALE 1:400 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au
JAS-ANZ SUSTAINABLE CERTIFICATION ISO 9001 ISO 14001 ISO 45001 WWW.JAS-ANZ.ORG/REGISTER

Project: LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title: ROAD CROSS SECTIONS
SHEET 17 OF 19

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	326	E

COBBITTY ROAD

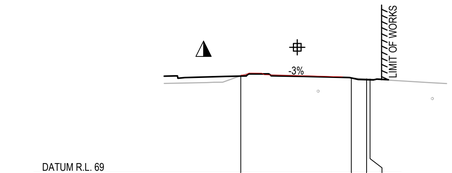
WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

F

LEGEND

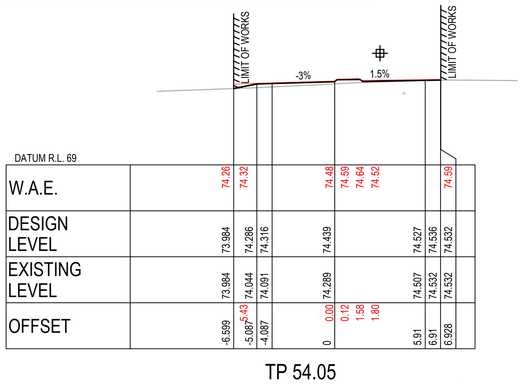
- EXISTING SURFACE
- DESIGN SURFACE
- REFER KERB RETURN PLANS SWC 400-408 FOR GRADING BEYOND SECTION
- REFER ENGINEERING PLANS SWC 200-203 FOR LOT REGRADING BEYOND SECTION
- DENOTES ONE-WAY CROSSFALL TRANSITION ZONE
- DENOTES APPROXIMATE LOCATION OF EXISTING UNDERGROUND WATERMAIN
- DENOTES APPROXIMATE LOCATION OF EXISTING UNDERGROUND NBN



DATUM R.L. 69

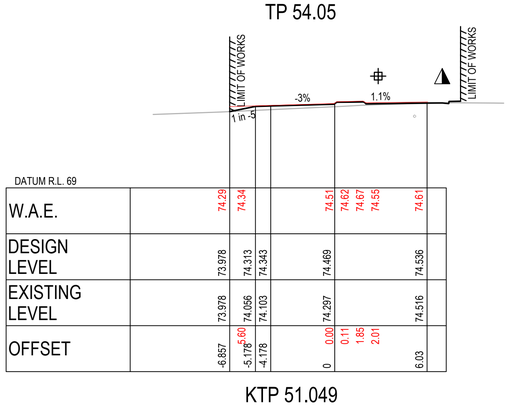
| | | |

COBBITTY ROAD (CONT.)



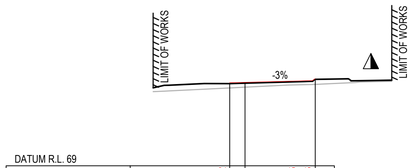
DATUM R.L. 69												
W.A.E.		74.26	74.32			74.48	74.59	74.64	74.52			74.59
DESIGN LEVEL	73.984	74.286	74.316		74.439					74.527	74.536	74.532
EXISTING LEVEL	73.984	74.044	74.091		74.289					74.507	74.532	74.532
OFFSET	-6.599	-5.43 -5.087	-4.087		0	0.00	0.12	1.58	1.80	5.91	6.91	6.928

TP 54.05



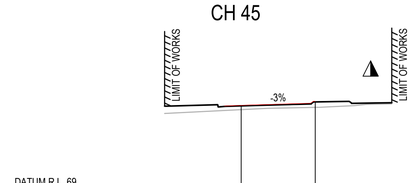
DATUM R.L. 69											
W.A.E.		74.29	74.34			74.51	74.62	74.67	74.55		74.61
DESIGN LEVEL	73.978	74.313	74.343		74.469						74.536
EXISTING LEVEL	73.978	74.056	74.103		74.297						74.516
OFFSET	-6.657	-5.176 -5.60	-4.178		0	0.00	0.11	1.85	2.01		6.03

KTP 51.049



DATUM R.L. 69					
W.A.E.		74.42		74.56	74.68
DESIGN LEVEL	74.362	74.392			74.529
EXISTING LEVEL	74.092	74.131			74.314
OFFSET	-5.583	-4.583		0.17 0.00	0

CH 45



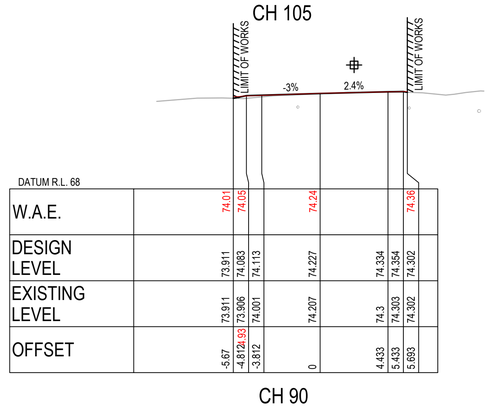
DATUM R.L. 69					
W.A.E.		74.40	74.45	74.59 74.71	74.71
DESIGN LEVEL	74.407				74.552
EXISTING LEVEL	74.16				74.31
OFFSET	5.93 -4.834			0.29 0.12 0.00	0

KTP 42.677



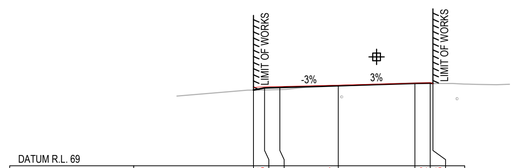
DATUM R.L. 68												
W.A.E.		73.99	74.05	74.06		74.18						74.30
DESIGN LEVEL	73.987	74.053	74.083		74.197					74.268	74.286	74.274
EXISTING LEVEL	73.987	73.996	74.048		74.198					74.27	74.275	74.274
OFFSET	-5.148	-4.818 -4.34	-3.818 -3.94		0					3.933	4.933	4.992

CH 105



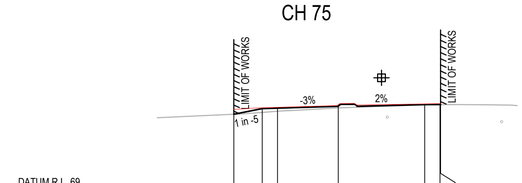
DATUM R.L. 68											
W.A.E.		74.01	74.05		74.24						74.36
DESIGN LEVEL	73.911	74.083	74.113		74.227					74.334	74.354	74.302
EXISTING LEVEL	73.911	73.906	74.001		74.207					74.3	74.303	74.302
OFFSET	-5.67	-4.812 -4.93	-3.812		0					4.433	5.433	5.693

CH 90



DATUM R.L. 69											
W.A.E.		74.11	74.15		74.27					74.42	74.36
DESIGN LEVEL	73.94	74.085	74.115		74.229					74.381	74.403	74.368
EXISTING LEVEL	73.94	73.951	73.975		74.202					74.361	74.387	74.388
OFFSET	-5.537	-4.815 -5.10	-3.815		0					5.003	6.003 6.08	6.18

CH 75



DATUM R.L. 69											
W.A.E.		74.17	74.28		74.43	74.56	74.58	74.46		74.56	
DESIGN LEVEL	73.859	74.23	74.26		74.379					74.49	74.495	74.487
EXISTING LEVEL	73.859	73.98	74.055		74.275					74.47	74.487	74.487
OFFSET	-6.822	-4.969 -5.24	-3.969		0.08	0.10	1.04	1.22		5.639	6.639 6.68	6.678

CH 60

LEGEND

EXISTING SURFACE	
DESIGN SURFACE	
REFER KERB RETURN PLANS SWC 400-408 FOR GRADING BEYOND SECTION	◭
REFER ENGINEERING PLANS SWC 200-203 FOR LOT REGRADING BEYOND SECTION	◑
DENOTES ONE-WAY CROSSFALL TRANSITION ZONE	⌖
DENOTES APPROXIMATE LOCATION OF EXISTING UNDERGROUND WATERMAIN	○
DENOTES APPROXIMATE LOCATION OF EXISTING UNDERGROUND NBN	○

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0
SCALE 1:200 (A1) SCALE 1:400 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

JAS-ANZ WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
ROAD CROSS SECTIONS
SHEET 19 OF 19

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	328	E

NORTH

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

NOTE:

- KERB RETURNS ARE SET OUT TO THE LIP OF GUTTER.
- FOR KERB RETURN LONG SECTIONS REFER TO SHEETS SWC 401-402.

LOT 2
DP 1276275

LOT 100
DP 1159926

LOT 1
DP 270613

CHARLES MCINTOSH PKWY

MACQUARIE GROVE ROAD

COBBITTY ROAD

COBBITTY CREEK

KR 01

KR 02

KR 03

KR 04

KERB RETURN PLAN - KR01, KR02, KR03 & KR04
SCALE 1:200

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
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SCALE 1:200 (A1) SCALE 1:400 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
KERB RETURN PLAN,
SECTIONS & SETOUT TABLES
SHEET 01 OF 09

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	400	F

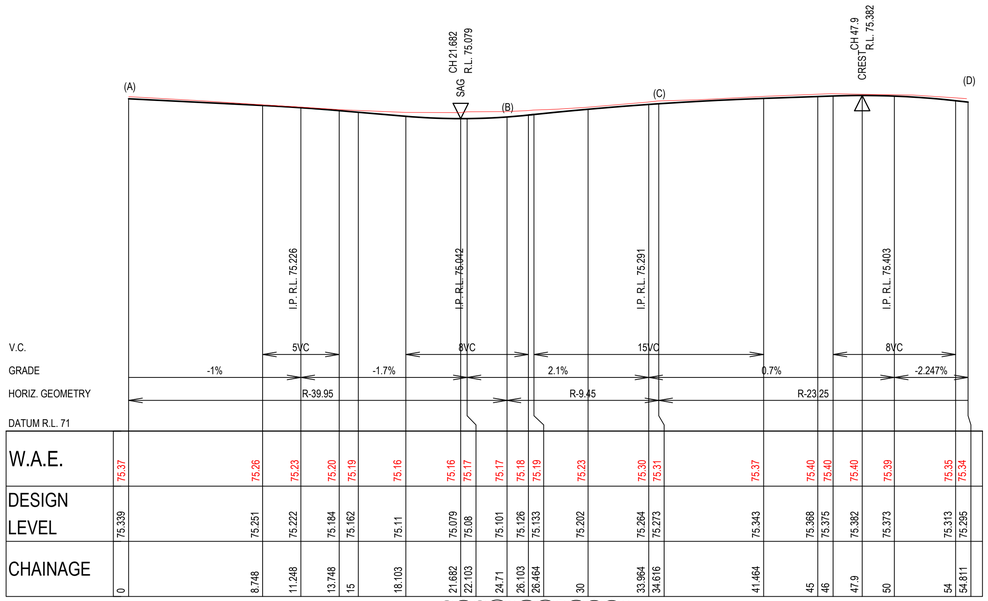
NOTE:

- KERB RETURNS ARE SET OUT TO THE LIP OF GUTTER.
- FOR KR01 & KR02 SETOUT PLAN REFER TO SHEET SWC 400.

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
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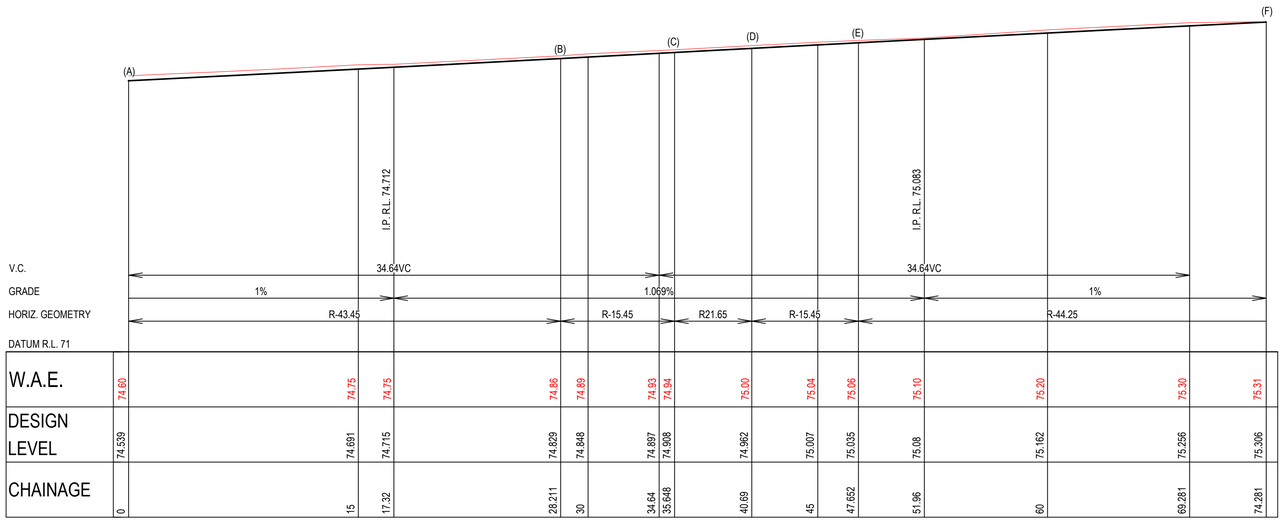
KERB RETURN KR01

SCALE 1:200 (H)
SCALE 1:40 (V)

E

SETOUT TABLE KR01					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288476.1	6233799.9	17°00'50.40"		
12.36	288479.84	6233812.1		-39.95	24.71
24.71	288475.8	6233824.21	341°34'30.19"		
29.66	288474.07	6233829.4		-9.45	9.906
34.62	288468.72	6233830.49	281°30'57.75"		
44.71	288458.16	6233832.64		-23.25	20.195
54.81	288449.69	6233825.96	231°44'58.99"		

E



KERB RETURN - KR02

SCALE 1:200 (H)
SCALE 1:40 (V)

E

SETOUT TABLE KR02					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288534.24	6233838.96	287°43'28.46"		
14.11	288520.31	6233843.41		-43.45	28.211
28.21	288506.53	6233838.53	250°31'23.99"		
31.93	288502.95	6233837.27		-15.45	7.437
35.65	288500.37	6233834.49	222°56'39.48"		
38.17	288498.64	6233832.64		21.65	5.042
40.69	288496.54	6233831.23	236°17'15.30"		
44.17	288493.59	6233829.27		-15.45	6.962
47.65	288491.8	6233826.22	210°28'13.27"		
60.97	288484.83	6233814.38		-44.25	26.629
74.28	288485.79	6233800.68	175°59'27.16"		

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
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SCALE 1:200 (A1) SCALE 1:400 (A3)
0 0.4 0.8 1.2 1.6 2 2.4 2.8 3.2 3.6 4
SCALE 1:40 (A1) SCALE 1:80 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

JAS-ANZ WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
KERB RETURN PLAN,
SECTIONS & SETOUT TABLES
SHEET 02 OF 09

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	401	E

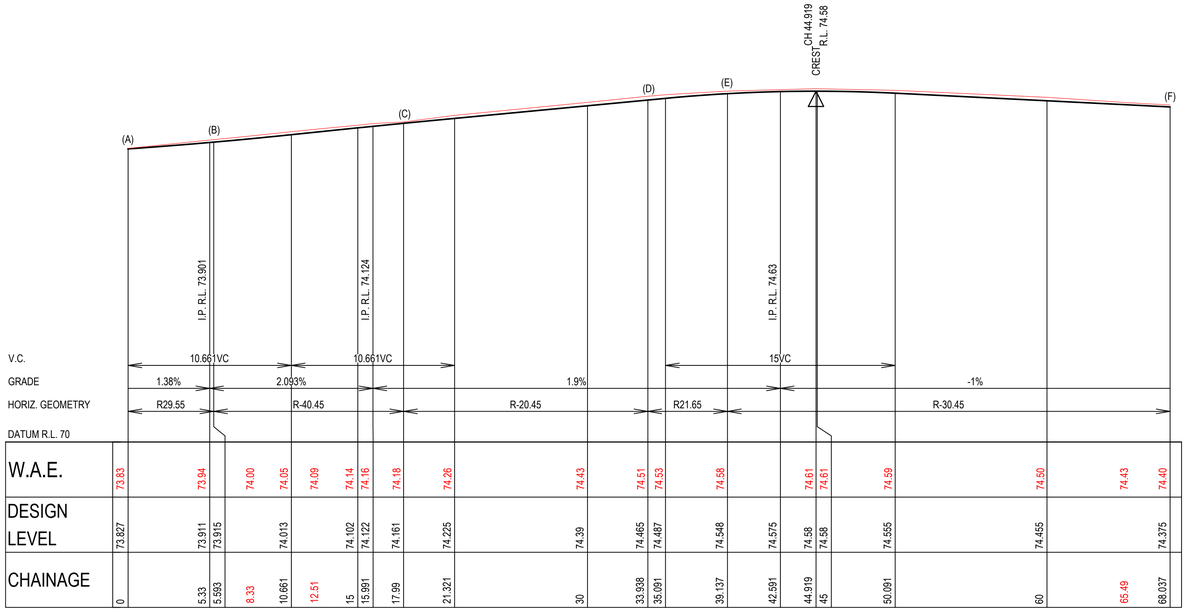
NOTE:

- KERB RETURNS ARE SET OUT TO THE LIP OF GUTTER.
- FOR KR03 & KR04 SETOUT PLAN REFER TO SHEET SWC 400.

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WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

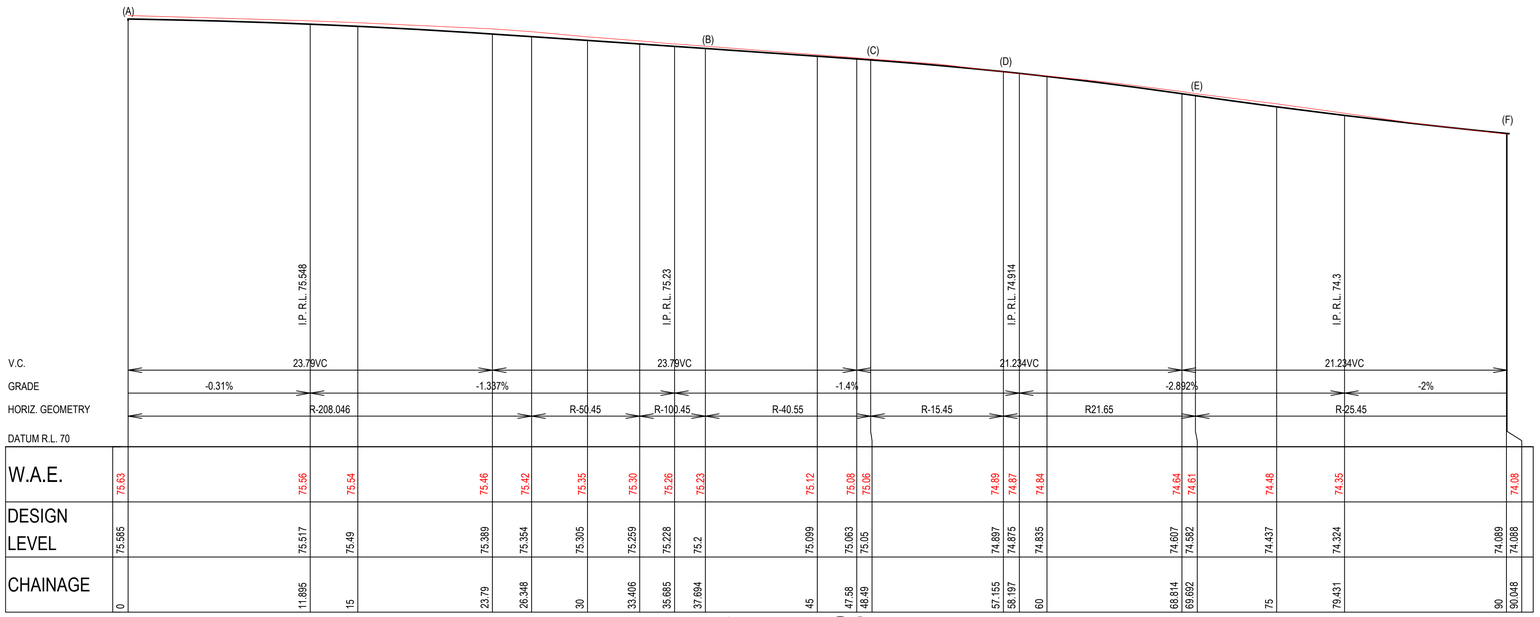
REGISTERED SURVEYOR ID: 8890
ORION GROUP



KERB RETURN - KR03
SCALE 1:200 (H)
SCALE 1:40 (V)

E

SETOUT TABLE KR03					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288489.46	6233897.97	177°40'59.61"		
2.8	288489.57	6233895.17		29.55	5.593
5.59	288489.16	6233892.4	188°31'38.23"		
11.79	288488.23	6233886.22		-40.45	12.398
17.99	288489.21	6233880.05	170°57'59.27"		
25.96	288490.53	6233871.75		-20.45	15.947
33.94	288497.3	6233866.77			
36.54	288499.41	6233865.23		21.65	5.199
39.14	288501.09	6233863.23			
53.59	288511.13	6233851.24		-30.45	28.901
68.04	288526.73	6233852.42	85°39'51.39"		



KERB RETURN KR04
SCALE 1:200 (H)
SCALE 1:40 (V)

E

SETOUT TABLE KR04					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288416.1	6233825.14	75°26'15.87"		
13.17	288428.87	6233828.45		-208.046	26.348
26.35	288441.11	6233833.35	68°10'53.92"		
29.88	288444.39	6233834.67		-50.45	7.058
33.41	288447.46	6233836.43	60°09'56.67"		
35.55	288449.32	6233837.49		-100.45	4.288
37.69	288451.13	6233838.64	57°43'11.77"		
43.09	288455.72	6233841.54		-40.55	10.797
48.49	288459.39	6233845.55	42°27'52.59"		
52.82	288462.39	6233848.83		-15.45	8.665
57.16	288463.19	6233853.21	10°19'52.68"		
63.42	288464.35	6233859.55		21.65	12.537
69.69	288468.79	6233864.23	43°30'38.40"		
79.87	288476.2	6233872.03		-25.45	20.356
90.05	288475.76	6233882.78	357°40'59.61"		

E

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
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SCALE 1:200 (A1) SCALE 1:400 (A3)
0 0.4 0.8 1.2 1.6 2 2.4 2.8 3.2 3.6 4
SCALE 1:40 (A1) SCALE 1:80 (A3)

For: mirvac

By: Orion Consulting

ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theorigroup.au

JAS-ANZ SUSTAINABLE REGISTRATION ISO 9001 ISO 14001 WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
KERB RETURN PLAN,
SECTIONS & SETOUT TABLES
SHEET 03 OF 09

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	402	E

NORTH

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

NOTE:

- KERB RETURNS ARE SET OUT TO THE LIP OF GUTTER.
- FOR KERB RETURN LONG SECTIONS REFER TO SHEETS SWC 404.

LOT 2
DP 1276275

LOT 4
DP 1276275

EXISTING VEGETATION

ROAD No.01

CHARLES MCINTOSH PKWY

KERB RETURN PLAN - KR05, KR06 & KR07

SCALE 1:200

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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SCALE 1:200 (A1) SCALE 1:400 (A3)

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Project: LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title: KERB RETURN PLAN, SECTIONS & SETOUT TABLES SHEET 04 OF 09

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	403	E

NOTE:

- KERB RETURNS ARE SET OUT TO THE LIP OF GUTTER.
- FOR KR05, KR06 & KR07 SETOUT PLAN REFER TO SHEET SWC 403.

E

SETOUT TABLE KR05

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288451.76	6234081.23	348°32'39.89"		
1.87	288451.39	6234083.06		29.55	3.74
3.74	288451.25	6234084.93	355°47'47.98"		
10.11	288450.78	6234091.33		-45.45	12.74
16.48	288448.56	6234097.34	339°44'09.60"		
22.05	288446.57	6234102.74		-17.95	11.129
27.61	288441.82	6234105.97	304°12'40.18"		
39.75	288429.77	6234114.16		17.45	24.277
51.89	288435.68	6234127.48			
67.23	288441.98	6234141.7		-75.45	30.685
82.57	288442.14	6234157.26	0°36'04.04"		

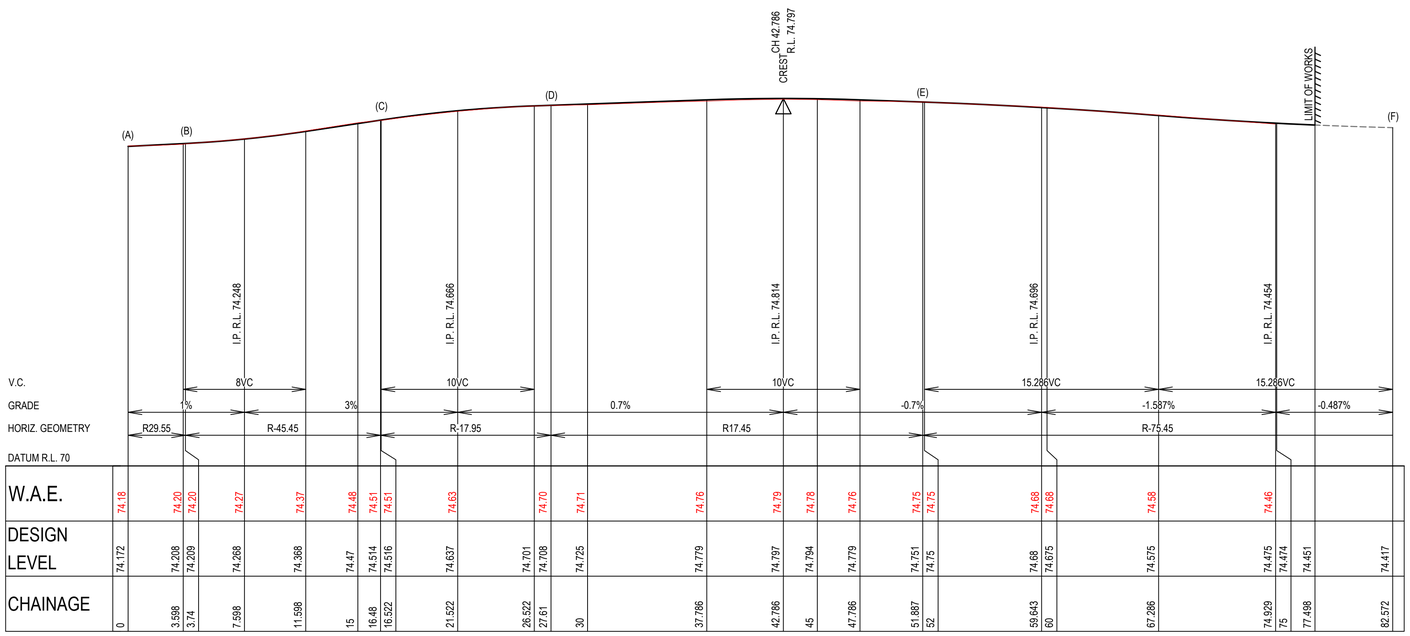
E

SETOUT TABLE KR06

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288456.6	6234163.67	182°08'59.49"		
1.58	288456.54	6234162.08		29.6	3.165
3.17	288456.31	6234160.52	188°16'37.03"		
12.34	288454.98	6234151.32		-45.45	18.339
21.5	288457.36	6234142.33	165°09'27.46"		
30.67	288460.02	6234132.26		-15.45	18.328
39.83	288470.36	6234130.96		-75.45	50.698
65.18	288496.5	6234127.66			
90.53	288519.01	6234141.36	58°41'15.41"		

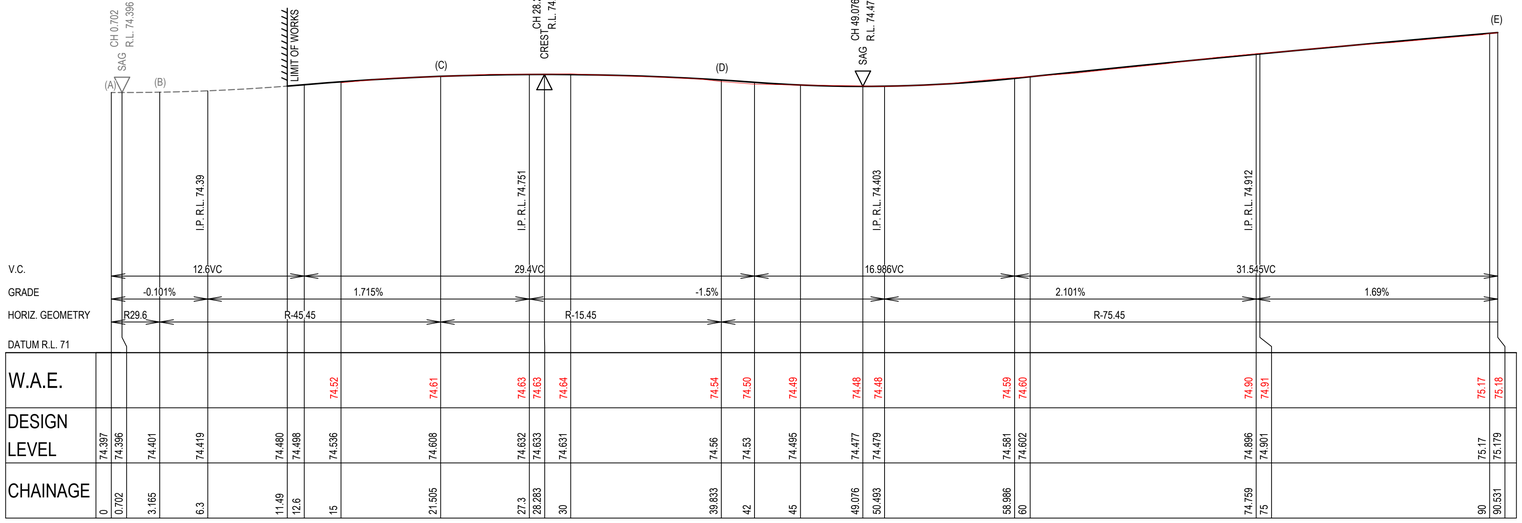
SETOUT TABLE KR07

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288483.8	6234118.96	262°09'34.82"		
1.5	288482.31	6234118.76		104.75	3
3	288480.82	6234118.6			
5.9	288477.94	6234118.24		-35.45	5.804
8.8	288475.15	6234117.41	253°30'31.47"		
18.48	288464.42	6234114.24		-15.45	19.36
28.16	288464.09	6234103.06	181°42'49.18"		
37.41	288463.81	6234093.78		-80.45	18.491
46.66	288465.66	6234084.68	168°32'39.89"		



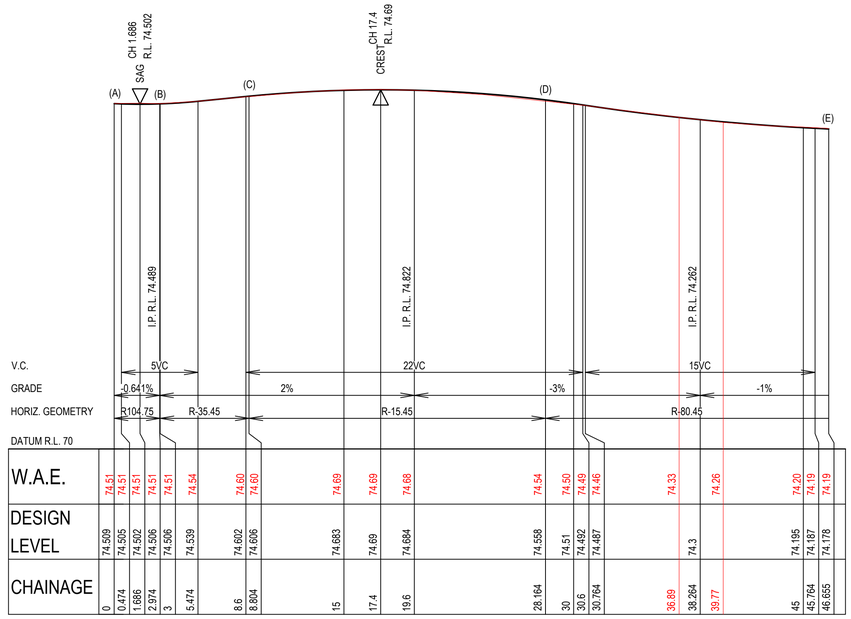
KERB RETURN - KR05

SCALE 1:200 (H)
SCALE 1:40 (V)



KERB RETURN - KR06

SCALE 1:200 (H)
SCALE 1:40 (V)



KERB RETURN - KR07

SCALE 1:200 (H)
SCALE 1:40 (V)

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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SCALE 1:40 (A1) SCALE 1:80 (A3)

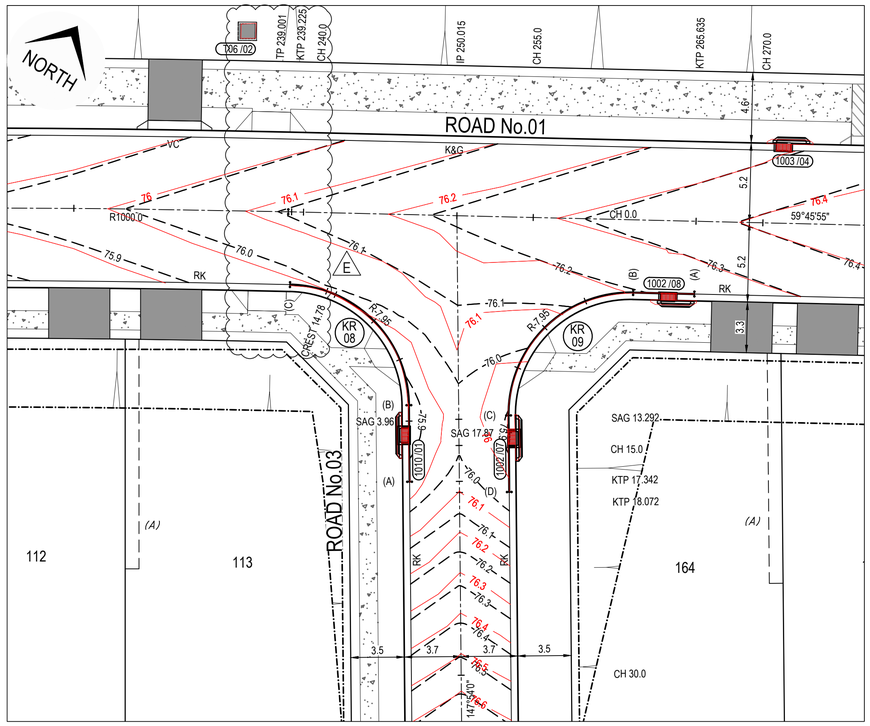
For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au
JAS-ANZ WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
KERB RETURN PLAN, SECTIONS & SETOUT TABLES
SHEET 05 OF 09

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	404	E



KERB RETURN PLAN - KR08 & KR09

SCALE 1:200

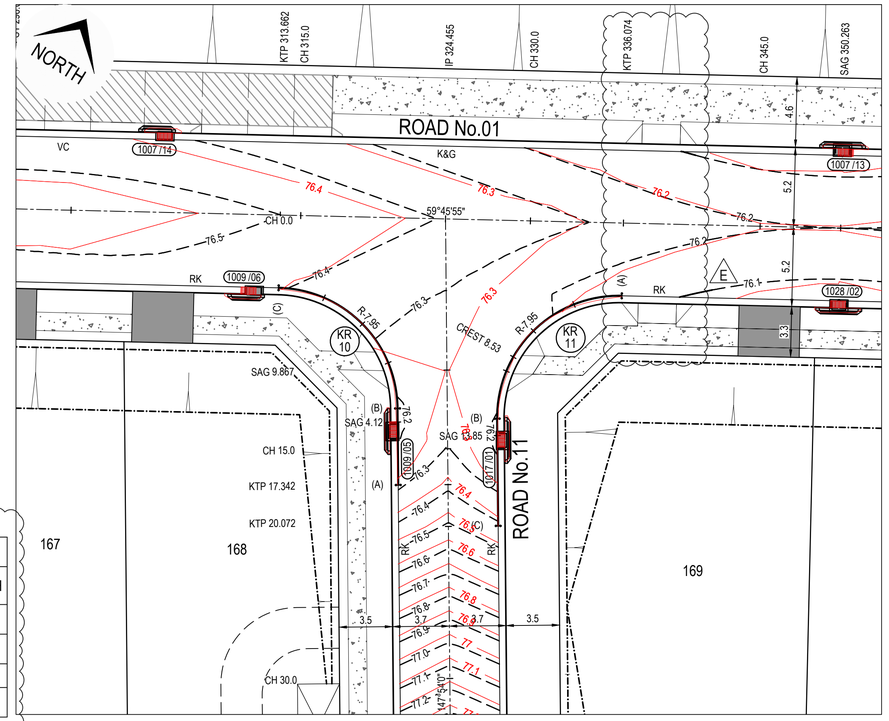
WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

NOTE:

- KERB RETURNS ARE SET OUT TO THE LIP OF GUTTER.



KERB RETURN PLAN - KR10 & KR11

SCALE 1:200

SETOUT TABLE KR08

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288679.32	6234213.27	327°53'59.62"		
5	288676.67	6234217.51	327°53'59.62"		
11.11	288672.58	6234224.03		-7.95	12.227
17.23	288665.93	6234220.15	239°46'40.95"		

SETOUT TABLE KR09

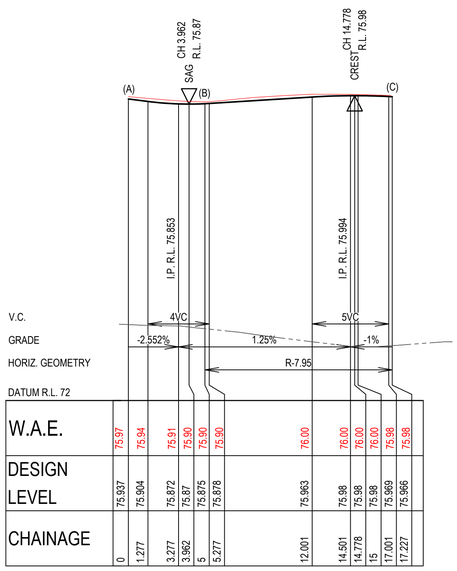
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288688.75	6234233.45	239°45'54.61"		
4	288685.29	6234231.44	239°45'54.60"		
10.37	288678.2	6234227.3		-7.95	12.747
16.75	288682.56	6234220.35	147°53'59.62"		
21.75	288685.22	6234216.11	147°53'59.62"		

SETOUT TABLE KR10

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288743.64	6234250.76	327°53'59.62"		
5	288740.98	6234254.99	327°53'59.62"		
11.11	288736.89	6234261.51		-7.95	12.229
17.23	288730.24	6234257.64	239°45'54.60"		

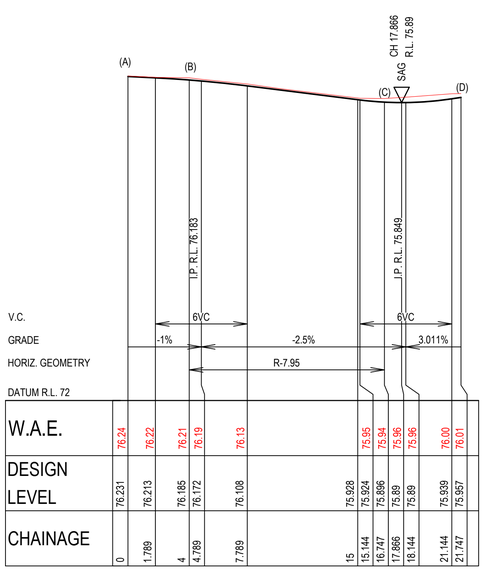
SETOUT TABLE KR11

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288749.61	6234268.92	239°45'54.61"		
6.37	288742.51	6234264.79		-7.95	12.747
12.75	288746.87	6234257.83	147°53'59.62"		
19.75	288750.59	6234251.9	147°53'59.62"		



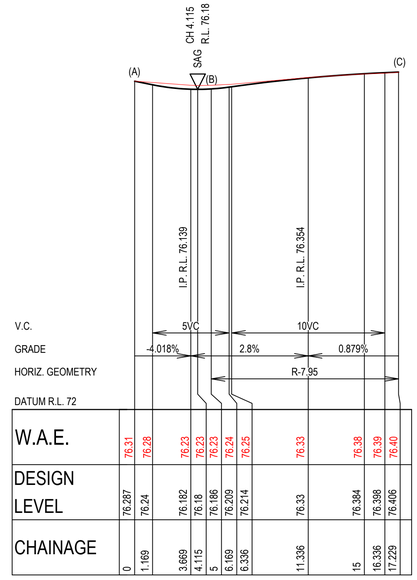
KERB RETURN - KR08

SCALE 1:200 (H)
SCALE 1:40 (V)



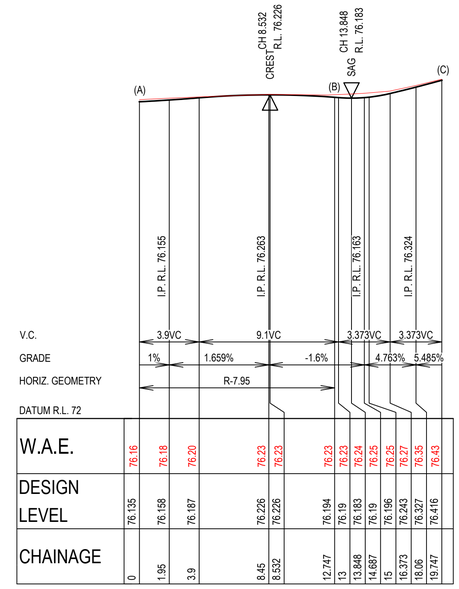
KERB RETURN - KR09

SCALE 1:200 (H)
SCALE 1:40 (V)



KERB RETURN - KR10

SCALE 1:200 (H)
SCALE 1:40 (V)



KERB RETURN - KR11

SCALE 1:200 (H)
SCALE 1:40 (V)

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E	WP	AP/CS	AP/CS	AP/CS	12/12/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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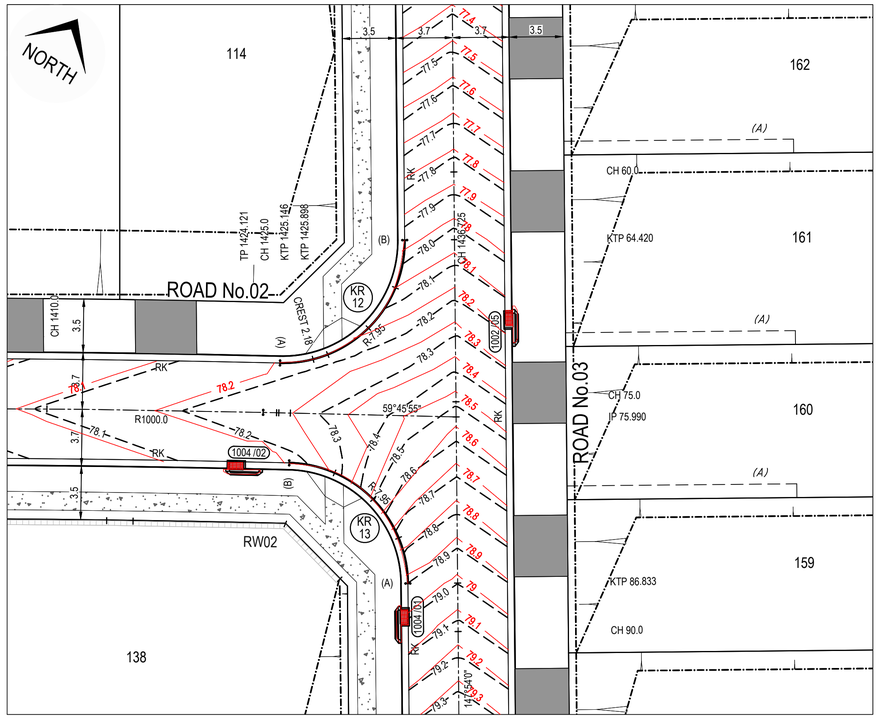
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(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
KERB RETURN PLAN,
SECTIONS & SETOUT TABLES
SHEET 06 OF 09

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	405	E



KERB RETURN PLAN - KR12 & KR13

SCALE 1:200

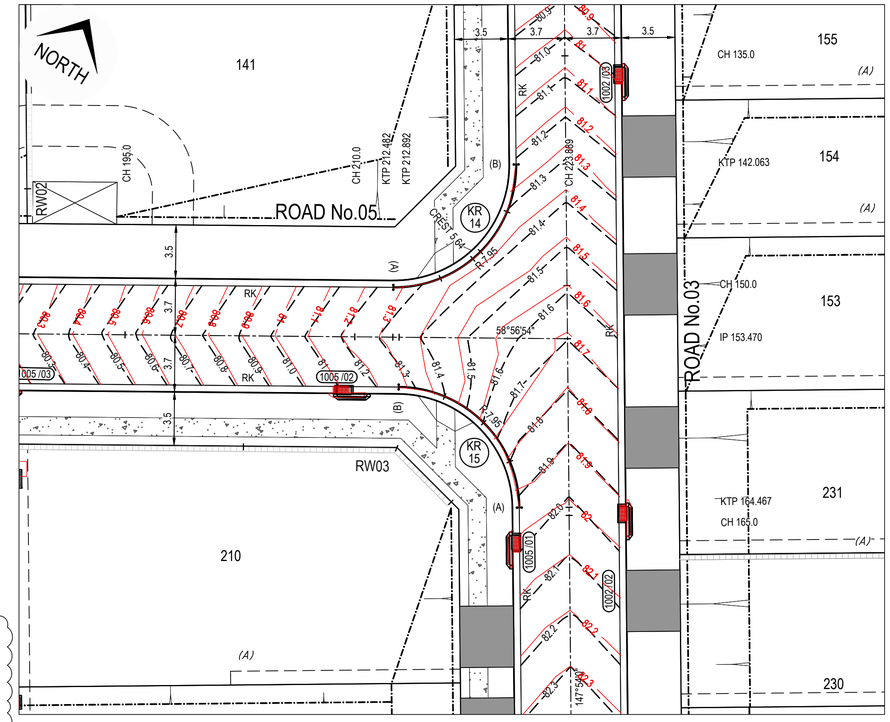
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DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

NOTE:

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KERB RETURN PLAN - KR14 & KR15

SCALE 1:200

SETOUT TABLE KR12

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288701.6	6234162.3	59°49'25.50"		
6.38	288708.71	6234166.43		-7.95	12.755
12.75	288704.34	6234173.39	327°53'59.62"		

SETOUT TABLE KR13

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288716.25	6234154.41	327°53'59.62"		
6.11	288712.17	6234160.91		-7.95	12.215
12.21	288705.53	6234157.06	239°52'02.46"		

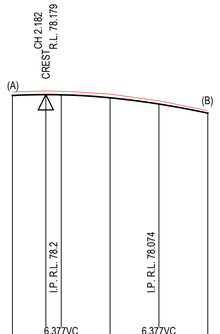
SETOUT TABLE KR14

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288742.97	6234096.58	58°56'54.08"		
6.32	288749.9	6234100.76		-7.95	12.633
12.63	288745.6	6234107.62	327°53'59.62"		

SETOUT TABLE KR15

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288757.51	6234088.64	327°53'59.62"		
6.17	288753.36	6234095.25		-7.95	12.342
12.34	288746.67	6234091.23	238°56'54.08"		

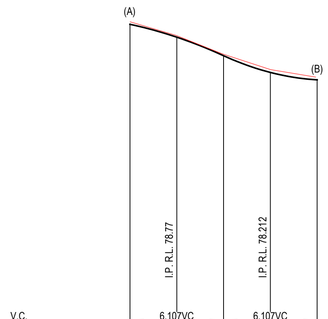
E



V.C.		6.377VC		6.377VC		
GRADE		1.029%		-1.978%		-4.3%
HORIZ. GEOMETRY		R-7.95				
DATUM R.L. 74						
W.A.E.	78.21	78.22	78.22	78.19	78.10	77.97
DESIGN LEVEL	78.168	78.179	78.176	78.137	78.056	77.937
CHAINAGE	0	2.182	3.189	6.377	9.566	12.755

KERB RETURN - KR12

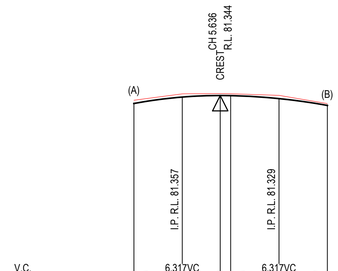
SCALE 1:200 (H)
SCALE 1:40 (V)



V.C.		6.107VC		6.107VC		
GRADE		-4.3%		-9.127%		-1.191%
HORIZ. GEOMETRY		R-7.95				
DATUM R.L. 74						
W.A.E.	78.93	78.75	78.51	78.31	78.21	
DESIGN LEVEL	78.901	78.733	78.491	78.273	78.176	
CHAINAGE	0	3.054	6.107	9.161	12.215	

KERB RETURN - KR13

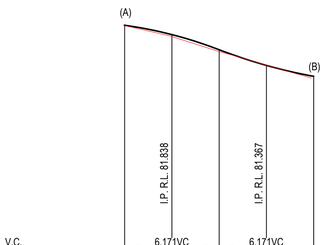
SCALE 1:200 (H)
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V.C.		6.317VC		6.317VC		
GRADE		3.691%		-0.446%		-3.602%
HORIZ. GEOMETRY		R-7.95				
DATUM R.L. 78						
W.A.E.	81.28	81.37	81.37	81.37	81.35	81.24
DESIGN LEVEL	81.24	81.324	81.344	81.343	81.304	81.215
CHAINAGE	0	3.158	5.636	6.317	9.475	12.633

KERB RETURN - KR14

SCALE 1:200 (H)
SCALE 1:40 (V)



V.C.		6.171VC		6.171VC		
GRADE		-2.706%		-7.63%		-3.629%
HORIZ. GEOMETRY		R-7.95				
DATUM R.L. 78						
W.A.E.	81.95	81.81	81.62	81.44	81.27	
DESIGN LEVEL	81.922	81.8	81.603	81.398	81.255	
CHAINAGE	0	3.086	6.171	9.257	12.342	

KERB RETURN - KR15

SCALE 1:200 (H)
SCALE 1:40 (V)

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Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
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B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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SCALE 1:40 (A1) SCALE 1:80 (A3)

For: mirvac

By: Orion Consulting

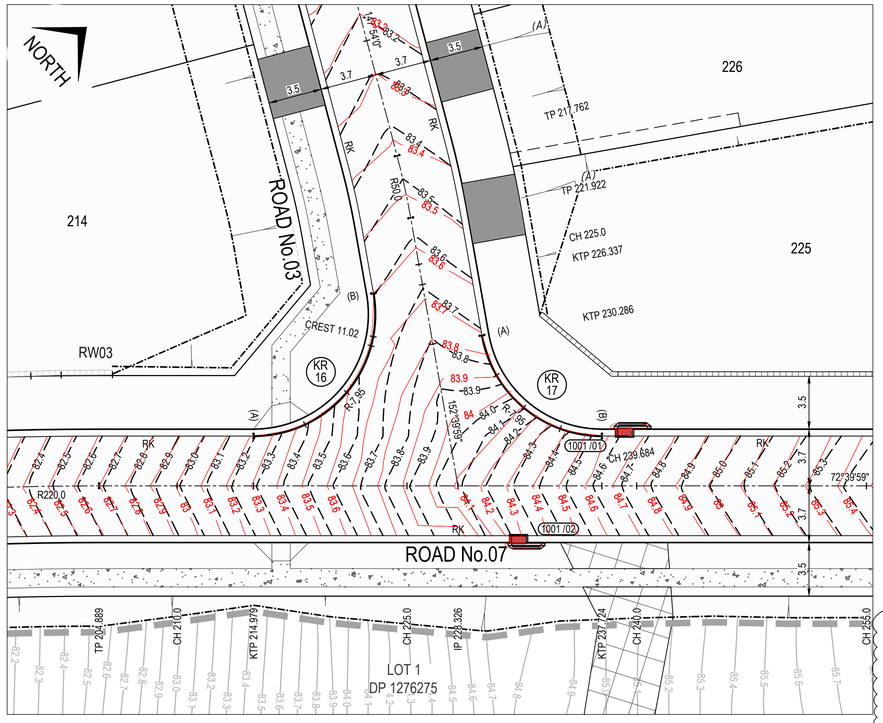
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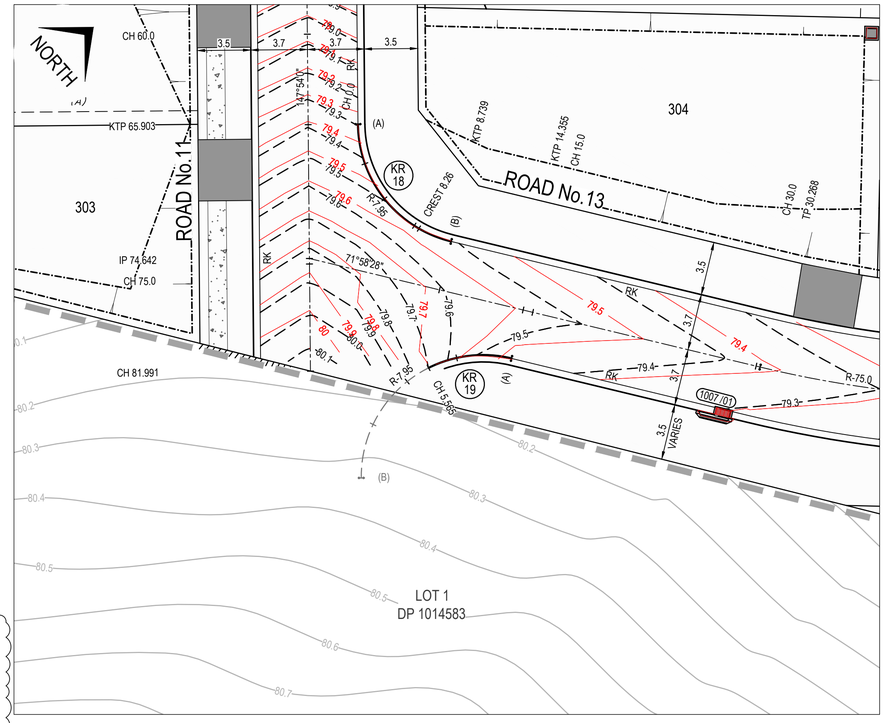
Title:
KERB RETURN PLAN, SECTIONS & SETOUT TABLES
SHEET 07 OF 09

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	406	E



KERB RETURN PLAN - KR16 & KR17

SCALE 1:200



KERB RETURN PLAN - KR18 & KR19

SCALE 1:200

WORKS AS EXECUTED

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DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

NOTE:

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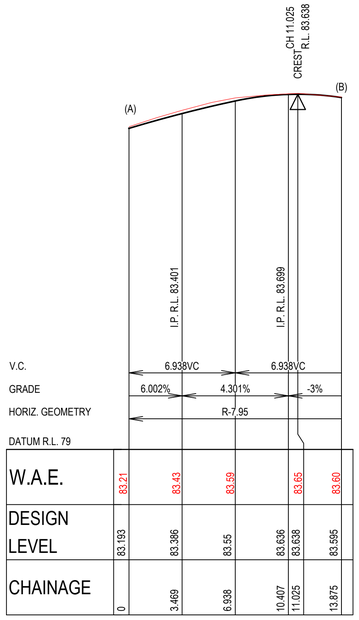
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CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288785.09	6234024.96	72°39'59.32"		
6.94	288794.13	6234027.78		-7.95	13.875
13.88	288789.78	6234036.2	332°39'59.32"		

SETOUT TABLE KR17					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288797.37	6234035.67	152°39'59.32"		
5.55	288800.43	6234029.75		-7.95	11.1
11.1	288806.8	6234031.73	72°39'59.32"		

SETOUT TABLE KR18					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288774.95	6234213.07	147°53'59.62"		
5.27	288778.25	6234207.82		-7.95	10.535
10.53	288784.14	6234209.74	71°58'28.27"		

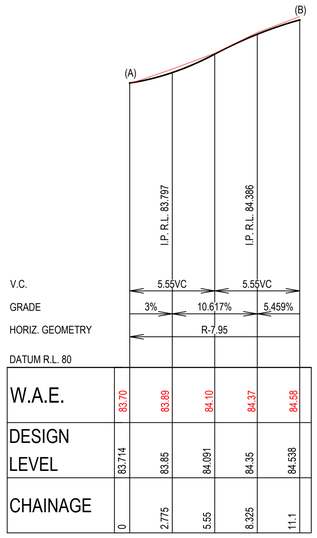
SETOUT TABLE KR19					
CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288791.5	6234205.3	251°58'28.27"		
7.22	288781.81	6234202.14		-7.95	14.441
14.44	288787.22	6234193.51	147°53'59.62"		

E



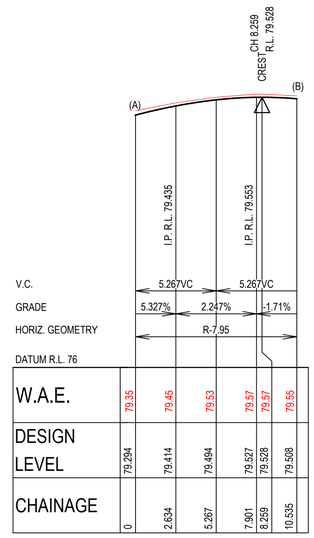
KERB RETURN - KR16

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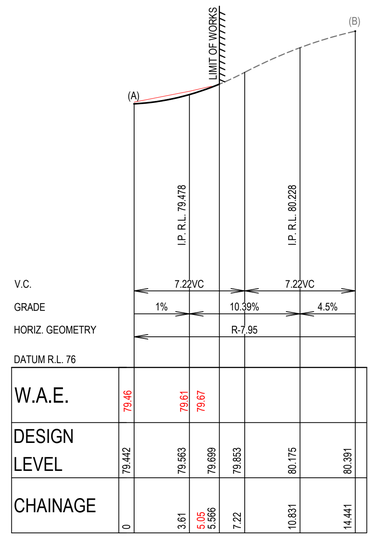
KERB RETURN - KR17

SCALE 1:200 (H)
SCALE 1:40 (V)



KERB RETURN - KR18

SCALE 1:200 (H)
SCALE 1:40 (V)



KERB RETURN - KR19

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SCALE 1:40 (V)

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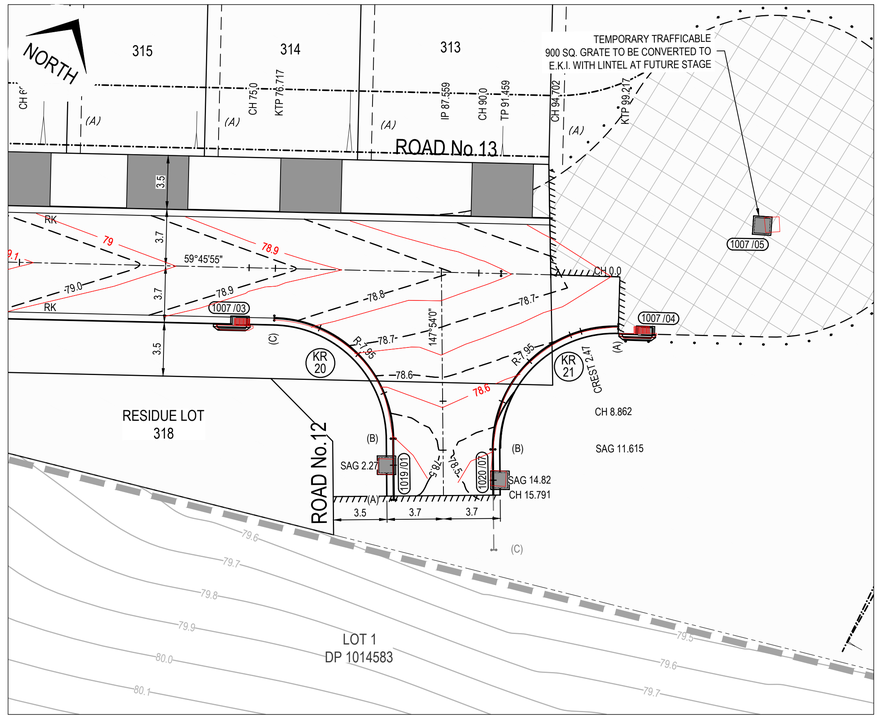
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KERB RETURN PLAN,
SECTIONS & SETOUT TABLES
SHEET 08 OF 09

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	407	E

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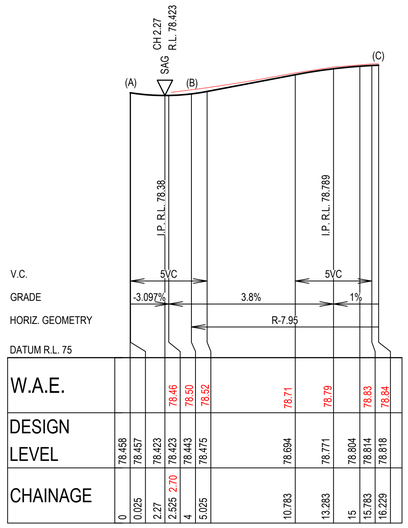


KERB RETURN PLAN - KR20 & KR21

SCALE 1:200

NOTE:

- KERB RETURNS ARE SET OUT TO THE LIP OF GUTTER.



KERB RETURN - KR20

SCALE 1:200 (H)
SCALE 1:40 (V)

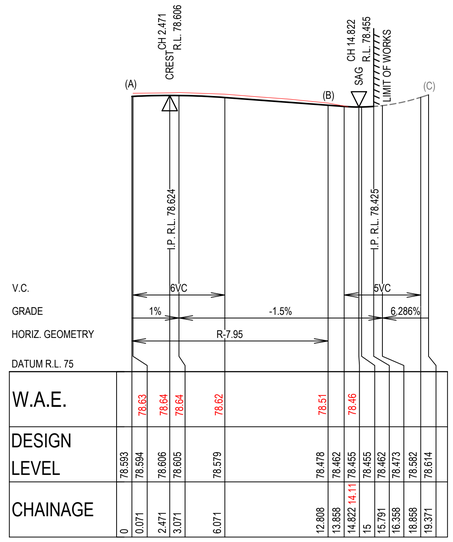
E

SETOUT TABLE KR20

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288861	6234226.33	327°53'59.62"		
4	288858.88	6234229.72	327°53'59.62"		
10.11	288854.79	6234236.24		-7.95	12.229
16.23	288848.14	6234232.37	239°45'54.66"		

SETOUT TABLE KR21

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288867.57	6234243.66	240°12'34.85"		
6.4	288860.39	6234239.54		-7.95	12.808
12.81	288864.79	6234232.53	147°53'59.62"		
19.37	288868.27	6234226.97	147°53'59.62"		



KERB RETURN - KR21

SCALE 1:200 (H)
SCALE 1:40 (V)

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
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SCALE 1:200 (A1) SCALE 1:400 (A3)
0 0.4 0.8 1.2 1.6 2 2.4 2.8 3.2 3.6 4
SCALE 1:40 (A1) SCALE 1:80 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
KERB RETURN PLAN,
SECTIONS & SETOUT TABLES
SHEET 09 OF 09

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	408	E

NORTH

SETOUT TABLE - CENTRE ISLAND CI02

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288470.52	6233849.24			
11	288470.52	6233863.24		14	21.991
21.99	288484.52	6233863.24	90°00'00.00"		
32.99	288498.52	6233863.24		14	21.991
43.98	288498.52	6233849.24	180°00'00.00"		
54.98	288498.52	6233835.24		14	21.991
65.97	288484.52	6233835.24	270°00'00.00"		
76.97	288470.52	6233835.24		14	21.991

SETOUT TABLE - SPLITTER ISLAND SI01

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288454.52	6233833.68			
9.64	288463.5	6233837.21	68°30'17.68"		
10.37	288464.33	6233837.54		-1	1.462
11.11	288464.09	6233838.41	344°44'01.15"		
14.82	288463.11	6233842	344°44'01.15"		
15.14	288462.98	6233842.49		-0.3	0.624
15.45	288462.62	6233842.13	225°29'43.92"		
23.27	288456.98	6233836.59			15.647
31.1	288449.79	6233833.3	245°29'43.92"		
32.09	288448.89	6233832.89		45	1.983
33.08	288447.97	6233832.52			
53.79	288428.73	6233825.09		250	41.42
74.5	288408.47	6233818.17			
84.55	288398.69	6233815.84			
87.93	288395.44	6233815.84		-100	6.746
91.3	288392.26	6233815.84	250°21'29.34"		
91.73	288391.77	6233815.67		-0.6	0.862
92.16	288391.88	6233815.15	168°04'27.05"		
92.59	288391.99	6233814.64		-0.6	0.862
93.02	288392.51	6233814.68			
99.75	288399.24	6233815.13		-83.872	13.464
106.49	288405.81	6233816.65			
131.07	288429.8	6233822.38		-250	49.166
155.65	288452.2	6233832.69	65°17'40.25"		
155.79	288452.33	6233832.75		45	0.27
155.92	288452.45	6233832.8	65°38'16.80"		
157.05	288453.48	6233833.27		45	2.252
158.17	288454.52	6233833.68	68°30'17.68"		

REFER TO DRAWING 200 FOR ISLAND EXTENTS AND GRADING

SETOUT TABLE - SPLITTER ISLAND SI02

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288480.75	6233886.88	177°40'59.61"		
2.87	288480.87	6233884.01		45	5.747
5.75	288480.62	6233881.14	185°00'02.85"		
14.01	288479.9	6233872.91	185°00'02.85"		
14.82	288479.8	6233871.86		-1	1.629
15.64	288480.86	6233871.82	91°40'44.05"		
20.85	288486.07	6233871.67			
21.14	288486.49	6233871.66		-0.3	0.57
21.42	288486.37	6233872.06	342°44'36.20"		
25.32	288485.21	6233875.8		30	7.793
29.21	288485.04	6233879.72	357°37'38.76"		

SETOUT TABLE - SPLITTER ISLAND SI03

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288545.76	6233845.38			
13.7	288532.05	6233845.83		250	27.406
27.41	288518.47	6233847.77	278°08'09.99"		
27.5	288518.38	6233847.78		45	0.189
27.6	288518.29	6233847.8	278°22'36.19"		
37.24	288508.75	6233849.2	278°22'36.19"		
37.97	288507.85	6233849.33		-1	1.47
38.71	288507.63	6233848.46	194°09'52.47"		
43.32	288506.5	6233843.99	194°09'52.47"		
43.62	288506.38	6233843.52		-0.3	0.61
43.93	288506.86	6233843.62	77°36'20.19"		
50.43	288513.26	6233845.03		45	13.014
56.94	288519.79	6233844.55	94°10'32.25"		
60.45	288523.3	6233844.3		-300	7.026
63.97	288526.81	6233844.12	92°50'01.74"		
73.46	288536.3	6233843.65		-150	18.993
82.96	288545.78	6233844.38	85°34'44.91"		
83.34	288546.26	6233844.42		-0.5	0.758
83.72	288546.25	6233844.89	358°43'01.60"		
84.1	288546.23	6233845.37		-0.5	0.758

SETOUT TABLE - SPLITTER ISLAND SI04

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288482.25	6233820.93			
0.4	288482.42	6233820.48		-0.6	0.806
0.81	288482.89	6233820.55	82°01'09.96"		
1.21	288483.37	6233820.61		-0.6	0.806
1.61	288483.41	6233821.09	5°05'11.28"		
5.66	288483.77	6233825.12	5°05'11.28"		
6.33	288483.84	6233825.91		-1	1.347
7	288483.08	6233826.16	287°54'44.67"		
9.78	288480.43	6233827.01	287°54'44.67"		
9.95	288480.25	6233827.07		-0.3	0.338
10.12	288480.12	6233826.93	223°25'56.65"		
10.29	288479.99	6233826.8		-0.3	0.338
10.46	288480.06	6233826.62	158°57'08.63"		

NOTE:

- FOR CENTRE ISLAND & SPLITTER ISLAND LONG SECTIONS REFER TO SHEETS SWC 411-412.
- SPLITTER ISLANDS ARE SETOUT TO THE FACE OF KERB (MOUNTABLE KERB).
- CENTRE ISLAND IS SETOUT TO THE OUTSIDE EDGE OF APRON.

ROUNDABOUT CENTRE ISLAND & SPLITTER ISLAND SETOUT PLAN

SCALE 1:200

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F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

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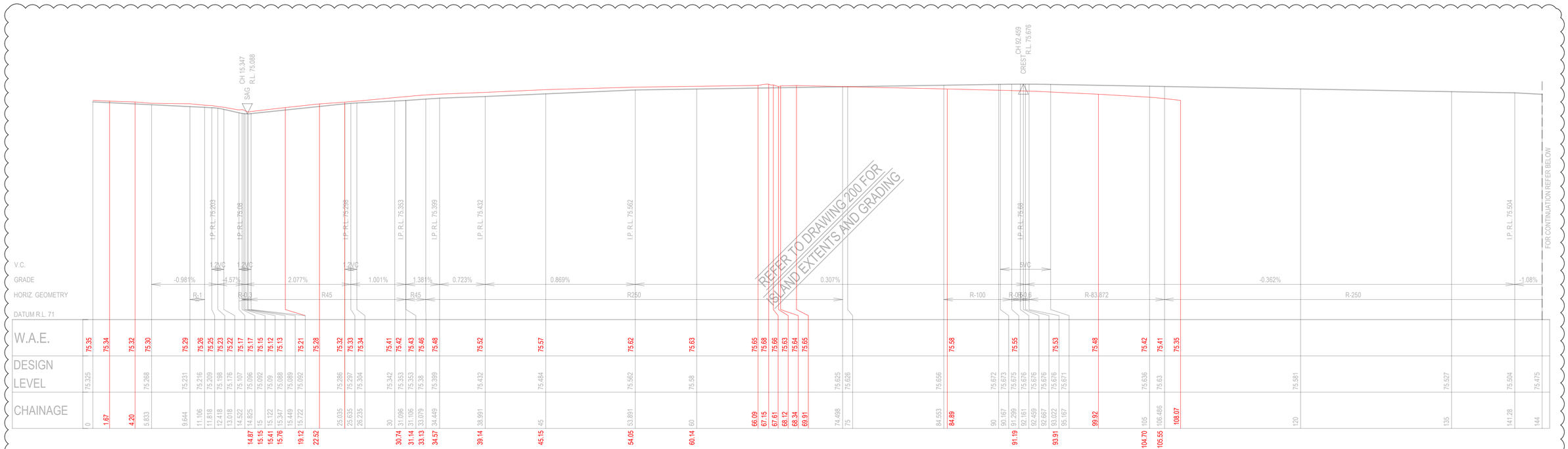
Project: LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title: ROUNDABOUT CENTRE ISLAND & SPLITTER ISLAND PLAN, SECTIONS & SETOUT TABLES SHEET 01 OF 05

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	410	F

NOTE:

- FOR SI01 & SI02 SETOUT PLAN REFER TO SHEET SWC 410.

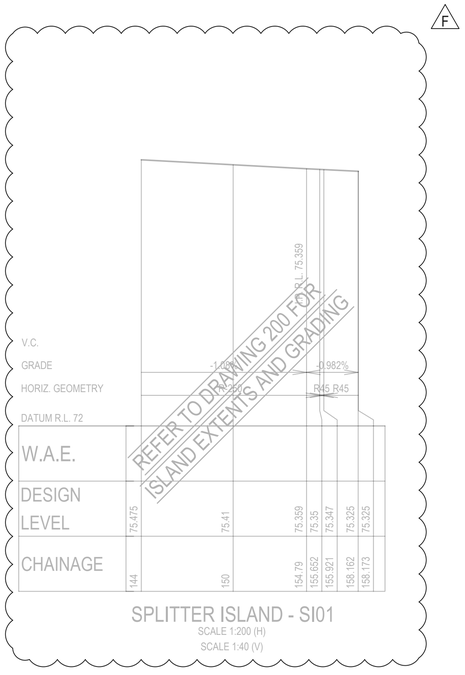


SPLITTER ISLAND - SI01

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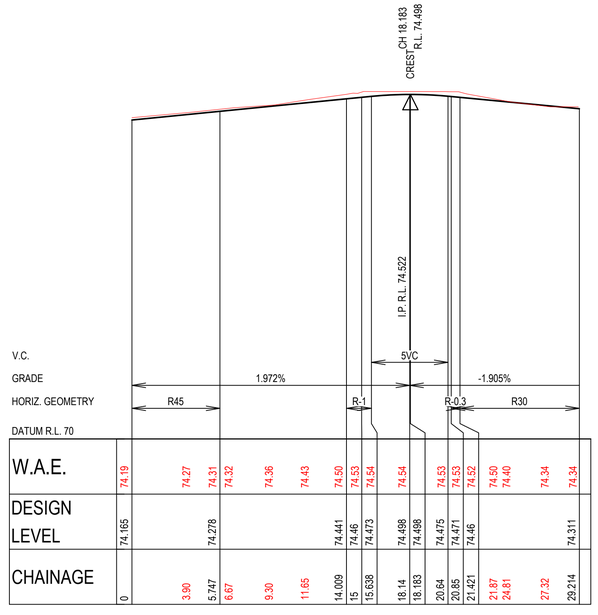
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SPLITTER ISLAND - SI01

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SCALE 1:40 (V)



SPLITTER ISLAND - SI02

SCALE 1:200 (H)

SCALE 1:40 (V)

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Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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SCALE 1:200 (A1) SCALE 1:400 (A3)
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Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
ROUNDABOUT CENTRE ISLAND & SPLITTER ISLAND PLAN, SECTIONS & SETOUT TABLES SHEET 02 OF 05

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	411	F

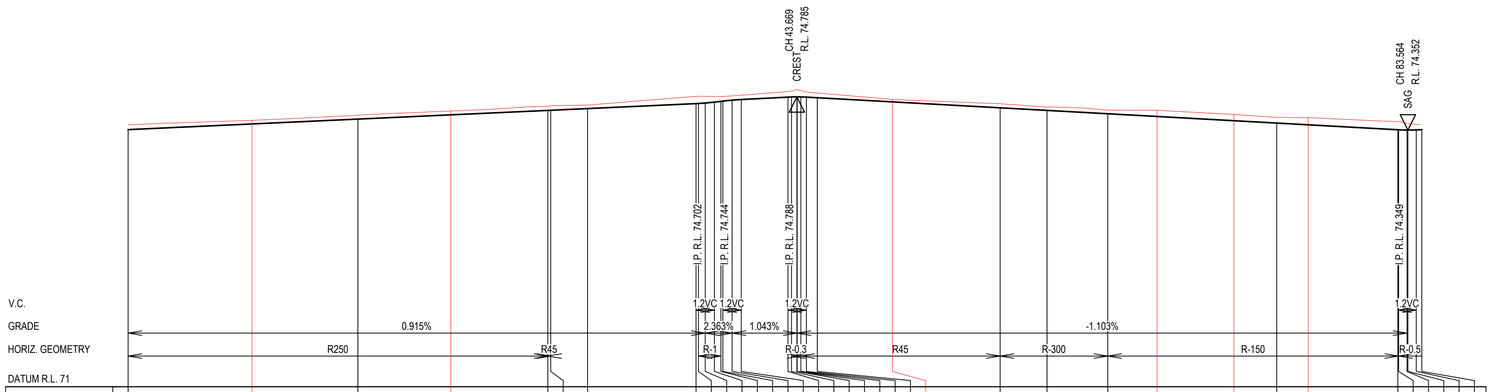
NOTE:

- FOR SI03, SI04 & CI01 SETOUT PLAN REFER TO SHEET SWC 410.

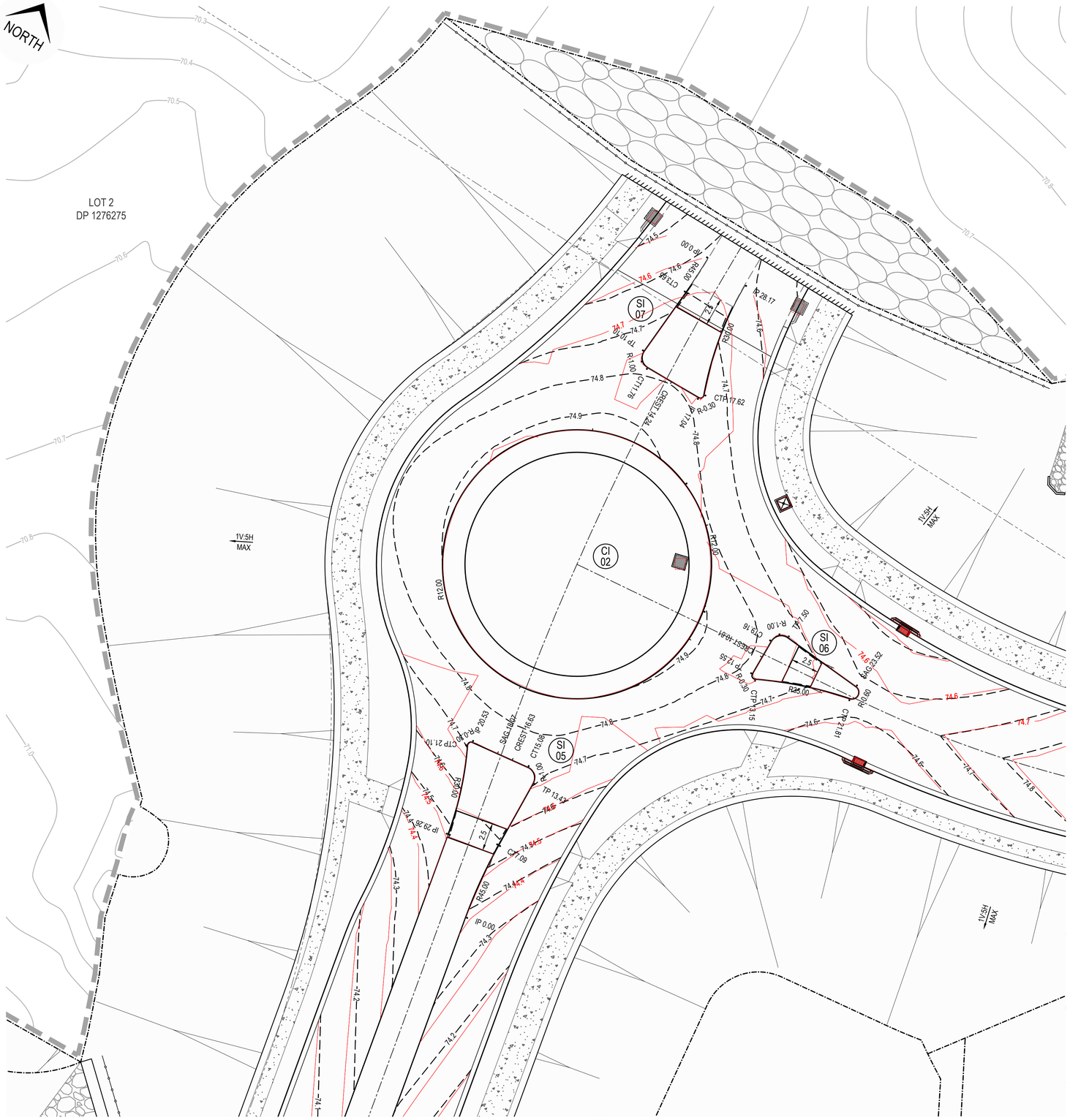
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DATE: 12/12/2023

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ROUNDABOUT CENTRE ISLAND & SPLITTER ISLAND SETOUT PLAN

SCALE 1:200

SETOUT TABLE - SPLITTER ISLAND SI05

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288459.66	6234088.33	348°32'33.89"		
3.54	288458.95	6234091.81		45	7.086
7.09	288458.8	6234095.36	357°33'52.93"		
13.43	288458.53	6234101.69	357°33'52.93"		
14.25	288458.49	6234102.78		-1	1.656
15.08	288457.41	6234102.64	262°41'20.30"		
20.53	288452.01	6234101.95			
20.81	288451.59	6234101.9		-0.3	0.575
21.1	288451.78	6234101.52	152°56'55.75"		
25.18	288453.65	6234097.86		30	8.155
29.26	288454.46	6234093.84	168°31'28.55"		

SETOUT TABLE - SPLITTER ISLAND SI06

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288478.58	6234124.11			
7.5	288471.1	6234124.65	274°08'50.71"		
8.33	288470	6234124.73		-1	1.668
9.16	288470.03	6234123.63	178°35'00.22"		
12.55	288470.12	6234120.25	178°35'00.22"		
12.85	288470.13	6234119.77		-0.3	0.605
13.15	288470.55	6234119.99	63°00'50.19"		
17.48	288474.43	6234121.96		35	8.656
21.81	288478.67	6234122.93	77°11'05.12"		
22.24	288479.17	6234123.04		-0.6	0.854
22.66	288479.14	6234123.56	355°39'57.92"		
23.09	288479.1	6234124.07		-0.6	0.854
23.52	288478.58	6234124.11	274°08'50.71"		

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SETOUT TABLE - SPLITTER ISLAND SI07

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288447.32	6234149.83	179°11'41.77"		
1.83	288447.35	6234148		45	3.651
3.65	288447.23	6234146.18	183°50'36.65"		
10.1	288446.8	6234139.74	183°50'36.65"		
10.93	288446.72	6234138.65		-1	1.657
11.76	288447.81	6234138.67	88°53'13.45"		
17.04	288453.1	6234138.78			
17.33	288453.53	6234138.79		-0.3	0.577
17.62	288453.37	6234139.19	338°43'41.09"		
22.89	288451.44	6234144.15		30	10.545
28.17	288451.33	6234149.48	358°52'03.26"		

SETOUT TABLE - CENTRE ISLAND CI02

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH
0	288456.13	6234131.52			
5.96	288462.16	6234129.09		12	11.912
11.91	288463.41	6234122.71	168°51'44.61"		
22.49	288466.22	6234108.42		12	21.163
33.08	288451.66	6234108.39	269°54'14.68"		
43.66	288437.09	6234108.37		12	21.163
54.24	288439.85	6234122.67	10°56'44.76"		
64.82	288442.62	6234136.98		12	21.163

E

NOTE:

- FOR CENTRE ISLAND & SPLITTER ISLAND LONG SECTIONS REFER TO SHEET SWC 414.
- SPLITTER ISLANDS ARE SETOUT TO THE FACE OF KERB (MOUNTABLE KERB).
- CENTRE ISLAND IS SETOUT TO THE OUTSIDE EDGE OF APRON.

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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

For: mirvac

By: Orion Consulting
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Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
ROUNDABOUT CENTRE ISLAND & SPLITTER ISLAND PLAN, SECTIONS & SETOUT TABLES SHEET 04 OF 05

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	413	E

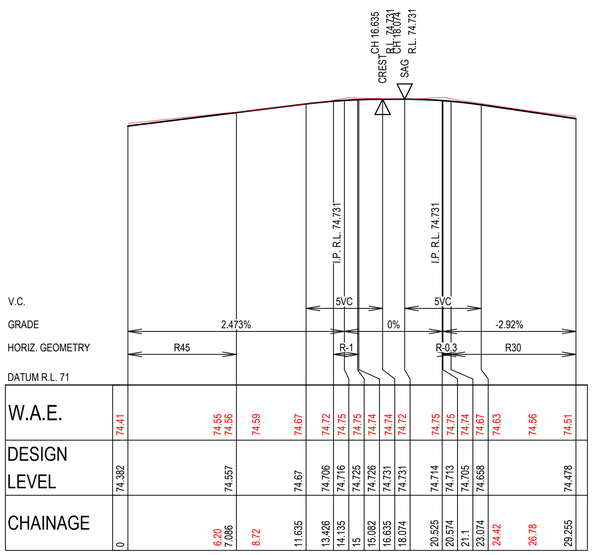
NOTE:

- FOR SI05, SI06, SI07 & CI02 SETOUT PLAN REFER TO SHEET SWC 413.

WORKS AS EXECUTED

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DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
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NORTH

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

CATCHMENT NAME, DIRECTION OF FALL & AREA	DESIGN 0.1760ha
COBBITTY DAM CATCHMENTS	
COBBITTY CREEK CATCHMENTS	
DENBIGH TRIBUTARY CATCHMENTS	
STUDY AREA	

DT1 10.17 ha
DT2 9.89 ha
DT3 21.11 ha
DT4 26.92 ha
DT5 23.13 ha
DT6 14.72 ha
DT7 18.10 ha
DT8 18.99 ha
DT9 16.16 ha
DT10 21.89 ha
DT11 20.48 ha
DT12 24.92 ha
DT13 11.52 ha
DT14 13.94 ha
DT15 16.82 ha
DT16 23.87 ha
DT17 26.22 ha
DT18 28.39 ha
DT19 15.73 ha
DT20 10.84 ha
DT21 12.30 ha
DT22 26.23 ha
DT23 15.12 ha
DT24 28.93 ha
DT25 8.42 ha
DT26 22.77 ha
CD1 10.84 ha
CD2 13.33 ha
CD3 10.20 ha
CD4 7.71 ha
CD5 6.80 ha
CD6 20.25 ha
CD7 11.89 ha
CD8 7.93 ha
CD9 17.12 ha
CD10 26.60 ha
CD11 16.85 ha
CD12 30.00 ha
CD13 37.48 ha
CK1 17.91 ha
CK2 27.19 ha
CK3 16.77 ha
CK4 24.45 ha
CK5 16.94 ha
CK6 20.56 ha
CK7 15.23 ha
CK8 24.88 ha
CK9 27.58 ha
CK10 30.37 ha
CK11 17.74 ha
CK12 12.93 ha
CK13 12.63 ha
CK14 5.46 ha
CK15 10.34 ha
CK16 14.74 ha
CK17 18.54 ha
CK18 16.12 ha
CK19 16.19 ha
CK20 25.07 ha
CK21 18.80 ha
CK22 45.79 ha
CK23 39.97 ha
CK24 11.91 ha
CK25 34.38 ha
CK26 212.44 ha

THE NORTHERN ROAD
COBBITTY ROAD
GROVE ROAD

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 100 200 300 400 500 600 700 800 900 1000
SCALE 1:10000 (A1) SCALE 1:20000 (A3)

For: mirvac

By: Orion Consulting
JAS-ANZ
ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
OVERALL PRE DEVELOPED CATCHMENT PLAN

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	500	E

NORTH

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

CATCHMENT NAME, DIRECTION OF FALL & AREA	DESIGN 0.1760ha
COBBITTY DAM CATCHMENTS	
COBBITTY CREEK CATCHMENTS	
POST DEVELOPED CATCHMENTS	
DENBIGH TRIBUTARY CATCHMENTS	

DT1 10.17 ha
DT2 9.89 ha
DT3 21.11 ha
DT4 26.92 ha
DT5 23.13 ha
DT6 14.72 ha
DT7 18.10 ha
DT8 18.99 ha
DT9 16.16 ha
DT10 21.89 ha
DT11 20.48 ha
DT12 24.92 ha
DT13 11.52 ha
DT14 13.94 ha
DT15 16.82 ha
DT16 23.87 ha
DT17 26.22 ha
DT18 28.39 ha
DT19 15.73 ha
DT20 10.84 ha
DT21 12.30 ha
DT22 26.23 ha
DT23 15.12 ha
DT24 28.93 ha
DT25 8.42 ha
DT26 22.77 ha
CD1 10.84 ha
CD2 13.33 ha
CD3 10.20 ha
CD4 7.71 ha
CD5 6.80 ha
CD6 20.25 ha
CD7 11.89 ha
CD8 7.93 ha
CD9 17.12 ha
CD10 26.60 ha
CD11 16.85 ha
CD12 30.79 ha
CD13 25.36 ha
CK1 17.91 ha
CK2 27.19 ha
CK3 16.77 ha
CK4 24.45 ha
CK5 16.94 ha
CK6 20.56 ha
CK7 15.23 ha
CK8 24.88 ha
CK9 27.58 ha
CK10 30.37 ha
CK11 19.01 ha
CK12 12.93 ha
CK13 12.63 ha
CK14 6.31 ha
CK17 15.27 ha
CK18 16.12 ha
CK19 16.19 ha
CK20 25.07 ha
CK21 18.80 ha
CK22 45.79 ha
CK23 39.97 ha
CK24 11.91 ha
CK25 34.38 ha
CK26 212.44 ha
PDR04 6.30 ha
PD03/A 2.89 ha
PD03/A 2.89 ha
PD03/B 10.58 ha
PD04/A 2.47 ha
PDR03/W 3.07 ha
PD04/B 6.19 ha
PD06 3.11 ha
PDR03/E 2.22 ha

THE NORTHERN ROAD
COBBITTY ROAD
NEPEAN RIVER
GROVE ROAD

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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For: mirvac

By: Orion Consulting

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Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
OVERALL POST DEVELOPED CATCHMENT PLAN

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	501	E

NORTH

LOT 4
DP 1276275

CREEK

EXISTING
FARM DAM

LOT 5
DP 1276275

EXISTING
VEGETATION

COBBITTY

ROAD No.01

ROAD No.03

ROAD No.11

ROAD No.02

ROAD No.13

ROAD No.05

ROAD No.07

CHARLES MCINTOSH PKWY

LOT 2
DP 1276275

COBBITTY CREEK

LOT 1
DP 270613

COBBITTY ROAD

MACQUARIE GROVE ROAD

LOT 1
DP 1276275

FUTURE CATCHMENT
TO 1007/02
1.14ha

FUTURE CATCHMENT
TO LINE 1009
0.710ha

LOT 1
DP 1014583

FUTURE CATCHMENT
TO LINE 1020
1.14ha

LEGEND

CATCHMENT NAME, DIRECTION OF FALL & AREA	DESIGN 0.1760ha
CONTOURS (EXISTING & DESIGN)	20.0 — 20.0
DESIGN CATCHMENT BOUNDARY	
EXTERNAL CATCHMENT BOUNDARY	

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

1AH/01 (EXISTING)
EXTERNAL CATCHMENT
(INTERIM ONLY)
0.8084ha

EXTERNAL CATCHMENT
(INTERIM ONLY - BYPASS)
1.023ha

INSET PLAN -
EXISTING EXTERNAL
CATCHMENTS

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
D	WP	AP/CS	AP/CS	AP/CS	24/03/2023	UPDATED RELFECTING S.455 APPROVAL
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 10 20 30 40 50 60 70 80 90 100
SCALE 1:1000 (A1) SCALE 1:2000 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

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Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
DRAINAGE CATCHMENT PLAN

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	502	F

NORTH

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

CATCHMENT NAME, DIRECTION OF FALL & AREA	DESIGN 0.1760ha
CONTOURS (EXISTING & DESIGN)	20.0 — 20.0
T3.B1 CATCHMENT BOUNDARY	
T3.B2 CATCHMENT BOUNDARY	
T3.1 CATCHMENT BOUNDARY	
T3.2A CATCHMENT BOUNDARY	
T3.2B CATCHMENT BOUNDARY	

LOT 455
DP 1103936

LOT 4
DP 1276275

CREEK

EXISTING
FARM DAM

LOT 5
DP 1276275

EXISTING
VEGETATION

COBBITTY

T3.B2
(OSD BYPASS)
0.88 ha

ROAD No.01

T3.1 DESIGN
2.86 ha

ROAD No.11

ROAD No.03

ROAD No.13

ROAD No.02

LOT 2
DP 1276275

T3.B1
(OSD BYPASS)
0.82 ha

T3.2A DESIGN
0.86 ha

ROAD No.05

CHARLES MCINTOSH PKWY

COBBITTY CREEK

T3.2B DESIGN
1.64 ha

ROAD No.07

LOT 3
DP 1276275

LOT 1
DP 1014583

LOT 100
DP 1159926

LOT 1
DP 1276275

LOT 1
DP 270613

COBBITTY ROAD

QUARRY ROAD

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
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SCALE 1:1000 (A1)
SCALE 1:2000 (A3)

For: mirvac

By: Orion Consulting

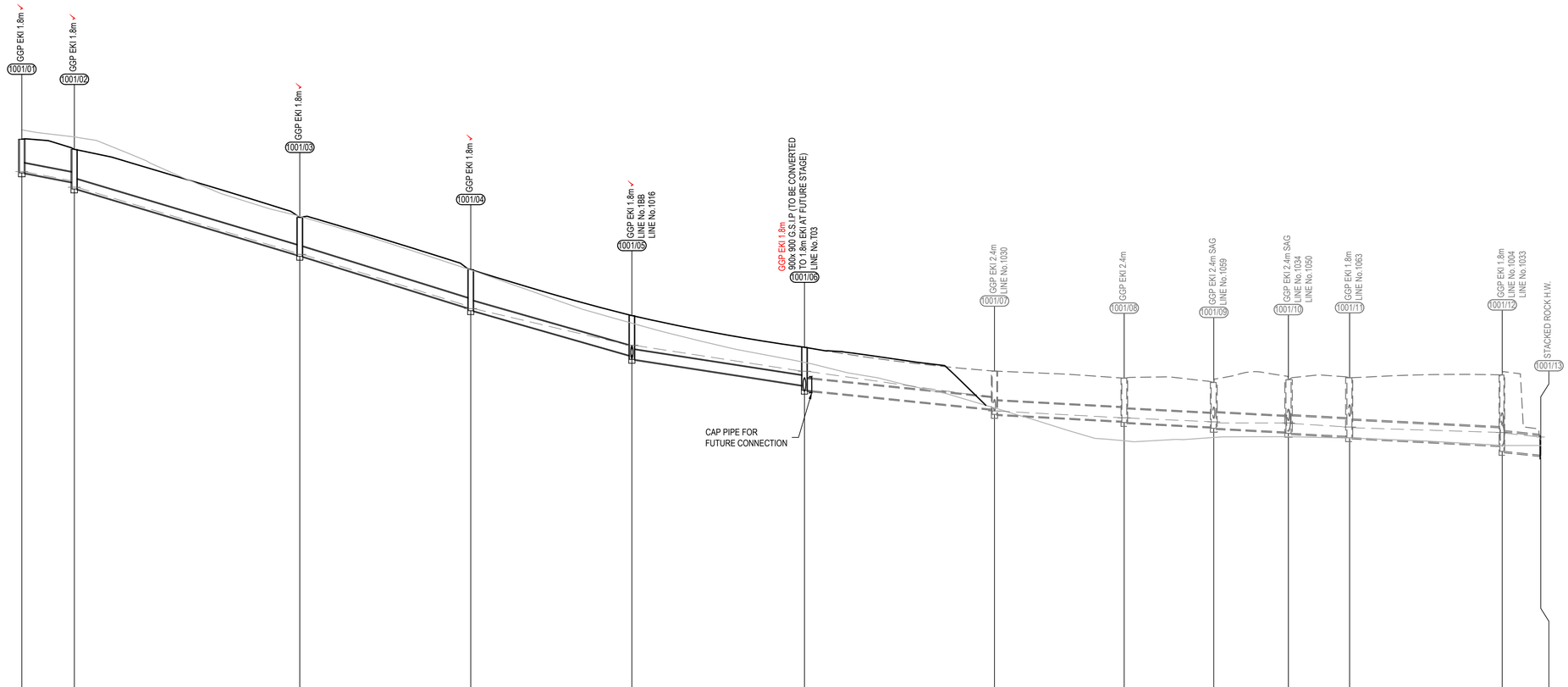
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Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
MUSIC CATCHMENT PLAN

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	503	F


GGP EKI 1.8m
1001/01
GGP EKI 1.8m
1001/02
GGP EKI 1.8m
1001/03
GGP EKI 1.8m
1001/04
GGP EKI 1.8m
LINE No.1BB
LINE No.1016
1001/05
GGP EKI 1.8m
900x 900 G.S.I.P (TO BE CONVERTED
TO 1.8m EKI AT FUTURE STAGE)
LINE No.1I03
1001/06
CAP PIPE FOR
FUTURE CONNECTION
GGP EKI 2.4m
LINE No.1030
1001/07
GGP EKI 2.4m
1001/08
GGP EKI 2.4m SAG
LINE No.1059
1001/09
GGP EKI 2.4m SAG
LINE No.1034
LINE No.1050
1001/10
GGP EKI 1.8m
LINE No.1063
1001/11
GGP EKI 1.8m
LINE No.1004
LINE No.1033
1001/12
STACKED ROCK H.W.
1001/13

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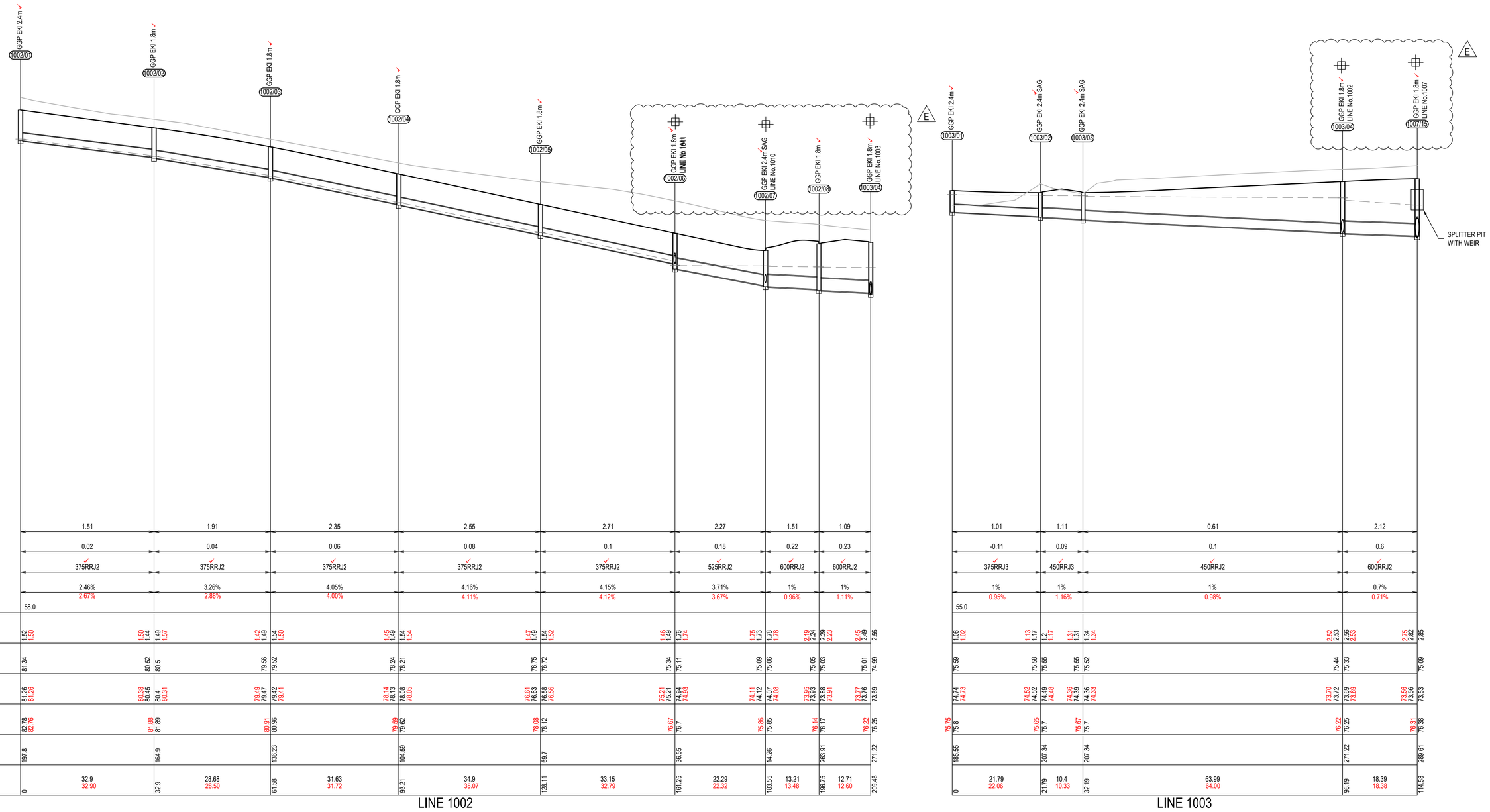
WORKS AS EXECUTED

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DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

- EXISTING SURFACE
- DESIGN SURFACE
- FUTURE SURFACE
- DESIGN STORM HGL
- DESIGN PIPE AND PIT
- DESIGN TEMPORARY PIPE AND PIT
- EXISTING PIPE AND PIT
- FUTURE PIPE AND PIT
- PROPOSED RETAINING WALL
- STRUCTURAL PIT



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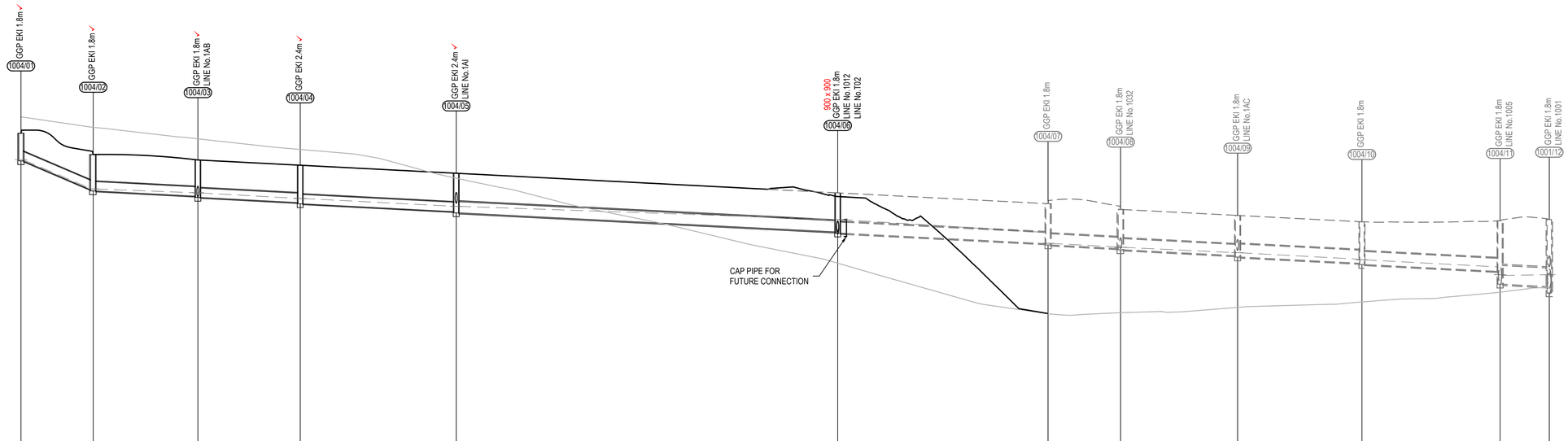
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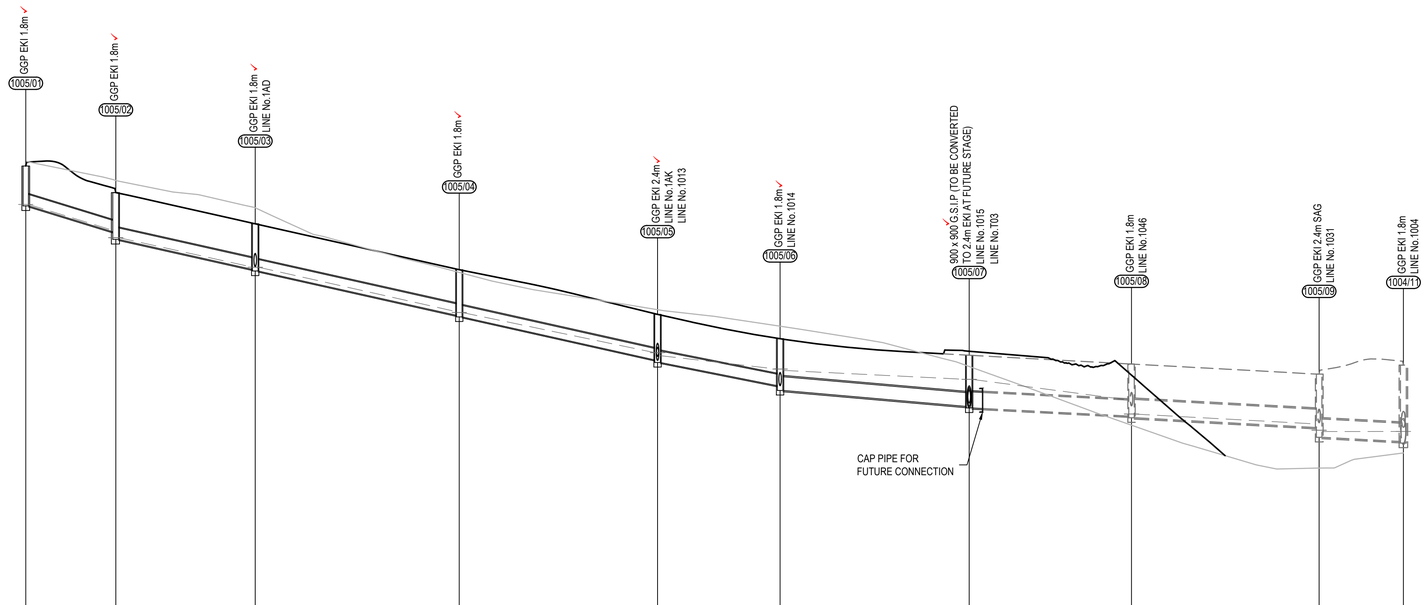
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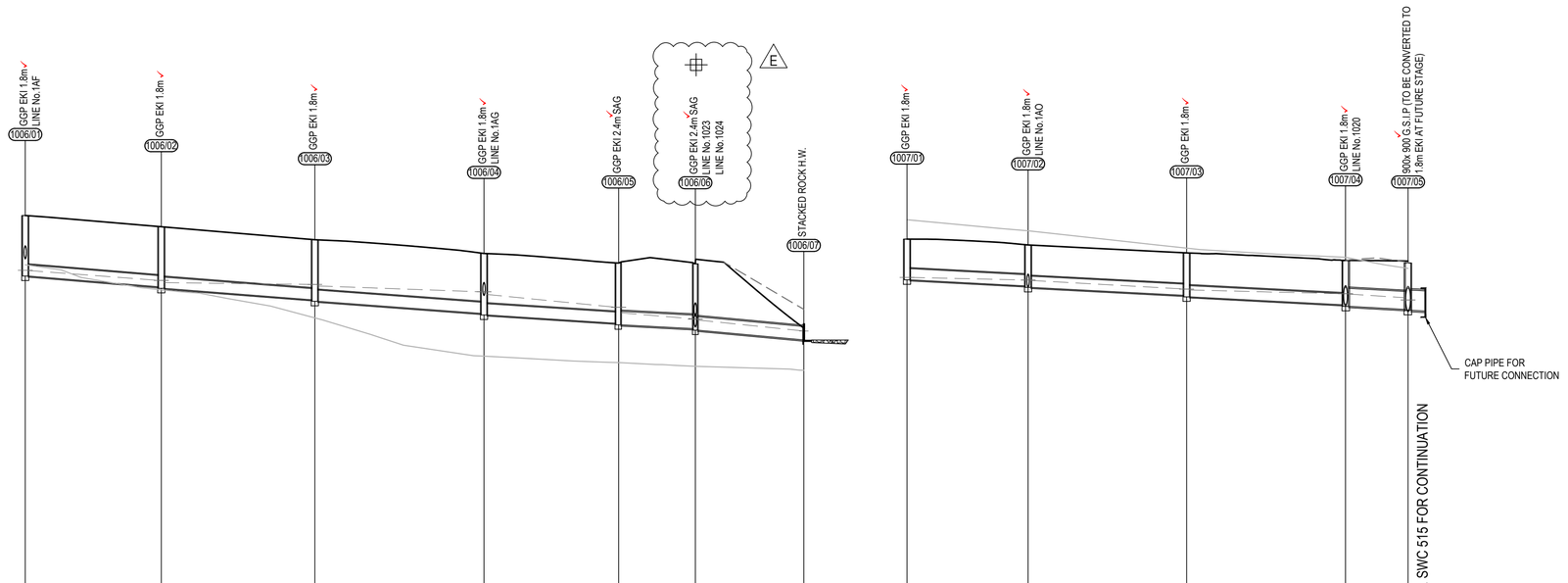
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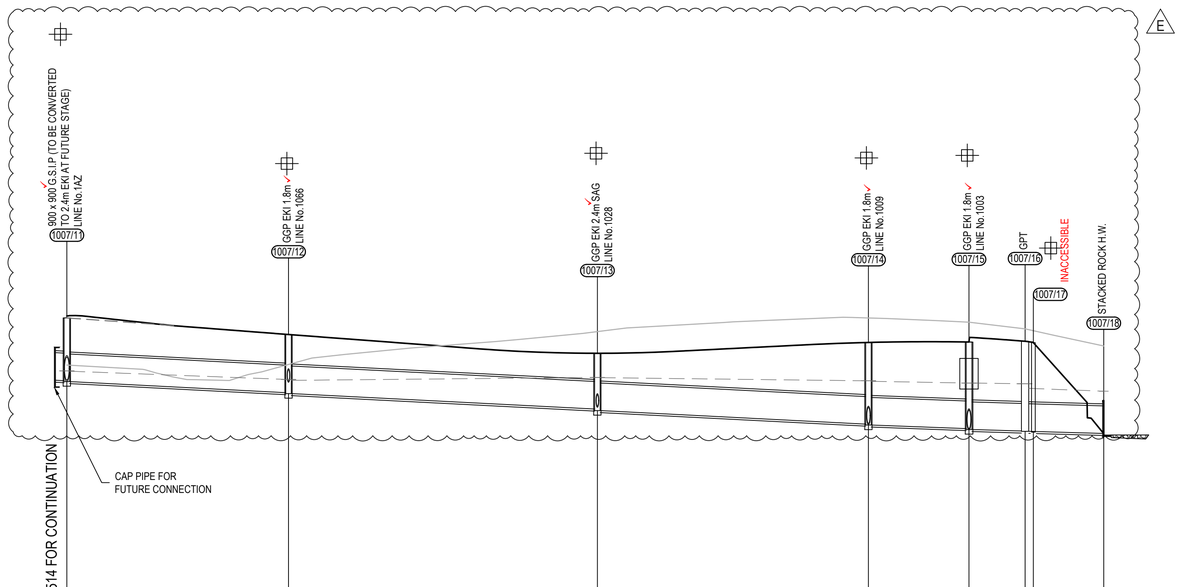
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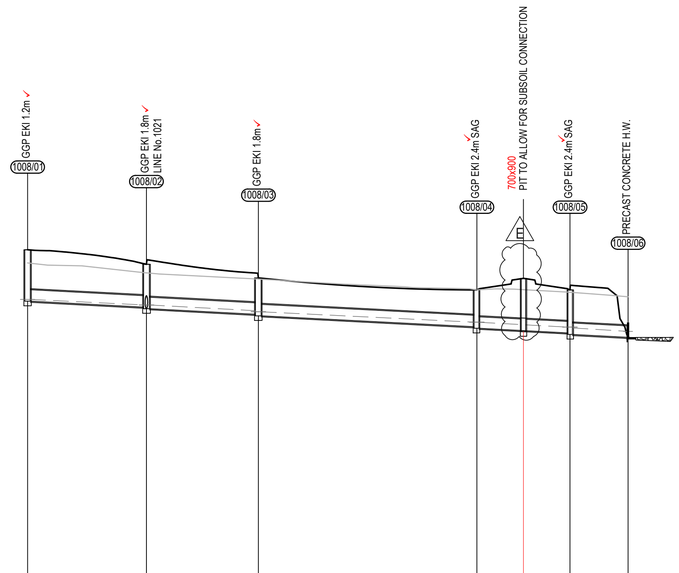
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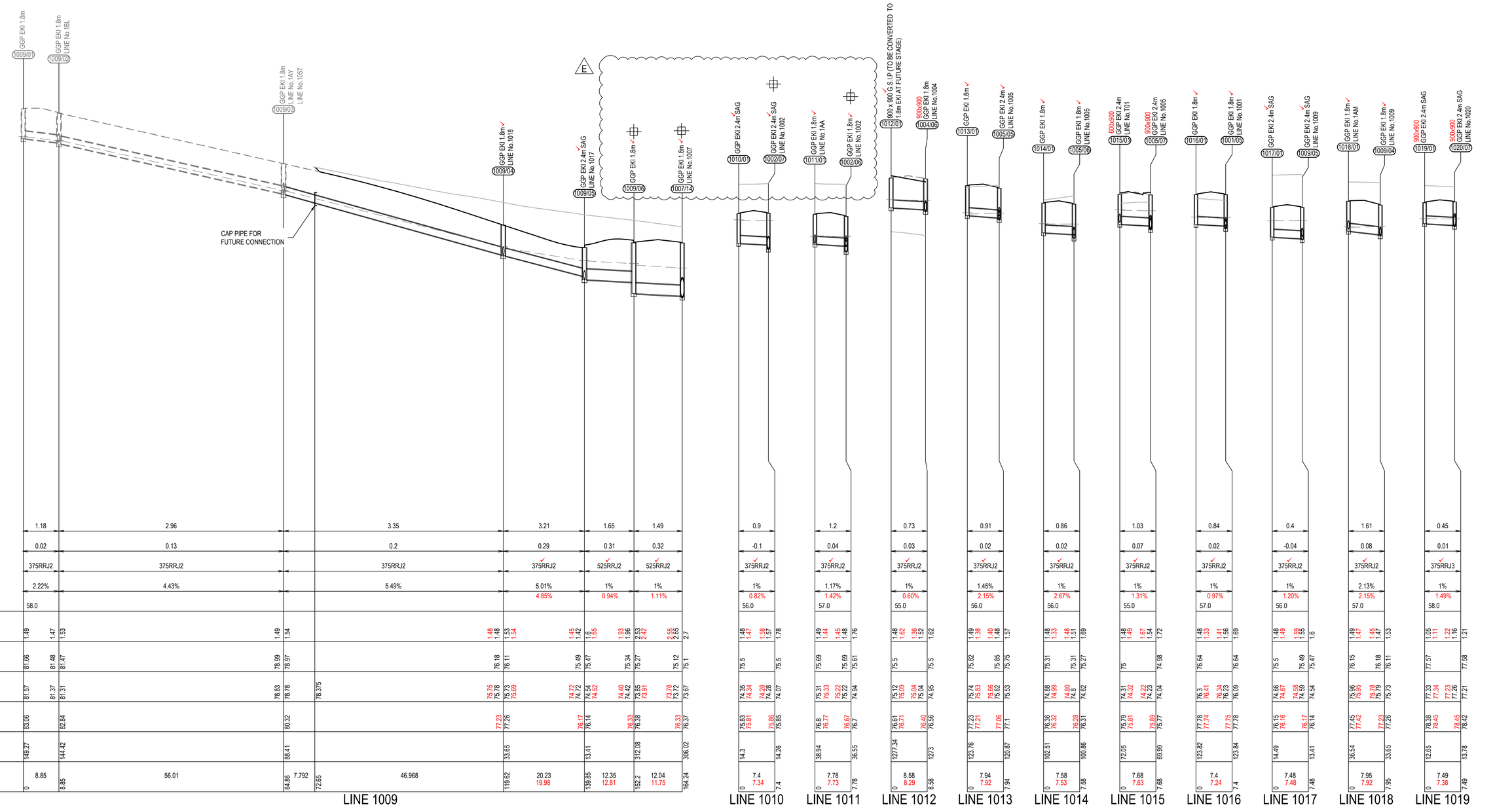
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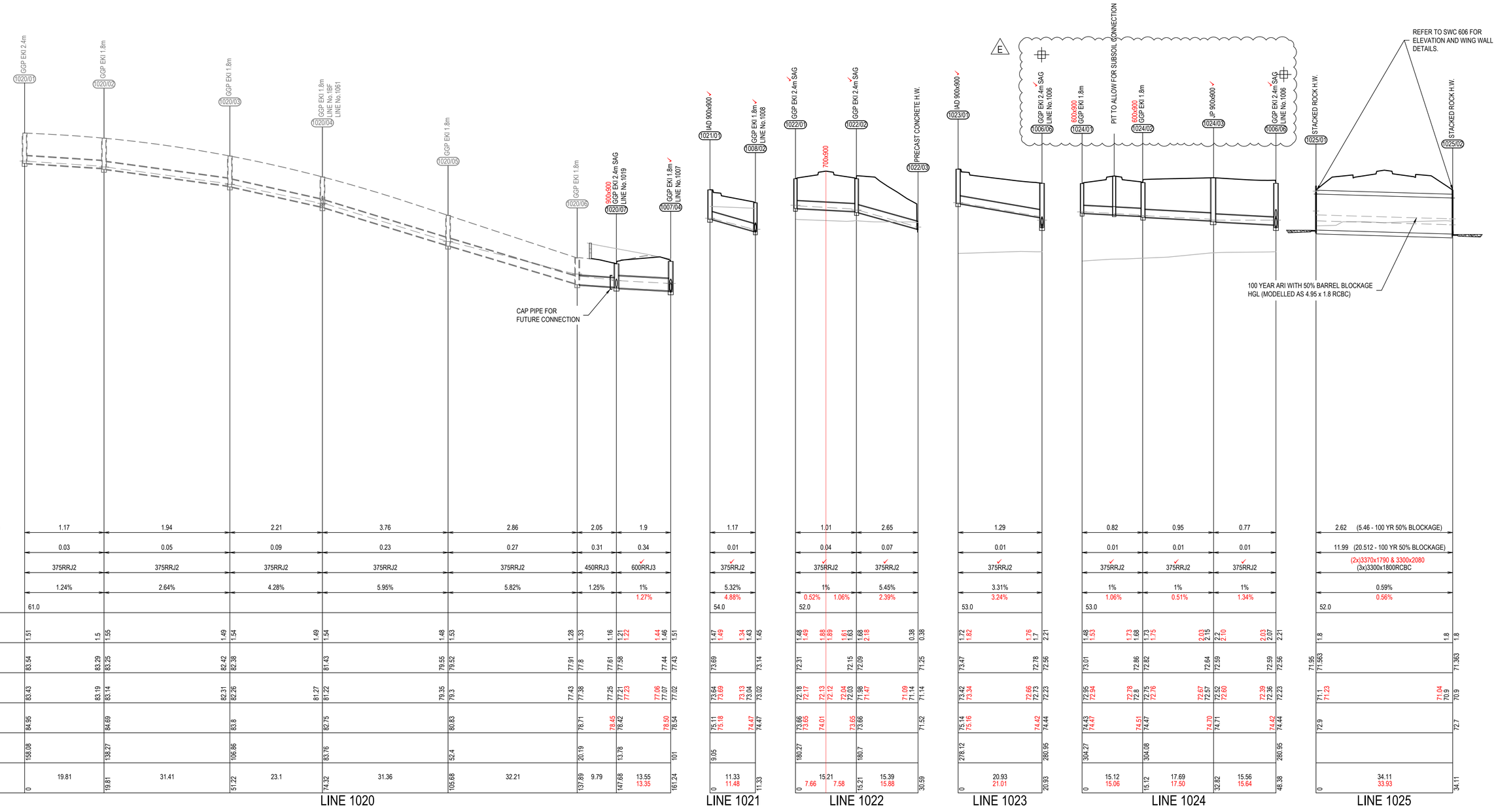
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	LINE 1020								LINE 1021		LINE 1022			LINE 1023		LINE 1024			LINE 1025	
PIPE MAX. VELOCITY (m/s)	1.17		1.94	2.21	3.76	2.86	2.05	1.9	1.17		1.01	2.65		1.29		0.82	0.95	0.77	2.62 (5.46 - 100 YR 50% BLOCKAGE)	
DISCHARGE (cu.m/s)	0.03		0.05	0.09	0.23	0.27	0.31	0.34	0.01		0.04	0.07		0.01		0.01	0.01	0.01	11.99 (20.512 - 100 YR 50% BLOCKAGE)	
PIPE SIZE (mm) & CLASS	375RRJ2		375RRJ2	375RRJ2	375RRJ2	375RRJ2	450RRJ3	600RRJ3	375RRJ2		375RRJ2	375RRJ2		375RRJ2		375RRJ2	375RRJ2	375RRJ2	(2x)3370x1790 & 3300x2080 (3x)3300x1800RCBC	
DESIGN GRADE	1.24%		2.64%	4.28%	5.95%	5.82%	1.25%	1%	5.32%		1%	5.45%		3.31%		1%	1%	1%	0.59%	
								1.27%	4.88%		0.52% 1.06%	2.39%		3.24%		1.06%	0.51%	1.34%	0.56%	
DATUM R.L	61.0								54.0		52.0			53.0		53.0			52.0	
DEPTH TO INVERT	1.51	1.5	1.55	1.49	1.54	1.49	1.54	1.48	1.53	1.28	1.33	1.16	1.21 1.22	1.44 1.46	1.51	1.47 1.49	1.34 1.43	1.45	1.48 1.49	1.88 1.89	1.61 1.63	1.68 2.18	0.38	0.38	1.72 1.82	1.76 1.7	2.21	1.48 1.53	1.73 1.68	1.73 1.75	2.03 2.15	2.2 2.10	2.03 2.07	2.21	1.8	1.8	1.8
5 YR HGL LEVEL	83.54	83.29	83.25	82.42	82.38	79.55	79.52	77.91	77.8	77.61	77.58	77.44	77.43	73.69	73.14	72.31	72.15	72.09	71.25	73.47	72.78	72.56	73.01	72.86	72.82	72.64	72.59	72.59	72.56	71.95	71.563	71.363
INVERT LEVEL	83.43	83.19	83.14	82.31	82.26	79.35	79.3	77.43	77.38	77.25	77.21 77.23	77.06 77.07	77.02	73.64 73.69	73.13 73.04	73.02	72.18 72.17	72.13 72.12	72.04 72.03	71.98 71.47	71.09 71.14	71.14	73.42 73.34	72.66 72.73	72.23	72.95 72.94	72.78 72.8	72.75 72.76	72.67 72.57	72.52 72.60	72.39 72.36	72.23	71.1 71.23	71.04 70.9	70.9
SURFACE LEVEL	84.95	84.69	83.8	82.75	80.83	78.71	78.45	78.42	78.50	78.54	75.11 75.18	74.47	74.47	73.66 73.65	74.01	73.65	73.66	71.52	75.14 75.16	74.42	74.44	74.43 74.47	74.51	74.47	74.70	74.71	74.42	74.44	72.9	72.7
ROAD CHAINAGE	158.08	138.27	106.86	83.76	52.4	20.19	13.78	101	9.05		160.27	160.7		278.12	280.95	304.27	304.08	280.95		
PIPE CHAINAGE	0	19.81	19.81	31.41	51.22	23.1	74.32	31.36	105.68	32.21	137.89	9.79	147.68	13.55 13.35	161.24	0	11.33 11.48	11.33	0 7.66	15.21 7.58	15.21	15.39 15.88	30.59	0	20.93 21.01	20.93	0	15.12 15.06	15.12	17.69 17.50	32.82	15.56 15.64	48.38	0	34.11 33.93	34.11

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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SCALE 1:500 (A1) SCALE 1:1000 (A3)
0 1 2 3 4 5 6 7 8 9 10
SCALE 1:100 (A1) SCALE 1:200 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

JAS-ANZ WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
DRAINAGE LONG SECTIONS
SHEET 08 OF 14

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	517	E

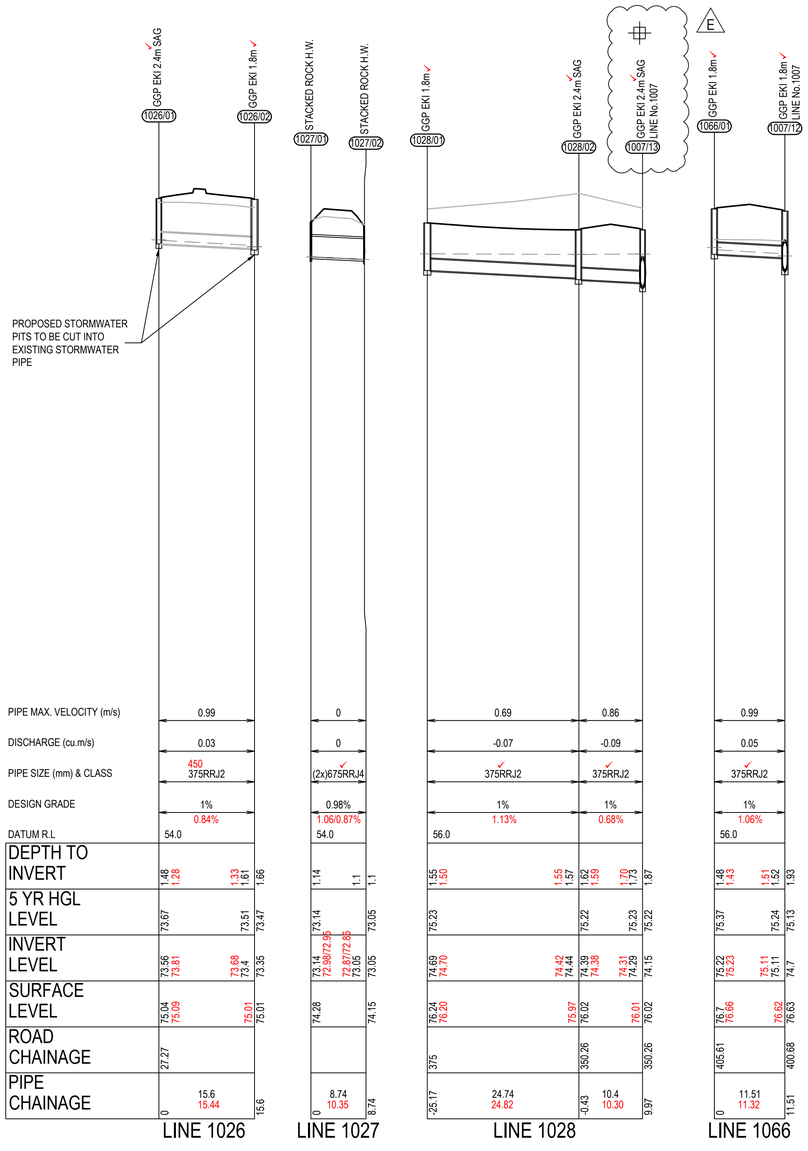
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WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

- EXISTING SURFACE
- DESIGN SURFACE
- FUTURE SURFACE
- DESIGN STORM HGL
- DESIGN PIPE AND PIT
- DESIGN TEMPORARY PIPE AND PIT
- EXISTING PIPE AND PIT
- FUTURE PIPE AND PIT
- PROPOSED RETAINING WALL
- STRUCTURAL PIT



	LINE 1026			LINE 1027			LINE 1028				LINE 1066			
PIPE MAX. VELOCITY (m/s)	0.99			0			0.69		0.86		0.99			
DISCHARGE (cu.m/s)	0.03			0			-0.07		-0.09		0.05			
PIPE SIZE (mm) & CLASS	450 375RRJ2			(2x)675RRJ4			375RRJ2		375RRJ2		375RRJ2			
DESIGN GRADE	1% 0.84%			0.98% 1.06/0.87%			1% 1.13%		1% 0.68%		1% 1.06%			
DATUM R.L	54.0			54.0			56.0				56.0			
DEPTH TO INVERT	1.48 1.28		1.33 1.61	1.66	1.14		1.1	1.55 1.50	1.55 1.57	1.62 1.59	1.70 1.73	1.87	1.48 1.43	1.51 1.52	1.93
5 YR HGL LEVEL	73.67		73.51	73.47	73.14		73.05	75.23		75.22	75.23	75.22	75.37	75.24	75.13
INVERT LEVEL	73.56 73.81		73.68 73.4	73.35	73.14 72.98/72.95		73.05 73.05	74.69 74.70	74.42 74.44	74.39 74.38	74.31 74.29	74.15	75.22 75.23	75.11 75.11	74.7
SURFACE LEVEL	75.04 75.09		75.01	75.01	74.28		74.15	76.24 76.20	75.97	76.02	76.01	76.02	76.7 76.66	76.62	76.63
ROAD CHAINAGE	27.27							375		350.26		350.26	405.61		400.68
PIPE CHAINAGE	0	15.6 15.44	15.6	0	8.74 10.35	8.74	-25.17	24.74 24.82	-0.43	10.4 10.30	9.97	0	11.51 11.32	11.51	

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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For: mirvac

By: Orion Consulting
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Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
DRAINAGE LONG SECTIONS
SHEET 09 OF 14

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	518	E

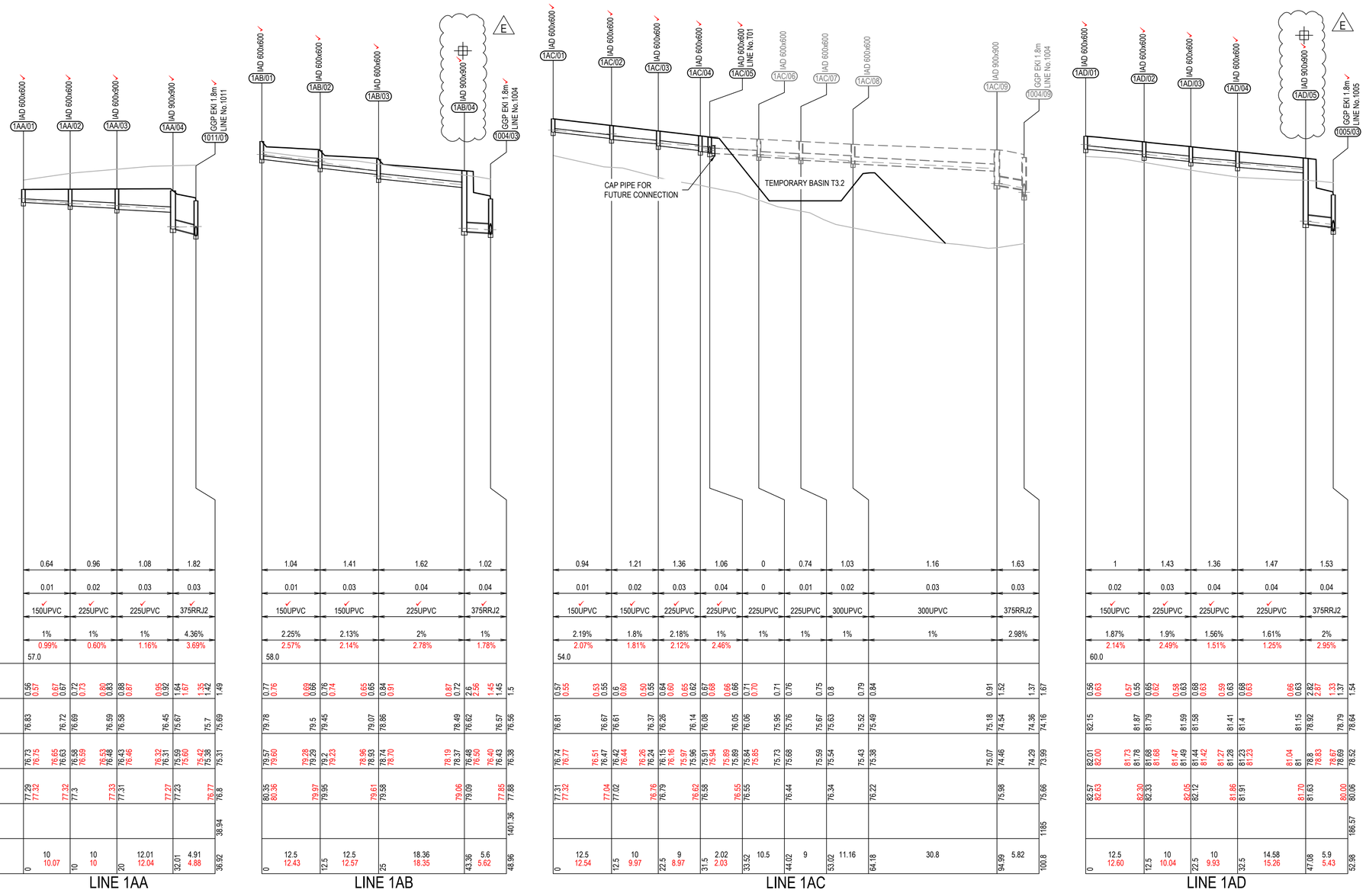
WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

- EXISTING SURFACE
- DESIGN SURFACE
- FUTURE SURFACE
- DESIGN STORM HGL
- DESIGN PIPE AND PIT
- DESIGN TEMPORARY PIPE AND PIT
- EXISTING PIPE AND PIT
- FUTURE PIPE AND PIT
- PROPOSED RETAINING WALL
- STRUCTURAL PIT



	LINE 1AA				LINE 1AB					LINE 1AC									LINE 1AD				
PIPE MAX. VELOCITY (m/s)	0.64	0.96	1.08	1.82	1.04	1.41	1.62	1.02		0.94	1.21	1.36	1.06	0	0.74	1.03	1.16	1.63	1	1.43	1.36	1.47	1.53
DISCHARGE (cu.m/s)	0.01	0.02	0.03	0.03	0.01	0.03	0.04	0.04		0.01	0.02	0.03	0.04	0	0.01	0.02	0.03	0.03	0.02	0.03	0.04	0.04	0.04
PIPE SIZE (mm) & CLASS	150UPVC	225UPVC	225UPVC	375RRJ2	150UPVC	150UPVC	225UPVC	375RRJ2		150UPVC	150UPVC	225UPVC	225UPVC	225UPVC	225UPVC	300UPVC	300UPVC	375RRJ2	150UPVC	225UPVC	225UPVC	225UPVC	375RRJ2
DESIGN GRADE	1%	1%	1%	4.36%	2.25%	2.13%	2%	1%		2.19%	1.8%	2.18%	1%	1%	1%	1%	1%	2.98%	1.87%	1.9%	1.56%	1.61%	2%
	0.99%	0.60%	1.16%	3.69%	2.57%	2.14%	2.78%	1.78%		2.07%	1.81%	2.12%	2.46%						2.14%	2.49%	1.51%	1.25%	2.95%
DATUM R.L	57.0				58.0					54.0									60.0				
DEPTH TO INVERT	0.56 0.67	0.72 0.80	0.88 0.95	1.64 1.35	0.77 0.69	0.76 0.65	0.84 0.87	0.72 0.87	2.55 1.45	0.57 0.53	0.6 0.50	0.64 0.65	0.67 0.66	0.66 0.71	0.71 0.76	0.75 0.8	0.79 0.84	0.91 1.52	1.37 1.67	0.56 0.57	0.55 0.65	0.62 0.58	0.63 0.66	2.82 1.33
5 YR HGL LEVEL	76.83 76.72	76.69 76.59	76.58 76.45	75.67 75.7	79.78 79.5	79.46 79.07	78.86 78.49	76.62 76.57	76.56	76.81 76.67	76.61 76.37	76.26 76.14	76.08 76.05	76.06 75.95	75.76 75.67	75.63 75.52	75.49 75.18	74.54 74.36	74.16	82.15 81.87	81.79 81.59	81.58 81.41	81.4 81.15	78.92 78.79
INVERT LEVEL	76.73 76.65 76.75 76.63	76.58 76.53 76.59 76.48	76.43 76.32 76.46 76.31	75.59 75.42 75.60 75.38	79.57 79.28 79.60 79.29	79.2 78.96 79.23 78.92	78.74 78.19 78.70 78.37	76.48 76.40 76.55 76.43	76.38	76.74 76.51 76.77 76.47	76.42 76.26 75.44 76.24	76.15 75.97 76.16 75.96	75.91 75.89 75.94 75.89	75.84 75.73 75.85 75.68	75.68 75.59	75.54 75.43	75.38 75.07	74.46 74.29	73.99	82.01 81.73 82.00 81.76	81.68 81.47 81.68 81.49	81.44 81.27 81.42 81.28	81.23 81.04 81.23 81	78.8 78.67 78.83 78.69
SURFACE LEVEL	77.29 77.32 77.32	77.3 77.33	77.31 77.27	77.23 76.77	80.35 79.97 80.38	79.95 79.61	79.58 79.06	79.09 77.85	77.88	77.31 77.04 77.32	77.02 76.76	76.79 76.62	76.58 76.55	76.55 76.44	76.44	76.34	76.22 75.98	74.46	75.66	82.57 82.30 82.63	82.33 82.05	82.12 81.86	81.91 81.70	81.63 80.00
ROAD CHAINAGE				38.94					1407.36										1185					186.57	80.06
PIPE CHAINAGE	0 10 10.07	10 10	20 12.01 12.04	32.01 4.91 4.88	35.92	0 12.5 12.43	12.5 12.5 12.57	25 18.36 18.35	43.36 5.6 5.62	48.96	0 12.5 12.54	12.5 10 9.97	22.5 9 8.97	31.5 2.02 2.03	33.52 10.5	44.02 9	53.02 11.16	64.18 30.8	94.99 5.82	100.8	0 12.5 12.60	12.5 10 10.04	22.5 10 9.93	32.5 14.58 15.26	47.08 5.9 5.43	52.98

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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For: mirvac

By: Orion Consulting
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SUSTAINABLE ASSESSMENT ISO 9001 ISO 14001
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ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
DRAINAGE LONG SECTIONS
SHEET 10 OF 14

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	519	E

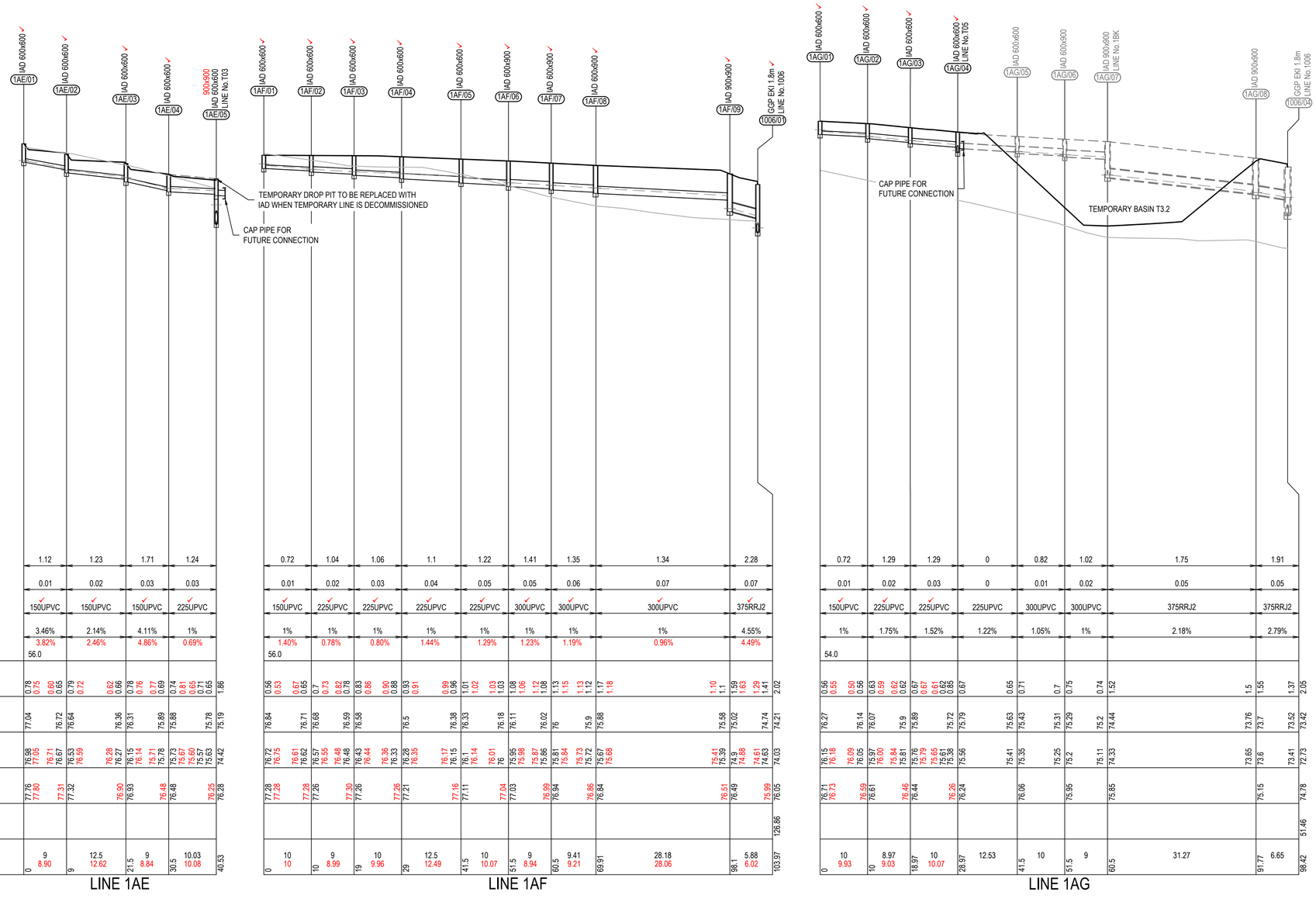
LEGEND

EXISTING SURFACE	
DESIGN SURFACE	
FUTURE SURFACE	
DESIGN STORM HGL	
DESIGN PIPE AND PIT	
DESIGN TEMPORARY PIPE AND PIT	
EXISTING PIPE AND PIT	
FUTURE PIPE AND PIT	
PROPOSED RETAINING WALL	
STRUCTURAL PIT	

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REGISTERED SURVEYOR ID: 8890
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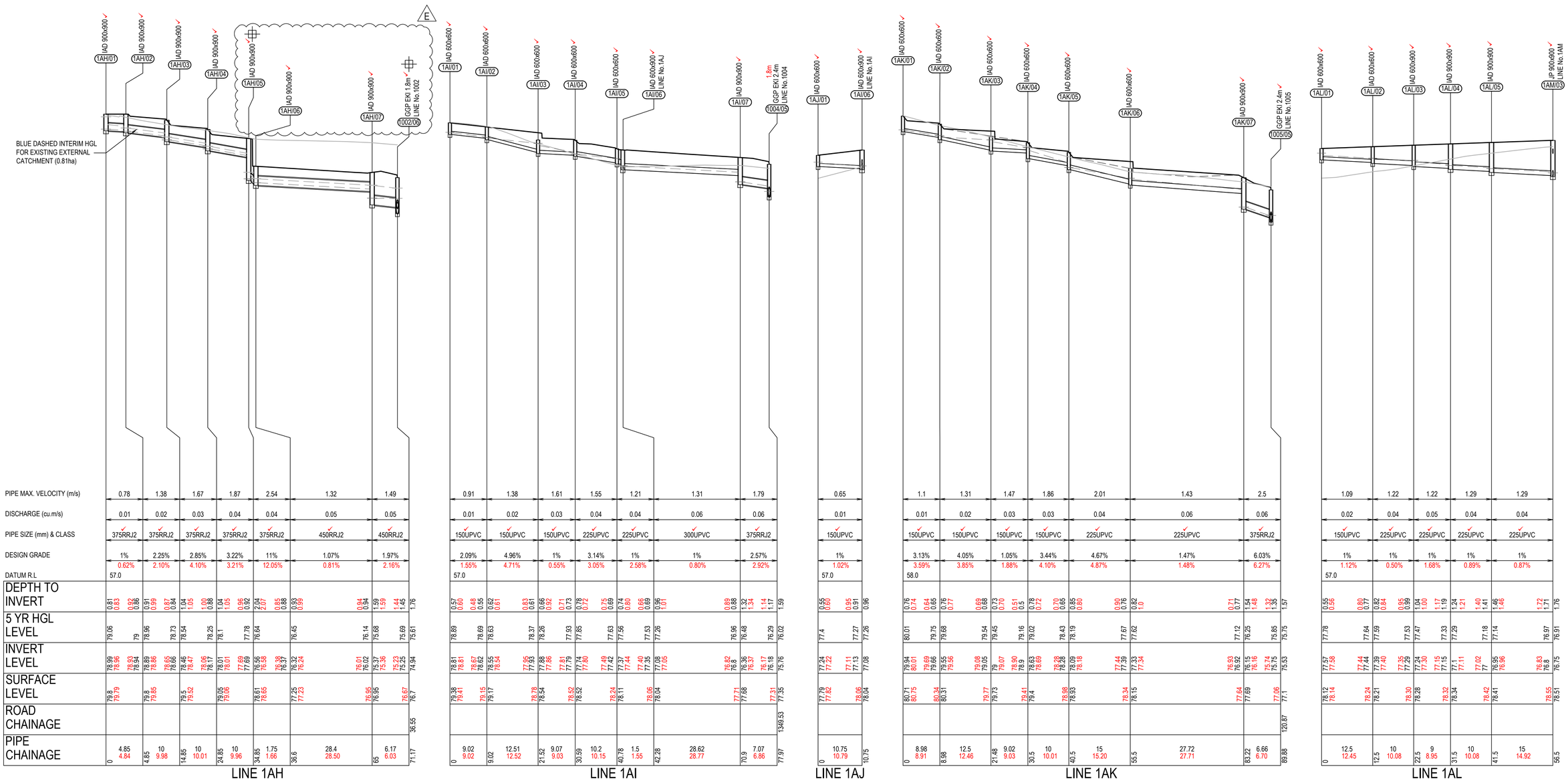
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LINE 1AH

| | | |

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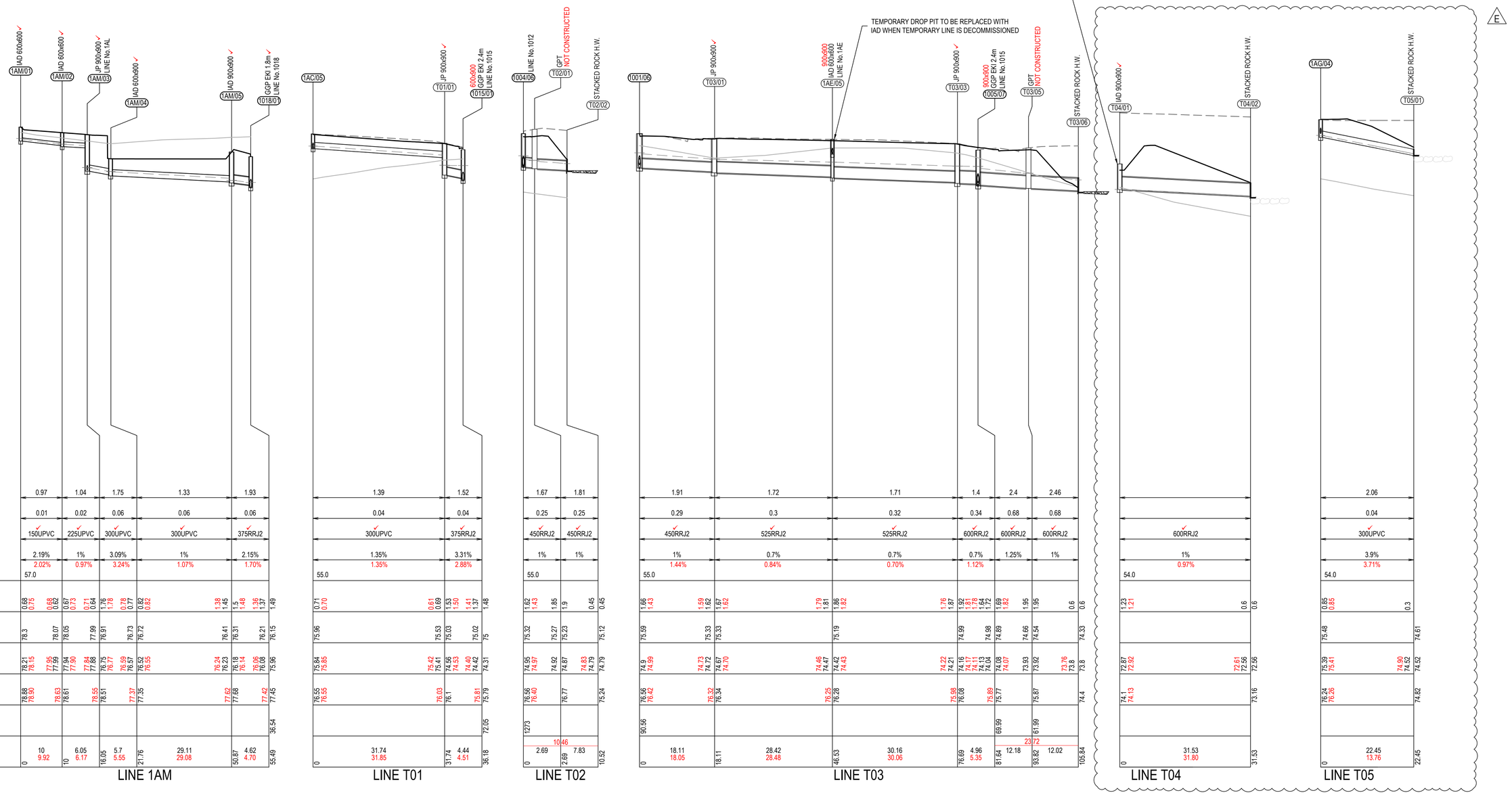
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DISCHARGE CONTROL PIT. REFER TO SHEET SWC 604 AND POST DEVELOPED DRAINS MODEL FOR HYDRAULIC DETAILS.

TEMPORARY DROP PIT TO BE REPLACED WITH IAD WHEN TEMPORARY LINE IS DECOMMISSIONED



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For: mirvac

By: Orion Consulting

ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

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Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
DRAINAGE LONG SECTIONS
SHEET 13 OF 14

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	522	E

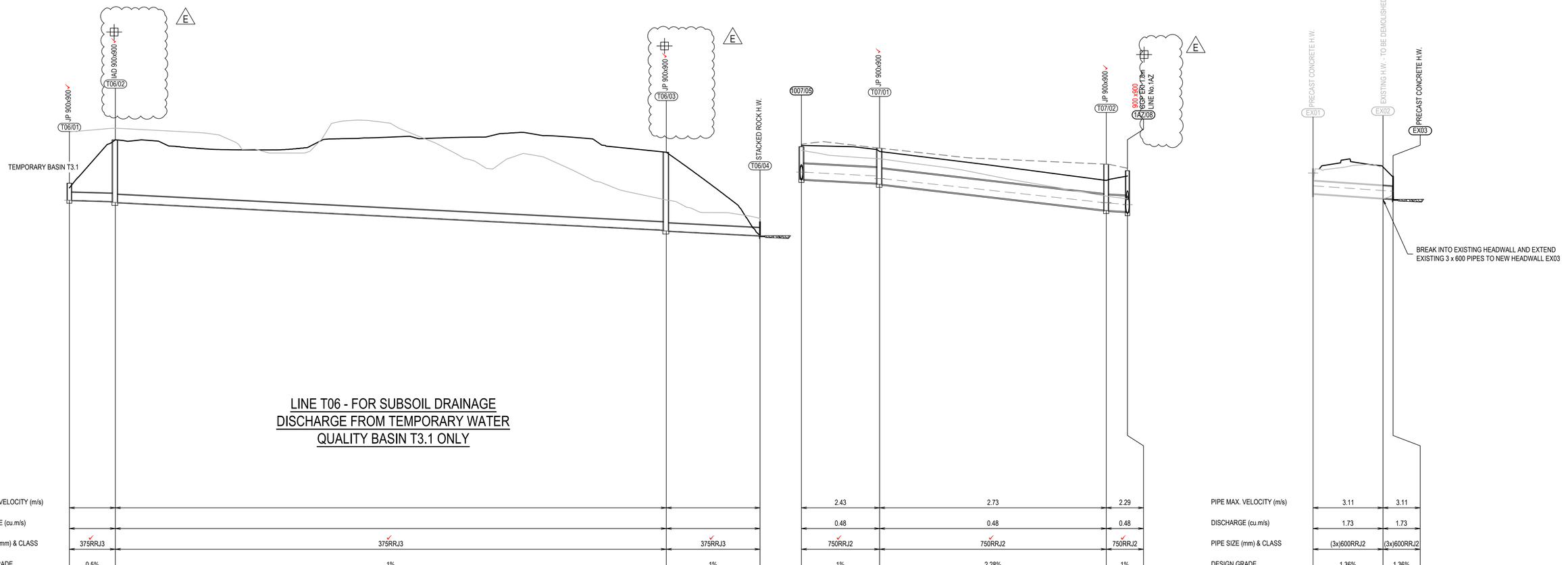
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ORION GROUP

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LINE T06 - FOR SUBSOIL DRAINAGE
DISCHARGE FROM TEMPORARY WATER
QUALITY BASIN T3.1 ONLY

PIPE MAX. VELOCITY (m/s)							
DISCHARGE (cu.m/s)							
PIPE SIZE (mm) & CLASS	375RRJ3		375RRJ3			375RRJ3	
DESIGN GRADE	0.5%	0.55%	1%	0.99%		1%	1.18%
DATUM R.L	54.0						
DEPTH TO INVERT	0.82	0.90	2.96	2.97	3.02	3.03	3.56	3.75	3.8	3.58	0.67	0.67
5 YR HGL LEVEL												
INVERT LEVEL	72.68	72.89	72.82	72.82	72.77	72.76	71.45	71.44	71.38	71.45	71.18	71.16
SURFACE LEVEL	73.7	73.79			75.79	75.79			75.2	75.01		71.84
ROAD CHAINAGE												
PIPE CHAINAGE	0	11.11	10.97		11.11	132.86			144.24	22.67		166.89

LINE T06

PIPE MAX. VELOCITY (m/s)	2.43			2.73					2.29				
DISCHARGE (cu.m/s)	0.48			0.48					0.48				
PIPE SIZE (mm) & CLASS	750RRJ2			750RRJ2					750RRJ2				
DESIGN GRADE	1%	1.09%		2.28%	2.28%				1%	1.68%			
DATUM R.L	57.0												
DEPTH TO INVERT	1.58	1.60	1.51	1.7	1.75	1.55	1.45	2.22	2.24	1.45	1.72	1.98	2.03
5 YR HGL LEVEL	77.23		77.05		76.92				75.76	75.74	75.67		75.65
INVERT LEVEL	76.89	76.93	76.73	76.7	76.65	76.69	75.44	75.4	75.38	75.44	75.35	75.33	75.28
SURFACE LEVEL	78.46	78.53	78.24		78.39		76.89		77.62		77.07		77.3
ROAD CHAINAGE	108.33												445.28
PIPE CHAINAGE	0	18.89	18.37		18.89	54.93			73.66	5.35			78.79

LINE T07

PIPE MAX. VELOCITY (m/s)	3.11		3.11		
DISCHARGE (cu.m/s)	1.73		1.73		
PIPE SIZE (mm) & CLASS	(3x)600RRJ2		(3x)600RRJ2		
DESIGN GRADE	1.36%		1.36%		
DATUM R.L	55.0				
DEPTH TO INVERT	1.2		1.52	1.52	0.6	0.6
5 YR HGL LEVEL	75.194	74.575		74.345		74.312
INVERT LEVEL	74.2		73.97	73.97	73.90	73.94	73.94
SURFACE LEVEL	75.4			75.49		74.54
ROAD CHAINAGE						
PIPE CHAINAGE	0	16.9		16.9	2.44	19.34

LINE EX 3xØ600

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 5 10 15 20 25 30 35 40 45 50
SCALE 1:500 (A1) SCALE 1:1000 (A3)
0 1 2 3 4 5 6 7 8 9 10
SCALE 1:100 (A1) SCALE 1:200 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

JAS-ANZ SUSTAINABLE REGISTRATION ISO 9001 ISO 14001 WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
DRAINAGE LONG SECTIONS
SHEET 14 OF 14

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	523	E

PIT SCHEDULE

PIT NAME	PIT TYPE	EASTING	NORTHING	SETOUT RL	PIT DEPTH	COMMENTS
(-)	(-)	(m)	(m)	(m)	(m)	(-)
1AA/01	IAD 600x600	288658.96	6234175.41	77.29	0.56	
1AA/02	IAD 600x600	288667.48	6234180.65	77.30	0.72	
1AA/03	IAD 600x900	288676.00	6234185.88	77.31	0.88	
1AA/04	IAD 900x900	288686.24	6234192.17	77.23	1.64	
1AB/01	IAD 600x600	288711.71	6234103.40	80.35	0.77	
1AB/02	IAD 600x600	288705.07	6234113.99	79.95	0.76	
1AB/03	IAD 600x600	288698.43	6234124.58	79.58	0.84	
1AB/04	IAD 900x900	288688.67	6234140.13	79.09	2.6	
1AC/01	IAD 600x600	288633.15	6234072.45	77.31	0.57	
1AC/02	IAD 600x600	288622.48	6234065.93	77.02	0.6	
1AC/03	IAD 600x600	288613.95	6234060.71	76.79	0.64	
1AC/04	IAD 600x600	288606.27	6234056.02	76.58	0.67	
1AC/05	IAD 600x600	288604.44	6234055.18	76.55	0.71	
1AD/01	IAD 600x600	288753.36	6234033.03	82.57	0.56	
1AD/02	IAD 600x600	288746.71	6234043.62	82.33	0.65	
1AD/03	IAD 600x600	288741.40	6234052.09	82.12	0.68	
1AD/04	IAD 600x600	288736.08	6234060.56	81.91	0.68	
1AD/05	IAD 900x900	288728.33	6234072.92	81.63	2.82	
1AE/01	IAD 600x600	288679.72	6234010.21	77.76	0.78	
1AE/02	IAD 600x600	288672.05	6234005.52	77.32	0.79	
1AE/03	IAD 600x600	288661.38	6233999.00	76.93	0.78	
1AE/04	IAD 600x600	288653.70	6233994.30	76.48	0.74	
1AF/01	IAD 600x600	288648.31	6234168.87	77.28	0.56	
1AF/02	IAD 600x600	288639.79	6234163.63	77.26	0.7	
1AF/03	IAD 600x600	288632.12	6234158.92	77.26	0.83	
1AF/04	IAD 600x600	288623.60	6234153.69	77.21	0.93	
1AF/05	IAD 600x600	288612.95	6234147.14	77.11	1.01	
1AF/06	IAD 600x900	288604.43	6234141.91	77.03	1.08	
1AF/07	IAD 600x900	288596.64	6234137.40	76.94	1.13	
1AF/08	IAD 600x900	288588.61	6234132.49	76.84	1.17	
1AF/09	IAD 900x900	288573.86	6234156.50	76.49	1.59	
1AG/01	IAD 600x600	288577.46	6234125.63	76.71	0.56	
1AG/02	IAD 600x600	288568.94	6234120.40	76.61	0.63	
1AG/03	IAD 600x600	288561.30	6234115.70	76.44	0.67	
1AG/04	IAD 600x600	288552.78	6234110.46	76.24	0.85	
1AH/01	IAD 900x900	288744.60	6234187.23	79.80	0.81	
1AH/02	IAD 900x900	288742.02	6234191.34	79.80	0.91	
1AH/03	IAD 900x900	288736.70	6234199.81	79.50	1.04	
1AH/04	IAD 900x900	288731.39	6234208.28	79.05	1.04	
1AH/05	IAD 900x900	288726.07	6234216.75	78.61	2.04	
1AH/06	IAD 900x900	288725.14	6234218.23	77.25	0.93	
1AH/07	IAD 900x900	288701.08	6234203.14	76.95	1.59	
1AI/01	IAD 600x600	288696.40	6234109.05	79.38	0.57	
1AI/02	IAD 600x600	288688.67	6234104.40	79.17	0.62	
1AI/03	IAD 600x600	288677.96	6234097.94	78.54	0.66	
1AI/04	IAD 600x600	288670.19	6234093.27	78.52	0.78	
1AI/05	IAD 600x600	288661.46	6234088.01	78.11	0.74	
1AI/06	IAD 600x900	288660.19	6234087.21	78.04	0.96	
1AI/07	IAD 900x900	288644.94	6234111.43	77.68	1.32	
1AJ/01	IAD 600x600	288650.96	6234081.69	77.79	0.55	
1AK/01	IAD 600x600	288734.90	6234043.62	80.71	0.76	
1AK/02	IAD 600x600	288727.21	6234038.99	80.31	0.76	
1AK/03	IAD 600x600	288716.50	6234032.54	79.73	0.73	
1AK/04	IAD 600x600	288708.77	6234027.89	79.40	0.78	
1AK/05	IAD 600x600	288700.20	6234022.73	78.93	0.85	
1AK/06	IAD 600x600	288687.40	6234014.91	78.15	0.82	
1AK/07	IAD 900x900	288672.67	6234038.39	77.69	1.54	
1AL/01	IAD 600x600	288840.93	6234277.88	78.12	0.55	
1AL/02	IAD 600x600	288830.13	6234271.58	78.21	0.82	
1AL/03	IAD 600x900	288821.49	6234266.55	78.28	1.04	
1AL/04	IAD 900x900	288813.72	6234262.02	78.34	1.24	
1AL/05	IAD 900x900	288805.08	6234256.98	78.41	1.46	
1AM/01	IAD 600x600	288800.41	6234235.69	78.88	0.68	
1AM/02	IAD 600x600	288795.38	6234244.33	78.61	0.67	
1AM/03	JP 900x900	288792.12	6234249.43	78.51	1.76	
1AM/04	IAD 600x900	288789.25	6234254.35	77.35	0.82	
1AM/05	IAD 900x900	288764.09	6234239.69	77.68	1.5	
1001/01	GGP EKI 1.8m	288808.22	6234032.17	84.58	1.3	
1001/02	GGP EKI 1.8m	288803.55	6234023.91	84.19	1.53	
1001/03	GGP EKI 1.8m	288762.21	6234010.38	81.57	1.5	
1001/04	GGP EKI 1.8m	288732.51	6233995.92	79.56	1.59	
1001/05	GGP EKI 1.8m	288706.00	6233979.72	77.78	1.69	
1001/06	900 GSIP (1.8m EKI FUT.)	288677.63	6233962.32	76.56	1.66	
1002/01	GGP EKI 2.4m	288780.72	6234063.85	82.89	1.52	
1002/02	GGP EKI 1.8m	288763.24	6234091.72	81.89	1.49	
1002/03	GGP EKI 1.8m	288748.01	6234116.02	80.96	1.54	
1002/04	GGP EKI 1.8m	288731.20	6234142.82	79.62	1.54	
1002/05	GGP EKI 1.8m	288712.65	6234172.38	78.12	1.54	
1002/06	GGP EKI 1.8m	288695.04	6234200.46	76.70	1.76	
1002/07	GGP EKI 2.4m SAG	288683.19	6234219.34	75.85	1.78	
1002/08	GGP EKI 1.8m	288687.26	6234232.58	76.17	2.29	
1003/01	GGP EKI 2.4m	288620.15	6234192.35	75.80	1.06	
1003/02	GGP EKI 2.4m SAG	288638.72	6234203.76	75.70	1.20	
1003/03	GGP EKI 2.4m SAG	288633.74	6234211.85	75.70	1.34	
1003/04	GGP EKI 1.8m	288688.79	6234244.47	76.25	2.56	

PIT NAME	PIT TYPE	EASTING	NORTHING	SETOUT RL	PIT DEPTH	COMMENTS
(-)	(-)	(m)	(m)	(m)	(m)	(-)
1004/01	GGP EKI 1.8m	288717.41	6234152.56	78.95	1.11	
1004/02	GGP EKI 1.8m	288702.55	6234155.32	78.10	1.46	
1004/03	GGP EKI 1.8m	288684.52	6234144.52	77.88	1.5	
1004/04	GGP EKI 2.4m	288667.03	6234133.77	77.67	1.55	
1004/05	GGP EKI 2.4m	288640.36	6234117.38	77.35	1.59	
1004/06	GGP EKI 1.8m	288575.16	6234077.32	76.56	1.62	
1005/01	GGP EKI 1.8m	288758.71	6234086.72	81.94	1.3	
1005/02	GGP EKI 1.8m	288743.62	6234089.39	81.08	1.53	
1005/03	GGP EKI 1.8m	288724.12	6234077.65	80.06	1.54	
1005/04	GGP EKI 1.8m	288695.59	6234060.47	78.56	1.54	
1005/05	GGP EKI 2.4m	288667.92	6234043.67	77.10	1.57	
1005/06	GGP EKI 1.8m	288650.85	6234033.23	76.31	1.69	
1005/07	900 GSIP (2.4m EKI FUT.)	288624.52	6234017.12	75.77	1.72	
1006/01	GGP EKI 1.8m	288570.15	6234161.63	76.05	2.02	
1006/02	GGP EKI 1.8m	288550.83	6234149.76	75.67	2.05	
1006/03	GGP EKI 1.8m	288529.03	6234136.36	75.24	2.05	
1006/04	GGP EKI 1.8m	288503.90	6234123.79	74.78	2.05	
1006/05	GGP EKI 2.4m SAG	288482.13	6234118.75	74.46	2.06	
1006/06	GGP EKI 2.4m SAG	288479.58	6234130.37	74.44	2.21	
1006/07	STACKED ROCK H.W.	288484.28	6234148.27	72.35	0.45	
1007/01	GGP EKI 1.8m	288805.05	6234209.71	79.26	1.36	
1007/02	GGP EKI 1.8m	288823.37	6234217.93	79.06	1.41	
1007/03	GGP EKI 1.8m	288846.20	6234231.24	78.80	1.46	
1007/04	GGP EKI 1.8m	288869.11	6234244.54	78.54	1.51	
1007/05	900 GSIP (1.8m EKI FUT.)	288872.30	6234253.81	78.46	1.58	
1007/11	900 GSIP (1.8m EKI FUT.)	288831.98	6234327.74	77.17	2.08	
1007/13	GGP EKI 2.4m SAG	288757.08	6234284.28	76.02	1.87	
1007/14	GGP EKI 1.8m	288718.85	6234261.99	76.37	2.7	
1007/15	GGP EKI 1.8m	288704.68	6234253.73	76.38	2.85	
1007/16	GPT			76.41	2.94	
1007/18	STACKED ROCK H.W.	288686.52	6234261.99	74.30	0.9	
1008/01	GGP EKI 1.2m	288461.81	6233849.06	74.94	1.68	
1008/02	GGP EKI 1.8m	288470.54	6233866.28	74.47	1.45	
1008/03	GGP EKI 1.8m	288475.71	6233884.13	74.02	1.24	
1008/04	GGP EKI 2.4m SAG	288474.27	6233919.77	73.63	1.25	
1008/05	GGP EKI 2.4m SAG	288488.55	6233920.40	73.63	1.45	
1008/06	PRECAST CONCRETE H.W.	288496.61	6233926.08	72.45	0.38	
1009/04	GGP EKI 1.8m	288752.30	6234236.94	77.26	1.53	
1009/05	GGP EKI 2.4m SAG	288741.55	6234254.09	76.14	1.6	
1009/06	GGP EKI 1.8m	288728.87	6234256.84	76.38	2.53	
1010/01	GGP EKI 2.4m SAG	288677.71	6234215.85	75.83	1.48	
1011/01	GGP EKI 1.8m	288690.80	6234194.98	76.80	1.49	
1012/01	900 GSIP (1.8m EKI FUT.)	288575.45	6234085.13	76.61	1.48	
1013/01	GGP EKI 1.8m	288666.99	6234050.72	77.23	1.49	
1014/01	GGP EKI 1.8m	288648.87	6234039.64	76.36	1.48	
1015/01	GGP EKI 2.4m	288622.88	6234023.74	75.79	1.48	
1016/01	GGP EKI 1.8m	288702.58	6233985.25	77.78	1.48	
1017/01	GGP EKI 2.4m SAG	288747.63	6234256.63	76.15	1.48	
1018/01	GGP EKI 1.8m	288759.35	6234237.94	77.45	1.49	
1019/01	GGP EKI 2.4m SAG	288859.84	6234228.19	78.38	1.05	
1020/07	GGP EKI 2.4m SAG	288865.94	6234230.69	78.42	1.21	
1021/01	IAD 900x900	288477.46	6233857.88	75.11	1.47	
1022/01	GGP EKI 2.4m SAG	288476.78	6234029.77	73.66	1.48	
1022/02	GGP EKI 2.4m SAG	288462.68	6234027.35	73.66	1.68	
1022/03	PRECAST CONCRETE H.W.	288448.12	6234033.37	71.52	0.38	
1023/01	IAD 900x900	288459.36	6234125.39	75.14	1.72	
1024/01	GGP EKI 1.8m	288441.75	6234150.34	74.43	1.48	
1024/02	GGP EKI 1.8m	288455.98	6234150.39	74.47	1.73	
1024/03	JP 900x900	288464.50	6234134.68	74.71	2.2	
1025/01	STACKED ROCK H.W.	288484.23	6234040.80	72.90	1.8	
1025/02	STACKED ROCK H.W.	288450.12	6234041.46	72.70	1.8	
1026/01	GGP EKI 2.4m SAG	288476.43	6233822.16	75.04	1.48	
1026/02	GGP EKI 1.8m	288491.00	6233824.77	75.01	1.66	
1026/03	PRECAST CONCRETE H.W.	288505.28	6233826.89	74.63	1.41	
1027/01	STACKED ROCK H.W.	288554.77	6234200.18	74.28	1.14	
1027/02	STACKED ROCK H.W.	288547.97	6234194.69	74.15	1.1	
1028/02	GGP EKI 2.4m SAG	288761.86	6234276.07	76.02	1.62	
1035/01	NODE			76.52	3.04	
1035/02	STACKED ROCK H.W.	288699.15	6234270.91	74.22	0.9	
T01/01	JP 900x900	288621.52	6234028.42	76.10	1.53	
T02/01	GPT			76.77	1.9	
T02/02	STACKED ROCK H.W.	288576.02	6234066.43	75.24	0.45	
T03/01	JP 900x900	288660.03	6233964.67	76.34	1.67	
T03/03	JP 900x900	288629.14	6234014.45	76.08	1.92	
T03/05	GPT			75.87	1.95	
T03/06	STACKED ROCK H.W.	288601.63	6234023.88	74.40	0.6	
T04/01	IAD 900x900	288570.58	6234058.33	74.10	1.23	
T04/02	STACKED ROCK H.W.	288553.76	6234053.11	73.29	0.6	
T05/01	STACKED ROCK H.W.	288545.46	6234098.82	75.15	0.3	
T06/01	IAD 900x900	288657.19	6234243.66	73.70	0.82	
T06/02	IAD 900x900	288654.91	6234232.79	75.79	3.02	
T06/03	JP 900x900	288540.92	6234164.01	75.20	3.8	
T06/04	STACKED ROCK H.W.	288518.89	6234169.25	71.84	0.67	
T07/01	JP 900x900	288875.64	6234272.75	78.39	1.75	
T07/02	JP 900x900	288848.52	6234320.34	77.62	2.24	

NOTES:

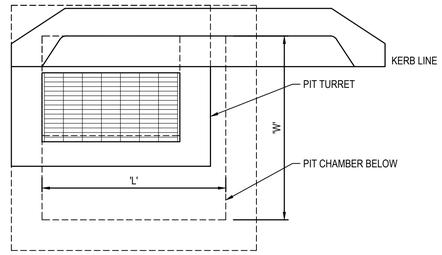
1. MODELLED USING 12D - DYNAMIC (ILSAX)
2. MANNING'S ROUGHNESS FACTOR
   RC PIPES - 0.013mm
   PVC PIPES - 0.009mm
3. RRJ2 DENOTES RUBBER RING JOINT CLASS 2 PIPE. ALL PVC PIPE TO BE CLASS SH.
4. THE PRESSURE CHANGE COEFFICIENT 'K' HAS BEEN DETERMINED DETERMINED USING MISSOURI CHARTS AND HARE'S EQUATIONS.
5. CONCRETE REINFORCED STORMWATER PITS AS REQUIRED BY COUNCIL. REFER TO CAMDEN COUNCIL ENGINEERING DESIGN SPECIFICATION AND STANDARD DRAWINGS - SD12, SD13 AND SD14.
6. PITS DEEPER THAN 2.0m ARE TO BE STRUCTURALLY DESIGNED.
7. CONCRETE 32MPa COMPRESSIVE STRENGTH AT 28 DAYS.
8. PIT BLOCKAGE FACTORS
   PITS ON GRADE: 80% (MAJOR STORM ONLY)
   PITS ON SAG: 50% (DESIGN AND MAJOR STORM)
9. CATCHMENT IDENTIFICATION:
   CATCH ID =
   (1P) DENOTES CATCHMENT 1 PERVIOUS
   (1I) DENOTES CATCHMENT 1 IMPERVIOUS
   (2P) DENOTES CATCHMENT 2 PERVIOUS
   (2I) DENOTES CATCHMENT 2 IMPERVIOUS
   (3P) DENOTES CATCHMENT 3 PERVIOUS
   (3I) DENOTES CATCHMENT 3 IMPERVIOUS

LAND USE:

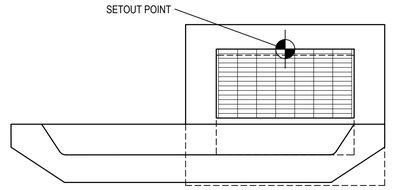
ROAD RESERVE - 90% IMPERVIOUS
ROAD & LOT - VARIABLE (80-85%) IMPERVIOUS
RESIDENTIAL LOT - 75% IMPERVIOUS
UPSTREAM (UNDEVELOPED) - 50% IMPERVIOUS

PIT TYPE:

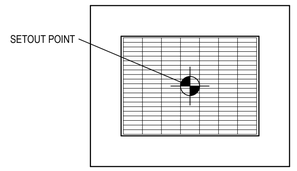
1. G.G.P. - GRATED GULLY PIT
4. G.S.I.P. - GRATED SURFACE INLET PIT
5. J.P. - JUNCTION PIT
6. H.W. - HEADWALL
7. R.S.I.P. - RAISED SURFAC INLET PIT
8. IAD - INTERALLOTMENT DRAINAGE PIT



PIT CHAMBER DIMENSION
(TYPICAL)
SCALE 1:20



SETOUT DETAIL KERB INLET PIT
(LINTEL)
SCALE 1:20



SETOUT DETAIL
GRATED SURFACE INLET PIT (G.S.I.P.) &
RAISED SURFACE INLET PIT (R.S.I.P.)
SCALE 1:20

WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
D	WP	AP/CS	AP/CS	AP/CS	24/03/2023	UPDATED RELFECTING S.455 APPROVAL
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0
SCALE 1:20 (A1) SCALE 1:40 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title: PIT SCHEDULE

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	530	F

HYDROLOGICAL DESIGN SHEET

5 YR MINOR STORM EVENT

PIT NAME	PIT TYPE	CATCHMENT AREA	PERCENT IMPERVIOUS	Tc IMP	Tc PERV	CRITICAL STORM	APPROACH FLOW	CAPTURED FLOW	UNCAPTURED FLOW	GRATE DEPTH	ROAD GRADE	ROAD CROSSFALL	BYPASS PIT	BYPASS CHANNEL FLOW	U/S FLOW WIDTH	U/S VxD	D/S FLOW WIDTH	D/S VxD	COMMENTS
(-)	(-)	(Ha)	(%)	(min)	(min)	(min)	(L/s)	(L/s)	(L/s)	(mm)	(%)	(%)	(-)	(L/s)	(m)	(m/s^2)	(m)	(m/s^2)	(-)
1AA/01	IAD 600x600	0.03	75	5	10	25	9	9	0	105			1AA/02	9	2.7	0.01	2.29	0.01	
1AA/02	IAD 600x600	0.03	75	5	10	25	9	9	0	93			1AA/03	12	2.29	0.04	1.17	0.01	
1AA/03	IAD 600x900	0.044	75	5	10	25	12	12	0	1			1AA/04	0	0	0	0	0	
1AA/04	IAD 900x900		0			25	0	0	0	15			1011/01	1	0.18	0.01	0.41	0.01	
1AB/01	IAD 600x600	0.053	75	5	10	25	16	16	0	45			1AB/02	10	0.66	0.04	0.66	0.04	
1AB/02	IAD 600x600	0.035	75	5	10	25	10	10	0	45			1AB/03	10	0.66	0.04	0.66	0.04	
1AB/03	IAD 600x600	0.035	75	5	10	25	10	10	0	0			1AB/04	0	0	0	0	0	
1AB/04	IAD 900x900		0			25	0	0	0	22			1004/03	4	0.26	0.03	1.48	0.01	
1AC/01	IAD 600x600	0.031	75	5	10	25	9	9	0	49			1AC/02	11	0.8	0.04	0.8	0.04	
1AC/02	IAD 600x600	0.039	75	5	10	25	11	11	0	46			1AC/03	9	0.67	0.03	0.68	0.03	
1AC/03	IAD 600x600	0.031	75	5	10	25	9	9	0	44			1AC/04	8	0.61	0.03	0.61	0.03	
1AC/04	IAD 600x600	0.028	75	5	10	25	9	9	0	0			1AC/05	0	0.25	0	0.99	0	
1AC/05	IAD 600x600		0			25	0	0	0	55			1AC/06	11	0.99	0.03	0.99	0.03	
1AD/01	IAD 600x600	0.054	75	5	10	25	16	16	0	50			1AD/02	11	0.84	0.03	0.84	0.03	
1AD/02	IAD 600x600	0.038	75	5	10	25	11	11	0	46			1AD/03	9	0.69	0.03	0.69	0.03	
1AD/03	IAD 600x600	0.03	75	5	10	25	9	9	0	46			1AD/04	9	0.69	0.03	0.69	0.03	
1AD/04	IAD 600x600	0.03	75	5	10	25	9	9	0	0			1AD/05	0	0	0	0	0	
1AD/05	IAD 900x900		0			25	0	0	0	20			1005/03	4	0.24	0.03	1.3	0.01	
1AE/01	IAD 600x600	0.027	75	5	10	25	8	8	0	37			1AE/02	8	0.44	0.04	0.69	0.03	
1AE/02	IAD 600x600	0.027	75	5	10	25	8	8	0	46			1AE/03	11	0.69	0.04	0.69	0.04	
1AE/03	IAD 600x600	0.038	75	5	10	25	11	11	0	36			1AE/04	8	0.44	0.04	0.77	0.03	
1AE/04	IAD 600x600	0.027	75	5	10	25	8	8	0	49			T03/02	10	0.77	0.03	0.77	0.03	
1AF/01	IAD 600x600	0.038	75	5	10	25	11	11	0	73			1AF/02	9	1.6	0.01	1.51	0.02	
1AF/02	IAD 600x600	0.03	75	5	10	25	9	9	0	70			1AF/03	8	1.51	0.01	1.15	0.02	
1AF/03	IAD 600x600	0.027	75	5	10	25	8	8	0	59			1AF/04	9	1.15	0.02	1.11	0.02	
1AF/04	IAD 600x600	0.03	75	5	10	25	9	9	0	59			1AF/05	11	1.11	0.03	1.1	0.03	
1AF/05	IAD 600x600	0.038	75	5	10	25	11	11	0	55			1AF/06	9	0.98	0.02	0.96	0.02	
1AF/06	IAD 600x900	0.03	75	5	10	25	9	9	0	50			1AF/07	8	0.84	0.02	0.9	0.02	
1AF/07	IAD 600x900	0.027	75	5	10	25	8	8	0	52			1AF/08	9	0.9	0.03	0.9	0.03	
1AF/08	IAD 600x900	0.03	75	5	10	25	9	9	0	0			1AF/09	0	0	0	0	0	
1AF/09	IAD 900x900		0			25	0	0	0	28			1006/01	5	0.34	0.03	1.42	0.01	
1AG/01	IAD 600x600	0.038	75	5	10	25	11	11	0	52			1AG/02	9	0.9	0.03	0.9	0.03	
1AG/02	IAD 600x600	0.03	75	5	10	25	9	9	0	45			1AG/03	8	0.66	0.03	0.7	0.03	
1AG/03	IAD 600x600	0.027	75	5	10	25	8	8	0	47			1AG/04	9	0.7	0.03	0.7	0.03	
1AG/04	IAD 600x600	0.03	75	5	10	25	9	9	0	0			LOST	0	0	0	0	0	
1AH/01	IAD 900x900	0.808	10	5	10	25	148	148	0	72			1AH/02	9	1.57	0.02	0.97	0.02	
1AH/02	IAD 900x900	0.031	75	5	10	25	9	9	0	43			1AH/03	9	0.57	0.03	0.57	0.03	
1AH/03	IAD 900x900	0.03	75	5	10	25	9	9	0	39			1AH/04	9	0.47	0.04	0.47	0.04	
1AH/04	IAD 900x900	0.03	75	5	10	25	9	9	0	39			1AH/05	9	0.47	0.04	0.47	0.04	
1AH/05	IAD 900x900	0.03	75	5	10	25	9	9	0	0			1AH/06	0	0	0	0	0	
1AH/06	IAD 900x900		0			25	0	0	0	58			1002/08	17	1.08	0.04	1.08	0.04	
1AH/07	IAD 900x900		0			25	0	0	0	34			1002/06	6	0.41	0.03	0.87	0.02	
1AI/01	IAD 600x600	0.032	75	5	10	25	9	9	0	44			1AI/02	8	0.63	0.03	0.82	0.03	
1AI/02	IAD 600x600	0.028	75	5	10	25	8	8	0	50			1AI/03	11	0.82	0.04	0.82	0.04	
1AI/03	IAD 600x600	0.039	75	5	10	25	11	11	0	38			1AI/04	8	0.46	0.04	0.5	0.03	
1AI/04	IAD 600x600	0.028	75	5	10	25	8	8	0	41			1AI/05	9	0.5	0.04	0.5	0.04	
1AI/05	IAD 600x600	0.032	75	5	10	25	9	9	0	0			1AI/06	0	0	0	0	0	
1AI/06	IAD 600x900		0			25	0	0	0	50			1AJ/01	12	0.81	0.04	0.81	0.04	
1AI/07	IAD 900x900		0			25	0	0	0	35			1004/05	7	0.42	0.03	1.81	0.01	
1AJ/01	IAD 600x600	0.039	75	5	10	25	12	12	0	45			1AC/01	9	0.66	0.03	0.8	0.03	
1AK/01	IAD 600x600	0.033	75	5	10	25	10	10	0	38			1AK/02	8	0.46	0.04	0.75	0.03	
1AK/02	IAD 600x600	0.028	75	5	10	25	8	8	0	48			1AK/03	11	0.75	0.04	0.75	0.04	
1AK/03	IAD 600x600	0.038	75	5	10	25	11	11	0	35			1AK/04	8	0.42	0.04	0.46	0.03	
1AK/04	IAD 600x600	0.027	75	5	10	25	8	8	0	39			1AK/05	9	0.46	0.04	0.82	0.03	
1AK/05	IAD 600x600	0.03	75	5	10	25	9	9	0	50			1AK/06	13	0.82	0.04	0.82	0.04	
1AK/06	IAD 600x600	0.045	75	5	10	25	13	13	0	0			1AK/07	0	0	0	0	0	
1AK/07	IAD 900x900		0			25	0	0	0	30			1005/05	6	0.36	0.04	1.01	0.02	
1AL/01	IAD 600x600	0.042	75	5	10	25	20	20	0	157			1AL/02	9	7.96	0.03	5.38	0	
1AL/02	IAD 600x600	0.033	75	5	10	25	18	18	0	68			1AL/03	8	5.38	0.02	2.19	0.01	
1AL/03	IAD 600x900	0.03	75	5	10	25	15	15	0	28			1AL/04	10	2.44	0.01	2.57	0.01	
1AL/04	IAD 900x900	0.033	75	5	10	25	0	0	0	32			1AL/05	15	0	0	0	0	
1AL/05	IAD 900x900	0.05	75	5	10	25	0	0	0	0			1AM/04	0	0	0	0	0	
1AM/01	IAD 600x600	0.041	75	5	10	25	12	12	0	44			1AM/02	9	0.62	0.03	0.62	0.03	
1AM/02	IAD 600x600	0.031	75	5	10	25	9	9	0	0			1AM/04	0	0	0	0	0	
1AM/03	JP 900x900		0			25	0	0	0	0									
1AM/04	IAD 600x900		0			25	0	0	0	53			1028/02	17	0.91	0.05	1.47	0.03	
1AM/05	IAD 900x900		0			25	0	0	0	22			1018/01	2	0.27	0.02	0.34	0.01	
1001/01	GGP EKI 1.8m	0.039	90	5	10	25	12	12	0	68	5.1	3	1002/01	41	1.42	0.08	1.46	0.07	
1001/02	GGP EKI 1.8m	0.056	90	5	10	25	17	17	0	38	5.8	3	1001/03	10	0.46	0.04	0.46	0.04	
1001/03	GGP EKI 1.8m	0.032	90	5	10	25	10	10	0	34	6.1	3	1001/04	7	0.41	0.04	0.41	0.04	
1001/04	GGP EKI 1.8m	0.024	90	5	10	25	7	7	0	32	6.1	3	1001/05	6	0.38	0.03	1.41	0.01	
1001/05	GGP EKI 1.8m	0.022	90	5	10	25	6	6	0	67	4.9	3	1001/06	38	1.41	0.07	1.41	0.07	
1001/06	GGP EKI 1.8m	0.126	80	5	10	25	38	35	2	29	3.3	3	LOST	2	0.35	0.01	0.35	0.01	
1002/01	GGP EKI 2.4m	0.137	80	5	10	25	41	40	1	69	2.7	3	1002/02	35	1.46	0.06	1.48	0.06	
1002/02	GGP EKI 1.8m	0.117	80	5	10	25	35	33	2	69	2.7	3	1002/03	39	1.48	0.07	1.48	0.07	
1002/03	GGP EKI 1.8m	0.126	80	5	10	25	39	37	3	66	3.8	3	1002/04	38	1.36	0.07	1.41	0.07	
1002/04	GGP EKI 1.8m	0.117	80	5	10	25	38	35	2	67	4.3	3	1002/05	41	1.41	0.08	1.41	0.08	
1002/05	GGP EKI 1.8m	0.13	80	5	10	25	41	38	3	64	4.3	3	1002/06	34	1.29	0.07	1.29	0.07	
1002/06	GGP EKI 1.8m	0.124	80	5	10	25	40	37	3	51	4.3	3	1002/07	16	0.87	0.05	0.86	0.05	
1002/07	GGP EKI SAG 2.4m	0.074	85	5	10	25	25	26	0	50	0.9	2.8	1010/01	0					
1002/08	GGP EKI 1.8m	0.088	80	5	10	25	26	26	1	46	1	3	1002/07	9	0.69	0.03	0.84	0.03	
1003/01	GGP EKI 2.4m	0.148	80	5	10	25	44	43	1	68	1	3	1003/02	14	1.43	0.03	1.25	0.03	
1003/02	GGP EKI SAG 2.4m	0.227	80	5	10	25	36	36	0	41	0.1	3	1003/03	0					
1003/03	GGP EKI SAG 2.4m	0.067	100	5	10	25	20	20	0	43	0.1	3	LOST	0					
1003/04	GGP EKI 1.8m	0.009	100	5	10	25	3	3	0	57	1	3	1003/03	10	1.06	0.03	1.06	0.03	

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PIT NAME	PIT TYPE	CATCHMENT AREA	PERCENT IMPERVIOUS	Tc IMP	Tc PERV	CRITICAL STORM	APPROACH FLOW	CAPTURED FLOW	UNCAPTURED FLOW	GRATE DEPTH	ROAD GRADE	ROAD CROSSFALL	BYPASS PIT	BYPASS CHANNEL FLOW	U/S FLOW WIDTH	U/S VxD	D/S FLOW WIDTH	D/S VxD	COMMENTS
(-)	(-)	(Ha)	(%)	(min)	(min)	(min)	(L/s)	(L/s)	(L/s)	(mm)	(%)	(%)	(-)	(L/s)	(m)	(m/s^2)	(m)	(m/s^2)	(-)
1004/01	GGP EKI 1.8m	0.043	90	5	10	25	14	14	0	31	4.3	3	1004/02	5	0.37	0.03	1.26	0.01	
1004/02	GGP EKI 1.8m	0.016	90	5	10	25	5	5	0	63	1	3	1004/03	16	1.26	0.03	1.48	0.03	
1004/03	GGP EKI 1.8m	0.068	80	5	10	25	20	20	0	69	1	3	1004/04	22	1.48	0.04	1.68	0.04	
1004/04	GGP EKI 2.4m	0.075	80	5	10	25	22	22	0	75	1	3	1004/05	29	1.68	0.05	1.81	0.04	
1004/05	GGP EKI 2.4m	0.122	80	5	10	25	36	36	0	79	1	3	1004/06	35	1.81	0.05	1.81	0.05	
1004/06	GGP EKI 1.8m	0.125	90	5	10	25	38	36	3	57	1	3	1004/07	11	1.05	0.03	1.05	0.03	
1005/01	GGP EKI 1.8m	0.045	90	5	10	25	14	14	0	31	2.7	3	1005/02	5	0.37	0.03	0.78	0.02	
1005/02	GGP EKI 1.8m	0.016	90	5	10	25	5	5	0	49	3.9	3	1005/03	15	0.78	0.05	1.3	0.03	
1005/03	GGP EKI 1.8m	0.063	80	5	10	25	19	19	0	64	4.5	3	1005/04	36	1.3	0.07	1.3	0.07	
1005/04	GGP EKI 1.8m	0.118	80	5	10	25	36	34	2	63	4.5	3	1005/05	33	1.25	0.07	1.25	0.07	
1005/05	GGP EKI 2.4m	0.125	80	5	10	25	39	39	1	55	4.5	3	1005/06	21	1.01	0.05	1.61	0.03	
1005/06	GGP EKI 1.8m	0.068	80	5	10	25	21	21	0	73	3.2	3	1005/07	35	1.61	0.06	1.61	0.06	
1005/07	GGP EKI 2.4m	0.117	80	5	10	25	35	35	0	10	1.1	3	LOST	0	0.12	0	0.1	0	
1006/01	GGP EKI 1.8m	0.065	80	5	10	25	20	20	0	67	1.3	3	1006/02	26	1.42	0.05	1.5	0.05	
1006/02	GGP EKI 1.8m	0.087	80	5	10	25	26	25	1	70	1.7	3	1006/03	29	1.5	0.05	1.5	0.05	
1006/03	GGP EKI 1.8m	0.097	80	5	10	25	29	29	1	68	1.7	3	1006/04	27	1.45	0.05	1.45	0.05	
1006/04	GGP EKI 1.8m	0.107	80	5	10	25	33	31	2	54	1.6	3	1006/05	11	0.96	0.03	1.27	0.02	
1006/05	GGP EKI SAG 2.4m	0.121	85	5	10	25	38	39	0	63	0.5	3	1006/06	0					
1006/06	GGP EKI SAG 2.4m	0.088	100	5	10	25	26	25	0	49	0.3	3	LOST	0					
1006/07	HW Out - Stacked Rock					25	0	0	0	0									
1007/01	GGP EKI 1.8m	0.06	85	5	10	25	18	18	0	59	1	3	1007/02	13	1.13	0.03	1.24	0.03	
1007/02	GGP EKI 1.8m	0.052	85	5	10	25	16	16	0	62	1	3	1007/03	15	1.24	0.03	1.24	0.03	
1007/03	GGP EKI 1.8m	0.05	85	5	10	25	15	15	0	40	1	3	1019/01	7	0.49	0.03	0.49	0.03	
1007/04	GGP EKI 1.8m	0.003	90	5	10	25	0	0	0	0	1	3	LOST	0	0	0	0	0	
1007/05	GGP EKI 1.8m	0.073	90	5	10	25	22	22	0	6	1	3	LOST	0	0.07	0	0.05	0	
1007/11	GGP EKI 1.8m	0.012	85	5	10	25	4	4	0	43	1.5	3	1007/12	6	0.6	0.02	0.8	0.02	
1007/12	GGP EKI 1.8m	0.021	90	5	10	25	6	6	0	49	1.5	3	1007/13	8	0.8	0.03	0.8	0.03	
1007/13	GGP EKI SAG 2.4m	0.052	100	5	10	25	15	15	0	36	0.1	3	LOST	0					
1007/14	GGP EKI 1.8m	0.005	100	5	10	25	2	2	0	51	0.4	3	1007/13	7	0.85	0.02	0.82	0.02	
1007/15	GGP EKI 1.8m	0.003	100	5	10	25	1	1	0	37	0.3	3	1003/04	3	0.44	0.01	1.06	0.01	
1007/16	GPT		0			25	0	0	0	0									
1007/17	HW Out - Stacked Rock					25	0	0	0	0									
1008/01	GGP EKI 1.2m	0.029	100	5	10	25	9	9	0	42	1.9	1.5	1008/02	8	0.56	0.03	0.65	0.03	
1008/02	GGP EKI 1.8m	0.041	100	5	10	25	13	13	0	45	2.8	3.3	1008/03	9	0.65	0.03	0.91	0.03	
1008/03	GGP EKI 1.8m	0.027	100	5	10	25	9	9	0	53	2	3.1	1008/04	9	0.91	0.03	0.91	0.03	
1008/04	GGP EKI SAG 2.4m	0.073	100	5	10	25	24	24	0	47	0.1	3	LOST	0	0	0	0	0	
1008/05	GGP EKI SAG 2.4m	0.156	100	5	10	25	27	25	0	50	0.1	3	LOST	0	0	0	0	0	
1008/06	HW Out - Precast Concrete					25	0	0	0	0									
1009/04	GGP EKI 1.8m	0.038	90	5	10	25	12	12	0	32	6.6	3	1009/05	6	0.39	0.03	0.39	0.03	
1009/05	GGP EKI SAG 2.4m	0.032	90	5	10	25	10	12	0	32	2.2	3.1	1017/01	0					
1009/06	GGP EKI 1.8m	0.081	80	5	10	25	24	24	0	36	0.8	2	1009/05	4	0.43	0.02	0.43	0.02	
1010/01	GGP EKI SAG 2.4m	0.031	90	5	10	25	8	40	0	64	1.9	3.3	1003/02	0	0	0	0	0	
1011/01	GGP EKI 1.8m	0.027	90	5	10	25	9	9	0	34	4.3	3	1010/01	6	0.41	0.03	1.29	0.01	
1012/01	GGP EKI 1.8m	0.107	90	5	10	25	32	31	1	44	1	3	1004/06	4	0.61	0.01	1.05	0.01	
1013/01	GGP EKI 1.8m	0.068	90	5	10	25	21	21	0	57	4.5	3	1014/01	23	1.06	0.06	1.61	0.04	
1014/01	GGP EKI 1.8m	0.078	80	5	10	25	23	23	0	73	3.2	3	1015/01	36	1.61	0.06	1.61	0.06	
1015/01	GGP EKI 2.4m	0.122	80	5	10	25	36	36	0	13	1.1	3	LOST	0	0.15	0	0.14	0	
1016/01	GGP EKI 1.8m	0.076	90	5	10	25	23	23	0	7	4.9	3	LOST	0	0.08	0	0.07	0	
1017/01	GGP EKI 1.8m	0.059	90	5	10	25	19	19	0	28	6.6	3	1017/01	4	0.34	0.03	0.56	0.02	
1019/01	GGP EKI SAG 2.4m	0.035	90	5	10	25	13	15	0	37	1.3	3	1020/07	0					
1020/07	GGP EKI SAG 2.4m	0.071	90	5	10	25	19	20	0	43	3.8	2	1007/04	0	0	0	0	0	
1021/01	IAD 900x900	0.045	100	5	10	25	15	15	0	30		-1.2	1008/02	5	0.36	0.03	0.65	0.02	
1022/01	GGP EKI SAG 2.4m	0.116	100	5	10	25	38	37	0	61	0.1	3	LOST	0					
1022/02	GGP EKI SAG 2.4m	0.119	100	5	10	25	39	36	0	61	0.1	3	LOST	0					
1022/03	HW Out - Precast Concrete					25	0	0	0	0									
1023/01	IAD 900x900	0.03	100	5	10	25	10	10	0	30		-1.1	1006/06	4	0.35	0.02	0.78	0.01	
1024/01	GGP EKI 1.8m	0.03	100	5	10	25	10	10	0	0	1.1	3	LOST	0	0	0	0	0	
1024/02	GGP EKI 1.8m	0.014	90	5	10	25	5	5	0	0	1.5	2.1	LOST	0	0	0	0	0	
1024/03	JP 900x900		0			25	0	0	0	0									
1025/01	HW In - Stacked Rock		0			25	0	0	0	0									
1025/02	HW Out - Stacked Rock					25	0	0	0	0									
1026/01	GGP EKI SAG 2.4m	0.019	100	5	10	25	6	30	0	54	0.8	2.9	1008/05	10	0.95	0.03	0.95	0.03	
1026/02	GGP EKI 1.8m	0.015	100	5	10	25	5	5	0	0	1.2		LOST	0	0	0	0	0	
1026/03	HW Out - Precast Concrete					25	0	0	0	0									
1027/01	HW In - Stacked Rock		0			25	0	0	0	0									
1027/02	HW Out - Stacked Rock					25	0	0	0	0									
1028/02	GGP EKI SAG 2.4m	0.188	80	5	10	25	46	46	0	69	0.1	3	1007/13	0					
1035/01	NODE - FULL INFLOW		0			25	0	0	0	12			1007/15	1	0.14	0	0.44	0	
1035/02	HW Out - Stacked Rock					25	0	0	0	0									
1066/01	GGP EKI 1.8m	0.172	90	5	10	25	55	47	8	81	1.5	3	1028/01	46	1.88	0.06	1.88	0.06	
T01/01	JP 900x900		0			25	0	0	0	0									
T02/01	GPT		0			25	0	0	0	0									
T02/02	HW Out - Stacked Rock					25	0	0	0	0									
T03/01	JP 900x900		0			25	0	0	0	0									
T03/03	JP 900x900		0			25	0	0	0	0									
T03/05	GPT		0			25	0	0	0	0		-4							
T03/06	HW Out - Stacked Rock					25	0	0	0	0									
T04/01	IAD 900x900		0			25	0	0	0	0									
T04/02	HW Out - Stacked Rock					25	0	0	0	0									
T05/01	HW Out - Stacked Rock					25	0	0	0	0									
T06/01	JP 900x900		0			25	0	0	0	0									
T06/02	IAD 900x900		0			25	0	0	0	0									
T06/03	JP 900x900		0			25	0	0	0	0									
T06/04	HW Out - Stacked Rock					25	0	0	0	0									
T07/01	JP 900

HYDRAULIC DESIGN SHEET

5 YR MINOR STORM EVENT

PIPE NAME	PIPE DIAMETER	PIPE TYPE	PIPE LENGTH	PIPE GRADE	CRITICAL STORM	PEAK FLOW	CAPACITY RATIO	PEAK VELOCITY	U/S PIPE IL	D/S PIPE IL	D/S PIPE DROP	U/S PIT Ku	D/S PIT Kw	PIT LOSS (Ku.V'head)	WSE LOSS (Kw.V'head)	U/S PIPE HGL	D/S PIPE HGL	HGL GRADE	MINIMUM COVER	MINIMUM FREEBOARD	COMMENTS
(-)	(mm)	(-)	(m)	(%)	(min)	(L/s)	(-)	(m/s)	(m)	(m)	(m)	(-)	(-)	(m)	(m)	(m)	(m)	(%)	(m)	(m)	
1AA/01 to 1AA/02	150	UPVC	10	1	25	9	0.58	0.64	76.732	76.632	0.05	8.33	0	0.06	0	76.832	76.715	1.17	0.4	0.397	
1AA/02 to 1AA/03	225	UPVC	10	1	25	18	0.39	0.96	76.582	76.482	0.05	1.41	0	0	0	76.69	76.595	0.95	0.49	0.608	
1AA/03 to 1AA/04	225	UPVC	12.01	1	25	30	0.66	1.08	76.432	76.312	0.718	1.82	0	0.01	0	76.582	76.447	1.12	0.65	0.714	
1AA/04 to 1011/01	375	RRJ2	4.91	4.36	25	34	0.09	1.75	75.595	75.381	0.068	2.09	0	0.06	0	76.197	76.196	0.02	1.1	1.029	
1AB/01 to 1AB/02	150	UPVC	12.5	2.25	25	15	0.65	1.04	79.573	79.292	0.096	6.43	0	0.02	0	79.781	79.497	2.27	0.4	0.562	
1AB/02 to 1AB/03	150	UPVC	12.5	2.13	25	25	1.11	1.41	79.196	78.929	0.19	1.24	0	0.05	0	79.451	79.067	3.07	0.4	0.455	
1AB/03 to 1AB/04	225	UPVC	18.36	2	25	35	0.55	1.62	78.739	78.371	1.887	0.22	0	0	0	78.859	78.49	2.01	0.4	0.717	
1AB/04 to 1004/03	375	RRJ2	5.6	1	25	35	0.2	1.02	76.485	76.429	0.05	2.09	0	0	0	76.624	76.567	1.02	1.18	2.465	
1AC/01 to 1AC/02	150	UPVC	12.5	2.19	25	9	0.4	0.94	76.745	76.471	0.05	8.51	0	0.02	0	76.81	76.666	1.15	0.4	0.482	
1AC/02 to 1AC/03	150	UPVC	10	1.8	25	21	1.01	1.21	76.421	76.241	0.089	1.91	0	0.06	0	76.613	76.372	2.41	0.4	0.358	
1AC/03 to 1AC/04	225	UPVC	9	2.18	25	29	0.44	1.36	76.152	75.956	0.05	0.35	0	0.01	0	76.257	76.138	1.32	0.4	0.529	
1AC/04 to 1AC/05	225	UPVC	2.02	1	25	38	0.85	1.06	75.906	75.886	0.05	1.28	0	0.06	0	76.079	76.045	1.69	0.43	0.443	
1AC/05 to 1AC/06	225	UPVC	10.5	1	25	0	0	0	75.836	75.731	0.05	0	0	0	0	76.06	75.955	1	0.48	0.586	
1AD/01 to 1AD/02	150	UPVC	12.5	1.87	25	16	0.75	1	82.01	81.776	0.096	4.69	0	0.06	0	82.152	81.873	2.23	0.4	0.358	
1AD/02 to 1AD/03	225	UPVC	10	1.9	25	27	0.43	1.43	81.68	81.49	0.05	0.96	0	0	0	81.789	81.593	1.96	0.4	0.534	
1AD/03 to 1AD/04	225	UPVC	10	1.56	25	35	0.63	1.36	81.44	81.284	0.05	1.27	0	0.01	0	81.583	81.414	1.69	0.4	0.528	
1AD/04 to 1AD/05	225	UPVC	14.58	1.61	25	44	0.77	1.47	81.234	80.999	2.195	1.09	0	0.01	0	81.398	81.148	1.71	0.4	0.504	
1AD/05 to 1005/03	375	RRJ2	5.9	2	25	44	0.18	1.53	78.804	78.686	0.17	2.09	0	0.01	0	78.92	78.794	2.14	1.1	2.698	
1AE/01 to 1AE/02	150	UPVC	9	3.46	25	8	0.28	1.12	76.982	76.671	0.138	9.34	0	0.01	0	77.044	76.725	3.54	0.4	0.705	
1AE/02 to 1AE/03	150	UPVC	12.5	2.14	25	16	0.72	1.23	76.532	76.265	0.111	2.24	0	0.01	0	76.638	76.359	2.23	0.4	0.676	
1AE/03 to 1AE/04	150	UPVC	9	4.11	25	26	0.84	1.71	76.154	75.784	0.05	1.41	0	0.03	0	76.309	75.89	4.66	0.4	0.594	
1AE/04 to 1AE/05	225	UPVC	10.03	1	25	34	0.75	1.24	75.734	75.634	1.211	4.95	0	0	0	75.88	75.779	1.01	0.42	0.596	
1AF/01 to 1AF/02	150	UPVC	10	1	25	11	0.73	0.72	76.719	76.619	0.05	6.32	0	0.08	0	76.843	76.714	1.29	0.4	0.356	
1AF/02 to 1AF/03	225	UPVC	9	1	25	20	0.44	1.04	76.569	76.479	0.05	1.14	0	0	0	76.68	76.586	1.04	0.46	0.582	
1AF/03 to 1AF/04	225	UPVC	10	1	25	27	0.61	1.06	76.429	76.329	0.05	1.38	0	0.01	0	76.578	76.504	0.74	0.6	0.669	
1AF/04 to 1AF/05	225	UPVC	12.5	1	25	36	0.79	1.1	76.279	76.154	0.05	1.29	0	0.01	0	76.503	76.377	1.01	0.7	0.706	
1AF/05 to 1AF/06	225	UPVC	10	1	25	46	1.02	1.22	76.104	76.004	0.05	1.2	0	0.04	0	76.334	76.183	1.51	0.77	0.735	
1AF/06 to 1AF/07	300	UPVC	9	1	25	54	0.56	1.41	75.954	75.864	0.05	5.24	0	0	0	76.115	76.024	1.01	0.77	0.919	
1AF/07 to 1AF/08	300	UPVC	9.41	1	25	62	0.64	1.35	75.814	75.72	0.05	0.8	0	0.01	0	76.004	75.899	1.12	0.82	0.931	
1AF/08 to 1AF/09	300	UPVC	28.18	1	25	70	0.72	1.34	75.67	75.388	0.488	2.15	0	0.02	0	75.883	75.577	1.09	0.83	0.945	
1AF/09 to 1006/01	375	RRJ2	5.88	4.55	25	70	0.19	2.28	74.9	74.632	0.603	2.09	0	0.01	0	75.021	74.742	4.75	1.1	1.46	
1AG/01 to 1AG/02	150	UPVC	10	1	25	11	0.73	0.72	76.15	76.05	0.079	6.32	0	0.08	0	76.274	76.145	1.29	0.4	0.359	
1AG/02 to 1AG/03	225	UPVC	8.97	1.75	25	20	0.34	1.29	75.971	75.814	0.05	1.14	0	0	0	76.066	75.904	1.81	0.4	0.538	
1AG/03 to 1AG/04	225	UPVC	10	1.52	25	28	0.5	1.29	75.764	75.612	0.05	1.4	0	0.01	0	75.887	75.725	1.62	0.4	0.547	
1AG/04 to 1AG/05	225	UPVC	12.53	1.22	25	0	0	0	75.562	75.409	0.058	0	0	0	0	75.786	75.633	1.22	0.41	0.759	
1AH/01 to 1AH/02	375	RRJ2	4.85	1	25	148	0.84	1.47	78.988	78.939	0.05	4.19	0	0.38	0	79.285	79.203	1.69	0.4	0.133	
1AH/02 to 1AH/03	375	RRJ2	10	2.25	25	157	0.6	2.33	78.889	78.664	0.206	0.48	0	0.01	0	79.114	78.873	2.41	0.41	0.676	
1AH/03 to 1AH/04	375	RRJ2	10	2.85	25	166	0.56	2.59	78.458	78.173	0.163	0.45	0	0.01	0	78.674	78.374	3	0.4	0.822	
1AH/04 to 1AH/05	375	RRJ2	10	3.22	25	175	0.56	2.75	78.01	77.688	1.125	0.44	0	0.01	0	78.224	77.888	3.36	0.4	0.82	
1AH/05 to 1AH/06	375	RRJ2	1.75	11	25	184	0.31	2.76	76.563	76.371	0.05	2.03	0	0.12	0	76.839	76.647	10.97	0.4	1.648	
1AH/06 to 1AH/07	450	RRJ2	28.4	1.07	25	183	0.62	1.7	76.321	76.018	0.651	2.09	0	0.03	0	76.637	76.326	1.09	0.4	0.606	
1AH/07 to 1002/06	450	RRJ2	6.17	1.97	25	189	0.47	1.84	75.367	75.246	0.303	2.09	0	0.09	0	76.31	76.187	1.99	1.1	0.628	
1AI/01 to 1AI/02	150	UPVC	9.02	2.09	25	9	0.42	0.91	78.809	78.62	0.07	8.26	0	0.02	0	78.886	78.688	2.2	0.4	0.467	
1AI/02 to 1AI/03	150	UPVC	12.51	4.96	25	17	0.51	1.39	78.55	77.931	0.05	1.89	0	0.03	0	78.626	78.371	2.04	0.46	0.518	
1AI/03 to 1AI/04	150	UPVC	9.07	1	25	28	1.85	1.61	77.881	77.79	0.05	1.09	0	0.11	0	78.26	77.932	3.62	0.6	0.518	
1AI/04 to 1AI/05	225	UPVC	10.2	3.14	25	36	0.45	1.54	77.74	77.419	0.05	5.57	0	0	0	77.846	77.633	2.09	0.41	0.671	
1AI/05 to 1AI/06	225	UPVC	1.5	1	25	45	1.01	1.21	77.369	77.354	0.271	1.1	0	0.07	0	77.561	77.532	1.93	0.47	0.483	
1AI/06 to 1AI/07	300	UPVC	28.62	1	25	57	0.58	1.31	77.084	76.798	0.439	2.09	0	0.01	0	77.264	76.962	1.06	0.58	0.772	
1AI/07 to 1004/05	375	RRJ2	7.07	2.57	25	57	0.2	1.79	76.359	76.177	0.417	2.04	0	0.01	0	76.483	76.291	2.72	0.9	1.189	
1AJ/01 to 1AI/06	150	UPVC	10.75	1	25	11	0.74	0.65	77.241	77.134	0.05	6.02	0	0.05	0	77.402	77.272	1.21	0.4	0.335	
1AK/01 to 1AK/02	150	UPVC	8.98	3.13	25	10	0.36	1.1	79.943	79.662	0.109	8.07	0	0.02	0	80.013	79.751	2.92	0.4	0.677	
1AK/02 to 1AK/03	150	UPVC	12.5	4.05	25	16	0.53	1.31	79.552	79.046	0.05	2.58	0	0.1	0	79.678	79.54	1.1	0.4	0.561	
1AK/03 to 1AK/04	150	UPVC	9.02	1.05	25	26	1.67	1.47	78.996	78.901	0.275	1.12	0	0.09	0	79.452	79.16	3.24	0.4	0.429	
1AK/04 to 1AK/05	150	UPVC	10	3.44	25	33	1.17	1.86	78.626	78.282	0.193	1.47	0	0.14	0	79.023	78.432	5.91	0.4	0.245	
1AK/05 to 1AK/06	225	UPVC	15	4.67	25	41	0.42	2.02	78.089	77.388	0.057	4.62	0	0	0	78.191	77.67	3.47	0.4	0.744	
1AK/06 to 1AK/07	225	UPVC	27.72	1.47	25	55	1.01	1.43	77.331	76.924	0.769	1.8	0	0.05	0	77.619	77.118	1.81	0.59	0.812	
1AK/07 to 1005/05	375	RRJ2	6.66	6.03	25	55	0.13	2.5	76.155	75.754	0.224	2.09	0	0	0	76.253	75.856	5.96	1	1.439	
1AL/01 to 1AL/02	150	UPVC	12.5	1	25	18	1.21	1.09	77.566	77.441	0.05	3.43	0	0.11	0	77.78	77.645	1.08	0.4	0.226	
1AL/02 to 1AL/03	225	UPVC	10	1	25	36	0.81	1.22	77.391	77.291	0.05	5.2	0	0.07	0	77.586	77.535	0.51	0.59	0.564	
1AL/03 to 1AL/04	225	UPVC	9	1	25	46	1.02	1.22	77.241	77.151	0.05	1.45	0	0.06	0	77.474	77.33	1.6	0.81	0.744	
1AL/04 to 1AL/05	225	UPVC	10	1	25	44	0.99	1.29	77.101	77.001	0.05	0.2	0	0	0	77.289	77.177	1.12	1.02	1.053	
1AL/05 to 1AM/03	225	UPVC	15	1	25	44	0.97	1.29	76.951	76.801	0.05	0.2	0	0	0	77.135	76.975	1.07	1.23	1.277	
1AM/01 to 1AM/02	150	UPVC	10	2.19	25	12	0.54	0.97	78.206	77.988	0.05	6.74	0	0.03	0	78.297	78.066	2.31	0.4	0.554	
1AM/02 to 1AM/03	225	UPVC	6.05	1	25	21	0.47	1.04	77.938	77.877	1.127	1.06	0	0.01	0	78.054	77.986	1.12	0.42	0.551	
1AM/03 to 1AM/04	300	UPVC	5.7	3.09	25	64	0.37	1.75	76.751	76.574	0.05	2.09	0	0.02	0	76.911	76.73	3.18	0.47	1.586	
1AM/04 to 1AM/05	300	UPVC	29.11	1	25	63	0.65	1.33	76.524	76.233	0.05	2.09	0	0.01	0	76.719	76.41	1.06	0.52	0.618	
1AM/05 to 1018/01	375	RRJ2	4.62	2.15	25	61	0.24	1.89	76.183	76.084	0.126	0	0	0	0	76.333	76.302	0.67	1.1	1.345	
1001/01 to 1001/02	375	RRJ2	10.13	3.5	25	12	0.04	1.36	83.28	82.925	0.265	9.7	0	0	0	83.332	82.974	3.53	0.9	1.245	
1001/02 to 1001/03	375	RRJ2	43.47	5.85	25	29	0.07	2.19	82.66	80.117	0.05	3.02	0	0	0	82.727	80.184	5.85	1.1	1.461	
1001/03 to 1001/04	375	RRJ2	32.96	6.06	25	39	0.09	2.41	80.067	78.069	0.099	1.32	0	0	0	80.144	78.145	6.06	1.1	1.422	
1001/04 to 1001/05	375	RRJ2	31.07	5.54	25	46	0.11	2.2	77.97	76.247	0.154	0.96	0	0	0	78.055	76.681	4.42	1.1	1.501	
1001/05 to 1001/06	375	RRJ2	33.28	3	25	259	0.85	2.79	76.093	75.094	0.191	1.14	0	0.05	0	76.677	75.677	3.01	1.06	1.102	
1001/06 to 1001/07	450	RRJ2	36.64	1.99	25	0	1.01	0	74.903	74.173	0.199	0	0	0	0	75.677	74.623	2.88	0.96	0.885	
1002/01 to 1002/02	375	RRJ2	32.9	2.62	25	40	0.14	1.71	81.26	80.45	0.05	7	0	0	0	81.34	80.52	2.64	1.1	1.419	
1002/02 to 1002/03	375	RRJ2	28.68	3.01	25	73	0.24	2.2	80.4	79.465	0.05	1.93	0	0	0	80.501	79.56	3.03	1.1	1.417	
1002/03 to 1002/04	375	RRJ2	31.63	4.05	25	109	0.31	2.71	79.415	78.134	0.05	1.58	0	0	0	79.565	78.277	4.07	1.1	1.391	
1002/04 to 1002/05	375	RRJ2	34.9	4.16	25	145	0.41	2.9	78.084	76.633	0.05	1.2	0	0	0	78.255	76.829	4.09	1.1	1.367	
1002/05 to 1002/06	375	RRJ2	33.15	4.15	25	178	0.5	2.89	76.583	75.208	0.265	1.07	0	0.06	0	76.771	76.187	1.76	1.1	1.295	
1002/06 to 1002/07	525	RRJ2	22.29	3.71	25	419	0.51	2.28	74.943	74.116	0.05	0.92	0	0.17	0	76.018	75.806	0.95	1.1	0.512	
1002/07 to 1002/08	600	RRJ2	13.21	1	25	480	0.78	1.7	74.066	73.934	0.05	1.15	0	0.06	0	75.754	75.592	1.23	1.28	0.044	
1002/08 to 1003/04	600	RRJ2	12.71	1	25	503	0.82	1.78	73.884	73.757	0.068	0.69	0	0.04	0	75.583	75.444	1.09	1.68	0.582	
1003/01 to 1003/02	375	RRJ3	20.61	1	25	-108	-0.62	1.01	74.741	74.535	0.03	1.2	0	0.05	0	75.585	75.576	0.04	0.65	0.194	
1003/02 to 1003/03	450	RRJ3	10.4	1	25	90	0.32	1.13	74.505	74.401	0.03	9.7	0	0.06	0	75.553	75.546	0.07	0.73	0.121	
1003/03 to 1003/04	450	RRJ2	65.21	1	25	99	0.35	0.62	74.371	73.719	0.03	1.51	0	0.07	0	75.516	75.444	0.11	0.84	0.151	
1003/04 to 1007/15	600	RRJ2	18.39	0.7	25	600	1.17	2.12	73.689	73.56	0.03	0.78	0	0.12	0	75.329	75.089	1.31	1.92	0.803	

FOR CONTINUATION REFER TOP RIGHT

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PIPE NAME	PIPE DIAMETER	PIPE TYPE	PIPE LENGTH	PIPE GRADE	CRITICAL STORM	PEAK FLOW	CAPACITY RATIO	PEAK VELOCITY	U/S PIPE IL	D/S PIPE IL	D/S PIPE DROP	U/S PIT Ku	D/S PIT Kw	PIT LOSS (Ku.V'head)	WSE LOSS (Kw.V'head)	U/S PIPE HGL	D/S PIPE HGL	HGL GRADE	MINIMUM COVER	MINIMUM FREEBOARD	COMMENTS
(-)	(mm)	(-)	(m)	(%)	(min)	(L/s)	(-)	(m/s)	(m)	(m)	(m)	(-)	(-)	(m)	(m)	(m)	(m)	(%)	(m)	(m)	
1004/01 to 1004/02	375	RRJ2	14.49	8	25	14	0.03	1.91	77.848	76.689	0.05	9.7	0	0	0	77.892	76.732	8.01	0.82	1.063	
1004/02 to 1004/03	375	RRJ2	21.01	1	25	19	0.11	0.75	76.639	76.429	0.05	1.63	0	0	0	76.721	76.567	0.73	1.05	1.379	
1004/03 to 1004/04	375	RRJ2	20.53	1	25	73	0.42	1.41	76.379	76.173	0.05	1.71	0	0.01	0	76.561	76.342	1.07	1.09	1.316	
1004/04 to 1004/05	375	RRJ2	31.3	1	25	95	0.54	1.46	76.123	75.81	0.05	1.12	0	0	0	76.337	76.024	1	1.13	1.334	
1004/05 to 1004/06	450	RRJ2	76.53	1	25	185	0.65	1.45	75.76	74.995	0.05	1.42	0	0.01	0	76.024	75.495	0.69	1.08	1.326	
1004/06 to 1004/07	450	RRJ2	42.19	1	25	0	0.93	0	74.945	74.523	0.05	0	0	0	0	75.495	74.973	1.24	1.12	1.067	
1005/01 to 1005/02	375	RRJ2	14.7	5.76	25	14	0.03	1.71	80.64	79.793	0.247	9.7	0	0	0	80.688	79.84	5.77	1	1.255	
1005/02 to 1005/03	375	RRJ2	22.76	4.3	25	19	0.05	1.54	79.546	78.566	0.05	1.58	0	0	0	79.604	78.641	4.23	1.1	1.471	
1005/03 to 1005/04	375	RRJ2	33.31	4.35	25	81	0.22	2.6	78.516	77.068	0.05	1.67	0	0	0	78.641	77.188	4.36	1.1	1.415	
1005/04 to 1005/05	375	RRJ2	32.37	4.34	25	114	0.31	2.59	77.018	75.612	0.082	1.47	0	0	0	77.162	75.856	4.03	1.1	1.396	
1005/05 to 1005/06	375	RRJ2	20	3.79	25	221	0.65	2.9	75.529	74.771	0.155	1.13	0	0.1	0	75.755	75.326	2.14	1.1	1.243	
1005/06 to 1005/07	450	RRJ2	30.87	1.69	25	262	0.71	1.64	74.616	74.094	0.05	0.61	0	0.09	0	75.285	74.992	0.95	1.1	0.98	
1005/07 to 1005/08	525	RRJ2	26.49	1	25	0	1.35	0	74.044	73.779	0.054	0	0	0	0	74.992	74.304	2.6	1.14	0.773	
1006/01 to 1006/02	375	RRJ2	22.67	1.59	25	88	0.4	1.71	74.029	73.669	0.05	2.18	0	0.01	0	74.214	73.884	1.46	1.6	1.825	
1006/02 to 1006/03	375	RRJ2	25.59	1.49	25	116	0.54	1.78	73.619	73.237	0.05	1.13	0	0.07	0	73.81	73.75	0.23	1.6	1.788	
1006/03 to 1006/04	375	RRJ2	28.19	1.43	25	139	0.66	1.57	73.187	72.783	0.05	1.24	0	0.1	0	73.7	73.504	0.7	1.6	1.489	
1006/04 to 1006/05	375	RRJ2	22.44	1.24	25	212	1.09	1.92	72.733	72.455	0.05	1.03	0	0.09	0	73.416	72.989	1.9	1.6	1.277	
1006/05 to 1006/06	450	RRJ2	12.78	1	25	250	0.88	1.71	72.405	72.277	0.05	1.97	0	0.18	0	72.804	72.605	1.56	1.59	1.473	
1006/06 to 1006/07	450	RRJ2	18.08	1.81	25	298	0.78	2.37	72.227	71.9		0.86	0	0.03	0	72.564	72.198	2.02	-0.95	1.843	
1007/01 to 1007/02	375	RRJ2	20.18	1	25	18	0.1	0.62	77.902	77.7	0.05	7	0	0	0	77.984	77.896	0.44	0.95	1.276	
1007/02 to 1007/03	375	RRJ2	26.43	1	25	107	0.61	1.52	77.65	77.386	0.05	1.69	0	0.01	0	77.883	77.598	1.08	1	1.168	
1007/03 to 1007/04	375	RRJ2	26.48	1	25	121	0.69	1.23	77.336	77.071	0.05	0.76	0	0.03	0	77.565	77.439	0.48	1.05	1.206	
1007/04 to 1007/05	600	RRJ2	10.42	1	25	463	0.75	2.29	77.021	76.917	0.03	0.24	0	0.01	0	77.43	77.306	1.19	0.9	1.096	
1007/05 to 1007/06	675	RRJ2	39.25	1	25	0	0	0	76.887	76.494	0.03	0	0	0	0	77.561	77.168	1	0.85	1.229	
1007/11 to 1007/12	900	RRJ2	36.19	1	25	509	0.28	2.1	75.093	74.732	0.03	0.48	0	0.03	0	75.419	75.274	0.4	0.94	1.729	
1007/12 to 1007/13	900	RRJ2	50.42	1	25	563	0.31	1.75	74.702	74.197	0.05	0.24	0	0.05	0	75.252	75.249	0.01	0.79	1.356	
1007/13 to 1007/14	900	RRJ2	44.25	1	25	655	0.36	1.03	74.147	73.705	0.03	2.09	0	0.07	0	75.231	75.171	0.14	0.9	0.769	
1007/14 to 1007/15	900	RRJ2	16.41	0.7	25	985	0.65	1.55	73.675	73.56	0.03	0.26	0	0.02	0	75.158	75.089	0.42	1.73	1.2	
1007/16 to 1007/17	900	RCP	12.84	0.55	25	985	0.74	1.55	73.47	73.4	1.01	2	0	0.18	0	74.879	74.78	0.77	1.01	1.348	
1008/01 to 1008/02	375	RRJ2	19.4	1	25	9	0.05	0.78	73.26	73.066	0.05	6.88	0	0	0	73.318	73.139	0.92	1.01	1.62	
1008/02 to 1008/03	375	RRJ2	18.28	1	25	37	0.21	1.21	73.016	72.833	0.05	1.83	0	0	0	73.138	72.95	1.03	0.94	1.327	
1008/03 to 1008/04	375	RRJ3	35.67	1	25	45	0.26	1.25	72.783	72.427	0.05	1.14	0	0	0	72.915	72.576	0.95	0.72	1.105	
1008/04 to 1008/05	375	RRJ2	15.2	1	25	68	0.39	1.26	72.377	72.225	0.05	2.24	0	0.01	0	72.571	72.415	1.03	0.87	1.053	
1008/05 to 1008/06	375	RRJ2	9.48	1	25	94	0.53	1.41	72.175	72.08		1.56	0	0.03	0	72.388	72.275	1.19	0.9	1.214	
1009/04 to 1009/05	375	RRJ2	20.23	5.01	25	287	0.73	3.18	75.73	74.717	0.178	0.48	0	0.11	0	76.192	75.572	3.06	0.92	1	
1009/05 to 1009/06	525	RRJ2	12.35	1	25	314	0.73	1.65	74.539

100 YEAR HYDROLOGICAL DESIGN SHEET

100 YR MAJOR STORM EVENT

PIT NAME	PIT TYPE	CATCHMENT AREA	PERCENT IMPERVIOUS	Tc IMP	Tc PERV	CRITICAL STORM	APPROACH FLOW	CAPTURED FLOW	UNCAPTURED FLOW	GRATE DEPTH	ROAD GRADE	ROAD CROSSFALL	BYPASS PIT	BYPASS CHANNEL FLOW	U/S FLOW WIDTH	U/S VxD	D/S FLOW WIDTH	D/S VxD	COMMENTS
(-)	(-)	(Ha)	(%)	(min)	(min)	(min)	(L/s)	(L/s)	(L/s)	(mm)	(%)	(%)	(-)	(L/s)	(m)	(m/s^2)	(m)	(m/s^2)	(-)
1AA/01	IAD 600x600	0.03	75	5	10	25	15	15	0	119			1AA/02	15	3.17	0.01	2.75	0.01	
1AA/02	IAD 600x600	0.03	75	5	10	25	15	15	0	107			1AA/03	21	2.75	0.05	1.54	0.01	
1AA/03	IAD 600x900	0.044	75	5	10	25	21	21	0	1			1AA/04	0	0	0	0	0	
1AA/04	IAD 900x900		0			25	0	0	0	18			1011/01	2	0.22	0.02	0.48	0.01	
1AB/01	IAD 600x600	0.053	75	5	10	25	26	24	5	58			1AB/02	22	1.11	0.05	1.22	0.05	
1AB/02	IAD 600x600	0.035	75	5	10	25	22	16	9	62			1AB/03	26	1.22	0.06	1.22	0.06	
1AB/03	IAD 600x600	0.035	75	5	10	25	26	26	0	0			1AB/04	0	0	0	0	0	
1AB/04	IAD 900x900		0			25	0	0	0	27			1004/03	7	0.32	0.05	1.91	0.01	
1AC/01	IAD 600x600	0.031	75	5	10	25	15	15	0	59			1AC/02	19	1.11	0.05	1.11	0.05	
1AC/02	IAD 600x600	0.039	75	5	10	25	19	19	0	55			1AC/03	15	0.99	0.04	0.99	0.04	
1AC/03	IAD 600x600	0.031	75	5	10	25	15	15	0	53			1AC/04	14	0.93	0.04	0.93	0.04	
1AC/04	IAD 600x600	0.028	75	5	10	25	16	16	0	0			1AC/05	0	0.32	0.01	1.3	0	
1AC/05	IAD 600x600		0			25	0	0	0	64			1AC/06	19	1.3	0.04	1.3	0.04	
1AD/01	IAD 600x600	0.054	75	5	10	25	27	27	0	60			1AD/02	19	1.15	0.04	1.15	0.04	
1AD/02	IAD 600x600	0.038	75	5	10	25	19	19	0	55			1AD/03	15	1	0.04	1	0.04	
1AD/03	IAD 600x600	0.03	75	5	10	25	15	15	0	55			1AD/04	15	0.99	0.04	0.99	0.04	
1AD/04	IAD 600x600	0.03	75	5	10	25	15	15	0	0			1AD/05	0	0	0	0	0	
1AD/05	IAD 900x900		0			25	0	0	0	25			1005/03	6	0.29	0.04	1.67	0.01	
1AE/01	IAD 600x600	0.027	75	5	10	25	13	13	0	46			1AE/02	13	0.68	0.05	1	0.04	
1AE/02	IAD 600x600	0.027	75	5	10	25	13	13	0	55			1AE/03	19	1	0.05	1	0.05	
1AE/03	IAD 600x600	0.038	75	5	10	25	19	19	0	46			1AE/04	13	0.67	0.05	1.05	0.03	
1AE/04	IAD 600x600	0.027	75	5	10	25	13	13	0	57			T03/02	15	1.05	0.04	1.05	0.04	
1AF/01	IAD 600x600	0.038	75	5	10	25	19	18	6	90			1AF/02	19	2.19	0.02	1.89	0.03	
1AF/02	IAD 600x600	0.03	75	5	10	25	19	19	0	81			1AF/03	13	1.89	0.02	1.49	0.02	
1AF/03	IAD 600x600	0.027	75	5	10	25	13	13	0	70			1AF/04	15	1.49	0.03	1.45	0.03	
1AF/04	IAD 600x600	0.03	75	5	10	25	15	15	0	68			1AF/05	19	1.45	0.03	1.45	0.03	
1AF/05	IAD 600x600	0.038	75	5	10	25	19	19	0	64			1AF/06	15	1.29	0.03	1.29	0.03	
1AF/06	IAD 600x900	0.03	75	5	10	25	15	15	0	60			1AF/07	13	1.15	0.03	1.21	0.03	
1AF/07	IAD 600x900	0.027	75	5	10	25	13	13	0	61			1AF/08	15	1.21	0.03	1.21	0.03	
1AF/08	IAD 600x900	0.03	75	5	10	25	15	15	0	0			1AF/09	0	0	0	0	0	
1AF/09	IAD 900x900		0			25	0	0	0	34			1006/01	8	0.41	0.04	1.84	0.01	
1AG/01	IAD 600x600	0.038	75	5	10	25	19	19	0	62			1AG/02	15	1.21	0.03	1.21	0.03	
1AG/02	IAD 600x600	0.03	75	5	10	25	15	15	0	54			1AG/03	13	0.97	0.04	1.01	0.04	
1AG/03	IAD 600x600	0.027	75	5	10	25	13	13	0	56			1AG/04	15	1.01	0.04	1.01	0.04	
1AG/04	IAD 600x600	0.03	75	5	10	25	15	15	0	0			LOST	0	0	0	0	0	
1AH/01	IAD 900x900	0.808	10	5	10	25	324	213	261	183			1AH/02	276	5.19	0.12	4.68	0.14	
1AH/02	IAD 900x900	0.031	75	5	10	25	276	194	196	115			1AH/03	210	3.04	0.17	3.04	0.17	
1AH/03	IAD 900x900	0.03	75	5	10	25	210	172	154	101			1AH/04	167	2.56	0.16	2.56	0.16	
1AH/04	IAD 900x900	0.03	75	5	10	25	167	149	27	65			1AH/05	37	1.34	0.08	1.34	0.08	
1AH/05	IAD 900x900	0.03	75	5	10	25	37	37	0	0			1AH/06	0	0	0	0	0	
1AH/06	IAD 900x900		0			25	0	-127	127	110			1002/08	147	2.86	0.13	2.86	0.13	
1AH/07	IAD 900x900		0			25	0	0	0	41			1002/06	10	0.52	0.04	2.11	0.02	
1AI/01	IAD 600x600	0.032	75	5	10	25	16	16	0	53			1AI/02	14	0.94	0.04	1.41	0.03	
1AI/02	IAD 600x600	0.028	75	5	10	25	14	13	10	67			1AI/03	30	1.41	0.06	1.41	0.06	
1AI/03	IAD 600x600	0.039	75	5	10	25	30	24	11	58			1AI/04	24	1.09	0.06	1.09	0.06	
1AI/04	IAD 600x600	0.028	75	5	10	25	24	24	0	50			1AI/05	15	0.84	0.05	0.84	0.05	
1AI/05	IAD 600x600	0.032	75	5	10	25	15	15	0	0			1AI/06	0	0	0	0	0	
1AI/06	IAD 600x900		0			25	0	0	0	59			1AJ/01	19	1.12	0.05	1.12	0.05	
1AI/07	IAD 900x900		0			25	0	0	0	43			1004/05	11	0.58	0.04	2.31	0.01	
1AJ/01	IAD 600x600	0.039	75	5	10	25	19	19	0	55			1AC/01	15	0.98	0.04	1.11	0.04	
1AK/01	IAD 600x600	0.033	75	5	10	25	16	16	0	48			1AK/02	14	0.74	0.05	1.28	0.03	
1AK/02	IAD 600x600	0.028	75	5	10	25	14	12	8	63			1AK/03	27	1.28	0.06	1.28	0.06	
1AK/03	IAD 600x600	0.038	75	5	10	25	27	15	20	59			1AK/04	33	1.14	0.08	1.52	0.06	
1AK/04	IAD 600x600	0.027	75	5	10	25	33	11	36	71			1AK/05	50	1.52	0.09	1.52	0.09	
1AK/05	IAD 600x600	0.03	75	5	10	25	50	47	13	67			1AK/06	34	1.41	0.07	1.41	0.07	
1AK/06	IAD 600x600	0.045	75	5	10	25	34	24	14	45			1AK/07	10	0.66	0.04	0.66	0.04	
1AK/07	IAD 900x900		0			25	10	10	0	37			1005/05	11	0.44	0.05	2.15	0.02	
1AL/01	IAD 600x600	0.042	75	5	10	25	23	23	20	233			1AL/02	29	8	0.04	7.95	0	
1AL/02	IAD 600x600	0.033	75	5	10	25	40	35	12	144			1AL/03	12	7.95	0.04	5.8	0.01	
1AL/03	IAD 600x900	0.03	75	5	10	25	24	24	0	73			1AL/04	17	5.8	0.02	3.1	0.02	
1AL/04	IAD 900x900	0.033	75	5	10	25	0	0	0	39			1AL/05	24	0	0	0	0	
1AL/05	IAD 900x900	0.05	75	5	10	25	0	0	0	0			1AM/04	0	0	0	0	0	
1AM/01	IAD 600x600	0.041	75	5	10	25	20	20	0	53			1AM/02	15	0.93	0.04	0.93	0.04	
1AM/02	IAD 600x600	0.031	75	5	10	25	15	15	0	0			1AM/04	0	0	0	0	0	
1AM/03	JP 900x900		0			25	0	0	0	0									
1AM/04	IAD 600x900		0			25	0	-48	48	81			1028/02	75	1.89	0.1	5.99	0.05	
1AM/05	IAD 900x900		0			25	0	0	0	27			1018/01	3	0.32	0.02	0.43	0.02	
1001/01	GGP EKI 1.8m	0.039	90	5	10	25	20	19	0	78	5.1	3	1002/01	67	1.78	0.1	1.96	0.09	
1001/02	GGP EKI 1.8m	0.056	90	5	10	25	28	27	1	48	5.8	3	1001/03	17	0.76	0.06	0.76	0.06	
1001/03	GGP EKI 1.8m	0.032	90	5	10	25	17	17	0	42	6.1	3	1001/04	12	0.54	0.05	0.54	0.05	
1001/04	GGP EKI 1.8m	0.024	90	5	10	25	12	12	0	38	6.1	3	1001/05	10	0.46	0.04	2.41	0.01	
1001/05	GGP EKI 1.8m	0.022	90	5	10	25	132	57	23	97	4.9	3	1001/06	130	2.41	0.14	2.41	0.14	
1001/06	GGP EKI 1.8m	0.126	80	5	10	25	130	74	47	96	3.3	3	LOST	66	2.39	0.07	2.38	0.07	
1002/01	GGP EKI 2.4m	0.137	80	5	10	25	67	57	10	83	2.7	3	1002/02	68	1.96	0.09	2.02	0.09	
1002/02	GGP EKI 1.8m	0.117	80	5	10	25	68	51	17	85	2.7	3	1002/03	79	2.02	0.1	2.02	0.1	
1002/03	GGP EKI 1.8m	0.126	80	5	10	25	79	56	23	82	3.8	3	1002/04	80	1.91	0.11	1.97	0.11	
1002/04	GGP EKI 1.8m	0.117	80	5	10	25	80	57	23	84	4.3	3	1002/05	86	1.97	0.11	1.97	0.11	
1002/05	GGP EKI 1.8m	0.13	80	5	10	25	86	60	27	81	4.3	3	1002/06	77	1.87	0.11	2.11	0.1	
1002/06	GGP EKI 1.8m	0.124	80	5	10	25	86	53	79	88	4.3	3	1002/07	97	2.11	0.12	6.85	0.05	
1002/07	GGP EKI SAG 2.4m	0.074	85	5	10	25	168	-191	353	249	0.9	2.8	1010/01	354					
1002/08	GGP EKI 1.8m	0.088	80	5	10	25	161	90	71	90	1	3	1002/07	79	2.18	0.09	6.85	0.03	
1003/01	GGP EKI 2.4m	0.148	80	5	10	25	73	59	65	166	1	3	1003/02	63	4.75	0.06	7.2	0.03	
1003/02	GGP EKI SAG 2.4m	0.227	80	5	10	25	556	153	0	272	0.1	3	1003/03	322					
1003/03	GGP EKI SAG 2.4m	0.067	100	5	10	25	351	158	0	268	0.1	3	LOST	183					
1003/04	GGP EKI 1.8m	0.009	100	5	10	25	5	5	0	65	1	3	1003/03	16	1.33	0.03	7.2	0.03	
1004/01	GGP EKI 1.8m	0.043	90	5	10	25	22	21	0	37	4.3	3	1004/02	9	0.45	0.04	1.6	0.01	
1004/02	GGP EKI 1.8m	0.016	90	5	10	25	9	9	0	73	1	3	1004/03	26	1.6	0.04	1.91	0.04	
1004/03	GGP EKI 1.8m	0.068	80	5	10	25	34	30	3	82	1	3	1004/04	40	1.91	0.05	2.12	0.05	

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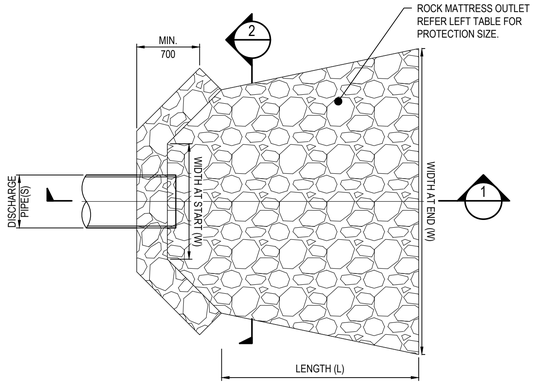
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PIT NAME	PIT TYPE	CATCHMENT AREA	PERCENT IMPERVIOUS	Tc IMP	Tc PERV	CRITICAL STORM	APPROACH FLOW	CAPTURED FLOW	UNCAPTURED FLOW	GRATE DEPTH	ROAD GRADE	ROAD CROSSFALL	BYPASS PIT	BYPASS CHANNEL FLOW	U/S FLOW WIDTH	U/S VxD	D/S FLOW WIDTH	D/S VxD	COMMENTS
(-)	(-)	(Ha)	(%)	(min)	(min)	(min)	(L/s)	(L/s)	(L/s)	(mm)	(%)	(%)	(-)	(L/s)	(m)	(m/s^2)	(m)	(m/s^2)	(-)
1004/04	GGP EKI 2.4m	0.075	80	5	10	25	40	38	2	88	1	3	1004/05	50	2.12	0.06	2.31	0.06	
1004/05	GGP EKI 2.4m	0.122	80	5	10	25	62	53	8	94	1	3	1004/06	62	2.31	0.07	2.31	0.07	
1004/06	GGP EKI 1.8m	0.125	90	5	10	25	75	54	21	78	1	3	1004/07	33	1.76	0.05	1.76	0.05	
1005/01	GGP EKI 1.8m	0.045	90	5	10	25	23	22	1	38	2.7	3	1005/02	9	0.45	0.04	1.07	0.02	
1005/02	GGP EKI 1.8m	0.016	90	5	10	25	9	9	0	57	3.9	3	1005/03	25	1.07	0.06	1.67	0.04	
1005/03	GGP EKI 1.8m	0.063	80	5	10	25	31	29	2	75	4.5	3	1005/04	61	1.67	0.1	1.72	0.09	
1005/04	GGP EKI 1.8m	0.118	80	5	10	25	61	47	14	76	4.5	3	1005/05	65	1.72	0.1	2.15	0.1	
1005/05	GGP EKI 2.4m	0.125	80	5	10	25	75	60	76	89	4.5	3	1005/06	102	2.15	0.12	2.63	0.1	
1005/06	GGP EKI 1.8m	0.068	80	5	10	25	102	62	29	103	3.2	3	1005/07	111	2.63	0.11	2.63	0.11	
1005/07	GGP EKI 2.4m	0.117	80	5	10	25	111	81	30	74	1.1	3	LOST	27	1.64	0.04	1.64	0.04	
1006/01	GGP EKI 1.8m	0.065	80	5	10	25	33	30	3	80	1.3	3	1006/02	45	1.84	0.07	1.94	0.06	
1006/02	GGP EKI 1.8m	0.087	80	5	10	25	45	41	5	83	1.7	3	1006/03	52	1.94	0.07	1.94	0.07	
1006/03	GGP EKI 1.8m	0.097	80	5	10	25	52	45	7	82	1.7	3	1006/04	50	1.92	0.07	1.92	0.07	
1006/04	GGP EKI 1.8m	0.107	80	5	10	25	59	50	10	69	1.6	3	1006/05	26	1.47	0.05	2.26	0.03	
1006/05	GGP EKI SAG 2.4m	0.121	85	5	10	25	75	74	0	92	0.5	3	1006/06	0					
1006/06	GGP EKI SAG 2.4m	0.088	100	5	10	25	42	40	0	64	0.3	3	LOST	0					
1006/07	HW Out - Stacked Rock					25	0	0	0	0									
1007/01	GGP EKI 1.8m	0.06	85	5	10	25	31	29	2	71	1	3	1007/02	23	1.53	0.04	1.62	0.04	
1007/02	GGP EKI 1.8m	0.052	85	5	10	25	28	26	2	73	1	3	1007/03	27	1.62	0.04	1.62	0.04	
1007/03	GGP EKI 1.8m	0.05	85	5	10	25	27	25	1	51	1	3	1019/01	13	0.86	0.04	1.44	0.03	
1007/04	GGP EKI 1.8m	0.003	90	5	10	25	0	0	0	0	1	3	LOST	0	0	0	0	0	
1007/05	GGP EKI 1.8m	0.073	90	5	10	25	37	33	4	36	1	3	LOST	4	0.44	0.02	0.44	0.02	
1007/11	GGP EKI 1.8m	0.012	85	5	10	25	6	6	0	52	1.5	3	1007/12	11	0.9	0.03	1.05	0.03	
1007/12	GGP EKI 1.8m	0.021	90	5	10	25	11	11	0	57	1.5	3	1007/13	12	1.05	0.03	1.05	0.03	
1007/13	GGP EKI SAG 2.4m	0.052	100	5	10	25	25	23	0	47	0.1	3	LOST	0					
1007/14	GGP EKI 1.8m	0.005	100	5	10	25	3	3	0	59	0.4	3	1007/13	11	1.12	0.03	1.11	0.03	
1007/15	GGP EKI 1.8m	0.003	100	5	10	25	1	1	0	44	0.3	3	1003/04	5	0.72	0.02	1.33	0.01	
1007/16	GPT		0			25	0	0	0	0									
1007/17	HW Out - Stacked Rock					25	0	0	0	0									
1008/01	GGP EKI 1.2m	0.029	100	5	10	25	14	14	1	52	1.9	1.5	1008/02	13	0.9	0.04	0.94	0.04	
1008/02	GGP EKI 1.8m	0.041	100	5	10	25	21	21	0	54	2.8	3.3	1008/03	14	0.94	0.04	1.19	0.03	
1008/03	GGP EKI 1.8m	0.027	100	5	10	25	14	14	0	61	2	3.1	1008/04	15	1.19	0.03	1.19	0.03	
1008/04	GGP EKI SAG 2.4m	0.073	100	5	10	25	38	37	0	61	0.1	3	LOST	0	0	0	0	0	
1008/05	GGP EKI SAG 2.4m	0.156	100	5	10	25	48	45	0	69	0.1	3	LOST	0	0	0	0	0	
1008/06	HW Out - Precast Concrete					25	0	0	0	0									
1009/04	GGP EKI 1.8m	0.038	90	5	10	25	19	17	26	60	6.6	3	1009/05	32	1.18	0.07	2.92	0.03	
1009/05	GGP EKI SAG 2.4m	0.032	90	5	10	25	42	41	0	112	2.2	3.1	1017/01	12					
1009/06	GGP EKI 1.8m	0.081	80	5	10	25	40	35	5	52	0.8	2	1009/05	12	0.91	0.03	2.92	0.03	
1010/01	GGP EKI SAG 2.4m	0.031	90	5	10	25	365	90	0	225	1.9	3.3	1003/02	467	9.69	0.09	40.1	0.04	
1011/01	GGP EKI 1.8m	0.027	90	5	10	25	14	14	0	40	4.3	3	1010/01	9	0.48	0.04	6.24	0.01	
1012/01	GGP EKI 1.8m	0.107	90	5	10	25	51	42	10	66	1	3	1004/06	13	1.37	0.03	1.76	0.02	
1013/01	GGP EKI 1.8m	0.068	90	5	10	25	34	31	3	67	4.5	3	1014/01	40	1.41	0.08	2.08	0.05	
1014/01	GGP EKI 1.8m	0.078	80	5	10	25	40	35	5	87	3.2	3	1015/01	65	2.08	0.08	2.08	0.08	
1015/01	GGP EKI 2.4m	0.122	80	5	10	25	65	55	9	52	1.1	3	LOST	9	0.89	0.03	0.9	0.03	
1016/01	GGP EKI 1.8m	0.076	90	5	10	25	38	-36	68	92	4.9	3	LOST	58	2.27	0.07	2.27	0.07	
1017/01	GGP EKI SAG 2.4m	0.021	90	5	10	25	20	-44	63	96	3.1	3.7	1028/02	79					
1018/01	GGP EKI 1.8m	0.059	90	5	10	25	30	29	1	36	6.6	3	1017/01	8	0.43	0.04	2.38	0.02	
1019/01	GGP EKI SAG 2.4m	0.035	90	5	10	25	42	45	0	68	1.3	3	1020/07	0					
1020/07	GGP EKI SAG 2.4m	0.071	90	5	10	25	36	36	0	60	3.8	2	1007/04	0	0	0	0	0	
1021/01	IAD 900x900	0.045	100	5	10	25	24	24	0	36		-1.2	1008/02	8	0.43	0.04	0.94	0.02	
1022/01	GGP EKI SAG 2.4m	0.116	100	5	10	25	59	56	0	78	0.1	3	LOST	0					
1022/02	GGP EKI SAG 2.4m	0.119	100	5	10	25	62	58	0	80	0.1	3	LOST	0					
1022/03	HW Out - Precast Concrete					25	0	0	0	0									
1023/01	IAD 900x900	0.03	100	5	10	25	16	16	0	35		-1.1	1006/06	6	0.42	0.03	1.29	0.01	
1024/01	GGP EKI 1.8m	0.03	100	5	10	25	16	16	0	0	1.1	3	LOST	0	0	0	0	0	
1024/02	GGP EKI 1.8m	0.014	90	5	10	25	7	7	0	0	1.5	2.1	LOST	0	0	0	0	0	
1024/03	JP 900x900		0			25	0	0	0	0									
1025/01	HW In - Stacked Rock		0			25	0	0	0	0									
1025/02	HW Out - Stacked Rock					25	0	0	0	0									
1026/01	GGP EKI SAG 2.4m	0.019	100	5	10	25	10	43	0	66	0.8	2.9	1008/05	21	1.38	0.04	1.46	0.04	
1026/02	GGP EKI 1.8m	0.015	100	5	10	25	8	8	0	0	1.2		LOST	0	0	0	0	0	
1026/03	HW Out - Precast Concrete					25	0	0	0	0									
1027/01	HW In - Stacked Rock		0			25	0	0	0	0									
1027/02	HW Out - Stacked Rock					25	0	0	0	0									
1028/02	GGP EKI SAG 2.4m	0.188	80	5	10	25	218	185	0	215	0.1	3	1007/13	7					
1035/01	NODE - FULL INFLOW		0			25	0	0	0	14			1007/15	2	0.17	0.02	0.72	0.01	
1035/02	HW Out - Stacked Rock					25	0	0	0	0									
1066/01	GGP EKI 1.8m	0.172	90	5	10	25	92	63	30	100	1.5	3	1028/01	92	2.51	0.09	2.51	0.09	
T01/01	JP 900x900		0			25	0	0	0	0									
T02/01	GPT		0			25	0	0	0	0									
T02/02	HW Out - Stacked Rock					25	0	0	0	0									
T03/01	JP 900x900		0			25	0	0	0	0									
T03/03	JP 900x900		0			25	0	0	0	0									
T03/05	GPT		0			25	0	0	0	0		-4							
T03/06	HW Out - Stacked Rock					25	0	0	0	0									
T04/01	IAD 900x900		0			25	0	0	0	0									
T04/02	HW Out - Stacked Rock					25	0	0	0	0									
T05/01	HW Out - Stacked Rock					25	0	0	0	0									
T06/01	JP 900x900		0			25	0	0	0	0									
T06/02	IAD 900x900		0			25	0	0	0	0			

NOTES - STACKED ROCK HEADWALLS

1. BACKFILL IS TO BE GRANULAR, FREE DRAINING AND COMPACTED TO 95% MAXIMUM DRY DENSITY.
2. FOUNDATION TO BE APPROVED FOR 200 kPa BEARING CAPACITY.
3. ROCK IS TO BE SOUND DURABLE BASALT OR OTHER MATERIAL APPROVED BY COUNCIL ENGINEER.
4. ROCKS SHALL BE PLACED IN SUCH A MANNER THAT THEY ARE STABLE AND INTERLOCKING AND LAID ROUGHLY COURSED AND BEDDED ON THEIR BROADEST BASE.
5. EACH ROCK SHALL BE:
   - ELONGATED TO ALLOW STACKING ON THE LONGEST AXIS.
   - ANGULAR IN SHAPE (PROMOTES INTERLOCKING)
   - FREE FROM OVERBURDEN, SPOIL, SHALE AND ORGANIC MATERIAL.
6. WALL CONSTRUCTION TO BE SUPERVISED BY A SUITABLY QUALIFIED PERSON.
7. AIR VOIDS SHALL NOT EXCEED 30% VOLUME.
8. THE TOP COURSE OF ROCKS ON EMBANKMENT AND ADJACENT TO PIPE SHALL BE MORTARED INTO POSITION.

E



PLAN VIEW

TYPICAL STACKED ROCK HEADWALL

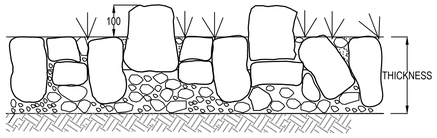
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STACKED ROCK HEADWALL DIMENSIONS TABLE

PIPE DIAMETER (mm)	OUTLET VELOCITY (m/s)	MINIMUM LENGTH (L) (m)	WIDTH OF DISSIPATOR HEADWALL END (W) (m)		MEAN ROCK SIZE D50 (mm)*	MINIMUM THICKNESS (mm)
300	2.4	0.9	0.900	0.900	MIN. 300	360
375	2.9	1.2	1.000	1.000	MIN. 300	360
450	2.9	1.35	1.050	1.050	MIN. 300	360
600	3.4	1.8	1.200	1.320	MIN. 300	360
900	2.0	2.7	1.500	1.980	MIN. 300	360
(x2)675	3.2	2.7	2.100	2.100	MIN. 450	540
(x3)3300x1800	2.5	12.5m	10.700	10.700	600	1080

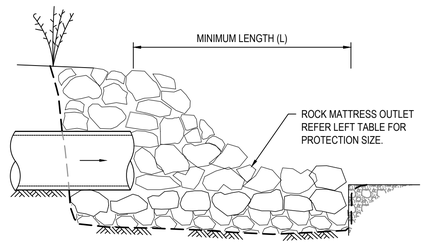
ROCK RIP RAP NOTES:

1. ALL RIPRAP MUST CONSIST OF HARD, DURABLE ANGULAR RUN-OF-QUARRY ROCK; RESISTANT TO WEATHERING & WATER ACTION; FREE FROM OVERBURDEN, SPOIL, SHALE & ORGANIC MATERIAL; & SHALL MEET THE GRADATION REQUIREMENTS SPECIFIED.
2. ROUNDED STONES/BOULDERS WILL NOT BE ACCEPTABLE.
3. SHALE & ROCK WITH SHALE SEAMS WILL NOT BE ACCEPTABLE.
4. ROCKS ARE TO BE PLACED OVER A 200mm LAYER OF ANGULAR COBBLES D50=140mm.
5. ALL ROCK & COBBLES TO BE PACKED WITH TOPSOIL. GAPS IN RIPRAP TO BE PLANTED AS SPECIFIED IN VMP, OR WITH SUITABLE NATIVE GRASSES/SEDGES.
6. RIPRAP SHALL BE PLACED ON THE PREPARED SLOPE IN A MANNER THAT WILL PRODUCE A REASONABLY WELL GRADED MASS OF STONE WITH THE MINIMUM PRACTICAL PERCENTAGE OF VOIDS.
7. LARGER STONES SHALL BE WELL DISTRIBUTED & THE ENTIRE MASS OF STONE SHALL CONFORM TO THE GRADATION SPECIFIED BY THE ENGINEERING PLANS.
8. THE MINIMUM THICKNESS OF THE RIPRAP LAYER IS TO BE 1.5 TIMES THE d50 ROCK SIZE & NOT BE LESS THAN 300mm FOR PRACTICAL PLACEMENT.
9. THE RIPRAP THICKNESS SHOULD BE INCREASED BY 50% WHEN THE RIPRAP IS PLACED UNDERWATER - UNLESS THE CONTRACTOR CAN OVERCOME UNCERTAINTIES ASSOCIATED WITH THIS TYPE OF PLACEMENT.
10. THE MINIMUM DENSITY OF STONE USED SHALL NOT BE LESS THAN **2400 kg/cu.m**.
    TYPICAL ROCK WEIGHT RANGES FOR RIPRAP ARE:
    M50 - 60kg (NOM 300MD)
    M15 - 25kg
    M100 - 120kg
11. PLACE OVERSIZED ROCKS (BAFFLE BLOCKS) EVENLY DISTRIBUTED ACROSS THE ROCK MASS.
    H=150mm MIN



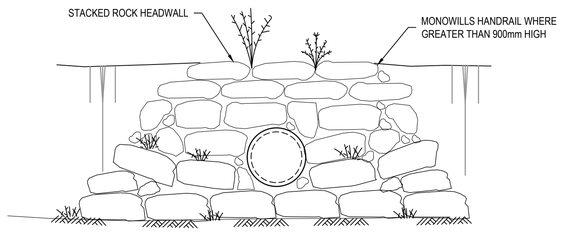
RIPRAP DETAIL

N.T.S



SECTION 1

N.T.S.



SECTION 2

N.T.S.

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:

For: mirvac

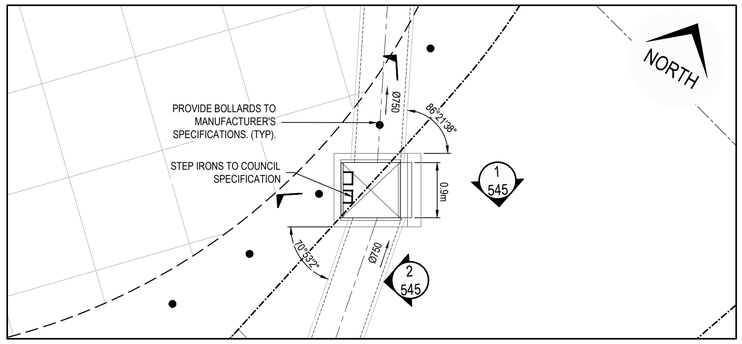
By: Orion Consulting

ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

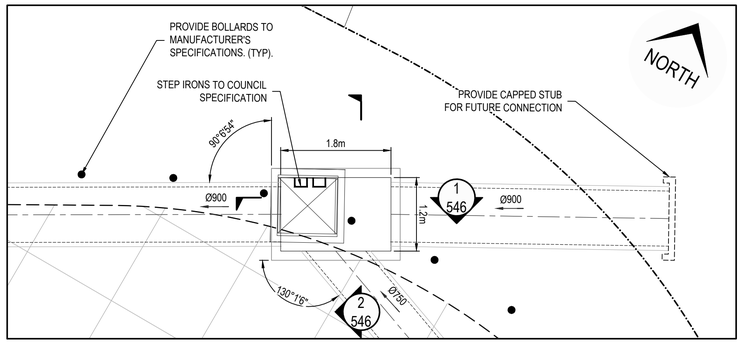
Title:
HEADWALL & RIPRAP DETAILS

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	534	E



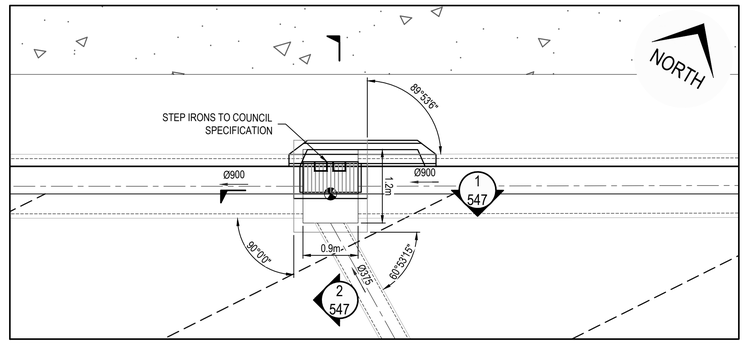
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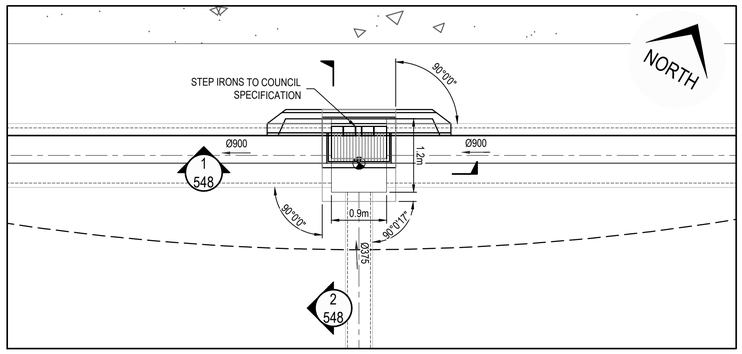
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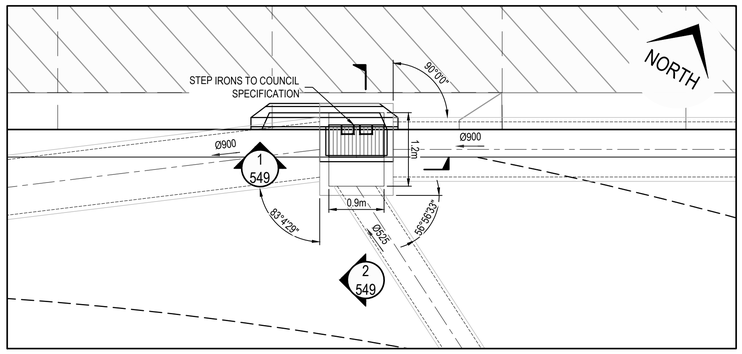
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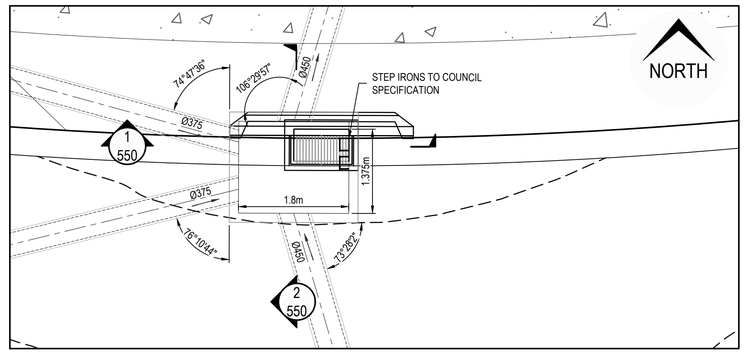
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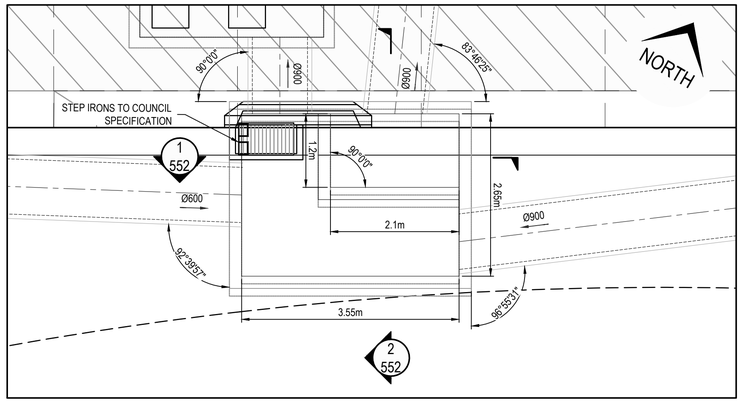
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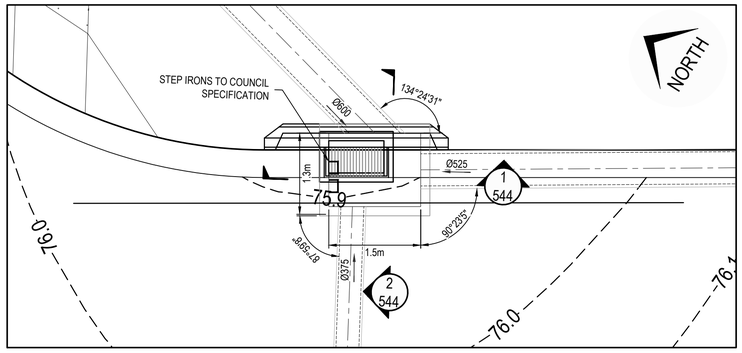
PIT No.1006/06

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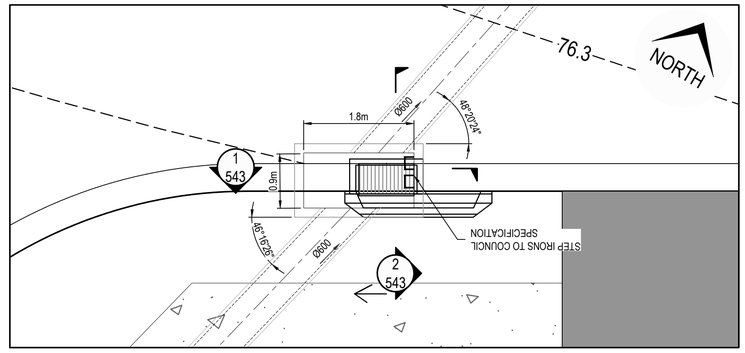
PIT No.1007/15

SCALE 1:50



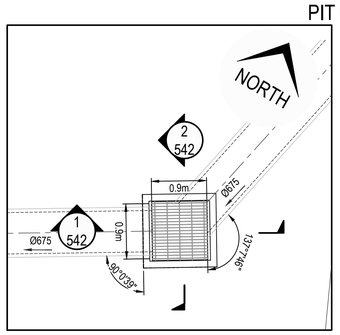
PIT No.1002/07

SCALE 1:50



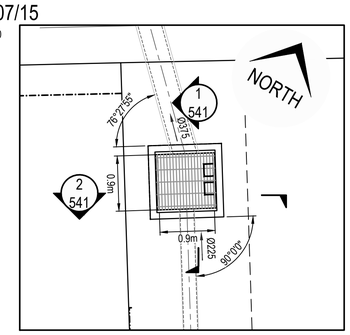
PIT No.1002/08

SCALE 1:50



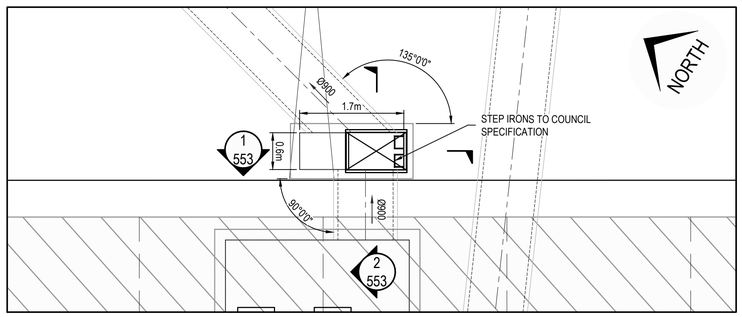
PIT No.1AB/04

SCALE 1:50



PIT No.T06/02

SCALE 1:50



PIT No.1007/17

SCALE 1:50

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

NOTE:
- PIT GEOMETRY TO COMPLY WITH CAMDEN COUNCIL SPECIFICATIONS. REFER COUNCIL STANDARD DRAWINGS SD 30-35.

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE

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0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0
SCALE 1:50 (A1) SCALE 1:100 (A3)
0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0
SCALE 1:20 (A1) SCALE 1:40 (A3)

For: mirvac

By: Orion Consulting

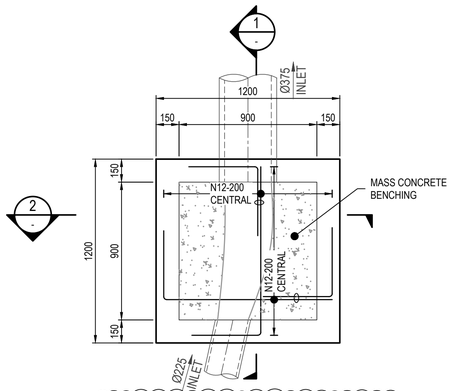
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

JAS-ANZ
WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
PIT GEOMETRY PLAN

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	540	E



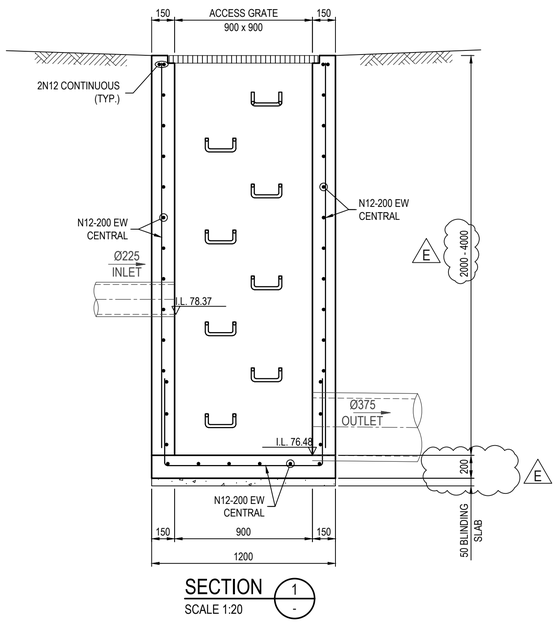
PIT No.1AB/04 BASE - 150 THICK E

SCALE 1:20

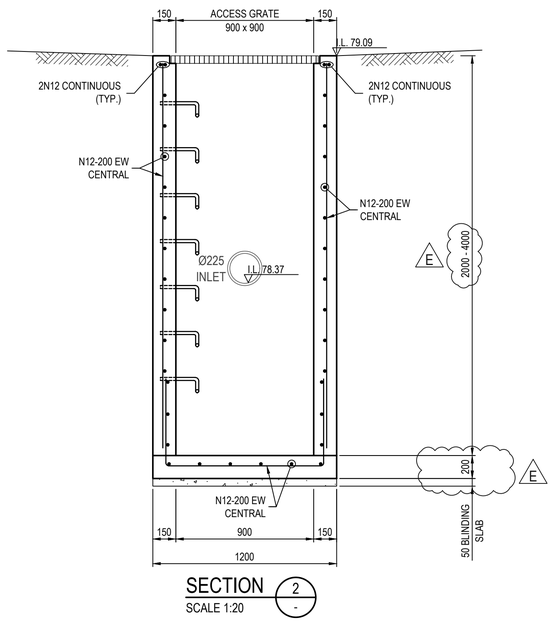
PIT No.1AD/05 SIMILAR

PIT No.1AH/05 SIMILAR

VALID FOR PITS 2m TO 4m DEEP



SECTION 1 - SCALE 1:20



SECTION 2 - SCALE 1:20

NOTES:

3. CONCRETE STRENGTH - UNLESS NOTED OTHERWISE

ELEMENT	f'c MPa (28 DAYS)	SLUMP	MAX AGG SIZE	CEMENT TYPE
PITS	32	80mm	20mm	GP

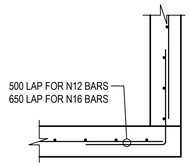
4. COVER - UNLESS NOTED OTHERWISE

ELEMENT	
PITS	
SLAB TOP	45mm
SLAB BOTTOM	45mm
BEAM TOP	
BEAM BOTTOM	
BEAM SIDE	
COLUMNS	

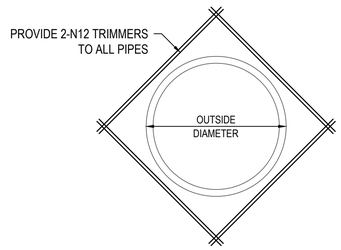
WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP



TYPICAL CORNER DETAIL



TYPICAL PIPE TRIMMER DETAIL

NOTE:
- PIT GEOMETRY TO COMPLY WITH CAMDEN COUNCIL SPECIFICATIONS. REFER COUNCIL STANDARD DRAWINGS SD 30-35.

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE

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SCALE 1:20 (A1) SCALE 1:40 (A3)

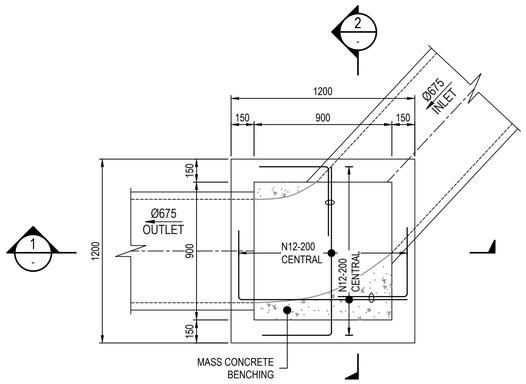
For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
PIT DETAILS
SHEET 01 OF 13

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	541	E



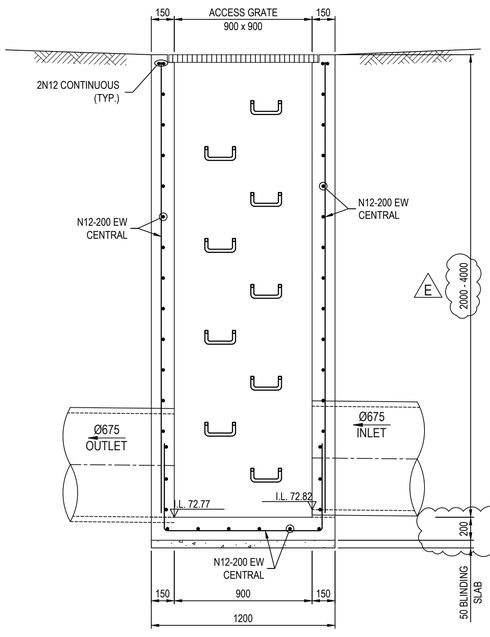
PIT No.T06/02 BASE - 150 THICK

SCALE 1:20

E

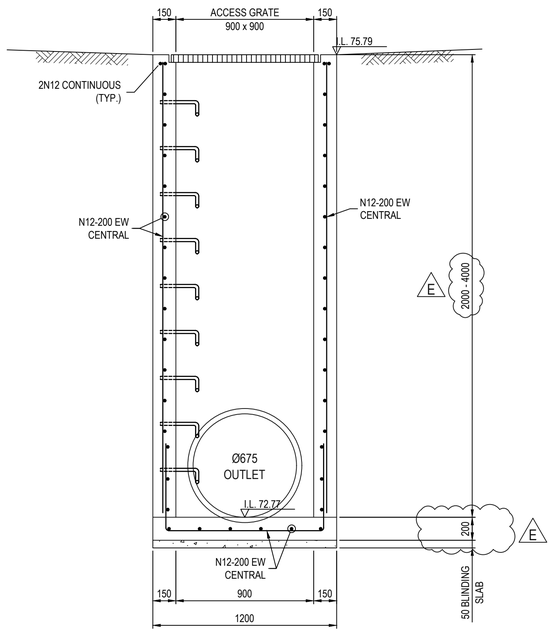
PIT No.T06/03 SIMILAR

VALID FOR PITS 2m TO 4m DEEP



SECTION 1

SCALE 1:20



SECTION 2

SCALE 1:20

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

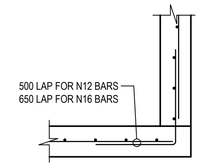
NOTES:

3. CONCRETE STRENGTH - UNLESS NOTED OTHERWISE

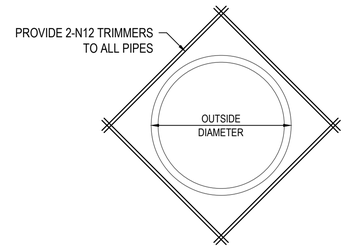
ELEMENT	f'c MPa (28 DAYS)	SLUMP	MAX AGG SIZE	CEMENT TYPE
PITS	32	80mm	20mm	GP

4. COVER - UNLESS NOTED OTHERWISE

ELEMENT	
PITS	
SLAB TOP	45mm
SLAB BOTTOM	45mm
BEAM TOP	
BEAM BOTTOM	
BEAM SIDE	
COLUMNS	



TYPICAL CORNER DETAIL



TYPICAL PIPE TRIMMER DETAIL

NOTE:
- PIT GEOMETRY TO COMPLY WITH CAMDEN COUNCIL SPECIFICATIONS. REFER COUNCIL STANDARD DRAWINGS SD 30-35.

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE

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Scale:

0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0

SCALE 1:20 (A1) SCALE 1:40 (A3)

For: mirvac

By: Orion Consulting

ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

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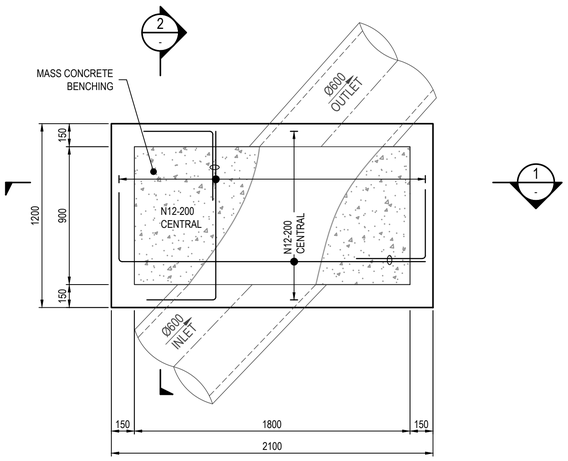
Project:

LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:

PIT DETAILS
SHEET 02 OF 13

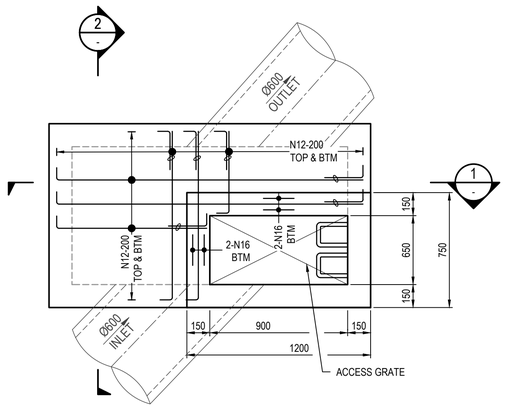
Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	542	E



PIT No.1002/08 BASE - 150 THICK

SCALE 1:20

PIT No.1009/09 SIMILAR



PIT No.1002/08 ROOF - 200 THICK

SCALE 1:20

PIT No.1003/04 SIMILAR

PIT No.1009/09 SIMILAR

NOTES:

3. CONCRETE STRENGTH - UNLESS NOTED OTHERWISE

ELEMENT	f'c MPa (28 DAYS)	SLUMP	MAX AGG SIZE	CEMENT TYPE
PITS	32	80mm	20mm	GP

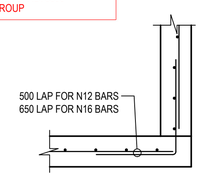
4. COVER - UNLESS NOTED OTHERWISE

ELEMENT	
PITS	
SLAB TOP	45mm
SLAB BOTTOM	45mm
BEAM TOP	
BEAM BOTTOM	
BEAM SIDE	
COLUMNS	

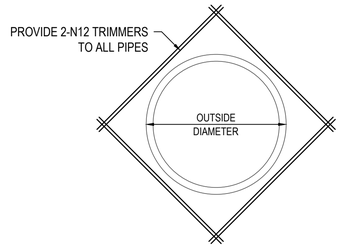
WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

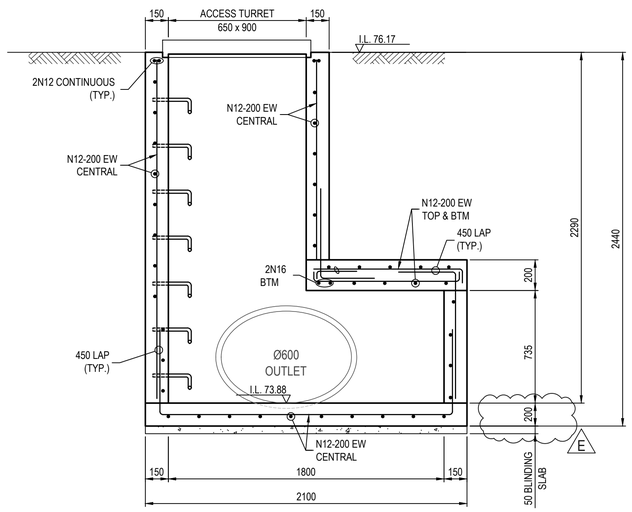
REGISTERED SURVEYOR ID: 8890
ORION GROUP



TYPICAL CORNER DETAIL

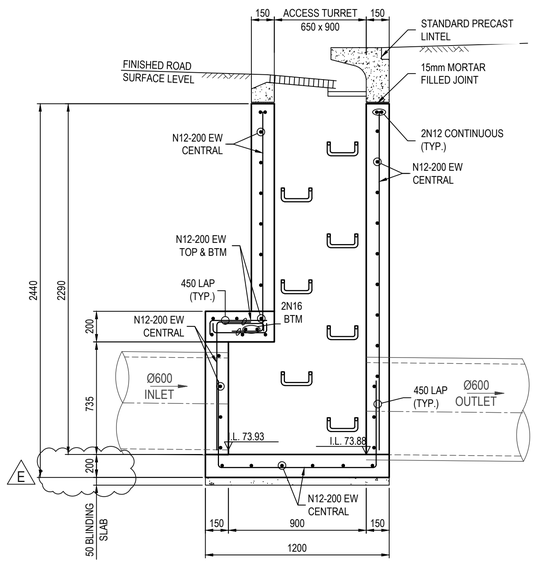


TYPICAL PIPE TRIMMER DETAIL



SECTION 1 / -

SCALE 1:20



SECTION 2 / -

SCALE 1:20

NOTE:
- PIT GEOMETRY TO COMPLY WITH CAMDEN COUNCIL SPECIFICATIONS. REFER COUNCIL STANDARD DRAWINGS SD 30-35.

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE

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Scale:

0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0

SCALE 1:20 (A1) SCALE 1:40 (A3)

For: mirvac

By: Orion Consulting

ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

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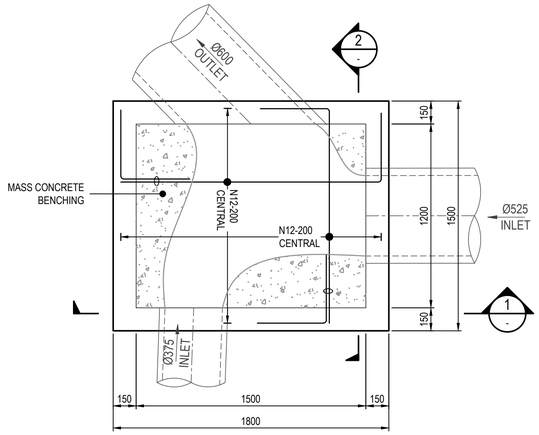
Project:

LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:

PIT DETAILS
SHEET 03 OF 13

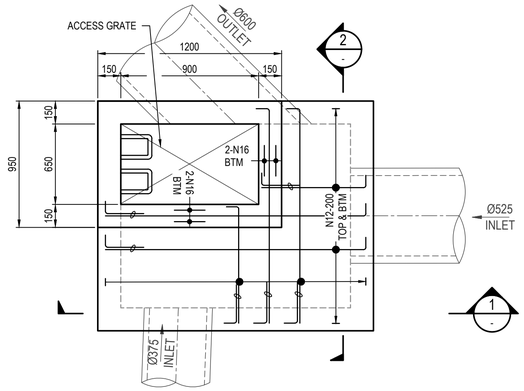
Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	543	E



PIT No.1002/07 BASE - 150 THICK

SCALE 1:20

PIT No.1002/06 SIMILAR



PIT No.1002/07 ROOF - 200 THICK

SCALE 1:20

PIT No.1002/06 SIMILAR

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

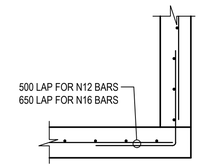
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3. CONCRETE STRENGTH - UNLESS NOTED OTHERWISE

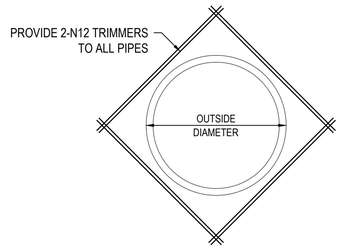
ELEMENT	f'c MPa (28 DAYS)	SLUMP	MAX AGG SIZE	CEMENT TYPE
PITS	32	80mm	20mm	GP

4. COVER - UNLESS NOTED OTHERWISE

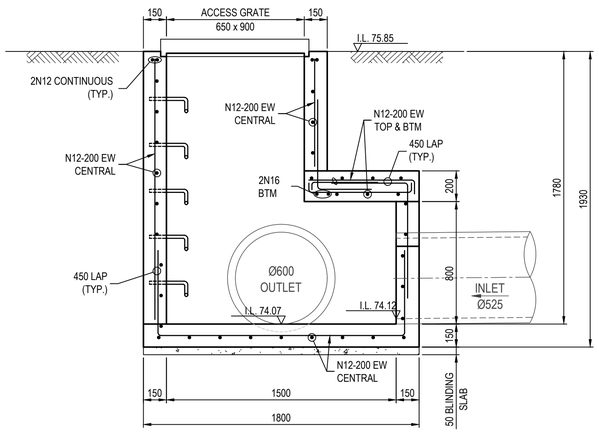
ELEMENT	INTERIOR
SLAB TOP	45mm
SLAB BOTTOM	45mm
BEAM TOP	
BEAM BOTTOM	
BEAM SIDE	
COLUMNS	



TYPICAL CORNER DETAIL

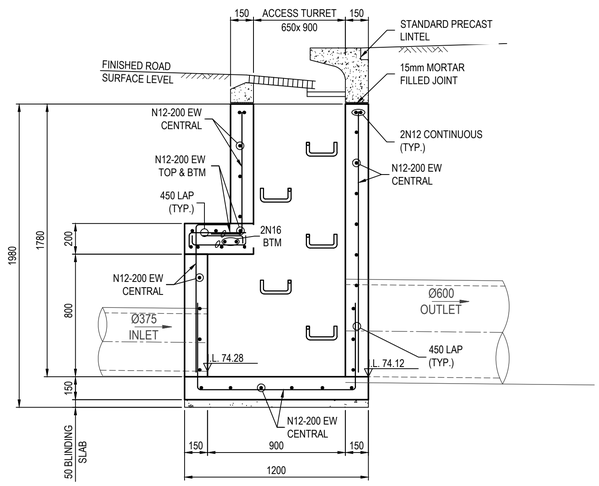


TYPICAL PIPE TRIMMER DETAIL



SECTION 1 / -

SCALE 1:20



SECTION 2 / -

SCALE 1:20

NOTE:

- PIT GEOMETRY TO COMPLY WITH CAMDEN COUNCIL SPECIFICATIONS. REFER COUNCIL STANDARD DRAWINGS SD 30-35.

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE

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Scale:

0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0

SCALE 1:20 (A1) SCALE 1:40 (A3)

For: mirvac

By: Orion Consulting

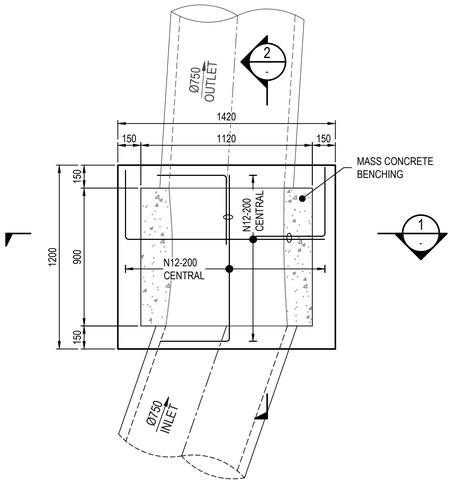
JAS-ANZ

ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

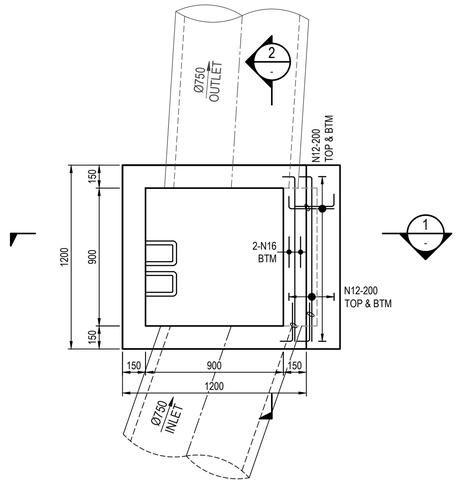
Title:
PIT DETAILS
SHEET 04 OF 13

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	544	E



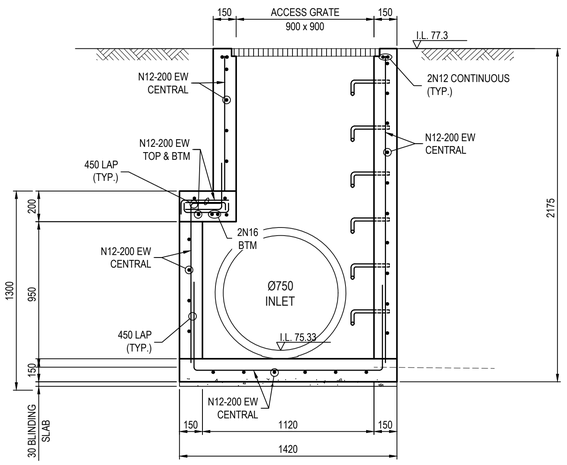
PIT No.1AZ/08 BASE - 150 THICK

SCALE 1:20



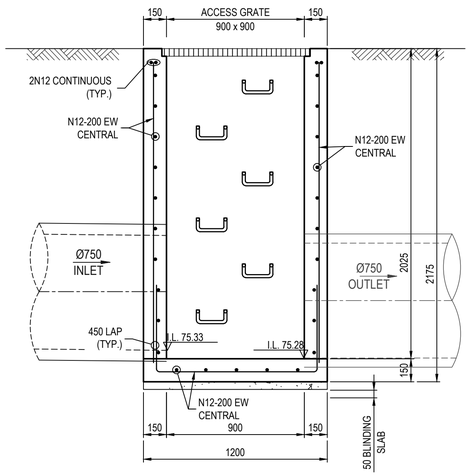
PIT No.1AZ/08 ROOF - 200 THICK

SCALE 1:20



SECTION 1 / -

SCALE 1:20



SECTION 2 / -

SCALE 1:20

NOTES:

3. CONCRETE STRENGTH - UNLESS NOTED OTHERWISE

ELEMENT	f'c MPa (28 DAYS)	SLUMP	MAX AGG SIZE	CEMENT TYPE
PITS	32	80mm	20mm	GP

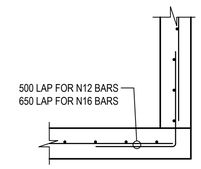
4. COVER - UNLESS NOTED OTHERWISE

ELEMENT	INTERIOR
SLAB TOP	45mm
SLAB BOTTOM	45mm
BEAM TOP	
BEAM BOTTOM	
BEAM SIDE	
COLUMNS	

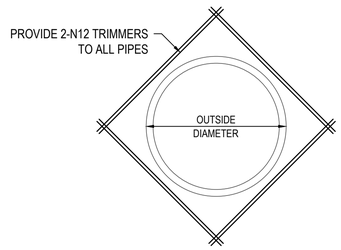
WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP



TYPICAL CORNER DETAIL



TYPICAL PIPE TRIMMER DETAIL

NOTE:
- PIT GEOMETRY TO COMPLY WITH CAMDEN COUNCIL SPECIFICATIONS. REFER COUNCIL STANDARD DRAWINGS SD 30-35.

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE

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Scale:

0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0

SCALE 1:20 (A1) SCALE 1:40 (A3)

For: mirvac

By: Orion Consulting

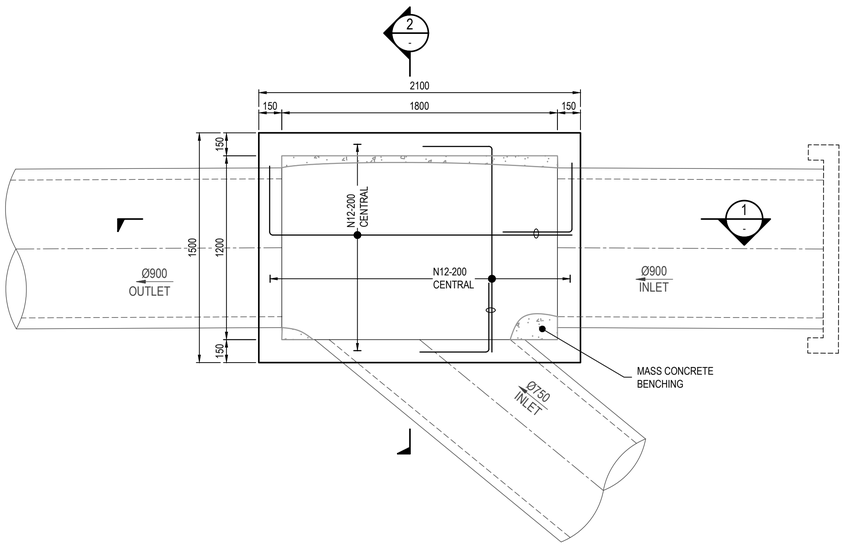
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

JAS-ANZ WWW.JAS-ANZ.ORG/REGISTER

Project: LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

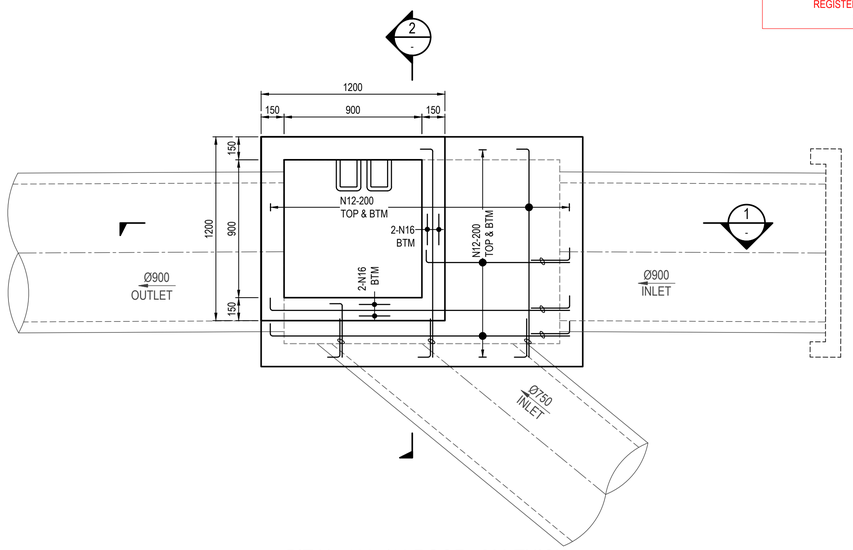
Title: PIT DETAILS
SHEET 05 OF 13

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	545	E



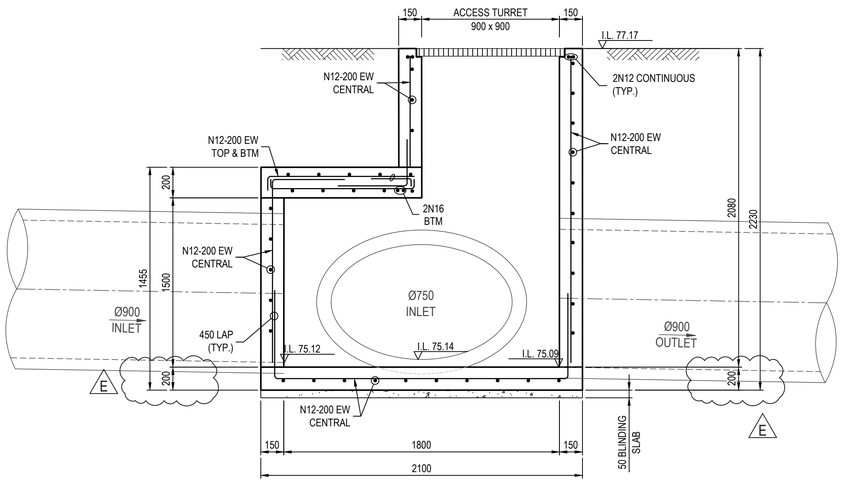
PIT No.1007/11 BASE - 150 THICK

SCALE 1:20



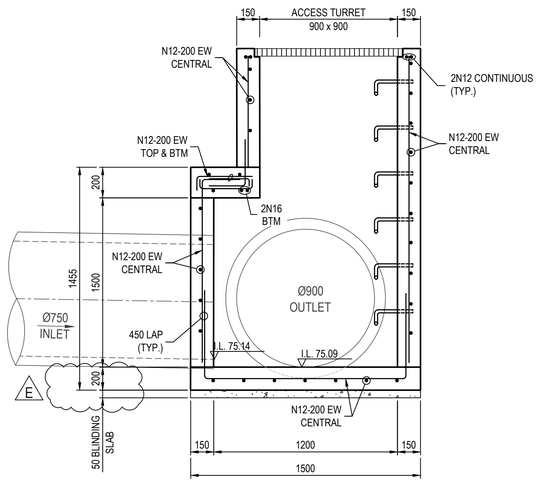
PIT No.1007/11 ROOF - 200 THICK

SCALE 1:20



SECTION 1 / -

SCALE 1:20



SECTION 2 / -

SCALE 1:20

NOTES:

3. CONCRETE STRENGTH - UNLESS NOTED OTHERWISE

ELEMENT	f'c MPa (28 DAYS)	SLUMP	MAX AGG SIZE	CEMENT TYPE
PITS	32	80mm	20mm	GP

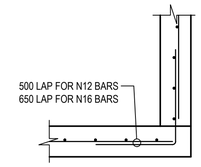
4. COVER - UNLESS NOTED OTHERWISE

ELEMENT	INTERIOR
SLAB TOP	45mm
SLAB BOTTOM	45mm
BEAM TOP	
BEAM BOTTOM	
BEAM SIDE	
COLUMNS	

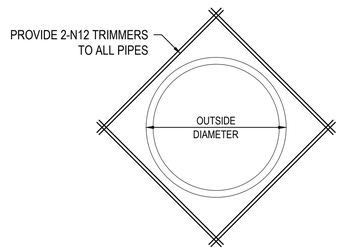
WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP



TYPICAL CORNER DETAIL



TYPICAL PIPE TRIMMER DETAIL

NOTE:
- PIT GEOMETRY TO COMPLY WITH CAMDEN COUNCIL SPECIFICATIONS. REFER COUNCIL STANDARD DRAWINGS SD 30-35.

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE

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Scale:

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SCALE 1:20 (A1) SCALE 1:40 (A3)

For: mirvac

By: Orion Consulting

ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

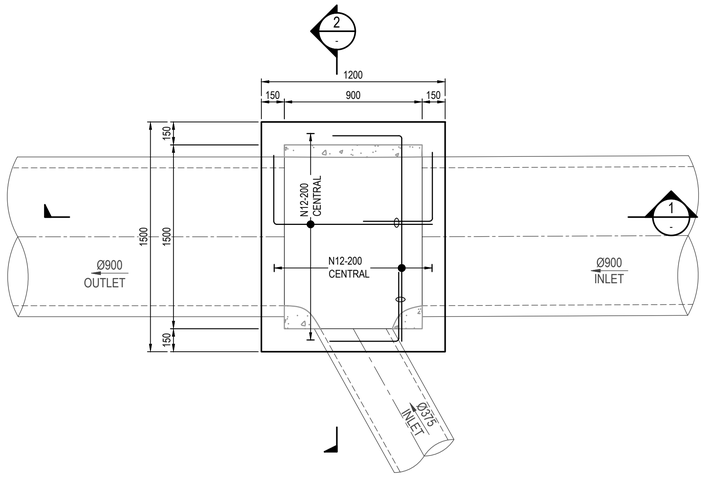
Title:
PIT DETAILS
SHEET 06 OF 13

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	546	E

WORKS AS EXECUTED

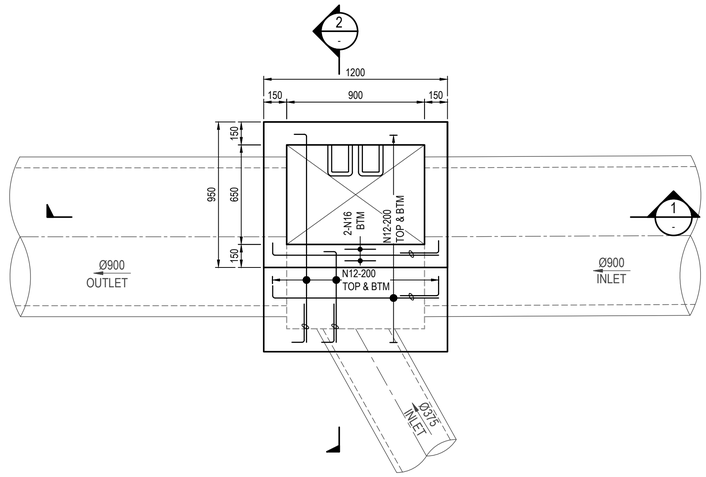
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP



PIT No.1007/12 BASE - 150 THICK

SCALE 1:20



PIT No.1007/12 ROOF - 200 THICK

SCALE 1:20

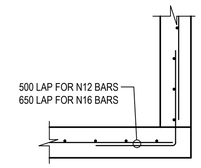
NOTES:

3. CONCRETE STRENGTH - UNLESS NOTED OTHERWISE

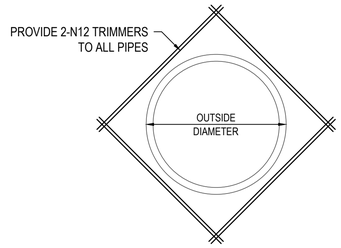
ELEMENT	f'c MPa (28 DAYS)	SLUMP	MAX AGG SIZE	CEMENT TYPE
PITS	32	80mm	20mm	GP

4. COVER - UNLESS NOTED OTHERWISE

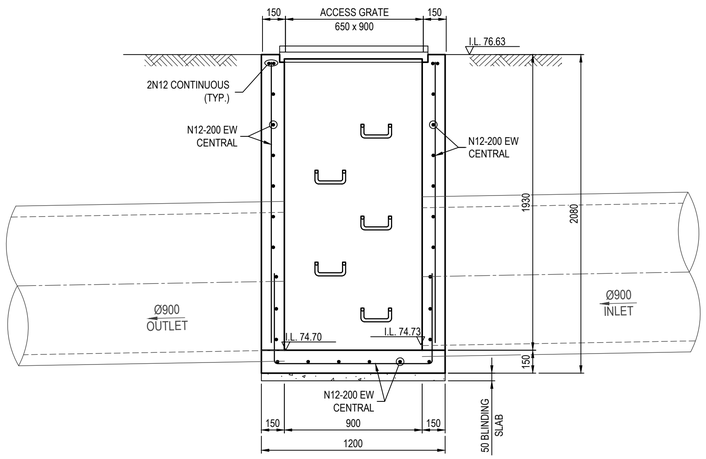
ELEMENT	INTERIOR
SLAB TOP	45mm
SLAB BOTTOM	45mm
BEAM TOP	
BEAM BOTTOM	
BEAM SIDE	
COLUMNS	



TYPICAL CORNER DETAIL

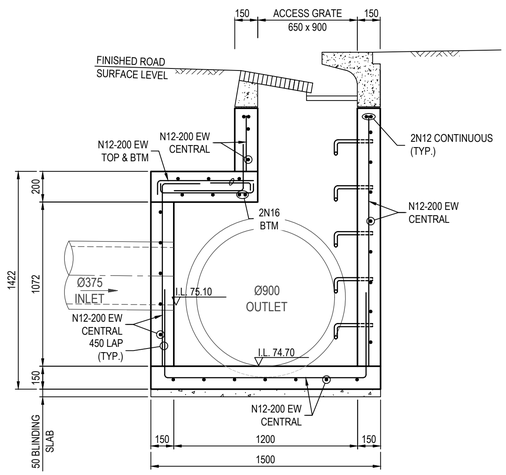


TYPICAL PIPE TRIMMER DETAIL



SECTION 1 / -

SCALE 1:20



SECTION 2 / -

SCALE 1:20

NOTE:
- PIT GEOMETRY TO COMPLY WITH CAMDEN COUNCIL SPECIFICATIONS. REFER COUNCIL STANDARD DRAWINGS SD 30-35.

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE

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Scale:

0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0

SCALE 1:20 (A1) SCALE 1:40 (A3)

For: mirvac

By: Orion Consulting

ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

JAS-ANZ SUSTAINABLE CERTIFICATION ISO 9001 ISO 14001 ISO 45001 WWW.JAS-ANZ.ORG/REGISTER

Project: LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

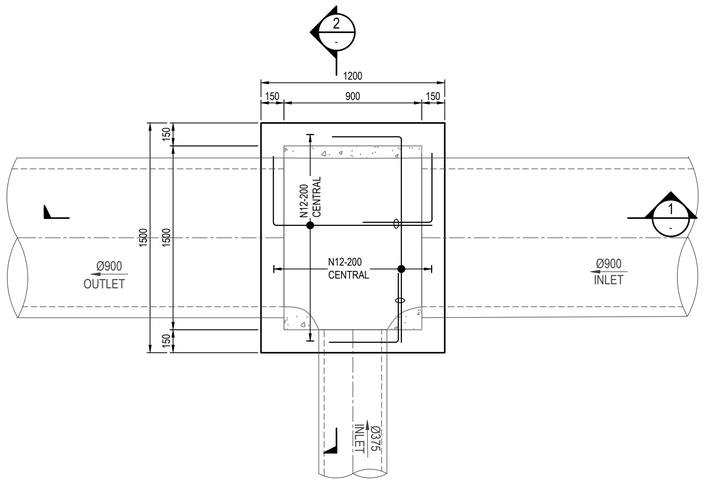
Title: PIT DETAILS
SHEET 07 OF 13

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	547	E

WORKS AS EXECUTED

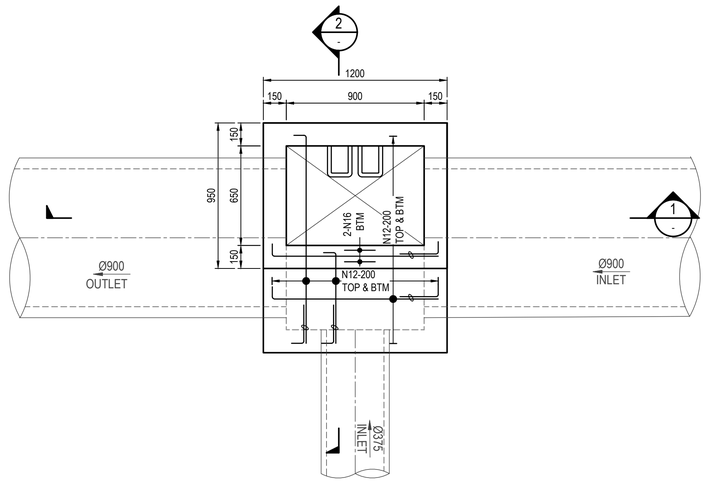
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP



PIT No.1007/13 BASE - 150 THICK

SCALE 1:20



PIT No.1007/13 ROOF - 200 THICK

SCALE 1:20

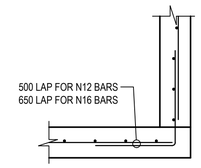
NOTES:

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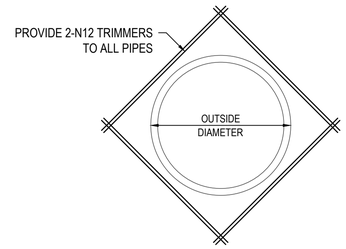
ELEMENT	f'c MPa (28 DAYS)	SLUMP	MAX AGG SIZE	CEMENT TYPE
PITS	32	80mm	20mm	GP

4. COVER - UNLESS NOTED OTHERWISE

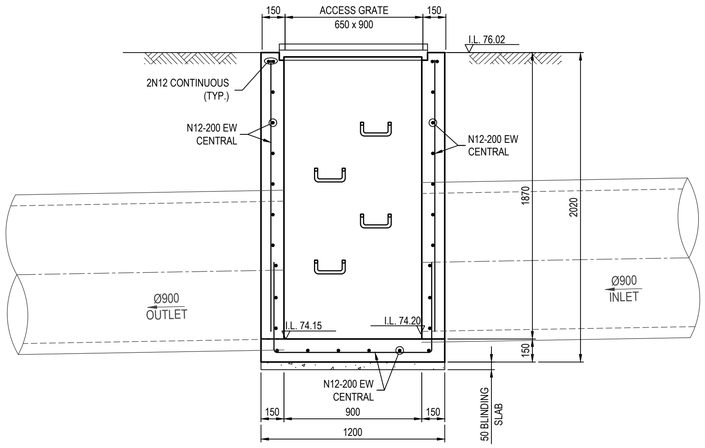
ELEMENT	INTERIOR
SLAB TOP	45mm
SLAB BOTTOM	45mm
BEAM TOP	
BEAM BOTTOM	
BEAM SIDE	
COLUMNS	



TYPICAL CORNER DETAIL

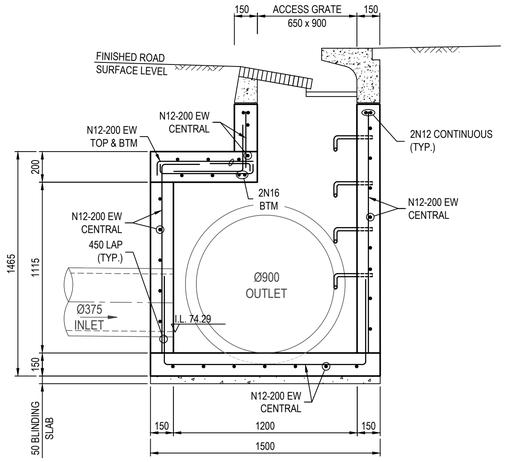


TYPICAL PIPE TRIMMER DETAIL



SECTION 1 / -

SCALE 1:20



SECTION 2 / -

SCALE 1:20

NOTE:
- PIT GEOMETRY TO COMPLY WITH CAMDEN COUNCIL SPECIFICATIONS. REFER COUNCIL STANDARD DRAWINGS SD 30-35.

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE

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Scale:

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SCALE 1:20 (A1) SCALE 1:40 (A3)

For: mirvac

By: Orion Consulting

ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

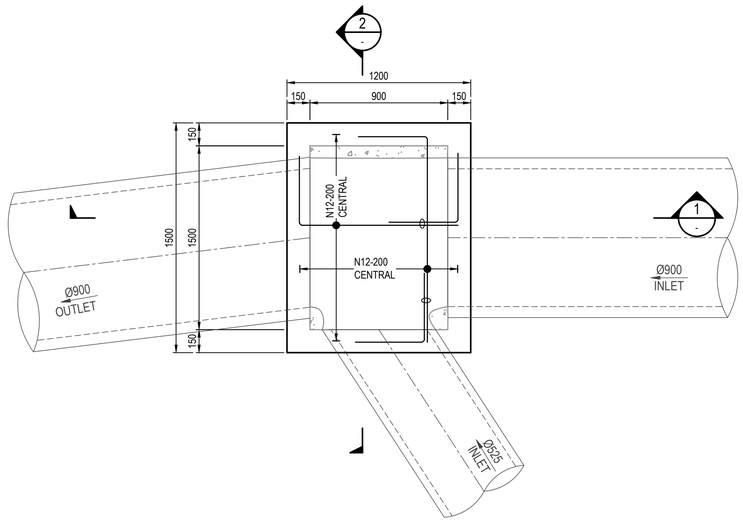
Title:
PIT DETAILS
SHEET 08 OF 13

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	548	E

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

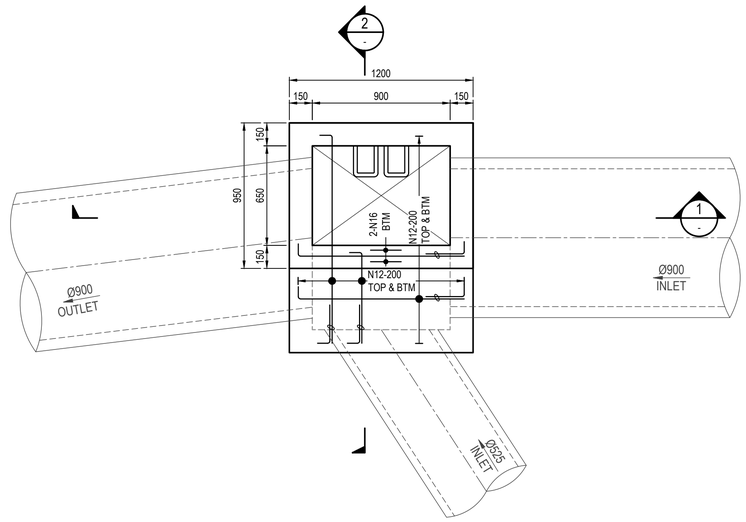
REGISTERED SURVEYOR ID: 8890
ORION GROUP



PIT No.1007/14 BASE - 150 THICK

SCALE 1:20

PIT No.1003/04 SIMILAR



PIT No.1007/14 ROOF - 200 THICK

SCALE 1:20

PIT No.1003/04 SIMILAR

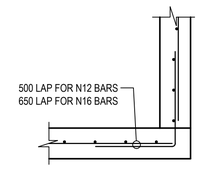
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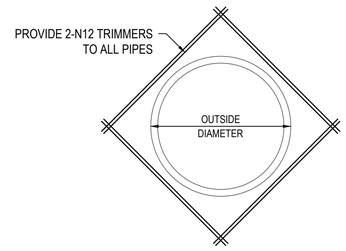
ELEMENT	f'c MPa (28 DAYS)	SLUMP	MAX AGG SIZE	CEMENT TYPE
PITS	32	80mm	20mm	GP

4. COVER - UNLESS NOTED OTHERWISE

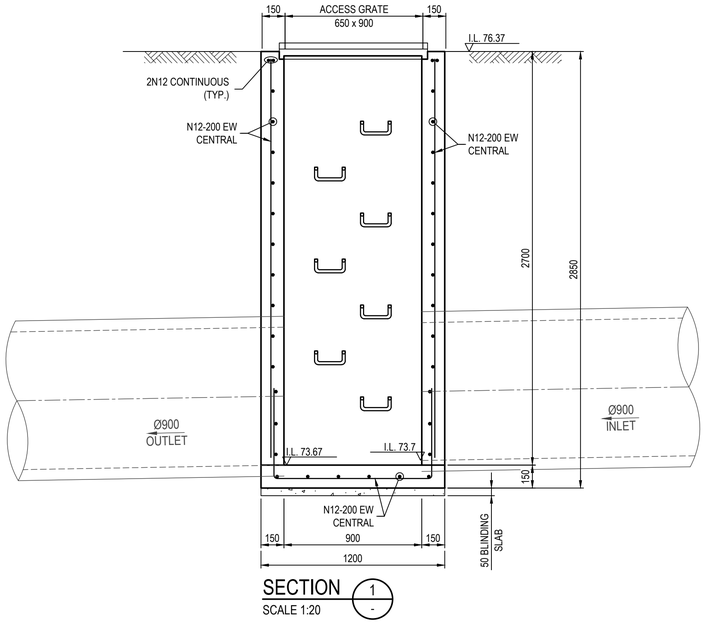
ELEMENT	INTERIOR
SLAB TOP	45mm
SLAB BOTTOM	45mm
BEAM TOP	
BEAM BOTTOM	
BEAM SIDE	
COLUMNS	



TYPICAL CORNER DETAIL

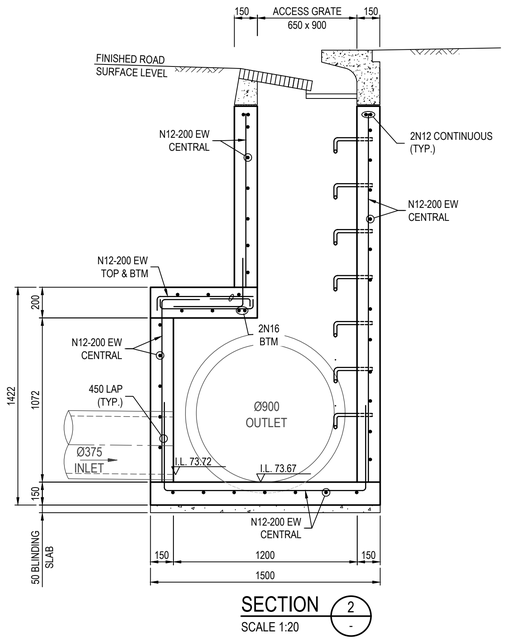


TYPICAL PIPE TRIMMER DETAIL



SECTION 1 / -

SCALE 1:20



SECTION 2 / -

SCALE 1:20

NOTE:
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E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE

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SCALE 1:20 (A1) SCALE 1:40 (A3)

For: mirvac

By: Orion Consulting

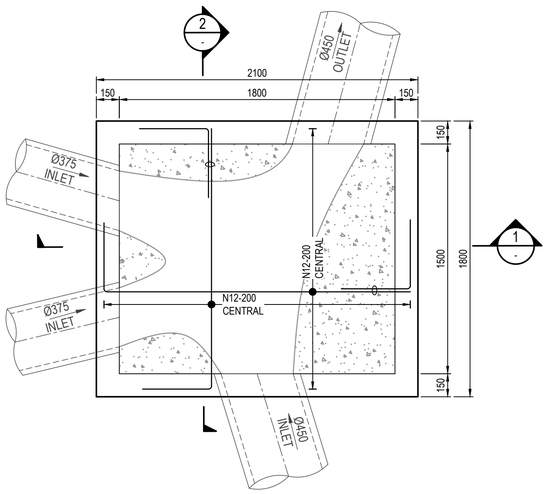
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

JAS-ANZ WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

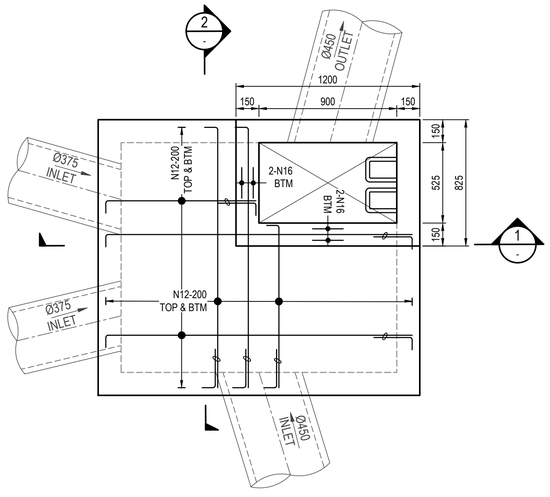
Title:
PIT DETAILS
SHEET 09 OF 13

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	549	E



PIT No.1006/06 BASE - 150 THICK

SCALE 1:20



PIT No.1006/06 ROOF - 200 THICK

SCALE 1:20

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

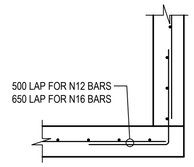
NOTES:

3. CONCRETE STRENGTH - UNLESS NOTED OTHERWISE

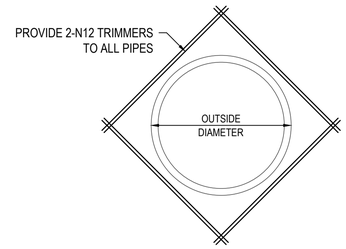
ELEMENT	f'c MPa (28 DAYS)	SLUMP	MAX AGG SIZE	CEMENT TYPE
PITS	32	80mm	20mm	GP

4. COVER - UNLESS NOTED OTHERWISE

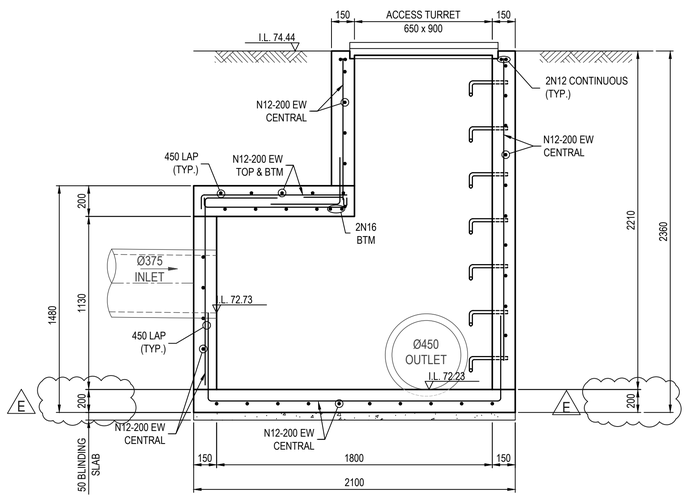
ELEMENT	INTERIOR
SLAB TOP	45mm
SLAB BOTTOM	45mm
BEAM TOP	
BEAM BOTTOM	
BEAM SIDE	
COLUMNS	



TYPICAL CORNER DETAIL

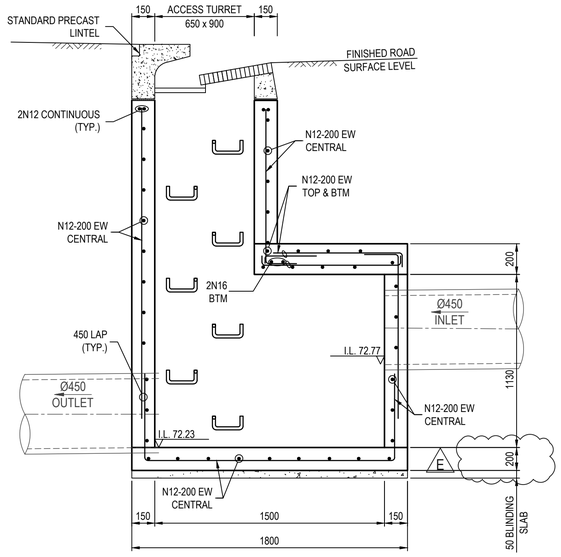


TYPICAL PIPE TRIMMER DETAIL



SECTION 1 / -

SCALE 1:20



SECTION 2 / -

SCALE 1:20

NOTE:
- PIT GEOMETRY TO COMPLY WITH CAMDEN COUNCIL SPECIFICATIONS. REFER COUNCIL STANDARD DRAWINGS SD 30-35.

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Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE

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Scale:

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SCALE 1:20 (A1) SCALE 1:40 (A3)

For: mirvac

By: Orion Consulting

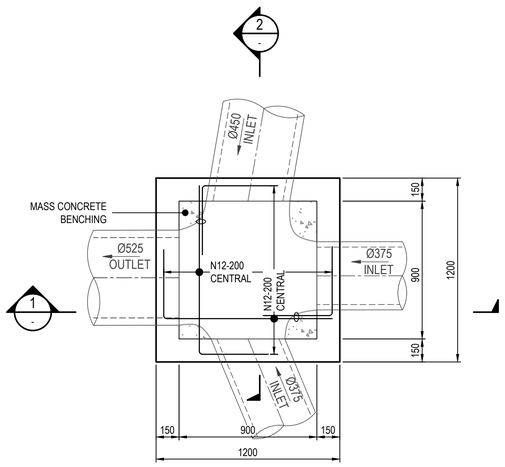
JAS-ANZ

ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theorionngroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

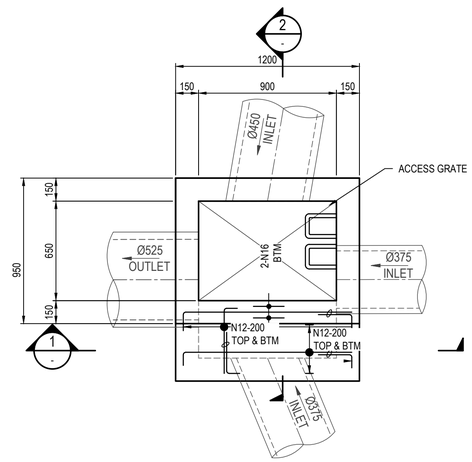
Title:
PIT DETAILS
SHEET 10 OF 13

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	550	E



PIT No.1002/06 BASE - 150 THICK

SCALE 1:20



PIT No.1002/06 ROOF - 200 THICK

SCALE 1:20

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REGISTERED SURVEYOR ID: 8890
ORION GROUP

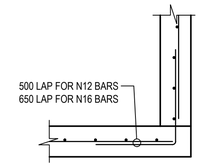
NOTES:

3. CONCRETE STRENGTH - UNLESS NOTED OTHERWISE

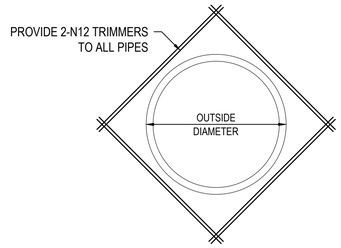
ELEMENT	f'c MPa (28 DAYS)	SLUMP	MAX AGG SIZE	CEMENT TYPE
PITS	32	80mm	20mm	GP

4. COVER - UNLESS NOTED OTHERWISE

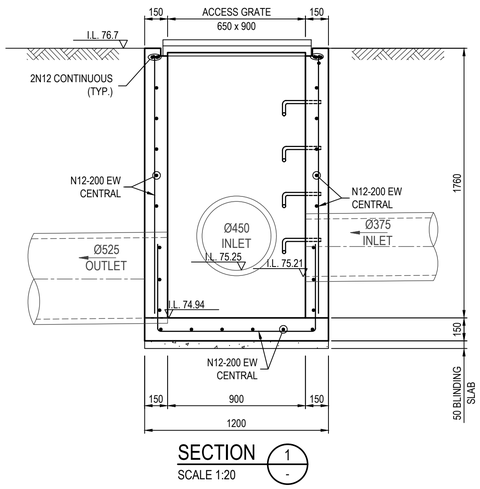
ELEMENT	INTERIOR
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SLAB BOTTOM	45mm
BEAM TOP	
BEAM BOTTOM	
BEAM SIDE	
COLUMNS	



TYPICAL CORNER DETAIL

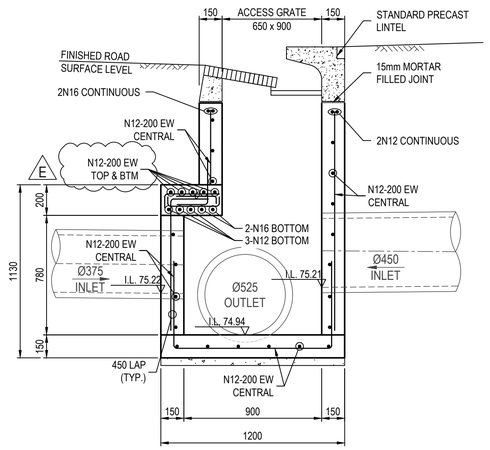


TYPICAL PIPE TRIMMER DETAIL



SECTION 1 / -

SCALE 1:20



SECTION 2 / -

SCALE 1:20

NOTE:
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SCALE 1:20 (A1) SCALE 1:40 (A3)

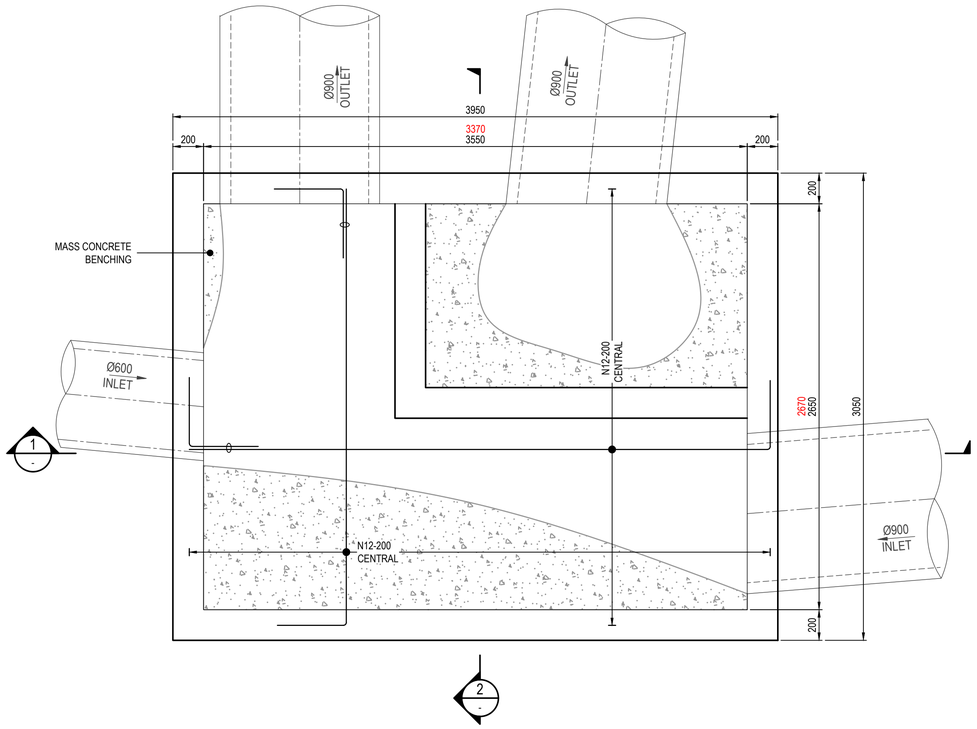
For: mirvac

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ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

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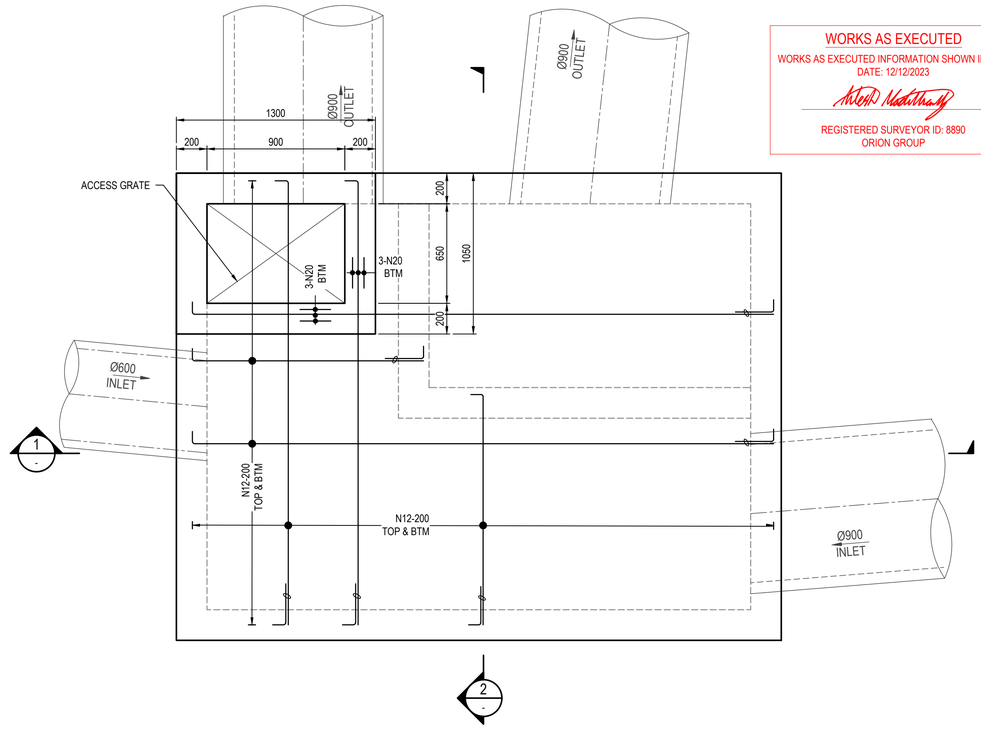
Title:
PIT DETAILS
SHEET 11 OF 13

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	551	E



PIT No.1007/15 BASE - 150 THICK

SCALE 1:20



PIT No.1007/15 ROOF - 200 THICK

SCALE 1:20

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

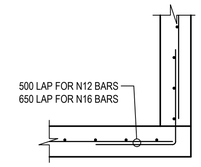
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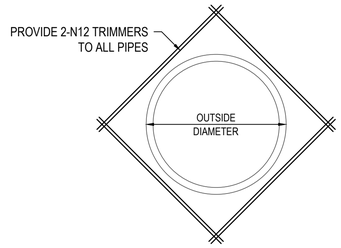
ELEMENT	f'c MPa (28 DAYS)	SLUMP	MAX AGG SIZE	CEMENT TYPE
PITS	32	80mm	20mm	GP

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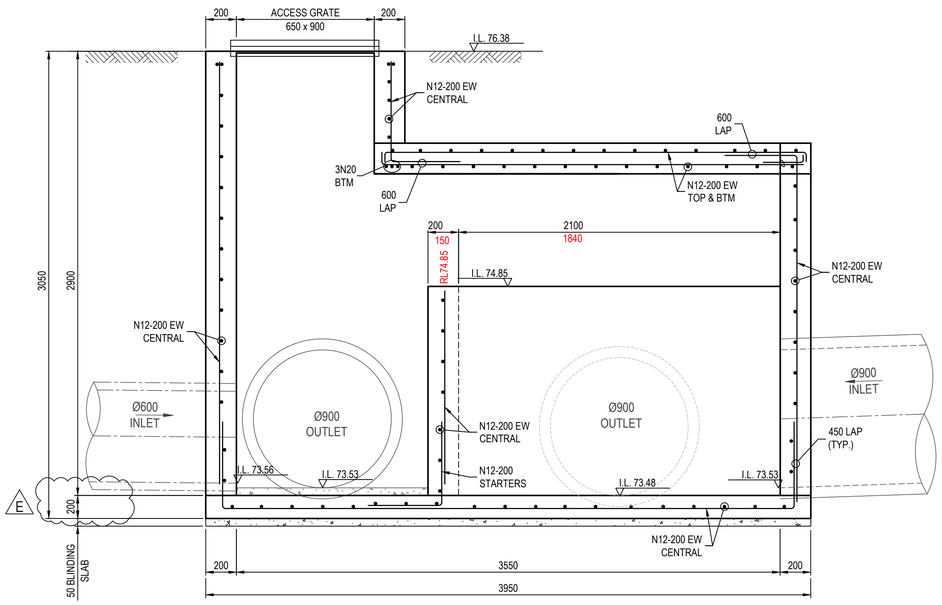
ELEMENT	INTERIOR
SLAB TOP	45mm
SLAB BOTTOM	45mm
BEAM TOP	
BEAM BOTTOM	
BEAM SIDE	
COLUMNS	



TYPICAL CORNER DETAIL

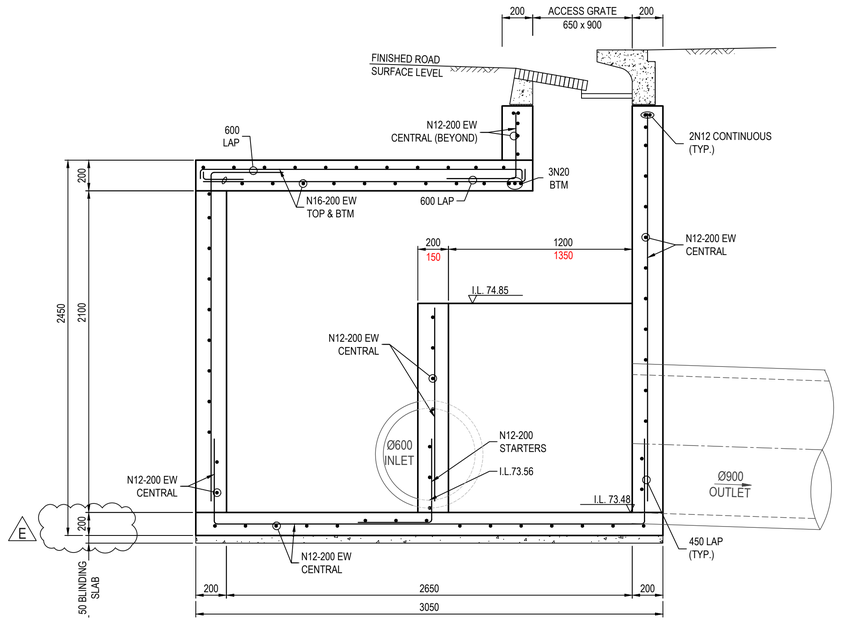


TYPICAL PIPE TRIMMER DETAIL



SECTION 1 -

SCALE 1:20



SECTION 2 -

SCALE 1:20

NOTE:
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SCALE 1:20 (A1) SCALE 1:40 (A3)

For: mirvac

By: Orion Consulting

JAS-ANZ

ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:

LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

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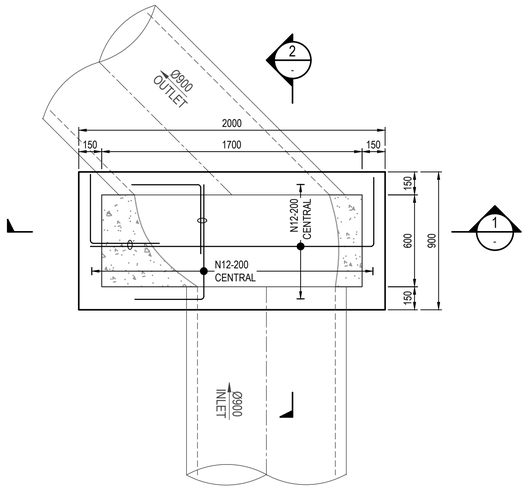
PIT DETAILS
SHEET 12 OF 13

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	552	E

WORKS AS EXECUTED

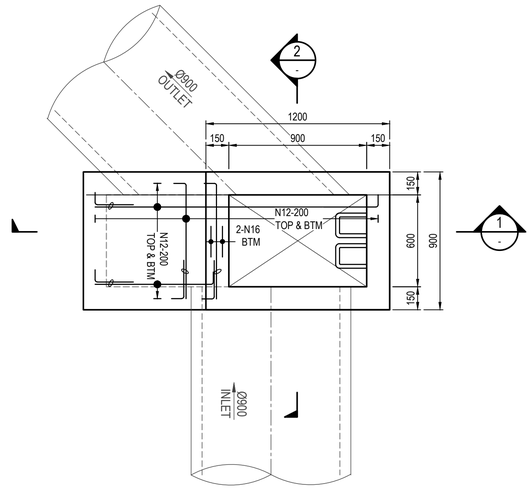
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP



PIT No.1007/17 BASE - 150 THICK

SCALE 1:20



PIT No.1007/17 ROOF - 200 THICK

SCALE 1:20

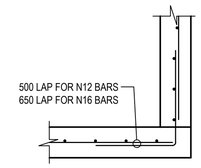
NOTES:

3. CONCRETE STRENGTH - UNLESS NOTED OTHERWISE

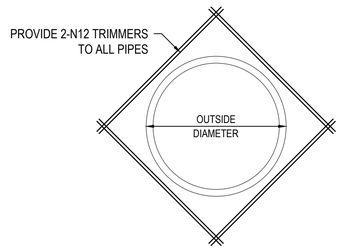
ELEMENT	f'c MPa (28 DAYS)	SLUMP	MAX AGG SIZE	CEMENT TYPE
PITS	32	80mm	20mm	GP

4. COVER - UNLESS NOTED OTHERWISE

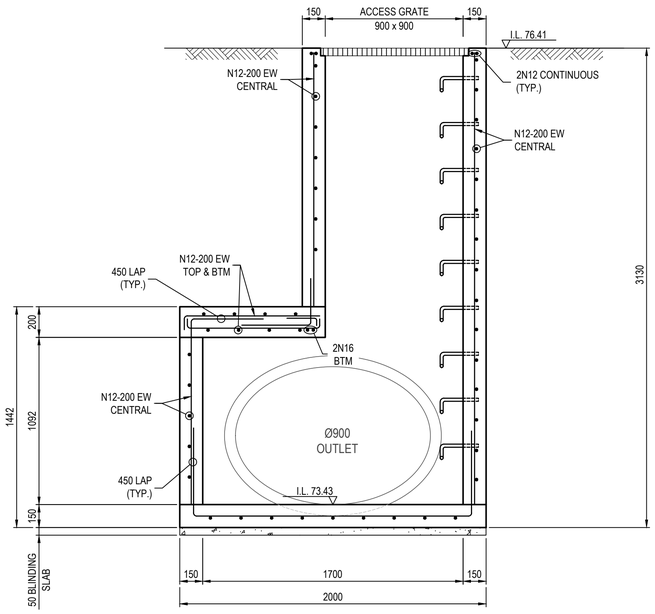
ELEMENT	INTERIOR
SLAB TOP	45mm
SLAB BOTTOM	45mm
BEAM TOP	
BEAM BOTTOM	
BEAM SIDE	
COLUMNS	



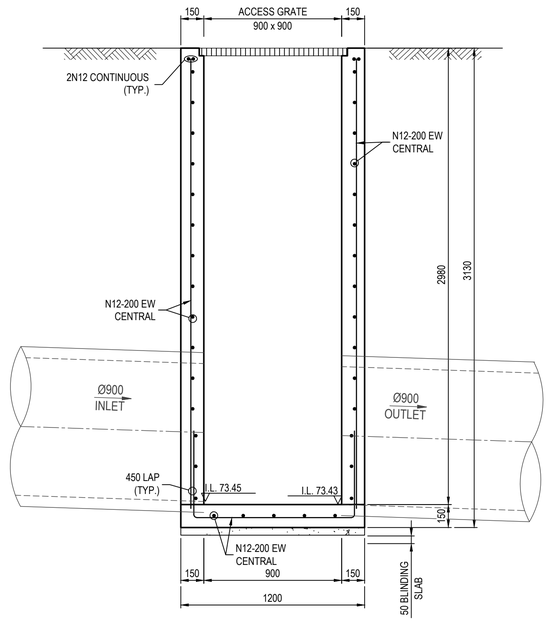
TYPICAL CORNER DETAIL



TYPICAL PIPE TRIMMER DETAIL



SECTION 1 / SCALE 1:20



SECTION 2 / SCALE 1:20

NOTE:
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SCALE 1:20 (A1) SCALE 1:40 (A3)

For: mirvac

By: Orion Consulting

ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
PIT DETAILS
SHEET 13 OF 13

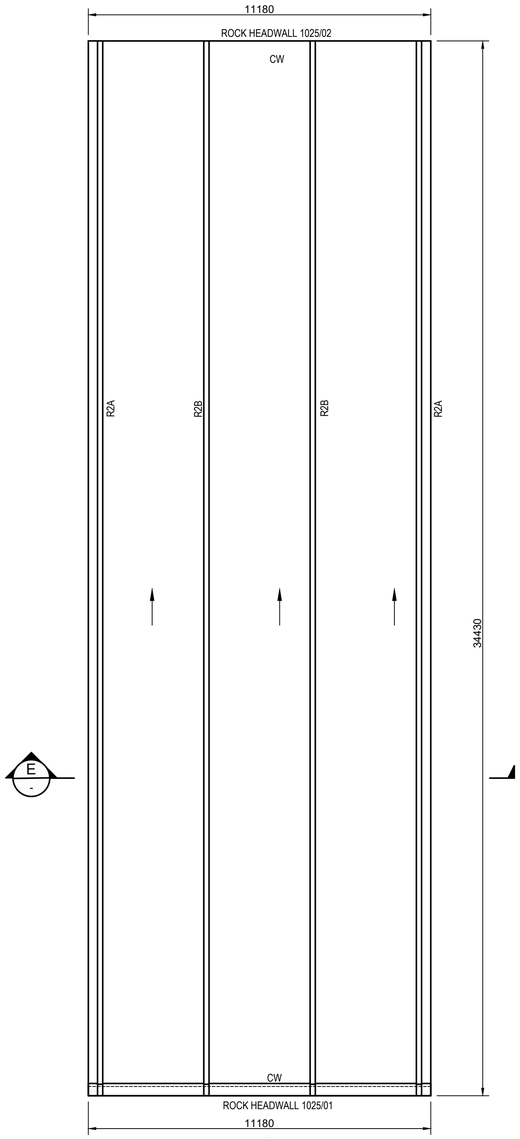
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21-0258	09	SWC	553	E

WORKS AS EXECUTED

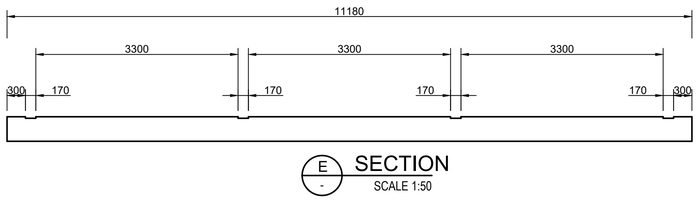
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DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
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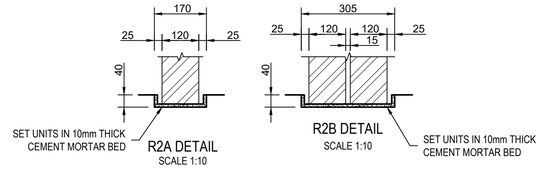
DIMENSION SCHEDULE		REINFORCEMENT SCHEDULE
CULVERT	REBATE	D(mm)
3600X1800	R2A R2B	275



LINE 1025
SCALE 1:100

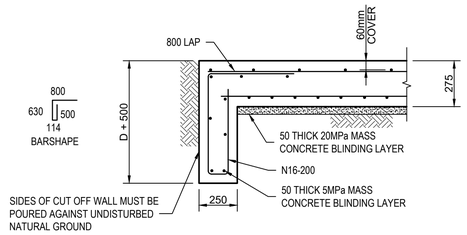


E SECTION
SCALE 1:50

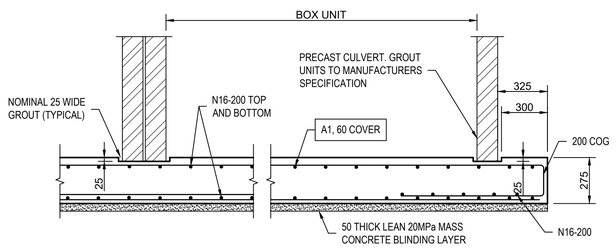


R2A DETAIL
SCALE 1:10

R2B DETAIL
SCALE 1:10



DETAIL 1 - CUT OFF WALL
(PROVIDE CUT-OFF WALL AT BOTH ENDS OF ALL CULVERTS)
SCALE 1:20



SECTION - CULVERT BASE SLAB
SCALE 1:20

STRUCTURAL NOTES

GENERAL

1.1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AUSTRALIAN STANDARD AS 3600 AND OTHER RELEVANT CODES.
1.2 ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
1.3 CULVERT BASE SLABS TO BE FOUNDED ON NATURAL GROUND WITH A MINIMUM SAFE END BEARING OF 200KPa.

CONCRETE

2.1 CONCRETE QUALITY

ELEMENT	CONCRETE	MAX. AGGREGATE SIZE	MAX. SLUMP	CEMENT TYPE STRENGTH F'c
SLABS	40MPa	20mm	75mm	
WALLS	40MPa	20mm	75mm	
BLINDING SLABS	20MPa	20mm	75mm	

2.2 NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY COUNCIL'S ENGINEER.
2.3 CLEAR CONCRETE COVER TO REINFORCEMENT SHALL BE 40mm TO ALL SURFACES UNLESS NOTED OTHERWISE.
2.4 CONSTRUCTION JOINTS NOT INDICATED SHALL BE LOCATED AND FORMED TO THE APPROVAL OF COUNCIL'S ENGINEER
2.5 A BOND BREAKING MATERIAL IS TO BE PLACED BETWEEN CONTACTING SURFACES AT CONSTRUCTION JOINTS.
2.6 NO PENETRATIONS, RECESSES OR CHASES OTHER THAN THOSE INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS UNLESS APPROVED IN WRITING BY COUNCIL'S ENGINEER.
2.7 UNLESS SHOWN OTHERWISE ALL EXTERNAL AND RE-ENTRANT CORNERS SHALL BE CHAMFERED 25mm.
2.8 SLABS TO BE CURED AND KEPT MOIST FOR 7 DAYS MINIMUM.
2.9 NO CONCRETE TO BE POURED WHEN SITE TEMPERATURE EXCEEDS 35 DEGREES CELSIUS OR FALLS BELOW 5 DEGREES CELSIUS.

REINFORCEMENT

3.1 REINFORCEMENT STEEL QUALITY:

REINFORCEMENT TYPE	GRADE	SAA CODE	SYMBOL
WELDING GRADE DEFORMED	500	AS 4671	N
PLAIN ROUND	230	AS 1302	R
FABRIC	500	AS 4671	SL, RL, L

3.2 REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY. IT IS NOT NECESSARILY SHOWN IN TRUE POSITION.
3.3 ALL REINFORCEMENT SHALL BE SECURELY TIED AND POSITIONED ACCURATELY BY MEANS OF STEEL OR PLASTIC CHAIRS OR OTHER APPROVED ACCESSORIES. MASONRY BLOCKS WILL NOT BE PERMITTED.
3.4 PROVIDE COUNCIL'S ENGINEER WITH 24 HOURS NOTICE OF REINFORCEMENT BEING READY FOR INSPECTION. NO CONCRETE IS TO BE POURED WITHOUT APPROVAL OF COUNCIL'S ENGINEER.
3.5 SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITION INDICATED. THE APPROVAL OF COUNCIL'S ENGINEER SHALL BE OBTAINED FOR ANY OTHER SPLICE.
3.6 WELDING OF REINFORCEMENT WILL NOT BE PERMITTED UNLESS INDICATED ON THE STRUCTURAL DRAWINGS OR WITH WRITTEN APPROVAL OF COUNCIL'S ENGINEER.
3.7 MINIMUM LAP OF REINFORCEMENT SHALL BE AS SHOWN IN TABLE 13.1.2.2(A) OF AS 3600 UNLESS SHOWN OTHERWISE. LAPS FOR MESH SHALL BE 1.5 TIMES THE NOMINAL WIRE SPACING OR APPROVED EQUIVALENT.
3.8 REINFORCEMENT MUST NOT BE CONTINUOUS THROUGH CONTRACTION JOINTS.
3.9 MINIMUM RADIUS FOR BENDS IN REINFORCEMENT TO BE 4 BAR DIAMETERS (DB) UNLESS NOTED OTHERWISE.

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0
SCALE 1:20 (A1) SCALE 1:40 (A3)
0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0
SCALE 1:50 (A1) SCALE 1:100 (A3)
0 1 2 3 4 5 6 7 8 9 10
SCALE 1:100 (A1) SCALE 1:200 (A3)

For: mirvac

By: Orion Consulting
JAS-ANZ
ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
CULVERT SLAB DETAILS

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	560	E

NORTH

E

E: 3423632.481
N: 5218049.439

E: 3423635.880
N: 5218049.416

1007 /17

INSTALL HUMEGARD HG30/L GPT TO
MANUFACTURER'S SPECIFICATION

ENSURE OPENINGS
REMAIN CLEAR
FOR MAINTENANCE

1007 /16

E: 3423635.864
N: 5218046.891

E: 3423632.514
N: 5218046.913

1007 /15

1007 /14

SPLITTER PIT REFER TO
PLAN SWC-552 FOR DETAILS

ROAD No.01

76.5

76.4

GPT DETAIL PLAN (PIT 1007/16)

SCALE: 1:50

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE

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Scale:
0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0
SCALE 1:50 (A1) SCALE 1:100 (A3)

For: mirvac

By: Orion Consulting

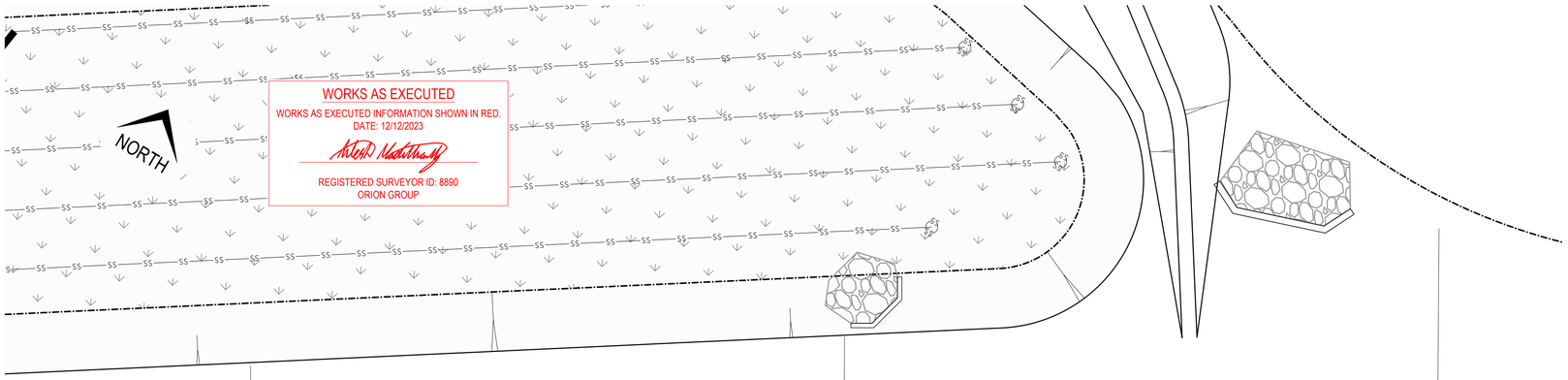
ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

SUSTAINABLE CERTIFICATION ISO 9001 ISO 14001 ISO 45001 JAS-ANZ WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
GPT SETOUT PLAN
PIT 1007/16

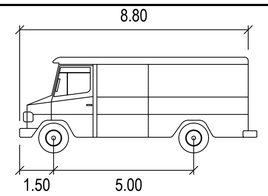
Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	570	E



WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

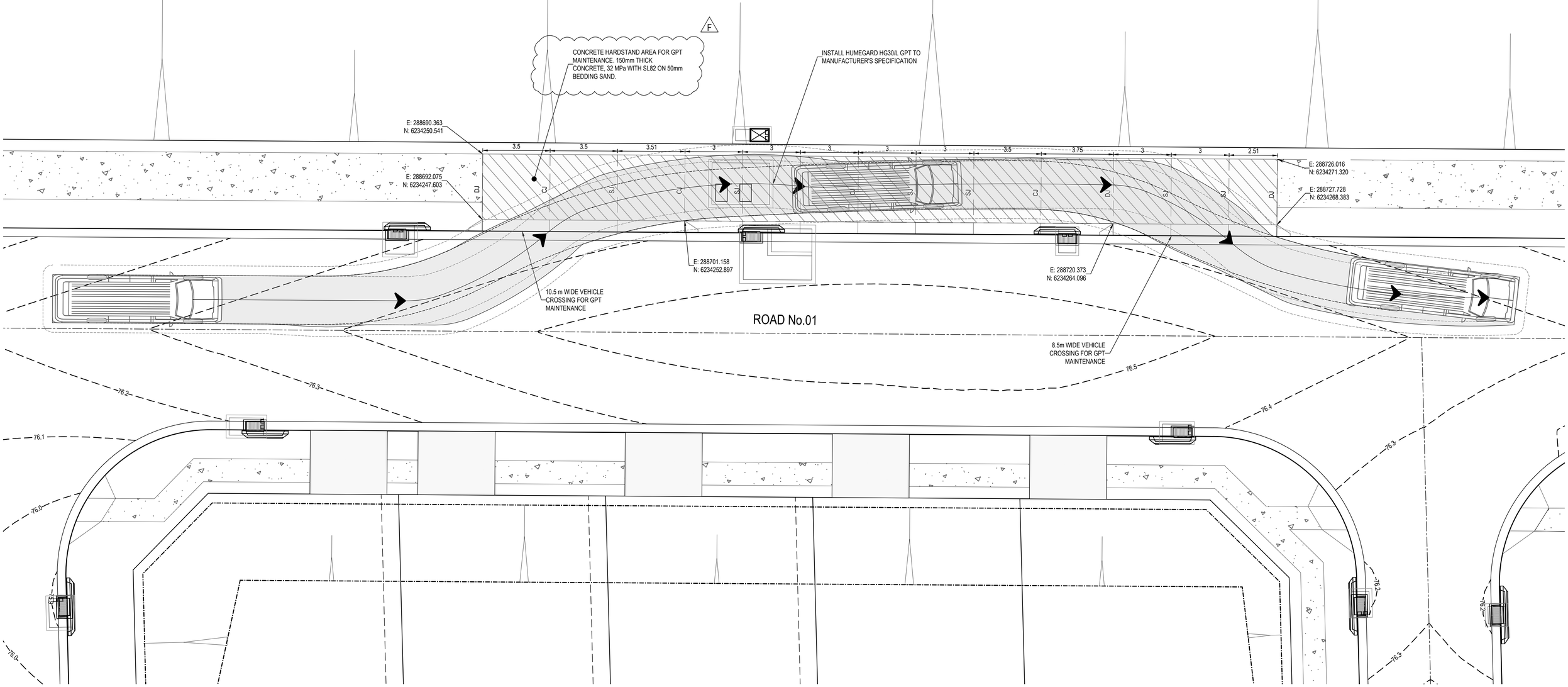


SERVICE VEHICLE

		meters
Width	:	2.50
Track	:	2.50
Lock to Lock Time	:	6.0
Steering Angle	:	38.7

LEGEND

DENOTES FRONT WHEEL TRACK	
DENOTES REAR WHEEL TRACK	
DENOTES VEHICLE BODY CLEARANCE - 500mm	
DENOTES VEHICLE BODY	
CONCRETE DOWELL JOINT	DJ
CONCRETE SEALING JOINT	SJ
CONCRETE CONSTRUCTION JOINT	CJ



GPT DETAIL PLAN (PIT 1007/16)

SCALE: 1:50

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE

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

For: mirvac

By: Orion Consulting

ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

JAS-ANZ CERTIFICATION ISO 9001 ISO 14001 ISO 45001 WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
GPT MAINTENANCE BAY
SETOUT PLAN

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	571	F

NORTH

WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

- INDUSTRIAL ACCESSWAY
- ROCK SCOUR PROTECTION OVER SPILLWAYS AND HIGH VELOCITY RIFFLE ZONES
- PROPOSED LOCKABLE GATE

EXISTING VEGETATION TO BE RETAINED AND PROTECTED DURING CONSTRUCTION.

LOT 4
DP 1276275

EXISTING VEGETATION

EXISTING FARM DAM

REFER TO SHEET SWC 702 FOR STACKED ROCK RETAINING WALL RW07 DETAILS

PEDESTRIAN SAFETY FENCE

PROVIDE JERSEY KERBS

TAILOUT HIGH FLOW BYPASS TO EXISTING HIGH FLOW BYPASS TABLE DRAIN.

MAKE SMOOTH TRANSITION TO EXISTING SEWER PUMP STATION SERVICE ROAD.

CONSTRUCT 2 x Ø675 RCP LOW FLOW CROSSING UNDER PROPOSED SERVICE ROAD

RIFFLE ZONE WITH BANK ROCK PROTECTION. REFER TO LONG SECTION AND DETAILS ON SHEET SWC 602.

PROPOSED 4.5m WIDE NEW TEMPORARY SERVICE ROAD RAMPING DOWN FROM PROPOSED ROAD No. 01 TO EXISTING SERVICE ROAD

ADJUST MANHOLE TO SUIT PROPOSED FINISHED SURFACE LEVELS

ADJUST MANHOLE TO SUIT PROPOSED FINISHED SURFACE LEVELS

ROAD No.01

CHARLES MCINTOSH PKWY

FOR CONTINUATION REFER TO SHEET SWC 601

100 101 102 103 104 105 106 107 108

FARM DAM SPILLWAY LAYOUT PLAN

SCALE 1:250

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
-	-	-	-	-	-	-
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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Scale:
0 2.5 5 7.5 10 12.5 15 17.5 20 22.5 25
SCALE 1:250 (A1) SCALE 1:500 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

JAS-ANZ
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Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
FARM DAM OVERFLOW SPILLWAY & TEMPORARY BASIN T3.1 PLAN
SHEET 01 OF 02

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	600	E

NORTH

TEMPORARY WATER QUALITY BASIN T3.1

BIORETENTION SYSTEM
TOP OF FILTER R.L. = 73.70
BIO-RETENTION AREA = 400m²
E.D.D. = 300mm
E.D.D. R.L. = 74.0

WATER QUALITY BASIN ONLY. NO OSD STORAGE PROVIDED IN BASIN.

LEGEND

PROPOSED STORMWATER PIPE AND STRUCTURE	
TEMPORARY STORMWATER PIPE	
PROPOSED DISCHARGE CONTROL PIT	
PROPOSED HEADWALL WITH SCOUR PROTECTION	
PROPOSED BATTER	
PROPOSED BIO-BASIN	
PROPOSED LOCKABLE GATE	
CONCRETE SEALING JOINT	SJ
CONCRETE CONSTRUCTION JOINT	CJ

LOT 4
DP 1276275

EXISTING
FARM DAM

REFORM UPSTREAM FARM DAM EMBANKMENT TO RL.73.5. EXISTING PERMANENT WATER LEVEL TO BE LOWERED FROM RL. 75.15 TO FACILITATE PROPOSED WORKS AND NEW FLOOD STORAGE REQUIREMENTS = PROPOSED NEW FARM DAM PERMANENT WATER LEVEL = R.L. 73.50

BREAK INTO EXISTING DAM WALL AND CONSTRUCT NEW ROCK LINED WEIR AND OUTLET STRUCTURE. FINAL CONSTRUCTION DETAIL AND REQUIREMENTS SUBJECT TO BE INFORMED BY GEOTECHNICAL INVESTIGATION, ✓

3.5m WIDE MAINTENANCE ACCESS, 10% MAX. GRADE, 2% CROSS FALL, 150mm THICK CONCRETE, 32MPa WITH SL82 ON 50mm BEDDING SAND
NOT CONSTRUCTED

PROVIDE BUND TO 2 YEAR ARI FLOOD LEVEL. 1V:4H MAX BATTERS

TEMP
BASIN T3.1

ADJUST MANHOLE TO SUIT PROPOSED FINISH SURFACE LEVELS

TEMPORARY GPT AND MAINTENANCE BAY

FOR CONTINUATION REFER TO SHEET SWC 600

ROAD No.01 · ROAD No.03 · ROAD No.11 · RW08

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

FARM DAM SPILLWAY & TEMPORARY BASIN T3.1 LAYOUT PLAN

SCALE 1:250

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 2.5 5 7.5 10 12.5 15 17.5 20 22.5 25
SCALE 1:250 (A1) SCALE 1:500 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

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Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

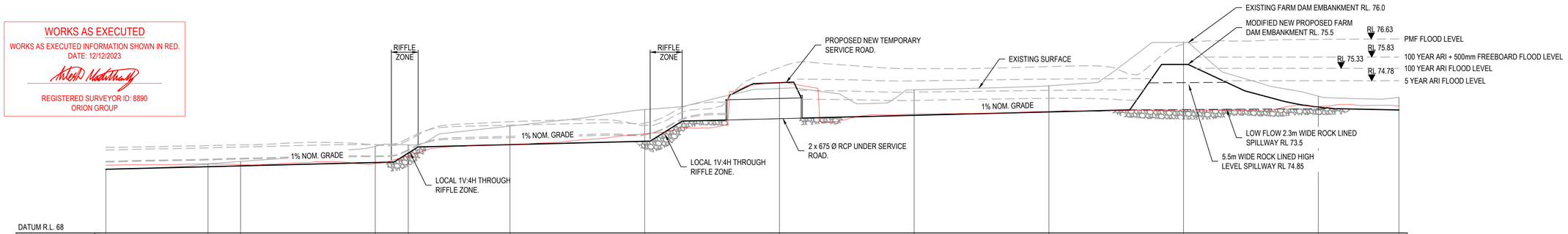
Title:
FARM DAM OVERFLOW SPILLWAY & TEMPORARY BASIN T3.1 PLAN
SHEET 02 OF 02

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	601	F

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP



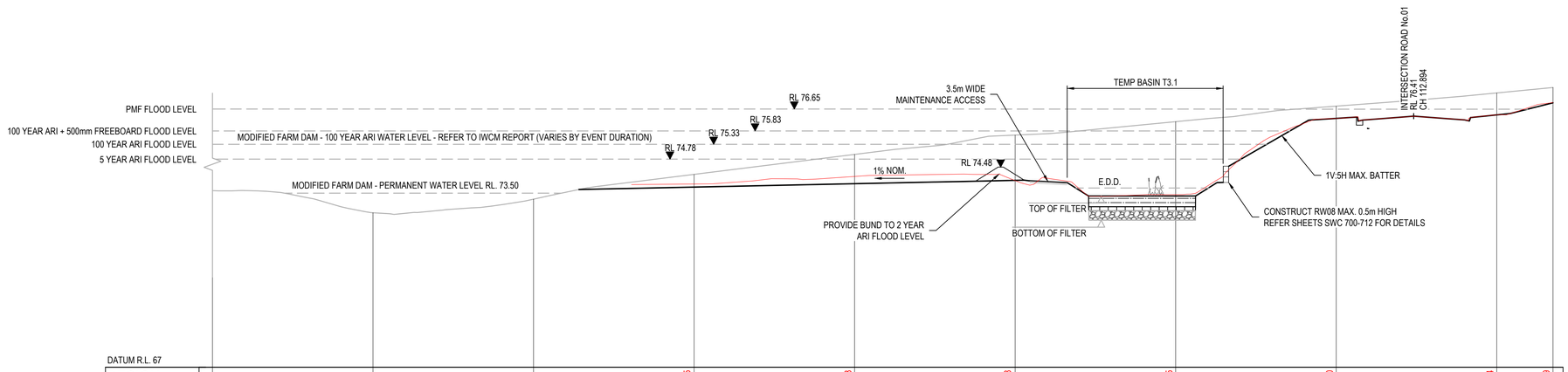
DATUM R.L. 68

| | | |

WORKS AS EXECUTED

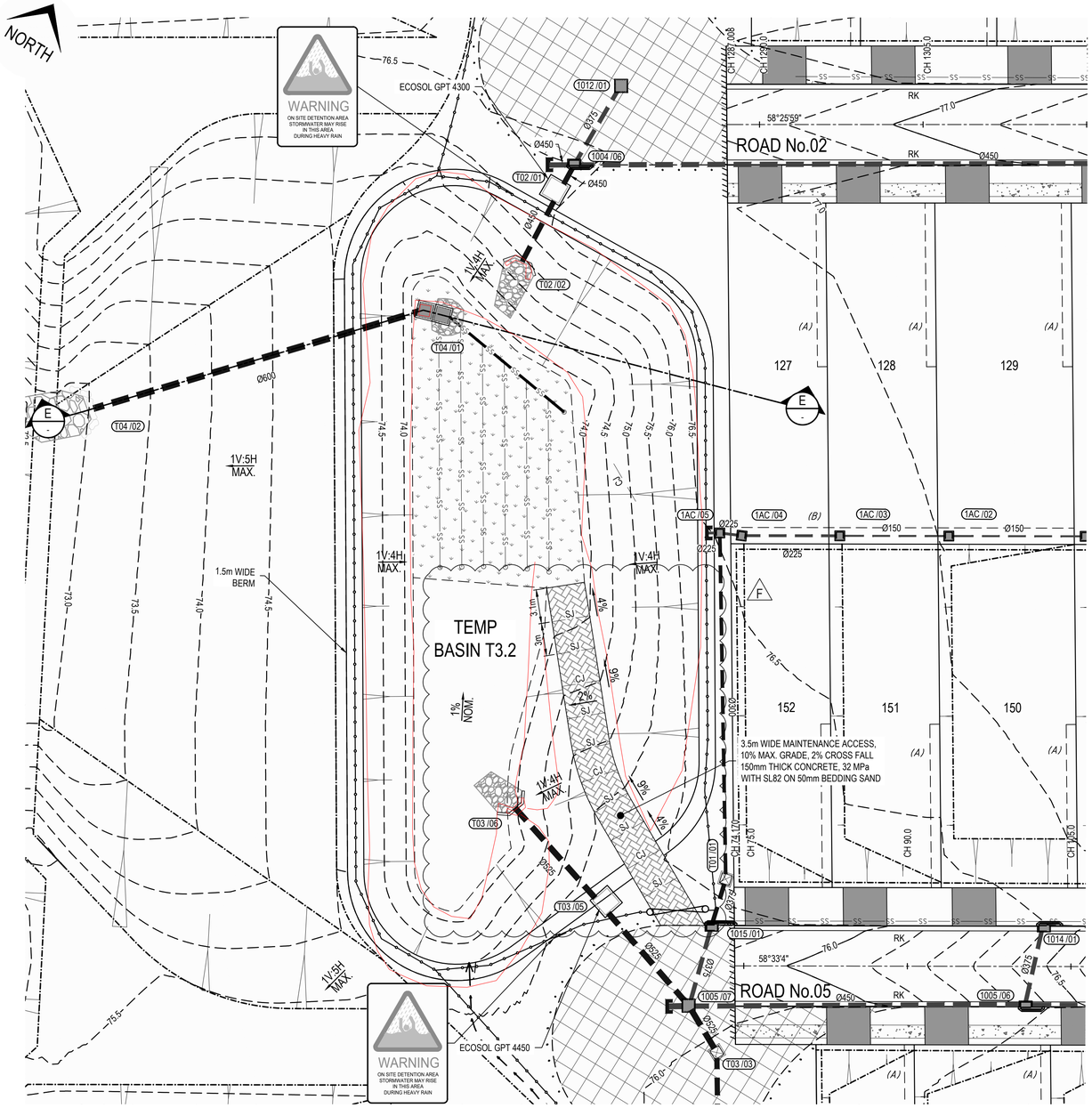
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DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP



DATUM R.L. 67

| | | |



OSD WAE DETAILS
OVERFLOW SPILLWAY RL 74.87
VOLUME FROM BASIN FLOOR TO SPILLWAY 1025m³

TEMPORARY OSD AND WATER QUALITY BASIN T3.2

BIORETENTION SYSTEM
TOP OF FILTER R.L. = 73.80
BIO-RETENTION AREA = 350m²
E.D.D. = 300mm
E.D.D. R.L. = 74.1

OSD DETAILS
INVERT R.L. = 74.10
MAX. T.W.S.L. = 74.74 (90 MIN STORM - WBNM MODEL)
VOLUME AT R.L. 74.74 = 761m³

MAX. T.W.S.L. = 74.64 (9 HOUR STORM - 2D FLOOD STUDY)
VOLUME AT R.L. 74.64 = 624.4m³
225 Ø LOW FLOW WITH 1.8m WIDE WEIR AT RL. 74.5

NOTES:

- WATER LEVELS SHOWN ON SECTIONS BELOW ARE FROM 2D FLOOD STUDY 9 HOUR EVENT.

- FOR BASIN T3.2 THE OSD PRE VS POST NO-NET-NEGATIVE DESIGN STRATEGY CONSIDERS BOTH THE LOCAL CATCHMENT CRITICAL DURATION EVENT (90 MIN DURATION) AND THE LARGER COBBITTY CREEK CATCHMENT CRITICAL DURATION EVENT (9 HOUR DURATION). WHILE THE DESIGN CONSTRAINT FOR THE SITE IS THE 9 HOUR EVENT FOR MANAGEMENT OF FLOWS AT THE DOWNSTREAM BOUNDARY OF THE SITE, BASIN T3.2 FULLY ALLOWS FOR THE STORAGE REQUIREMENTS AND ATTENUATION OF FLOWS FOR BOTH EVENTS WITHOUT OVER TOPPING.

- REFER TO INTEGRATED WATER CYCLE MANAGEMENT REPORT FOR MUSIC MODELLING PERFORMANCE TARGET RESULTS.

LEGEND

PROPOSED STORMWATER PIPE AND STRUCTURE	
TEMPORARY STORMWATER PIPE	
PROPOSED DISCHARGE CONTROL PIT	
PROPOSED HEADWALL WITH SCOUR PROTECTION	
PROPOSED BATTER	
PROPOSED PEDESTRIAN FENCE	
CONCRETE SEALING JOINT	SJ
CONCRETE CONSTRUCTION JOINT	CJ

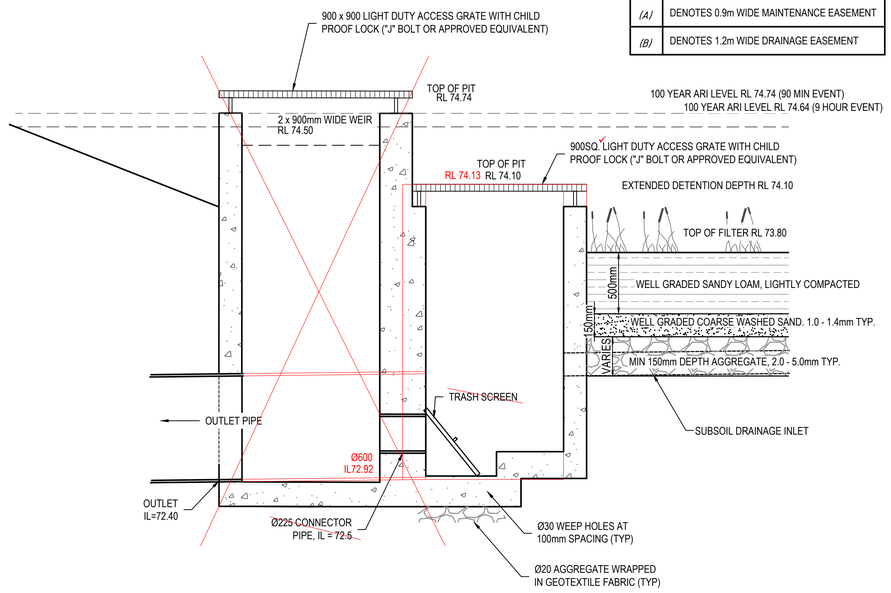
WARNING
ON SITE DETENTION AREA STORMWATER MAY RISE IN THIS AREA DURING HEAVY RAIN

SIGNS:

STANDARD FLOODWAY WARNING SIGN AND MOUNTING BRACKET IN ACCORDANCE WITH COUNCIL STANDARD DRAWING SD28. TO BE PLACED ALONG ALL SIDES OF FENCING AROUND TEMPORARY OSD.

EASEMENTS

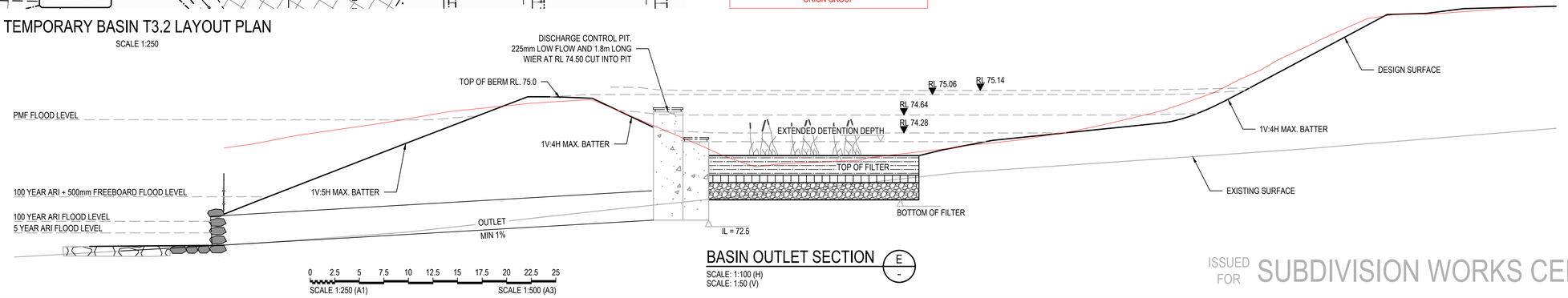
(A)	DENOTES 0.9m WIDE MAINTENANCE EASEMENT
(B)	DENOTES 1.2m WIDE DRAINAGE EASEMENT



DISCHARGE CONTROL PIT T04/01 SECTION
SCALE 1:20

WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP

TEMPORARY BASIN T3.2 LAYOUT PLAN
SCALE 1:250



BASIN OUTLET SECTION (E)
SCALE: 1:100 (H)
SCALE: 1:50 (V)

0 2.5 5 7.5 10 12.5 15 17.5 20 22.5 25
SCALE 1:250 (A1) SCALE 1:500 (A3)

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
F	RL	AP/CS	AP/CS	AP/CS	06/10/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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Scale:
0 1 2 3 4 5 6 7 8 9 10 — SCALE 1:100 (A1) — SCALE 1:200 (A3)
0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 — SCALE 1:50 (A1) — SCALE 1:100 (A3)
0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 — SCALE 1:20 (A1) — SCALE 1:40 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au
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Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
TEMPORARY BASIN T3.2
LAYOUT PLAN, SECTION
& DETAILS

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	604	F

RAINGARDEN NOTES:

CONSTRUCTION

C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3500 AND OTHER RELEVANT CODES

C2. CONSTRUCTION SHALL BE CARRIED OUT AS PER THE FOLLOWING STAGING:-

(i) STAGE 1 : DURING ROAD CONSTRUCTION, THE RAINGARDEN IS TO BE FORMED AS BULK EARTHWORKS ONLY AND USED AS TEMPORARY SEDIMENT BASIN. MEDIA BED AND SUBSOIL DRAINAGE NOT INSTALLED AT THIS STAGE;

(ii) STAGE 2 : POST-ROAD CONSTRUCTION. WHERE DELAYS ARE ANTICIPATED BETWEEN RESIDENTIAL CONSTRUCTION AND FINAL COMMISSIONING OF RAINGARDEN, AN INTERIM STRATEGY IS REQUIRED. THE RAINGARDEN CAN BE CONSTRUCTED WITH SUBSOIL DRAINAGE AND MEDIA PLACED ACCORDING TO DETAIL. THE MEDIA AND SURROUNDING BATTERS ARE COVERED WITH TURF. THE TURF MUST BE ESTABLISHED AND MAINTAINED TO PROTECT AGAINST POSSIBLE BED AND BATTER EROSION DURING THE HOUSE CONSTRUCTION STAGE. ALL 'ON LOT' SOIL AND WATER MANAGEMENT STRATEGIES INCLUDING PIT GUARDS/INSERTS IN ROADS SHALL BE USED TO LIMIT SILT LOAD.
TEMPORARY SEDIMENT CONTROL MEASURES SHOULD INCLUDE GEO-FABRIC, SANDY LOAM TURF UNDERLAY (M165 OR EQUIVALENT), AND TURF AS PER COUNCIL REGULATIONS (COUCH TYP.);

(iii) STAGE 3 : WHEN ALL UPSTREAM HOUSING BUILDING ACTIVITIES HAVE BEEN SUBSTANTIALLY COMPLETED (TO BE APPROVED BY COUNCILS REPRESENTATIVE) THE RAINGARDEN IS TO BE FULLY COMMISSIONED. REMOVE AND DISPOSE OF STAGE 2 (ABOVE) SEDIMENT CONTROL MEASURES IF NECESSARY. ADD 100mm FINAL LAYER OF FILTER MATERIAL TO ACCOUNT FOR LOSSES DURING REMOVAL PROCESS. OTHERWISE, TURF AND SILT TO BE REMOVED AND FINAL PLANTINGS INSTALLED.

C3. LEVEL CONTROL IS CRITICAL FOR THE RAINGARDEN LEVELS (CONSTRUCTION TOLERANCE TO WITHIN 30mm).

GENERAL CONSTRUCTION TOLERANCES:
WEIR + 20mm, - 0mm
OUTLET CONTROLS + 0mm, - 20mm
GENERAL BASIN LEVELS ± 50mm

C4. EXCAVATION IN RAINGARDENS SHALL BE SUFFICIENT TO ENABLE CONSTRUCTION OF ALL ROCK RETAINING WALLS, MEDIA BED AND FOR THE PLACEMENT OF 150mm THICK TOPSOIL TO FINISHED LEVELS INDICATED ON THESE PLANS.

C5. PROVIDE THE GEOTECHNICAL ENGINEER'S REPORT FOR THE PROPOSED ROCK BEING USED IN ALL STRUCTURES AS TO THEIR SUITABILITY AND LONG TERM WEATHERING EFFECTS.

C6. PROVIDE STRUCTURAL ENGINEER'S CERTIFICATION ON ALL RETAINING WALLS OVER 900mm HIGH.

C7. PROVIDE FLOODWAY WARNING SIGNS AT APPROPRIATE LOCATIONS AND/OR AS DIRECTED BY COUNCIL'S ENGINEER.

FILTER MATERIAL / MEDIA

DEFINITION:

THE MEDIA DESCRIPTION SHALL BE IN ACCORDANCE WITH AS1726-1993:

MATERIAL	SIZE(mm)
BOULDERS	>200
COBBLES	63-200
GRAVELS	COARSE 20-63
	MEDIUM 6-20
	FINE 2.36-6
SANDS	COARSE 0.6-2.36
	MEDIUM 0.2-0.6
	FINE 0.075-0.2
SILTS	COARSE 0.02-0.075
	MEDIUM 0.006-0.02
	FINE 0.002-0.006
CLAYS	COLLOIDAL <0.002

MIX:

THE PREFERRED MEDIA MIX PERCENTAGE SHALL BE ACCORDING TO TABLE BELOW:

MEDIA	PERCENTAGE
FINE GRAVEL	<3%
VERY COARSE SAND	7-10%
MED. TO COARSE SAND	40-60%
FINE SAND	10-30%
FINE TO VERY FINE SAND	5-30%
CLAY + SILT	<3%

THE ABOVE MATERIAL SHALL HAVE THE FOLLOWING PERFORMANCE PARAMETERS:
- ORGANIC MATTER >3.9%
- HYDRAULIC CONDUCTIVITY >200mm/hr;
- ELECTRICAL CONCENTRATION <1.2dS/m
- PHOSPHORUS CONCENTRATION <40mg/kg
- NITROGEN DRAWDOWN >0.5
- TOTAL NITROGEN <800mg/kg
- pH BETWEEN 5.5 & 7.5
- SANDY LOAM TO LOAMY SAND TEXTURE
- FREE OF STONES OR WOODY MATERIAL OVER 25mm DIAMETER
- FREE OF BRUSH OR SEED FROM WEEDS

MEDIA SPECIFICATION AND GRADING TO BE VERIFIED BY A HYDRAULIC ENGINEER PRIOR TO PLACEMENT.

IMMEDIATELY PROIR 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 FOR APPROVAL.

PLACEMENT:

THE MEDIA SHALL BE PLACED IN 300mm LIFTS AND LIGHTLY COMPACTED USING A SINGLE PASS VIBRATING PLATE OR DRUM LAWN ROLLER.

PLANTING NOTES:

P1. THE VEGETATION PLANTING GRIDS SHOWN ARE INDICATIVE AND SHOULD ONLY BE USED AS A GUIDE.

P2. ALL CARE SHOULD BE TAKEN TO MEET ANY PLANTING REQUIREMENTS SET OUT BY COUNCIL.

P3. PLANTING IS TO BE COMPLETED IN A MANNER THAT IS SUITABLE TO THE BASIN CONSTRAINTS AND SITE.

P4. APPROXIMATE QUANTITIES ASSUME 50/50 COVERAGE OF PLANT LOCATION GRIDS AND PER SQUARE METER RATE FOR EACH PLANT SPECIES.

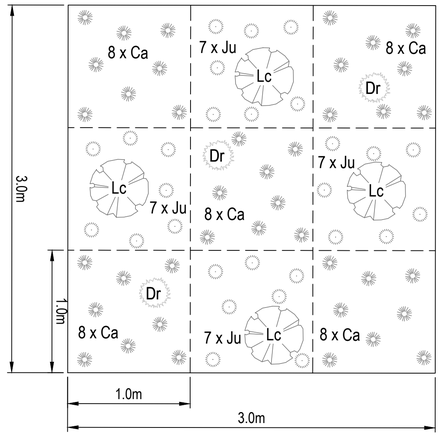
P5. SUITABLE GROUND COVERS INCLUDE ALL OF THE FOLLOWING:
- *CAREX APPRESSA*
- *JUNCUS USITATUS*
- *ISOLEPIS NODOSA*
- *DANTHONIA TENUIOR*
- *CYMBOPOGON REFRATUS*
- *IMPERATA CYLINDRICA*

PLANTING LEGEND

Lc	LEPTOSPERMUM CONTINENTALE
Dv	DODONEA VISCOSA
Dr	DICHONDRA REPENS
	JUNCUS USITATUS
	CAREX APPRESSA

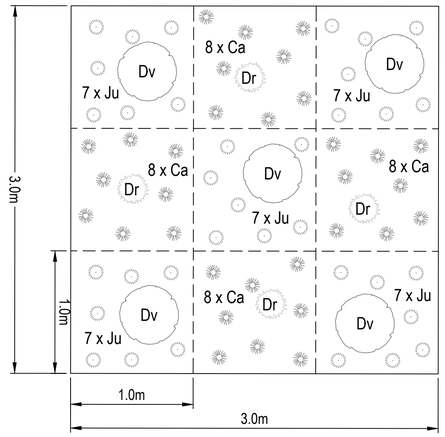
PLANT SCHEDULE & INFO TABLE

BOTANICAL NAME	COMMON NAME	~ HEIGHT (m)	POT SIZE
LEPTOSPERMUM CONTINENTALE	PRICKLY TEA-TREE	1.0m	250mm
DODONEA VISCOSA	HOP BUSH	1.0m	250mm
DICHONDRA REPENS	KIDNEY WEED	0.2m	50mm
JUNCUS USITATUS	COMMON RUSH	1.0m	50mm
CAREX APPRESSA	TALL SEDGE	1.2m	50mm



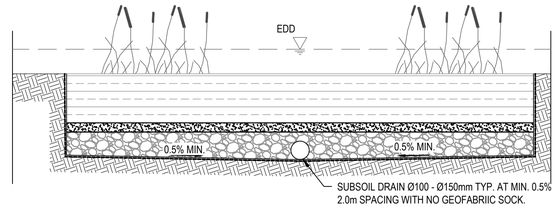
PLANT LOCATION - GRID A

NOMINAL 8.3 PLANTS PER SQUARE METER
CONSISTING OF:
4 x LEPTOSPERMUM CONTINENTALE
3 x DICHONDRA REPENS
28 x JUNCUS USITATUS
40 x CAREX APPRESSA



PLANT LOCATION - GRID B

NOMINAL 8.4 PLANTS PER SQUARE METER
CONSISTING OF:
5 x DODONEA VISCOSA
4 x DICHONDRA REPENS
34 x JUNCUS USITATUS
32 x CAREX APPRESSA



VEGETATE FILTER SURFACE WITH AT LEAST 50% OF PLANT SPECIES, REFER PLANTING GRID AND SCHEDULE ON THIS SHEET.
REMAINING SPECIES MAY BE FOR AESTHETICS.

300mm EXTENDED DETENTION STORAGE

NOM. 500mm DEPTH, WELL GRADED SANDY LOAM, LIGHTLY COMPACTED

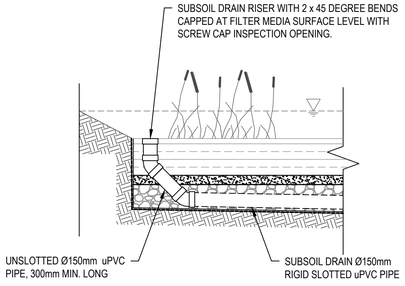
NOM. 150mm DEPTH, WELL GRADED COARSE WASHED SAND. 1.0 - 1.4mm TYP.

NOM. 300-350 DEPTH AGGREGATE, 2.0 - 5.0mm TYP.

HDPE IMPERMEABILITY LINER. EDGES TO RETURN TO TOP OF DRAINAGE LAYER.

INSITU CLAY COMPACTED TO 98% STANDARD TO ENSURE LOW PERMEABILITY

RAINGARDEN MEDIA BED
TYPICAL DETAIL
NOT TO SCALE

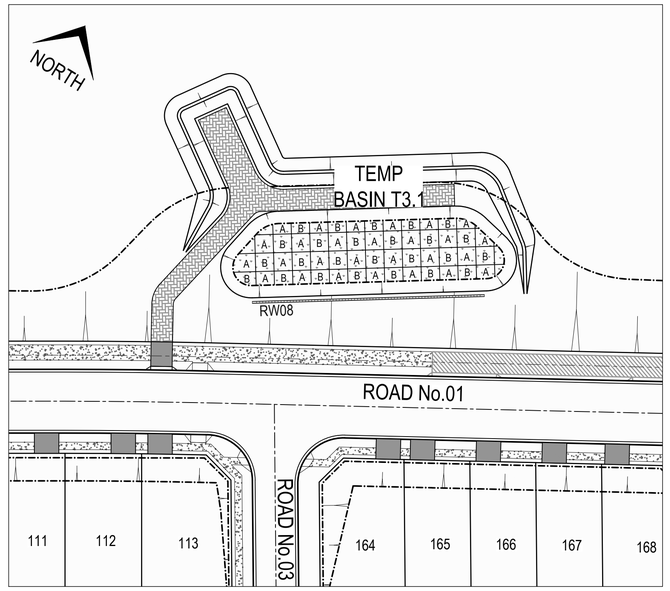


RISER TYPICAL DETAIL
NOT TO SCALE

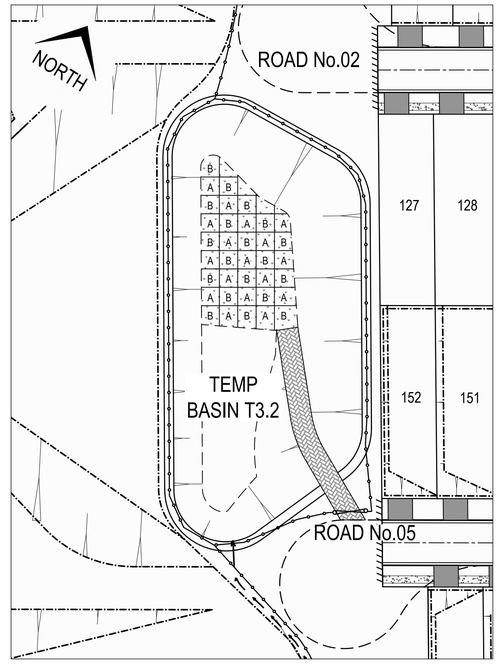
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TEMPORARY BASIN T3.1 PLANTING GRID
SCALE 1:500



TEMPORARY BASIN T3.2 PLANTING GRID
SCALE 1:500

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Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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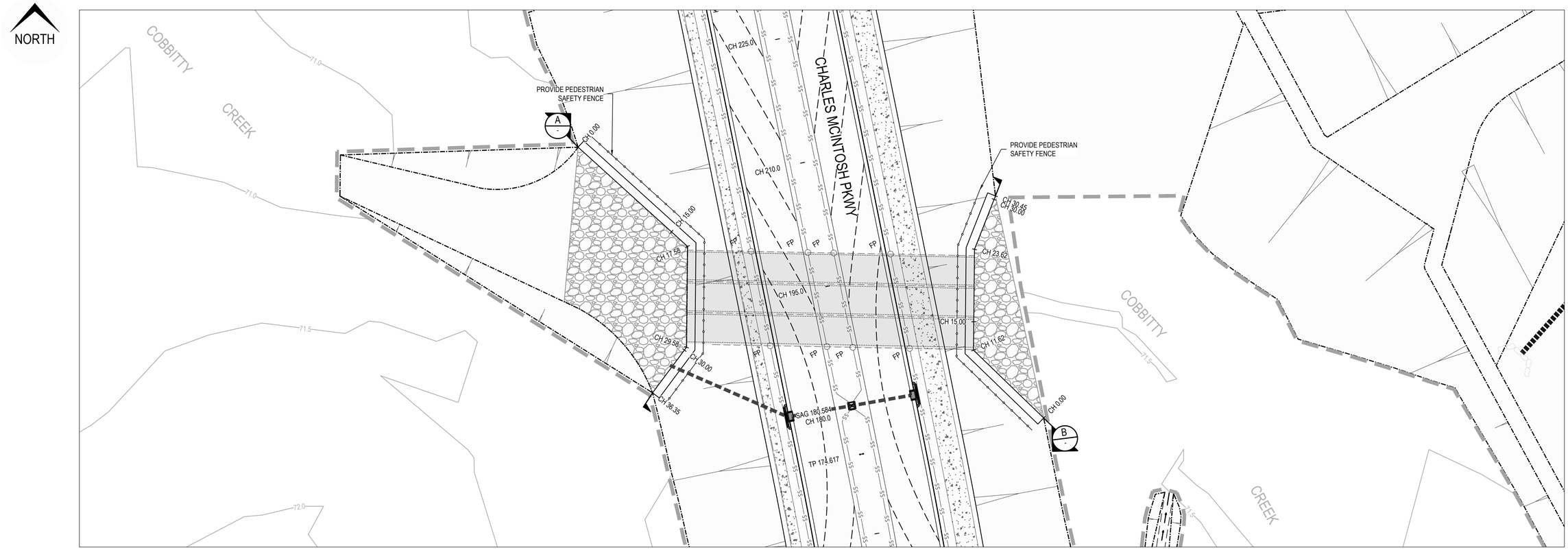
For: mirvac

By: Orion Consulting
ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

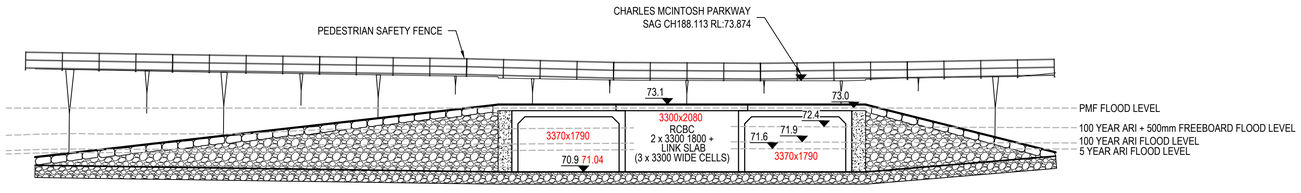
Title: BASIN PLANTING NOTES

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	605	E

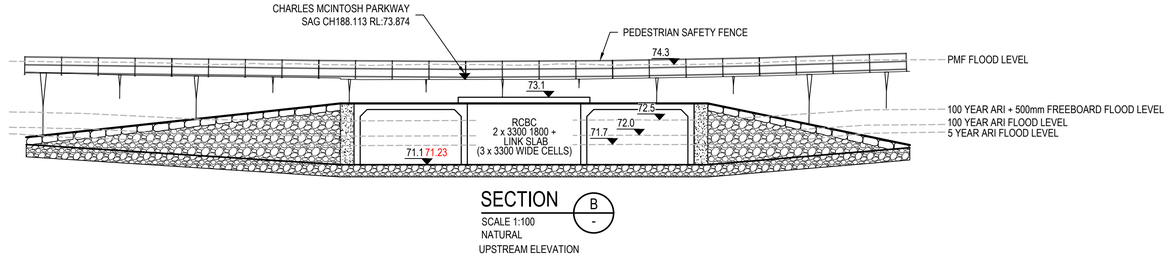


CHARLES MCINTOSH PARKWAY CULVERTS PLAN

SCALE 1:250



SECTION A
SCALE 1:100
NATURAL
DOWNSTREAM ELEVATION



SECTION B
SCALE 1:100
NATURAL
UPSTREAM ELEVATION

RETAINING WALL HW A SETOUT TABLE				
PT	CHAINAGE	EASTING	NORTHING	HEIGHT
IP 1	0.000	288437.760	6234059.460	71.150
IP 2	17.220	288450.180	6234047.540	70.900
IP 3	29.220	288450.060	6234035.540	70.900
IP 4	35.800	288446.260	6234030.160	71.450

RETAINING WALL HW B SETOUT TABLE				
PT	CHAINAGE	EASTING	NORTHING	HEIGHT
IP 1	0.000	288492.600	6234027.120	71.850
IP 2	11.630	288484.220	6234035.190	71.100
IP 3	23.630	288484.340	6234047.190	71.100
IP 4	30.460	288486.840	6234053.540	71.670

WORKS AS EXECUTED

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DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
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Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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

For: mirvac

By: Orion Consulting
JAS-ANZ
SUSTAINABLE
WWW.JAS-ANZ.ORG/REGISTER
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theorionngroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
CHARLES MCINTOSH PARKWAY CULVERTS PLAN & SECTIONS

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	606	E

NORTH

ROAD No.01

ROAD No.02

ROAD No.03

ROAD No.04

ROAD No.05

ROAD No.06

ROAD No.07

ROAD No.12

ROAD No.13

RESIDUE LOT 318

RW01 RW02 RW03 RW04 RW05 RW06 RW08 RW09 RW10 RW11 RW12 RW13 RW14 RW15 RW16 RW17

CONCRETE SLEEPER WALL

MASONRY WALL WITHIN 8m OF ROAD RESERVE

FOOTING TO BE CENTERED OVER BOUNDARY FOR THIS WALL, BLOCK WORK TO REAR EDGE OF FOOTING AS PER DETAILS ON 702

LOT 1
DP 1014583

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

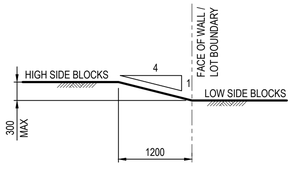
REGISTERED SURVEYOR ID: 8890
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LEGEND

- LANDSCAPING RETAINING WALL (REFER DRG SWC 702 FOR DETAIL)
- SINGLE TIER CONCRETE I-BEAM RETAINING WALL (REFER DRG SWC 702 FOR DETAIL)
- MASONRY BLOCK RETAINING WALL (REFER DRG SWC 702 FOR DETAIL)
- MASONRY BLOCK RETAINING WALL WITH OFFSET FOOTING (REFER DRG SWC 702 FOR DETAIL)
- 1V:10H BATTER (4.5m WIDE)
- STANDARD LOT BENCHING BATTER MAX HEIGHT 0.3m AT 1V:4H (TYP.) (REFER TO TYPICAL DETAIL)

NOTE:

- **ALL** RETAINING WALLS TO BE DESIGNED AND CERTIFIED BY A SUITABLY QUALIFIED STRUCTURAL ENGINEER. REFER TO STRUCTURAL PLANS FOR DETAILS.
- WALL DESIGN TO ENSURE NO PIERS ARE POSITIONED OVER PROPOSED STORMWATER PIPES AT CROSSINGS.
- WALLS HAVE BEEN MODELLED TO SUIT BENCH LOCATIONS, WALL STEPS TO STRUCTURAL DESIGN.
- WALL TYPES TO BE IN ACCORDANCE WITH THE 'MIRVAC LOT BENCHING SPECIFICATION'.



TYPICAL SIDE BOUNDARY 1V:4H BATTER
SCALE 1:50

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Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
D	WP	AP/CS	AP/CS	AP/CS	24/03/2023	UPDATED RELFECTING S.455 APPROVAL
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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SCALE 1:50 (A1) SCALE 1:100 (A3)

For: mirvac

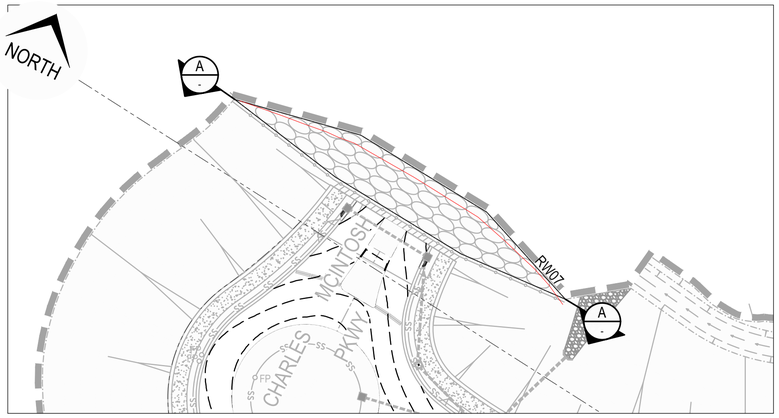
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Project: LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title: RETAINING WALL & BENCHING PLAN

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	700	E



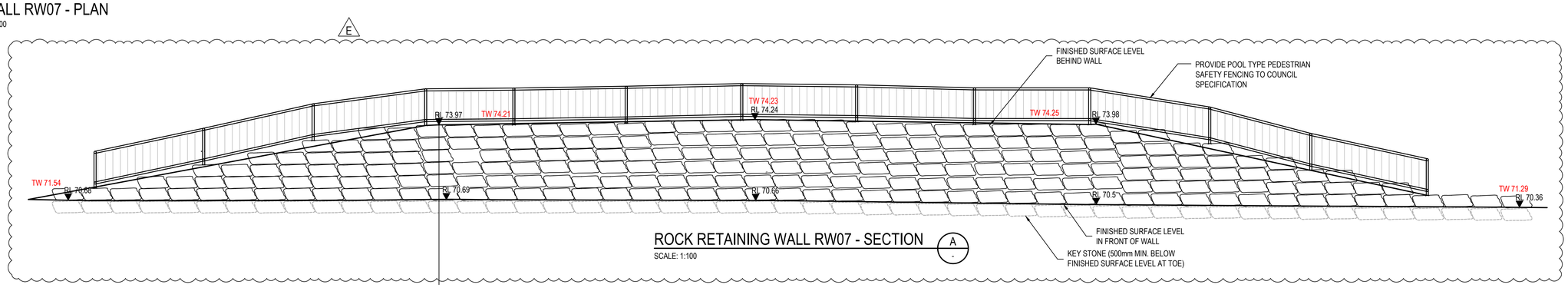
ROCK RETAINING WALL RW07 - PLAN

SCALE 1:500

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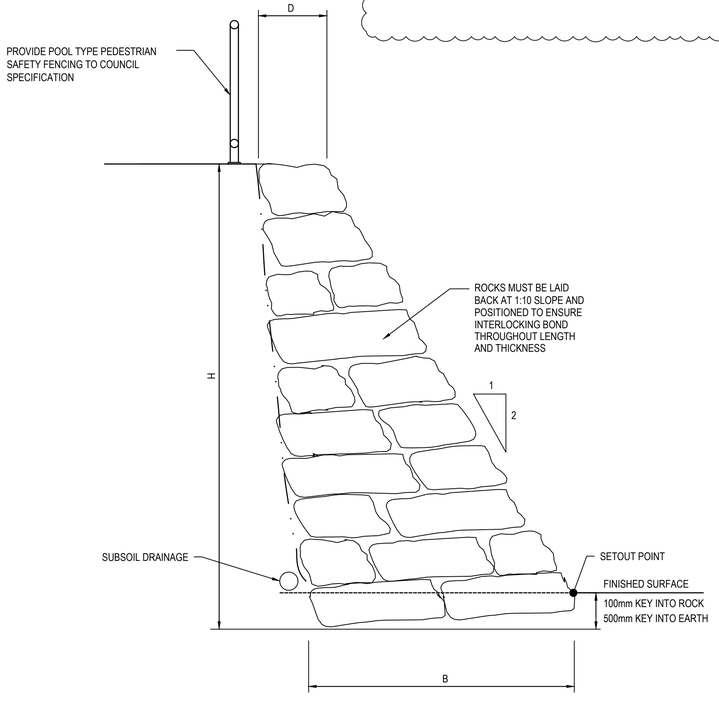
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

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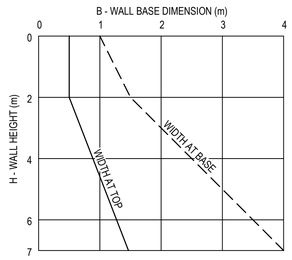
ROCK RETAINING WALL RW07 - SECTION A

SCALE: 1:100



TYPICAL SECTION - STACKED ROCK TYPE RETAINING WALL

NOT TO SCALE



ROCK WALL DESIGN CHART

NOT TO SCALE

ROCK WALL NOTES:

1. THESE NOTES SHOULD BE READ IN CONJUNCTION WITH CAMDEN COUNCIL'S ROCK RETAINING WALL STANDARD DRAWING SD30
2. BACKFILL IS TO BE GRANULAR, FREE DRAINING AND COMPACTED
3. FOUNDATION MATERIAL TO BE APPROVED FOR A SAFE MINIMUM BEARING CAPACITY OF **200 kPa** PRIOR TO CONSTRUCTION
4. WHERE THE SURFACE SLOPE OF THE RETAINED MATERIAL IS BETWEEN 1V:10H AND 1V:4H THE WALL BASE DIMENSION IS TO BE INCREASED BY 0.5m
5. ROCK IS TO BE SOUND DURABLE SANDSTONE (2.4 x 10^3 kg/m^3)OR OTHER APPROVED MATERIAL ACHIEVING A MINIMUM PLAN AREA OF 0.5 SQUARE METRES
6. A CONTINUOUS 100mm DIA. SUBSOIL DRAIN IS TO BE INSTALLED AT THE REAR OF THE WALL WHERE THE WALL HEIGHT EXCEEDS 3.0m OR WHERE THE WALL FOUNDATION IS A MATERIAL OTHER THAN ROCK
7. ROCKS SHALL BE PLACED IN A STABLE AND INTERLOCKING MANNER AND LAID ROUGHLY COURSED AND BEDDED ON THE BROADEST FACE

NOTE:
- WALL DESIGN TO ENSURE NO PIERS ARE POSITIONED OVER PROPOSED STORMWATER PIPES AT CROSSINGS.
- WALLS HAVE BEEN MODELLED TO SUIT BENCH LOCATIONS, WALL STEPS TO STRUCTURAL DESIGN.
- WALL TYPES TO BE IN ACCORDANCE WITH THE 'MIRVAC LOT BENCHING SPECIFICATION'.

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E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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SCALE 1:500 (A1) SCALE 1:1000 (A3)
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SCALE 1:100 (A1) SCALE 1:200 (A3)

For: mirvac

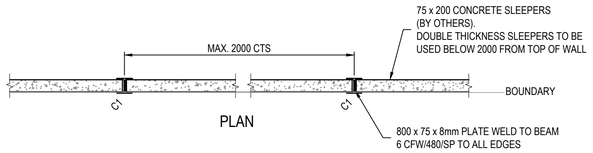
By: Orion Consulting

ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

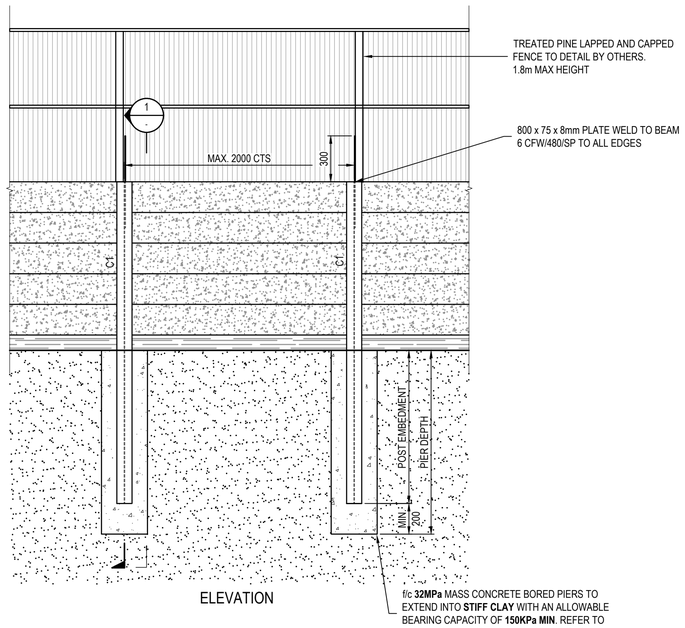
Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
RETAINING WALL PLAN
& DETAILS

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	701	E



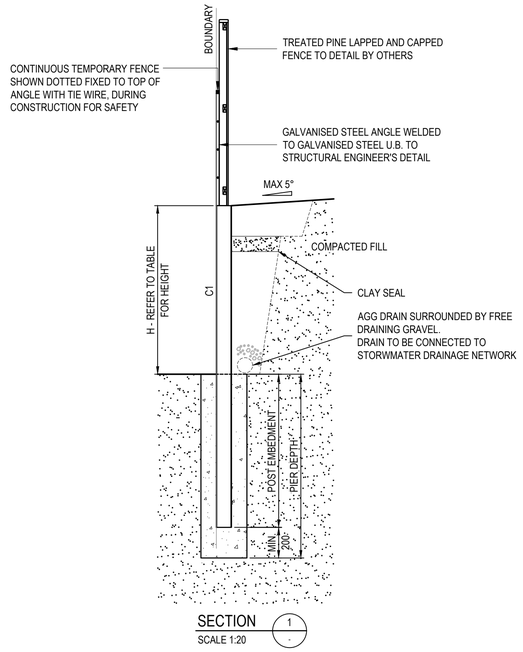
PLAN



ELEVATION

TYPICAL CONCRETE SLEEPER/LANDSCAPING RETAINING WALL <500mm HIGH DETAIL

SCALE 1:20



SECTION 1 SCALE 1:20

STRUCTURAL MEMBER SCHEDULE					
RETAINED HEIGHT	'C1' SIZE	COMMENTS	PIER DIAMETER	PIER DEPTH	POST EMBEDMENT
800	100 UC 14.8	GALVANISED GRADE 300 PLUS	300	1300	1100
1200	100 UC 14.8	GALVANISED GRADE 300 PLUS	300	1600	1400
1600	150 UC 23.4	GALVANISED GRADE 300 PLUS	400	1900	1700

NOTE: ALL STEEL TO BE HOT DIPPED GALVANISED

WORKS AS EXECUTED

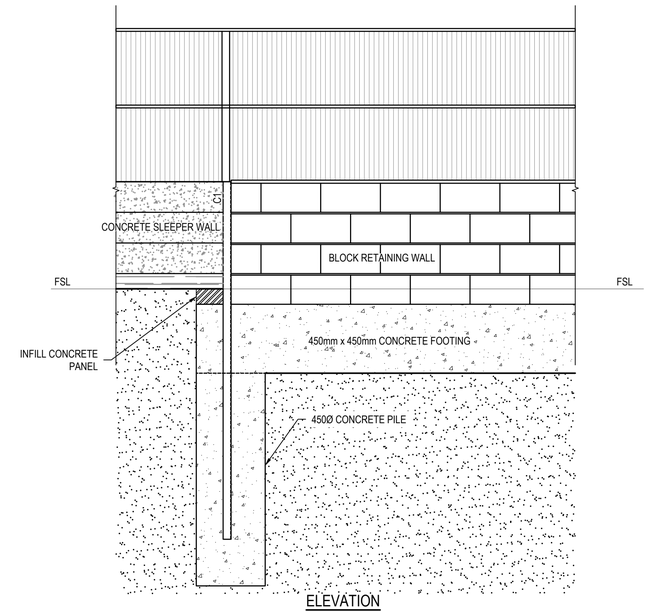
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

NOTES - RETAINING WALLS

1. EQUIVALENT STRUCTURAL DESIGN MAY BE ADOPTED PENDING SIGN OFF FROM STRUCTURAL ENGINEER

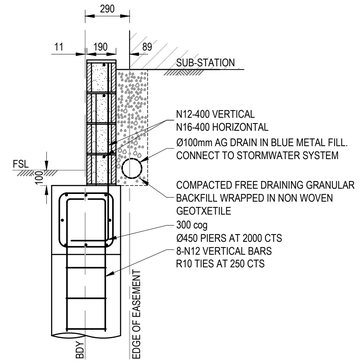
E



ELEVATION

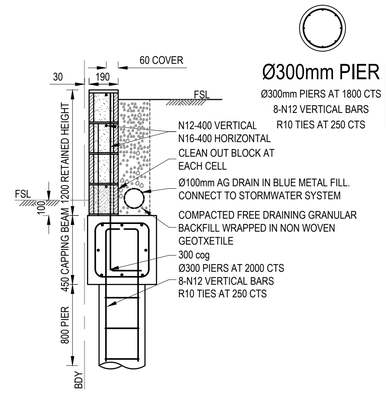
RETAINING WALL TRANSITION

SCALE 1:20



OFFSET BLOCKWORK RETAINING WALL DETAILS

SCALE: 1:20



BLOCKWORK RETAINING WALL DETAILS

SCALE: 1:20

Ø300mm PIER

Ø300mm PIERS AT 1800 CTS
8-N12 VERTICAL BARS
R10 TIES AT 250 CTS

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0
SCALE 1:20 (A1) SCALE 1:40 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

JAS-ANZ WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
RETAINING WALL DETAILS

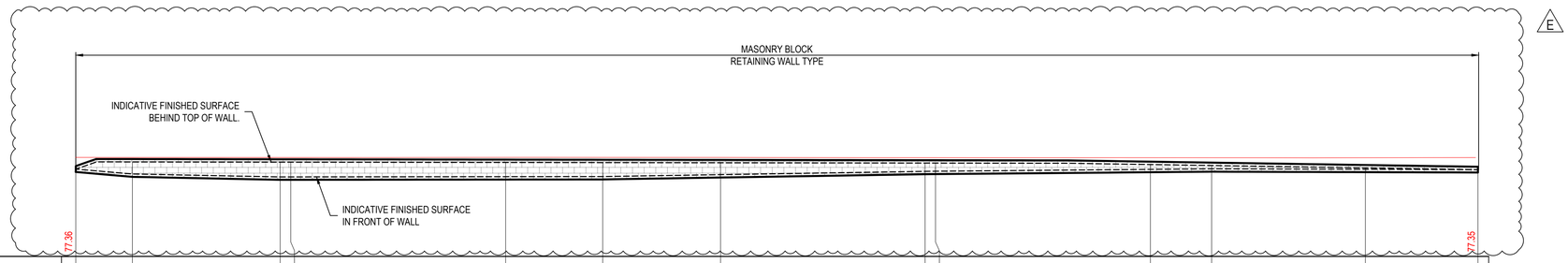
Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	702	E

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- WALL TYPES TO BE IN ACCORDANCE WITH THE 'MIRVAC LOT BENCHING SPECIFICATION'.



DATUM R.L. 74

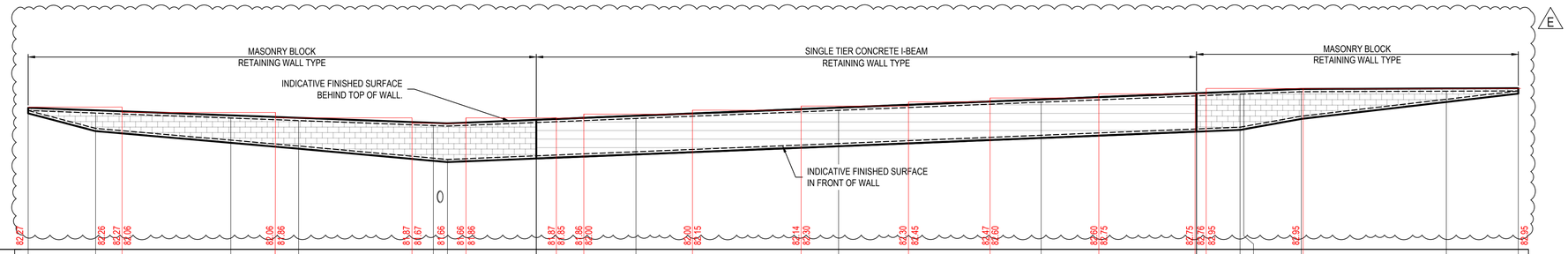
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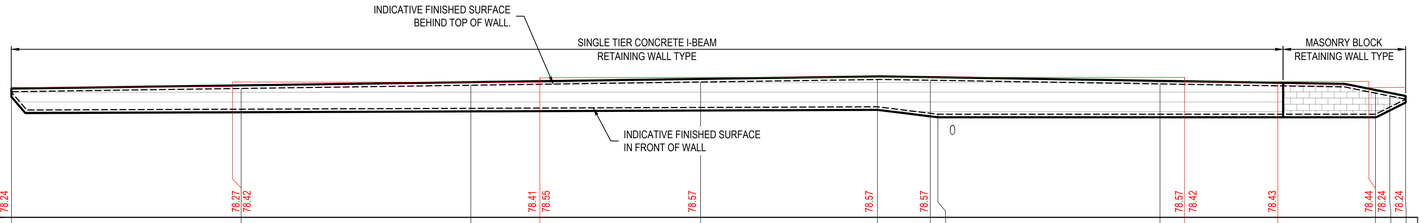
| DATUM R.L. 77 | | |

WORKS AS EXECUTED

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DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
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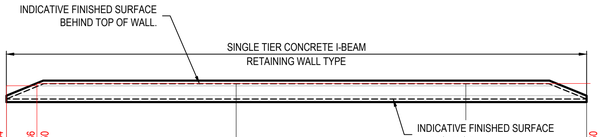
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DATUM R.L. 74																							
	78.24		78.27	78.42		78.41	78.55		78.57		78.57		78.57		78.57	78.42		78.43		78.44	78.24	78.24	
SURFACE LEVEL AT TOP	78.1	78.206			78.311			78.417		78.499		78.474		78.354					78.653		77.96		77.856
WALL HEIGHT	0.6	0.677			0.754			0.831		0.892		1.079		0.989					0.689		0.363		-0
SURFACE LEVEL AT BASE	78.088	77.529			77.557			77.585		77.607		77.395	77.364	77.364					77.364		77.597		77.856
CHAINAGE	0	15	14.44		30	34.51		45		56.55	56.56	60	60.5	60.47	75	76.60		82.70	89.07	88.64	90	90.96	91.036

LONGITUDINAL SECTION CENTRELINE - RW06
SCALE 1:200 (H)
SCALE 1:100 (V)

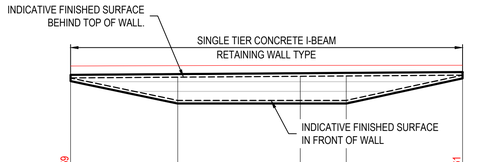
RETAINING WALL RW06 SETOUT TABLE				
PT	CHAINAGE	EASTING	NORTHING	HEIGHT
IP 1	0.000	288841.320	6234279.200	77.500
IP 2	56.550	288792.460	6234250.730	77.610
IP 3	60.500	288790.470	6234254.140	77.360
IP 4	91.040	288764.090	6234238.760	77.860



DATUM R.L. 72						
	74.34	74.36	74.50			74.50
SURFACE LEVEL AT TOP	73.91		74.41		74.41	73.91
WALL HEIGHT	0		0.5		0.5	-0
SURFACE LEVEL AT BASE	73.91		73.91		73.91	73.91
CHAINAGE	0	1.99	15		30	37.886 38.13

LONGITUDINAL SECTION CENTRELINE - RW08
SCALE 1:200 (H)
SCALE 1:100 (V)

RETAINING WALL RW08 SETOUT TABLE				
PT	CHAINAGE	EASTING	NORTHING	HEIGHT
IP 1	0.000	288661.000	6234242.120	73.910
IP 2	37.890	288692.690	6234262.900	73.910



DATUM R.L. 76					
	79.59				79.61
SURFACE LEVEL AT TOP	79.414	79.439	79.467	79.478	79.505
WALL HEIGHT	0	0.759	0.787	0.798	0
SURFACE LEVEL AT BASE	79.412	78.68	78.68	78.68	79.502
CHAINAGE	0	7	15	18	25.595 25.59

LONGITUDINAL SECTION CENTRELINE - RW09
SCALE 1:200 (H)
SCALE 1:100 (V)

RETAINING WALL RW09 SETOUT TABLE				
PT	CHAINAGE	EASTING	NORTHING	HEIGHT
IP 1	0.000	288875.580	6234228.450	79.410
IP 2	25.590	288851.170	6234220.750	79.500

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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Scale:
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SCALE 1:200 (A1) SCALE 1:400 (A3)
0 1 2 3 4 5 6 7 8 9 10
SCALE 1:100 (A1) SCALE 1:200 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theorigroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
RETAINING WALL LONG SECTIONS
SHEET 03 OF 06

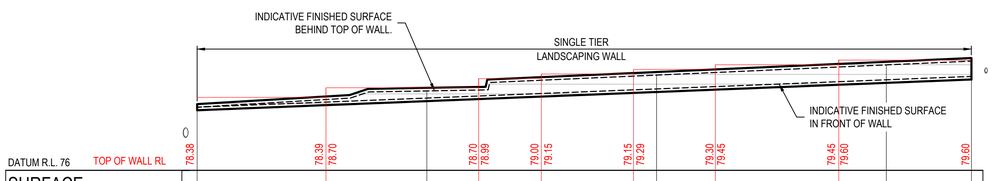
Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	712	E

WORKS AS EXECUTED

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DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

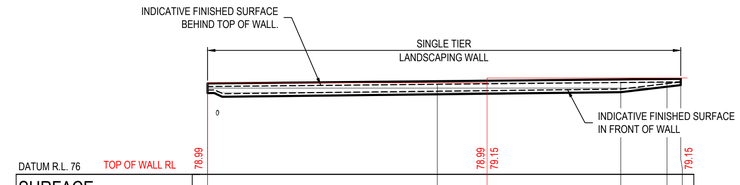
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DATUM R.L. 76	TOP OF WALL RL	78.38	78.39	78.70	78.99	79.00	79.15	79.15	79.29	79.30	79.45	79.45	79.60	79.60
SURFACE LEVEL AT TOP		78.06		78.591				79.108				79.441		79.564
WALL HEIGHT		0		0.233				0.452				0.487		0.5
SURFACE LEVEL AT BASE		78.06		78.358				78.656				78.954		79.064
CHAINAGE		0	8.41	15	18.38	22.48		28.50	30	33.84		41.88	45	49.89 50.858

LONGITUDINAL SECTION CENTRELINE - RW10 (LANDSCAPING)

SCALE 1:200 (H)
SCALE 1:100 (V)



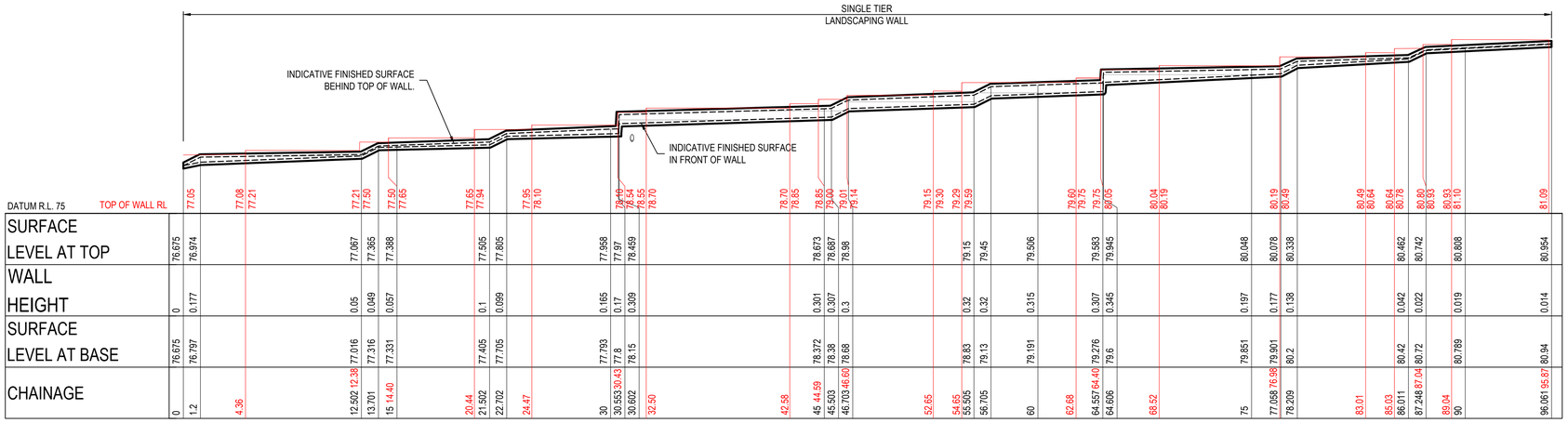
DATUM R.L. 76	TOP OF WALL RL	78.89	78.99	79.15	79.15
SURFACE LEVEL AT TOP		78.866	78.939	78.997	79.011 79.016
WALL HEIGHT		0.24	0.227	0.215	0.051 0.002
SURFACE LEVEL AT BASE		78.625	78.712	78.781	78.96 79.013
CHAINAGE		0	15	18.25	26.981 30 30.898 31.32

LONGITUDINAL SECTION CENTRELINE - RW11 (LANDSCAPING)

SCALE 1:200 (H)
SCALE 1:100 (V)

LANDSCAPING WALL RW10 SETOUT TABLE				
PT	CHAINAGE	EASTING	NORTHING	HEIGHT
IP 1	0.000	288660.440	6234088.210	78.060
IP 2	50.560	288703.760	6234114.290	79.060

LANDSCAPING WALL RW11 SETOUT TABLE				
PT	CHAINAGE	EASTING	NORTHING	HEIGHT
IP 1	0.000	288676.790	6234098.000	78.630
IP 2	30.900	288693.210	6234071.820	79.010



DATUM R.L. 75	TOP OF WALL RL	77.05	77.08	77.21	77.21	77.50	77.50	77.65	77.65	77.94	77.95	78.10	78.10	78.54	78.55	78.70	78.70	78.85	78.85	79.00	79.01	79.14	79.15	79.30	79.29	79.59	79.60	79.75	79.75	80.05	80.04	80.19	80.19	80.49	80.49	80.64	80.64	80.78	80.80	80.93	80.93	81.10	81.09
SURFACE LEVEL AT TOP		76.675		76.974		77.067	77.365	77.388		77.505	77.805		77.958	77.97	78.459		78.673	78.687	78.98			79.15	79.45		79.506		79.583	79.945			80.048		80.078	80.338			80.462		80.742			80.808		80.954
WALL HEIGHT		0		0.177		0.05	0.049	0.057		0.1	0.099		0.165	0.17	0.309		0.301	0.307	0.3			0.32	0.32		0.315		0.307	0.345			0.197		0.177	0.138			0.042		0.022			0.019		0.014
SURFACE LEVEL AT BASE		76.675		76.797		77.016	77.316	77.331		77.405	77.705		77.793	77.8	78.15		78.372	78.38	78.68			78.83	79.13		79.191		79.276	79.6			79.851		79.901	80.2			80.42		80.72			80.789		80.94
CHAINAGE		0	1.2	4.36		12.502 12.38	13.701	15 14.40		20.44	21.502	22.702	24.47	30	30.553 30.43	30.602	32.50	42.58	45 44.59	45.503	46.703 46.60		52.65	54.65	55.505	56.705	60	62.68	64.557 64.40	64.606	66.52	75	77.058 76.98	78.209	80.2	83.01	85.03	86.011	87.248 87.04	88.72	89.04	90	96.061 95.87	96.060

LONGITUDINAL SECTION CENTRELINE - RW12 (LANDSCAPING)

SCALE 1:200 (H)
SCALE 1:100 (V)

LANDSCAPING WALL RW12 SETOUT TABLE				
PT	CHAINAGE	EASTING	NORTHING	HEIGHT
IP 1	0.000	288660.160	6233999.070	76.670
IP 2	45.480	288698.950	6234022.790	78.380
IP 3	96.060	288742.290	6234048.890	80.940

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Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
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A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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ROAD & DRAINAGE DESIGN

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SHEET 04 OF 06

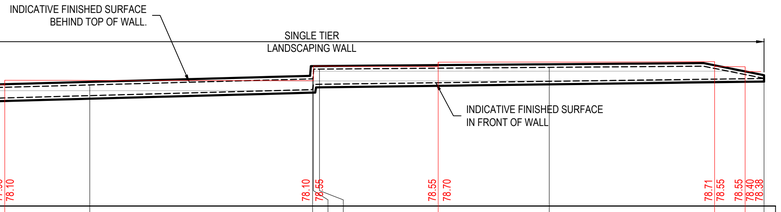
Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	713	E

WORKS AS EXECUTED

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REGISTERED SURVEYOR ID: 8890
ORION GROUP

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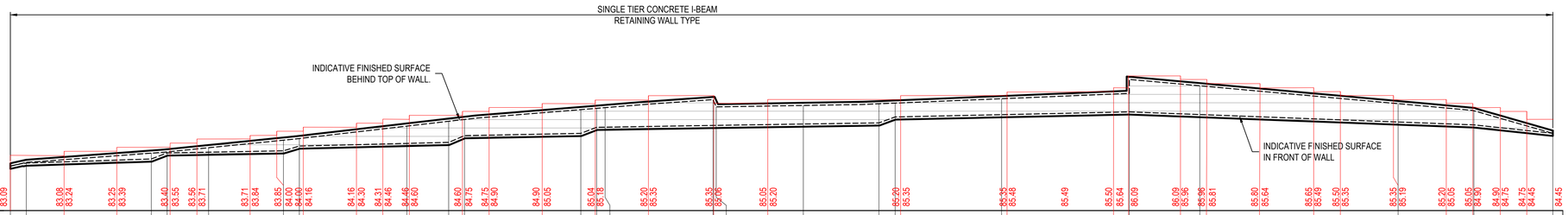
| DATUM R.L. 74 | | |

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- WALL TYPES TO BE IN ACCORDANCE WITH THE 'MIRVAC LOT BENCHING SPECIFICATION'.



| DATUM R.L. 81 | | |

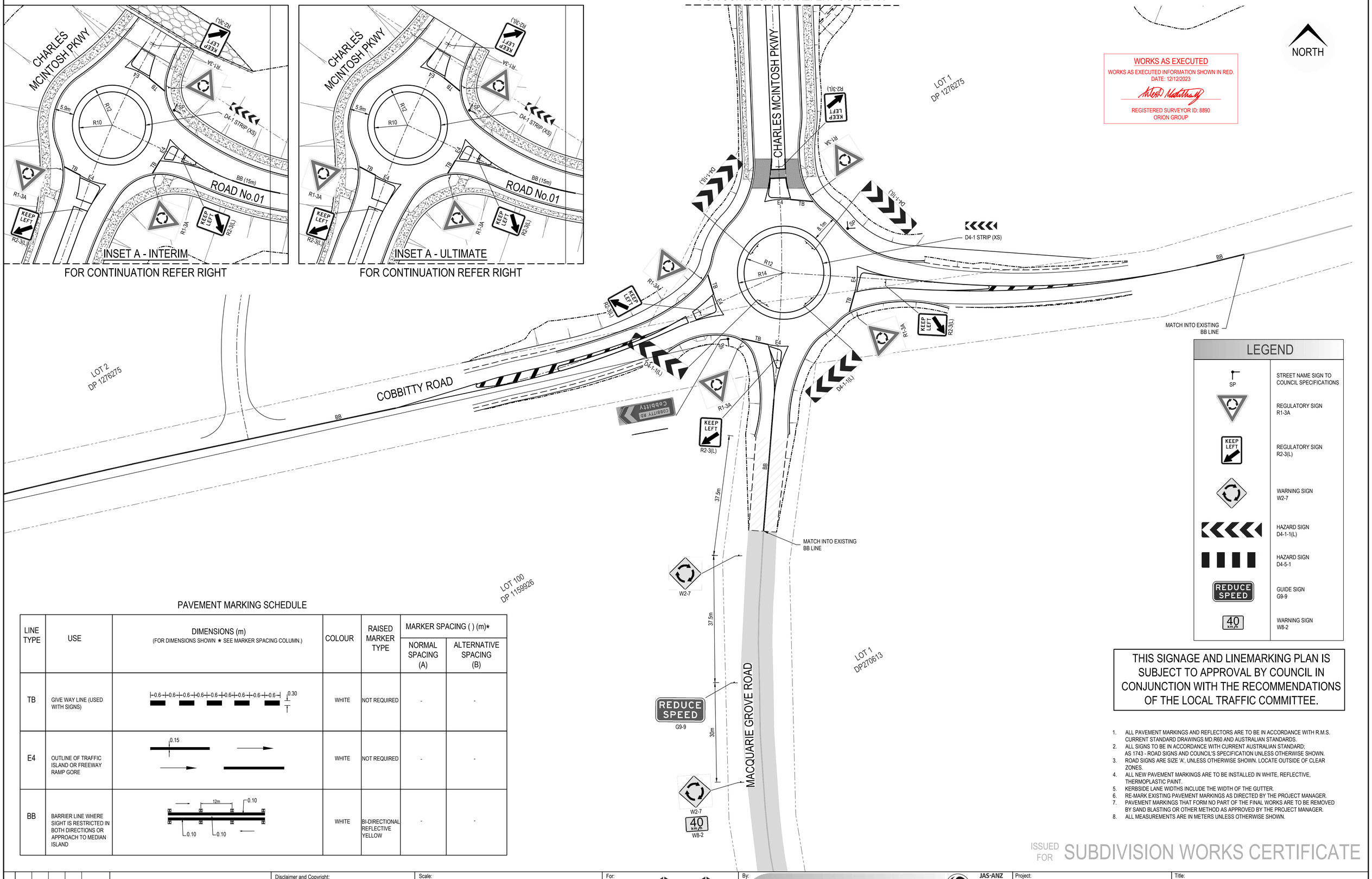
INSET A - INTERIM

FOR CONTINUATION REFER RIGHT

INSET A - ULTIMATE

FOR CONTINUATION REFER RIGHT

FOR CONTINUATION REFER TO INSET A



WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

SP	STREET NAME SIGN TO COUNCIL SPECIFICATIONS
	REGULATORY SIGN R1-3A
KEEP LEFT	REGULATORY SIGN R2-3(L)
	WARNING SIGN W2-7
	HAZARD SIGN D4-1-1(L)
	HAZARD SIGN D4-5-1
REDUCE SPEED	GUIDE SIGN G9-9
40 km/h	WARNING SIGN W8-2

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7. PAVEMENT MARKINGS THAT FORM NO PART OF THE FINAL WORKS ARE TO BE REMOVED BY SAND BLASTING OR OTHER METHOD AS APPROVED BY THE PROJECT MANAGER.
8. ALL MEASUREMENTS ARE IN METERS UNLESS OTHERWISE SHOWN.

PAVEMENT MARKING SCHEDULE

LINE TYPE	USE	DIMENSIONS (m) (FOR DIMENSIONS SHOWN * SEE MARKER SPACING COLUMN.)	COLOUR	RAISED MARKER TYPE	MARKER SPACING ( ) (m)* NORMAL SPACING (A)	MARKER SPACING ( ) (m)* ALTERNATIVE SPACING (B)
TB	GIVE WAY LINE (USED WITH SIGNS)	0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.30	WHITE	NOT REQUIRED	-	-
E4	OUTLINE OF TRAFFIC ISLAND OR FREEWAY RAMP GORE	0.15	WHITE	NOT REQUIRED	-	-
BB	BARRIER LINE WHERE SIGHT IS RESTRICTED IN BOTH DIRECTIONS OR APPROACH TO MEDIAN ISLAND	12m, 0.10, 0.10, 0.10	WHITE	BI-DIRECTIONAL REFLECTIVE YELLOW	-	-

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale: 0 5 10 15 20 25 30 35 40 45 50
SCALE 1:500 (A1) SCALE 1:1000 (A3)

For: mirvac

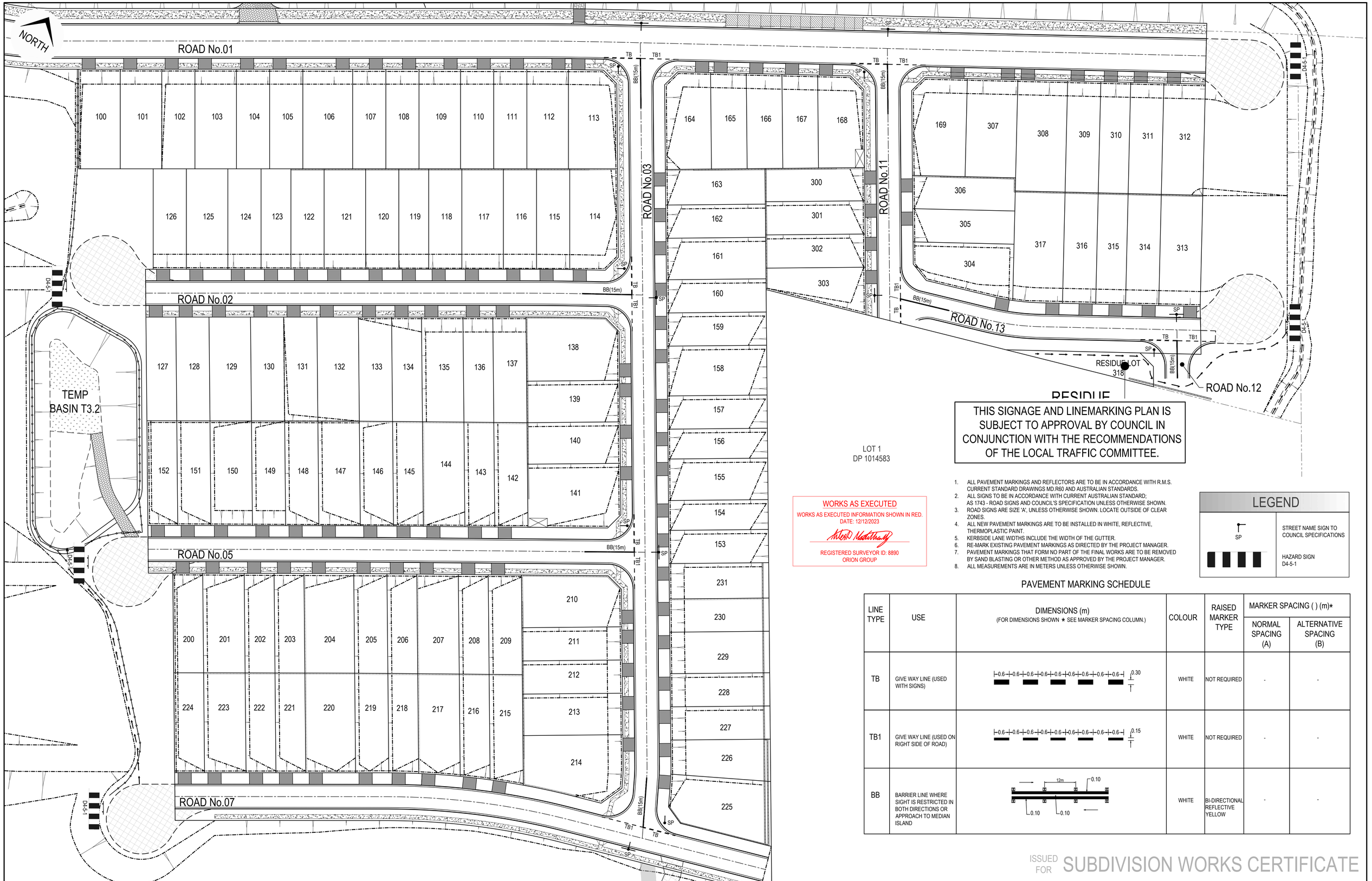
By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theorionngroup.au

JAS-ANZ WWW.JAS-ANZ.ORG/REGISTER

Project: LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title: SIGNAGE & LINEMARKING PLAN
SHEET 01 OF 02

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	800	E



THIS SIGNAGE AND LINEMARKING PLAN IS SUBJECT TO APPROVAL BY COUNCIL IN CONJUNCTION WITH THE RECOMMENDATIONS OF THE LOCAL TRAFFIC COMMITTEE.

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

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LEGEND

SP	STREET NAME SIGN TO COUNCIL SPECIFICATIONS
	HAZARD SIGN D4-5-1

PAVEMENT MARKING SCHEDULE

LINE TYPE	USE	DIMENSIONS (m) (FOR DIMENSIONS SHOWN * SEE MARKER SPACING COLUMN.)	COLOUR	RAISED MARKER TYPE	MARKER SPACING ( ) (m)* NORMAL SPACING (A)	MARKER SPACING ( ) (m)* ALTERNATIVE SPACING (B)
TB	GIVE WAY LINE (USED WITH SIGNS)	0.6 – 0.6 – 0.6 – 0.6 – 0.6 – 0.6 – 0.6 – 0.6 – 0.6, 0.30	WHITE	NOT REQUIRED	-	-
TB1	GIVE WAY LINE (USED ON RIGHT SIDE OF ROAD)	0.6 – 0.6 – 0.6 – 0.6 – 0.6 – 0.6 – 0.6 – 0.6 – 0.6, 0.15	WHITE	NOT REQUIRED	-	-
BB	BARRIER LINE WHERE SIGHT IS RESTRICTED IN BOTH DIRECTIONS OR APPROACH TO MEDIAN ISLAND	12m, 0.10, 0.10, 0.10	WHITE	BI-DIRECTIONAL REFLECTIVE YELLOW	-	-

ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
C	WP	AP/CS	AP/CS	AP/CS	31/01/2023	RE-ISSUED FOR SUBDIVISION WORKS CERTIFICATE
B	WP	AP/CS	AP/CS	AP/CS	21/12/2022	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
A	CF	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 5 10 15 20 25 30 35 40 45 50
SCALE 1:500 (A1) SCALE 1:1000 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

JAS-ANZ
SUSTAINABLE CERTIFICATION
WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
SIGNAGE & LINEMARKING PLAN
SHEET 02 OF 02

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	801	E

NORTH

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

EXISTING R4-1 80 SIGNAGE
EXISTING R4-1 60 SIGNAGE
315m
EXISTING R4-1 80 SIGNAGE
445m
R4-1 (80)
R4-1 (80)
R4-1 (60)
R4-1 (80)
R4-1 (60)
EXISTING R4-1 60 SIGNAGE
EXISTING R4-1 80 SIGNAGE

FOR CONTINUATION REFER TO DRG 803

LEGEND

60	REGULATORY SIGN R4-1 (60)
80	REGULATORY SIGN R4-1 (80)

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ISSUED FOR SUBDIVISION WORKS CERTIFICATE

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	YK	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 10 20 30 40 50 60 70 80 90 100
SCALE 1:1000 (A1) SCALE 1:2000 (A3)

For: mirvac

By: Orion Consulting
JAS-ANZ
WWW.JAS-ANZ.ORG/REGISTER
ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
SPEED LIMIT SIGNAGE PLAN
SHEET 01 OF 04

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	802	E

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

FOR CONTINUATION REFER TO DRG 802

FOR CONTINUATION REFER TO DRG 804

CHARLES MCINTOSH PKWY

COBBITTY ROAD

MACQUARIE GROVE ROAD

FUTURE ROAD 10 CENTRELINE

LOT 1
DP 1276275

LOT 2
DP 1276275

LOT 100
DP 1159926

LOT 1
DP270613

105m

170m

135m

165m

EXISTING R4-1 80 SIGNAGE

NEXT R4-1 70 SIGN LOCATED 1.1km SOUTH

EXISTING R4-1 70 SIGNAGE

475 485 495 499 501

200 201 202 203 204 205 216 217 218 219 220 221 222 223 224

LEGEND

70	REGULATORY SIGN R4-1 (70)
80	REGULATORY SIGN R4-1 (80)

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E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	YK	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 10 20 30 40 50 60 70 80 90 100
SCALE 1:1000 (A1) SCALE 1:2000 (A3)

For: mirvac

By: Orion Consulting
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WWW.JAS-ANZ.ORG/REGISTER
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
SPEED LIMIT SIGNAGE PLAN
SHEET 02 OF 04

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	803	E

FOR CONTINUATION REFER TO DRG 803

FOR CONTINUATION REFER TO DRG 805

NORTH

WORKS AS EXECUTED
WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023
REGISTERED SURVEYOR ID: 8890
ORION GROUP

EXISTING R4-240 SIGNAGE
EXISTING R4-230 SIGNAGE
EXISTING R4-1 80 SIGNAGE
EXISTING R4-1 80 SIGNAGE
220m
525m
R4-230
R4-230
R4-230
R4-230
R4-1 (80)
R4-1 (80)
581
585

LEGEND

R4-230	REGULATORY SIGN R4-230
80 R4-1 (80)	REGULATORY SIGN R4-1 (80)

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ISSUED FOR **SUBDIVISION WORKS CERTIFICATE**

Rev	Drawn	Design	Check	Appd.	Date	Revision Description
E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	YK	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
0 10 20 30 40 50 60 70 80 90 100
SCALE 1:1000 (A1) SCALE 1:2000 (A3)

For: mirvac

By: Orion Consulting
JAS-ANZ
WWW.JAS-ANZ.ORG/REGISTER
ABN:25 604 069 981 **PO Box:**7936, BAULKHAM HILLS NSW 2153 **T:**(02) 8660 0035 **E:**info@theoriongroup.au

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
SPEED LIMIT SIGNAGE PLAN
SHEET 03 OF 04

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	804	E

NORTH

FOR CONTINUATION REFER TO DRG 804

585

EXISTING R4-240 SIGNAGE

220m

110m

85m

EXISTING R4-1 80 SIGNAGE

EXISTING R4-230 SIGNAGE

EXISTING R4-1 80 SIGNAGE

EXISTING R4-240 SIGNAGE

270m

EXISTING R4-1 80 SIGNAGE

WORKS AS EXECUTED

WORKS AS EXECUTED INFORMATION SHOWN IN RED.
DATE: 12/12/2023

REGISTERED SURVEYOR ID: 8890
ORION GROUP

LEGEND

	REGULATORY SIGN R4-230
80	REGULATORY SIGN R4-1 (80)

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E	WP	AP/CS	AP/CS	AP/CS	11/08/2023	ISSUED FOR SUBDIVISION WORKS CERTIFICATE
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
A	YK	AP/CF	AS	-	09/09/2022	ISSUED FOR TENDER

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Scale:
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SCALE 1:1000 (A1) SCALE 1:2000 (A3)

For: mirvac

By: Orion Consulting
ABN:25 604 069 981 PO Box:7936, BAULKHAM HILLS NSW 2153 T:(02) 8660 0035 E:info@theoriongroup.au

JAS-ANZ
WWW.JAS-ANZ.ORG/REGISTER

Project:
LOT 1, DP 1276275
531 COBBITTY ROAD, COBBITTY
(TRANCHE 3, STAGE 1)
ROAD & DRAINAGE DESIGN

Title:
SPEED LIMIT SIGNAGE PLAN
SHEET 04 OF 04

Project No.	Set No.	Milestone	Plan	Revision
21-0258	09	SWC	805	E