22 April 2024 Our Reference: 24-0142

Sydney Water Corporation
1 Smith Street
Parramatta NSW 2150

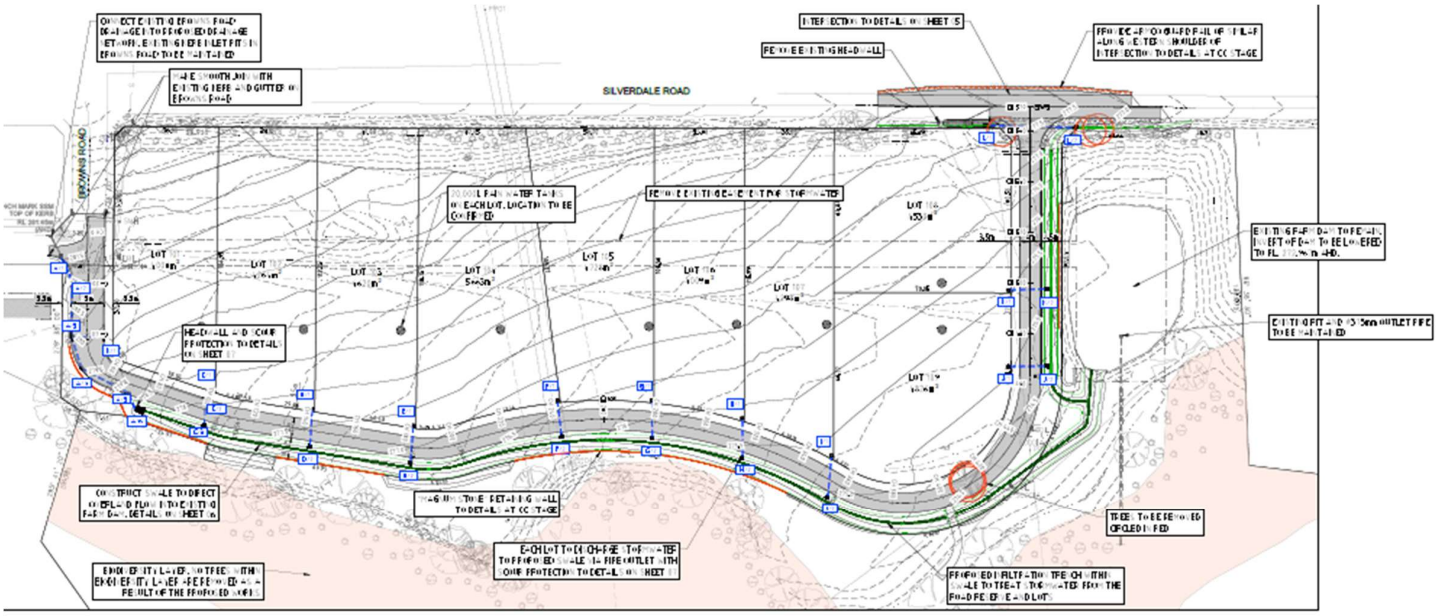
To whom it may concern,

RE: Feasibility Application for a Large Lot residential development in The Oaks CN 214636

This feasibility application is being lodged for the developer (Proficient Constructions (Aust) Pty Ltd) to receive guidance from Sydney Water regarding the potable water and wastewater servicing conditions for the proposed 9 large lot development of the following site:

- 80 Silverdale Road, The Oaks, Lot 3 DP1201486

The existing development is rural land. The proposed development is a large lot residential subdivision, see below (in Appendix A is a copy of the draft civil plans for the site):



The client is asking for the following to be addressed as part of the feasibility letter:

Wastewater Servicing

Can Sydney Water please advise on the following:

- Would SWC accept servicing the large lots with a combination of gravity and LPSS (majority LPSS pending levels), refer to Appendix B for markup

- If there are any issues with capacity in the receiving system, please state where and of what nature the capacity issues are

Potable Water Servicing

Can Sydney Water please advise on the following:

- The solution for PW servicing would be to extend a DN100 main along the proposed road (see markup in Appendix B), would that be acceptable to SWC?
- If there are any issues with capacity, please state where and of what nature the capacity issues are

If there are any questions or if any further information is required, please do not hesitate to contact the undersigned.

Yours faithfully

Orion Group
Technical Director - Water Servicing – Florian Jaehne
E: f.jaehne@theoriongroup.au
P: 0498 493 479

Appendix A – Draft Civil Design Plans

PROPOSED RESIDENTIAL SUBDIVISION
LOT 3 DP 1201486, 80 SILVERDALE ROAD, THE OAKS
DEVELOPMENT APPLICATION CIVIL PLANS
MR & MRS NOCERA C/-
PROFICIENT CONSTRUCTIONS (AUST) PTY LTD

Sheet List Table	
Sheet Number	Sheet Title
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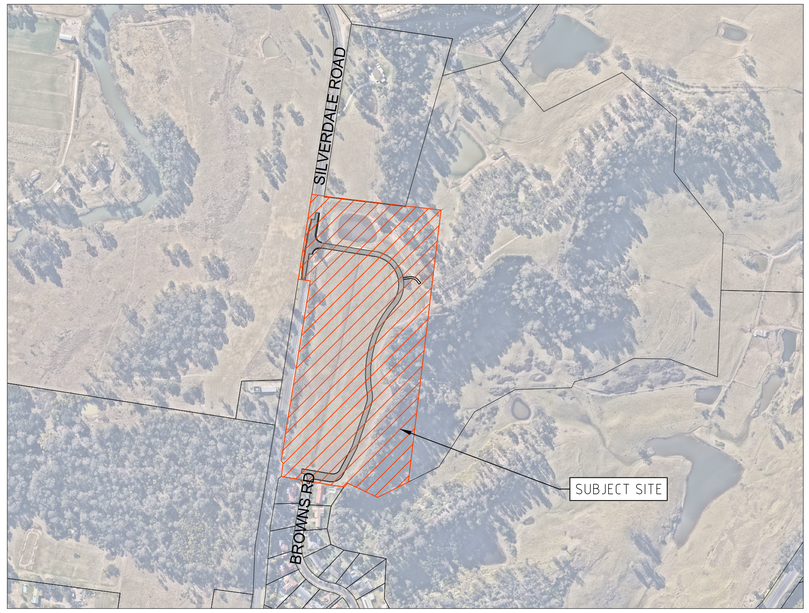
13	SOIL & WATER MANAGEMENT PLAN
14	SOIL & WATER MANAGEMENT DETAILS



LOCALITY SKETCH
1:2500 @ A1

LEGEND PROPOSED

- STORMWATER PIPE
- GRATED PIT
- JUNCTION PIT
- KERB INLET PIT
- SEDIMENT FENCE
- SEDIMENT TRAP (ST)
- TEMPORARY CONSTRUCTION EXIT
- RAINWATER TANK
- + 10.00 PAVEMENT LEVEL
- CONTOURS
- CATCHMENT BOUNDARY
- EDGE STRIP
- KERB & GUTTER
- RETAINING WALL
- SUBSOIL DRAINAGE
- SWALE WITH INFILTRATION TRENCH
- ROADSIDE GUARD RAIL

LEGEND EXISTING

- STORMWATER LINE
- STORMWATER PIT
- WATER LINE
- SEWER LINE
- TELSTRA LINE
- +10.00 EXISTING SPOT LEVEL
- EXISTING CONTOURS
- GAS LINE
- ELECTRICAL LINE

SERVICES ARE SHOWN INDICATIVE ONLY. CONTRACTOR TO CONFIRM ALL SERVICE LOCATIONS PRIOR TO CONSTRUCTION

DIMENSIONS SHALL NOT BE OBTAINED BY SCALING FROM THIS SET OF PLANS

GENERAL NOTES

G1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH WOLLONDILLY SHIRE COUNCIL DEVELOPMENT CODE AND TO THE REQUIREMENTS OF COUNCIL'S AUTHORISED OFFICER.
G2. INSPECTIONS BY THE AUTHORISED OFFICER SHALL BE CARRIED OUT AT THE FOLLOWING STAGES:
- (a) PRIOR TO INSTALLATION OF EROSION AND SEDIMENT CONTROL STRUCTURES
- (b) PRIOR TO BACKFILLING PIPELINES, SUBSOIL DRAINS, TRENCH BEDDING AND DAMS
- (c) PRIOR TO CASTING OF PITS AND OTHER CONCRETE STRUCTURES, INCLUDING KERB AND GUTTER
- (d) PROOF ROLLER TEST OF SUBGRADE AND SUB-BASE
- (e) ROLLER TEST OF COMPLETED PAVEMENT PRIOR TO PLACEMENT OF WEARING COURSE
- (f) FORMWORKS PRIOR TO POURING CONCRETE IN PARKING AREA FOR FOOTPATH CROSSING AND OTHER ASSOCIATED WORK
- (g) PRIOR TO BACKFILLING PUBLIC UTILITY CROSSINGS IN ROAD RESERVES
- (h) PRIOR TO PLACEMENT OF ASPHALTIC CONCRETE
- (i) FINAL INSPECTION AFTER ALL WORKS ARE COMPLETED AND 'WORKS AS EXECUTED' PLANS HAVE BEEN SUBMITTED TO COUNCIL

G3. NO TREES TO BE REMOVED UNLESS APPROVAL IS GRANTED BY COUNCIL.
G4. MAKE SMOOTH JUNCTIONS WITH EXISTING WORKS.
G5. NO WORK TO BE CARRIED OUT ON COUNCIL PROPERTY OR ADJOINING PROPERTIES WITHOUT THE WRITTEN PERMISSION FROM THE OWNER.
G6. VEHICULAR ACCESS AND ALL SERVICES 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 AT COMPLETION OF WORKS.
G8. A TRAFFIC CONTROL PLAN IS TO BE SUBMITTED TO COUNCIL WITH A SECTION 138 APPLICATION PRIOR TO COMMENCEMENT OF WORKS.
G9. ALL FILL AREAS ARE TO BE INSPECTED BY A GEOTECHNICAL ENGINEER PRIOR TO STRIPPING AND ANY RECOMMENDATIONS REGARDING TREATMENT OF SALINE AFFECTATION ARE TO BE IMPLEMENTED.
G10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF THE LOCATION OF ANY EXISTING SERVICES AFFECTING THE WORKS AREA, ANY DAMAGED SERVICES SHALL BE REPAIRED AT THE CONTRACTORS COST.

EARTHWORKS NOTES

E1. EARTHWORKS TO BE CARRIED OUT TO THE SATISFACTION OF THE PCA AND GEOTECHNICAL ENGINEER. UNSOUND MATERIALS ARE TO BE REMOVED FROM ROADS AND LOTS PRIOR TO FILLING. THE CONTRACTOR IS TO ARRANGE AND MAKE AVAILABLE COMPACTION CERTIFICATES WHERE REQUIRED.
E2. WHERE THE SLOPE OF THE NATURAL SURFACE EXCEEDS ONE IN FOUR (1:4), BENCHES ARE TO BE CUT TO PREVENT SLIPPING OF THE PLACED FILL MATERIAL AS REQUIRED BY THE PCA AND GEOTECHNICAL ENGINEER.
E3. ALL BATTERS ARE TO BE SCARIFIED TO ASSIST WITH ADHESION OF TOP SOIL TO BATTER FACE.
E4. PROVIDE MINIMUM 150mm AND MAXIMUM 300mm TOPSOIL WITH GRASS SEEDING ON FOOTPATHS, FILLED AREAS AND ALL OTHER AREAS DISTURBED DURING CONSTRUCTION.
E5. THE CONTROL TESTING OF EARTHWORKS SHALL BE IN ACCORDANCE WITH THE GUIDELINES IN AUSTRALIAN STANDARD 3798 – 2007. WHERE IT IS PROPOSED TO USE TEST METHOD AS1289 E8.1 OR AS1289 E8.2 TO DETERMINE THE FIELD DENSITY, A SAND REPLACEMENT METHOD SHALL BE USED TO CONFIRM THE RESULTS AS DIRECTED BY COUNCIL.
THE GEOTECHNICAL TESTING AUTHORITY SHALL HAVE A LEVEL 1 RESPONSIBILITY FOR ALL FILLING AS DEFINED IN APPENDIX B AS 3798-2007, AND AT THE END OF THE WORKS SHALL CONFIRM THE EARTHWORKS COMPLY WITH THE REQUIREMENTS OF THE SPECIFICATION AND DRAWINGS.
E6. THE CONTRACTOR SHALL CONTROL SEDIMENTATION, EROSION AND POLLUTION DURING CONSTRUCTION IN ACCORDANCE WITH MANAGING URBAN STORWATER: SOILS AND CONSTRUCTION VOLUME 1 (LANDCOM 2004) AND: MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION VOLUME 2 (DEPARTMENT OF ENVIRONMENT AND CLIMATE CHANGE 2007).

ROADWORKS NOTES

R1. SUBGRADE, SUB-BASE, AND BASE TO BE COMPACTED IN ACCORDANCE WITH WOLLONDILLY SHIRE COUNCILS DEVELOPMENT CODE.
R2. SUBSOIL DRAINS TO BE PROVIDED ON BOTH SIDES OF ROADS (EXCEPT WHERE THERE IS STORM WATER DRAINAGE).
R3. 150 X 50 H.D. GALVANISED STEEL KERB OUTLETS TO BE PLACED IN LAYBACK KERB AND 90mm DIA. GALVANISED STEEL PIPE SECTION TO BE PLACED IN UPRIGHT KERB ON LOW SIDE OF LOTS. PROVIDE SUITABLE ADAPTOR TO ALLOW CONNECTION OF 90mm DIA. STORM WATER PIPE.
R4. PERAMBULATOR CROSSINGS TO BE PROVIDED IN ALL KERB RETURNS OR WHERE REQUIRED BY COUNCIL.
R5. SERVICE CONDUITS TO BE PLACED AS DIRECTED BY ENDEAVOUR ENERGY, TELECOMMUNICATIONS AND AS REQUIRED BY THE SYDNEY WATER.
R6. PROPOSED SERVICES CROSSING EXISTING ROADS SHALL BE THRUST BORED UNDER THE ROAD SO AS NOT TO DAMAGE EXISTING SURFACE.
R7. SIGNPOSTING AND LINEMARKING TO CONFORM WITH AS1742.2 RAISED RETRO- REFLECTIVE PAVEMENT MARKERS TO CONFORM WITH AS1906.
R8. STREET SIGNS TO COMPLY WITH COUNCIL'S SPECIFICATION FOR STREET NAME SIGNS AND MUST BE INSTALLED BY THE DEVELOPER.
R9. ALL LEVELS ARE TO BE SET OUT FROM ESTABLISHED STATE SURVEY MARKS.

STORMWATER NOTES

S1. ALL PIPES TO BE SPIGOT AND SOCKET, RUBBER RING JOINTED. ALL PIPES IN ROAD RESERVES (OTHER THAN ROOF WATER AND SUBSOIL) ARE TO BE STEEL REINFORCED CONCRETE PIPES.
S2. ALL LONGITUDINAL PIPELINES IN ROADS MUST BE LOCATED UNDER KERB AND GUTTER AND BE BACKFILLED WITH 7mm AGGREGATE WHERE 10-15% OF FINES IS ALLOWABLE UNLESS OTHERWISE INDICATED ON PLANS AND APPROVED BY COUNCIL.
S3. DRAINAGE LINES MUST BE BACKFILLED AS PER WOLLONDILLY SHIRE COUNCILS DEVELOPMENT CODE. THREE (3) METRES OF AGLINE WRAPPED IN GEOTECH 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. PROVIDE SL72 REINFORCEMENT AND STEP IRONS IN ALL PITS OVER 1.2M DEEP.
S6. CONCRETE TO HAVE MINIMUM COMPRESSIVE STRENGTH OF 25 MPA AT 28 DAYS UNLESS SPECIFIED OTHERWISE BY COUNCIL ENGINEER.
S7. ALL INTER ALLOTMENT DRAINAGE MUST HAVE A MINIMUM COVER OF 300mm TO THE TOP OF PIPE UNLESS OTHERWISE APPROVED BY THE COUNCIL ENGINEER.
S8. CATCH DRAINS MUST BE CONSTRUCTED AS PER SWMP.
S9. ALL COMMON DRAINAGE LINES MUST BE LAID CENTRALLY WITHIN 1.2m-3.0m EASEMENTS. CLEANING EYES MUST BE PROVIDED IMMEDIATELY DOWNSTREAM OF ALL SLOPE JUNCTIONS.
S10. ONE HUNDRED (100) YEAR OVERLAND FLOW PATHS MUST BE FORMED AND SHOWN ON WORK AS EXECUTED DRAWINGS.
S11. ADEQUATE PROVISION TO BE MADE FOR SCOURING AND SEDIMENTATION TO ALL DRAINAGE WORKS IN ACCORDANCE WITH WOLLONDILLY SHIRE COUNCILS DEVELOPMENT CODE.
S12. COMMON DRAINAGE LINES MUST BE INSTALLED AFTER SEWERAGE LINES HAVE BEEN INSTALLED WHERE SEWER IS PROPOSED ADJACENT TO INTER ALLOTMENT

GEOTECHNICAL NOTES

GT1. THE CONTRACTOR SHALL IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES AS NECESSARY, AND TO THE SATISFACTION OF COUNCIL PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND DURING CONSTRUCTION SEE SWMP.
GT2. TESTS SHALL BE UNDERTAKEN ON ANY PROPOSED FILL MATERIALS TO ENSURE THAT THEY DO NOT HAVE A HIGH DISPERSION POTENTIAL AS DEFINED BY EMERSON CRUMB/DISPERSION TESTS (AS1289 C8-1980)
GT3. ALL FILLING AND PAVEMENT CONSTRUCTION MUST BE UNDERTAKEN TO THE REQUIREMENTS OF AS3798-2007 THE FOLLOWING COMPACTION LEVELS ARE RECOMMENDED:

LOT FILLING	98%	STANDARD
ROAD SUB-GRADE	100%	STANDARD
ROAD SUB-BASE	95%	MODIFIED
ROAD BASE	98%	MODIFIED

GT4. ALL TESTING WORKS SHALL BE CONTROLLED AND CERTIFIED BY A N.A.T.A REGISTERED LABORATORY. A COLLATED COPY OF ALL TEST CERTIFICATES, ACCOMPANIED BY AN OVERALL SITE PLAN, CLEARLY INDICATING THE LOCATION OF EACH TEST AND FILL AREAS ETC, AND THE LABORATORY CERTIFICATE COVERING THE WHOLE OF THE AREA TESTED ARE TO BE FORWARDED TO COUNCIL UPON COMPLETION.
GT5. FINAL PAVEMENT THICKNESS TO BE DETERMINED AFTER BOXING OUT BY JOINT INSPECTION BY N.A.T.A REGISTERED LABORATORY AND COUNCIL'S ENGINEER. PAVEMENT REPORT TO BE AVAILABLE TO COUNCIL A MINIMUM OF TWO CLEAR DAYS PRIOR TO INSPECTION.

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REVISIONS

No.	DESCRIPTION	DRN	APP	DATE
A	PRELIMINARY CLIENT ISSUE	I.B.	A.C.	14.03.24
B	REVISED EARTHWORKS	I.B.	A.C.	05.04.24
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Height Datum	A.H.D
Drawn	I.B.
Designed	A.C.
Checked	A.C.
Approved	A.C.

Client Title: MR & MRS NOCERA C/-
PROFICIENT CONSTRUCTIONS (AUST)

Dwg Status: DA
Local Authority: WOLLONDILLY

Dwg Title: PROPOSED SUBDIVISION
80 SILVERDALE ROAD, THE OAKS
TITLE PAGE

Ref & Dwg No	23130.DA.C01
Sheet No	Sheet 01 of 14
Scale	AS NOTED @ A1
Date	05.04.24
Rev	B
	A1

CONNECT EXISTING BROWNS ROAD DRAINAGE INTO PROPOSED DRAINAGE NETWORK. EXISTING KERB INLET PITS IN BROWNS ROAD TO BE MAINTAINED

MAKE SMOOTH JOIN WITH EXISTING KERB AND GUTTER ON BROWNS ROAD

INTERSECTION TO DETAILS ON SHEET 05

REMOVE EXISTING HEADWALL

PROVIDE ARMCO GUARD RAIL OR SIMILAR ALONG WESTERN SHOULDER OF INTERSECTION TO DETAILS AT CC STAGE

SILVERDALE ROAD

BROWNS ROAD

BENCH MARK SSM
TOP OF KERB
RL 281.45m
(AHD)

20,000L RAIN WATER TANKS ON EACH LOT. LOCATION TO BE CONFIRMED

REMOVE EXISTING EASEMENT FOR STORMWATER

LOT 101 4006m²
LOT 102 4264m²
LOT 103 4620m²
LOT 104 5663m²
LOT 105 4728m²
LOT 106 4009m²
LOT 107 4298m²
LOT 108 4530m²
LOT 109 4826m²

EXISTING FARM DAM TO REMAIN. INVERT OF DAM TO BE LOWERED TO RL. 272.967m AHD.

EXISTING PIT AND Φ375mm OUTLET PIPE TO BE MAINTAINED

HEADWALL AND SCOUR PROTECTION TO DETAILS ON SHEET 07

CONSTRUCT SWALE TO DIRECT OVERLAND FLOW INTO EXISTING FARM DAM. DETAILS ON SHEET 06

"MAGNUM STONE" RETAINING WALL TO DETAILS AT CC STAGE

EACH LOT TO DISCHARGE STORMWATER TO PROPOSED SWALE VIA PIPE OUTLET WITH SCOUR PROTECTION TO DETAILS ON SHEET 07

TREES TO BE REMOVED CIRCLED IN RED

BIODIVERSITY LAYER. NO TREES WITHIN BIODIVERSITY LAYER ARE REMOVED AS A RESULT OF THE PROPOSED WORKS

PROPOSED INFILTRATION TRENCH WITHIN SWALE TO TREAT STORMWATER FROM THE ROAD RESERVE AND LOTS

CIVIL WORKS PLAN

SCALE 1:750

0 5 10 20 30 50 70

METRES

SCALE 1:750 @A1
1:1500 @A3

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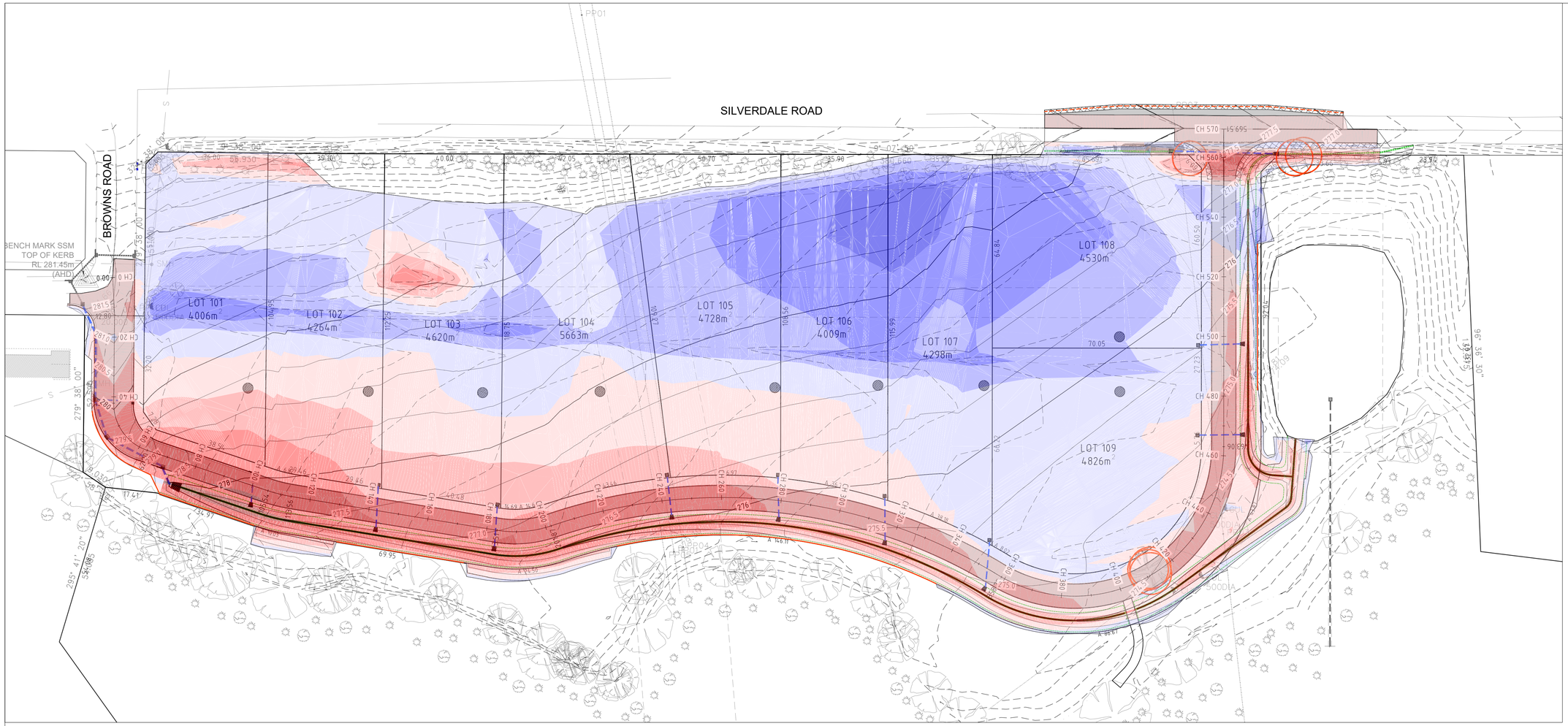
80 SILVERDALE ROAD, THE OAKS

CIVIL WORKS PLAN

Ref & Dwg No	23130.DA.C02
Sheet No	Sheet 02 of 14
Scale	1:750 @ A1
Date	05.04.24
Rev	B
	A1



BULK EARTHWORKS PLAN

SCALE 1:750

0 5 10 20 30 50 70

METRES

SCALE 1:750 @A1
1:1500 @A3

SURFACE ELEVATION DATA

NUMBER	MINIMUM ELEVATION	MAXIMUM ELEVATION	COLOR
1	-3.09	-2.50	
2	-2.50	-2.00	
3	-2.00	-1.50	
4	-1.50	-1.00	
5	-1.00	-0.50	
6	-0.50	0.00	
7	0.00	0.50	
8	0.50	1.00	
9	1.00	1.50	
10	1.50	1.80	

CUT/FILL SUMMARY

- CUT/FILL SUMMARY ASSUMED 200mm TOP SOIL STRIPPING PRIOR TO EXCAVATION OF CUT OR PLACEMENT OF FILL.

- NO ALLOWANCE MADE FOR UNSUITABLE MATERIAL THAT MAY BE ENCOUNTERED ON SITE.

SUMMARY

CUT=	13,981	cu.m
FILL=	17,576	cu.m
EXCAVATION OF TRENCHES=	275	cu.m
EXCAVATION OF PAVEMENT=	1957	cu.m
TOTAL IMPORT OF MATERIAL TO SITE=	1363	cu.m

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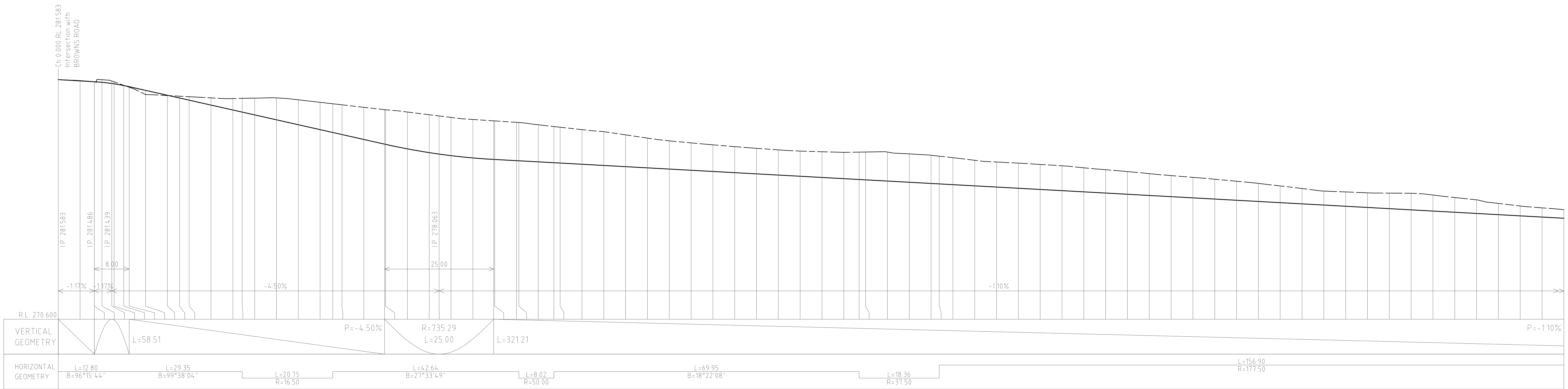
80 SILVERDALE ROAD, THE OAKS

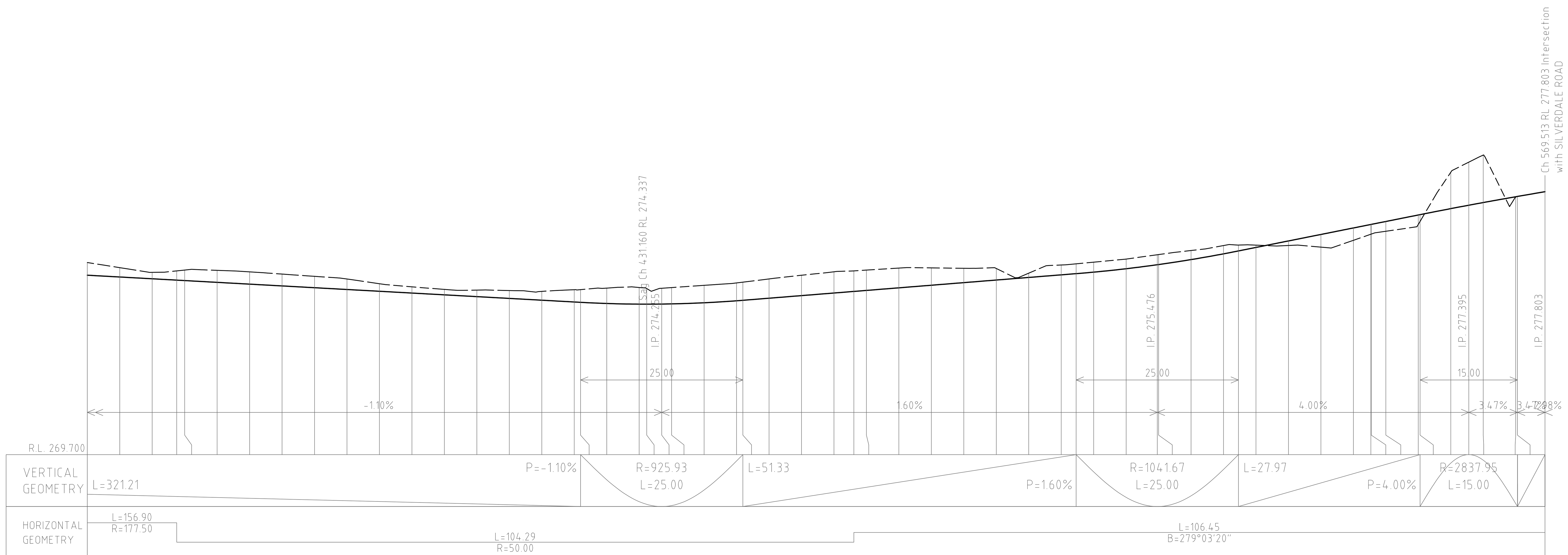
BULK EARTHWORKS

Ref & Dwg No: 23130.DA.C03
Sheet No: Sheet 03 of 14
Scale: 1:750 @ A1
Date: 05.04.24
Rev: B
A1



CHAINAGE	DESIGN SURFACE	EXISTING SURFACE
0.000	281.58	281.58
5.000	281.52	281.54
8.261	281.49	281.49
8.262	281.49	281.49
10.000	281.46	281.58
12.262	281.41	281.52
12.797	281.39	281.48
15.000	281.31	281.32
16.262	281.26	281.23
20.000	281.09	280.90
25.000	280.87	280.85
27.786	280.74	280.82
30.000	280.64	280.80
35.000	280.42	280.75
40.000	280.19	280.72
42.143	280.09	280.73
45.000	279.97	280.73
50.000	279.74	280.75
55.000	279.52	280.66
60.000	279.29	280.54
62.898	279.16	280.48
65.000	279.07	280.43
70.000	278.84	280.31
74.769	278.63	280.21
75.000	278.62	280.20
80.000	278.41	280.10
85.000	278.24	279.97
87.269	278.17	279.92
90.000	278.10	279.85
95.000	277.99	279.76
99.769	277.93	279.69
100.000	277.92	279.69
105.000	277.87	279.62
105.537	277.86	279.62
110.000	277.81	279.51
113.561	277.77	279.43
115.000	277.76	279.40
120.000	277.70	279.29
125.000	277.65	279.20
130.000	277.59	279.05
135.000	277.54	278.90
140.000	277.48	278.78
145.000	277.43	278.68
150.000	277.37	278.59
155.000	277.32	278.51
160.000	277.26	278.43
165.000	277.21	278.36
170.000	277.15	278.31
175.000	277.10	278.28
180.000	277.04	278.25
183.507	277.00	278.26
185.000	276.99	278.26
190.000	276.93	278.26
195.000	276.88	278.18
200.000	276.82	278.12
201.871	276.80	278.07
205.000	276.77	278.00
210.000	276.71	277.89
215.000	276.66	277.81
220.000	276.60	277.76
225.000	276.55	277.70
230.000	276.49	277.63
235.000	276.44	277.54
240.000	276.38	277.45
245.000	276.33	277.37
250.000	276.27	277.27
255.000	276.22	277.18
260.000	276.16	277.10
265.000	276.11	277.02
270.000	276.05	276.92
275.000	276.00	276.83
280.000	275.94	276.71
285.000	275.89	276.59
290.000	275.83	276.47
295.000	275.78	276.43
300.000	275.72	276.39
305.000	275.67	276.38
310.000	275.61	276.37
315.000	275.56	276.29
320.000	275.50	276.18
325.000	275.45	276.07
330.000	275.39	275.91
335.000	275.34	275.79
340.000	275.28	275.71
345.000	275.23	275.62

LONGITUDINAL SECTION
ROAD No. 1 Ch 0.000 to Ch 345.000
SCALES: HORIZONTAL 1:500 VERTICAL 1:100



CHAINAGE	DESIGN SURFACE	EXISTING SURFACE
345.000	275.23	275.62
350.000	275.17	275.46
355.000	275.12	275.32
358.774	275.08	275.36
360.000	275.06	275.39
365.000	275.01	275.38
370.000	274.95	275.33
375.000	274.90	275.26
380.000	274.84	275.19
385.000	274.79	275.11
390.000	274.73	274.97
395.000	274.68	274.87
400.000	274.62	274.79
405.000	274.57	274.77
410.000	274.51	274.76
415.000	274.46	274.73
420.000	274.40	274.78
420.975	274.39	274.78
425.000	274.36	274.83
430.000	274.34	274.85
431.160	274.34	274.82
433.475	274.34	274.83
435.000	274.34	274.85
440.000	274.38	274.92
445.000	274.44	274.99
445.975	274.46	275.01
450.000	274.52	275.11
455.000	274.60	275.23
460.000	274.68	275.33
463.063	274.73	275.36
465.000	274.76	275.39
470.000	274.84	275.45
475.000	274.92	275.45
480.000	275.00	275.44
485.000	275.08	275.44
490.000	275.16	275.29
495.000	275.24	275.54
497.302	275.28	275.58
500.000	275.32	275.63
505.000	275.43	275.73
509.802	275.55	275.86
510.000	275.56	275.86
515.000	275.71	275.99
520.000	275.89	276.14
522.302	275.98	276.16
525.000	276.08	276.15
530.000	276.28	276.14
535.000	276.48	276.09
540.000	276.68	276.30
542.694	276.79	276.49
542.760	276.79	276.50
545.000	276.88	276.58
550.000	277.08	276.79
550.271	277.10	276.89
555.000	277.28	278.40
557.771	277.39	278.71
560.000	277.47	278.93
565.000	277.65	277.64
565.271	277.66	277.66
569.513	277.80	277.80

LONGITUDINAL SECTION
ROAD No. 1 Ch 345.000 to Ch 569.513
SCALES: HORIZONTAL 1:500 VERTICAL 1:100

T:\Projects\23130 80 Silverdale Road, The Oaks\Dwg\DA\23130_Roads.dwg

REVISIONS

No.	DESCRIPTION	DRN	APP	DATE
A	PRELIMINARY CLIENT ISSUE	I.B.	A.C.	14.03.24
B	REVISED EARTHWORKS	I.B.	A.C.	05.04.24
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Height Datum: A.H.D
Drawn: I.B.
Designed: A.C.
Checked: A.C.
Approved: A.C.

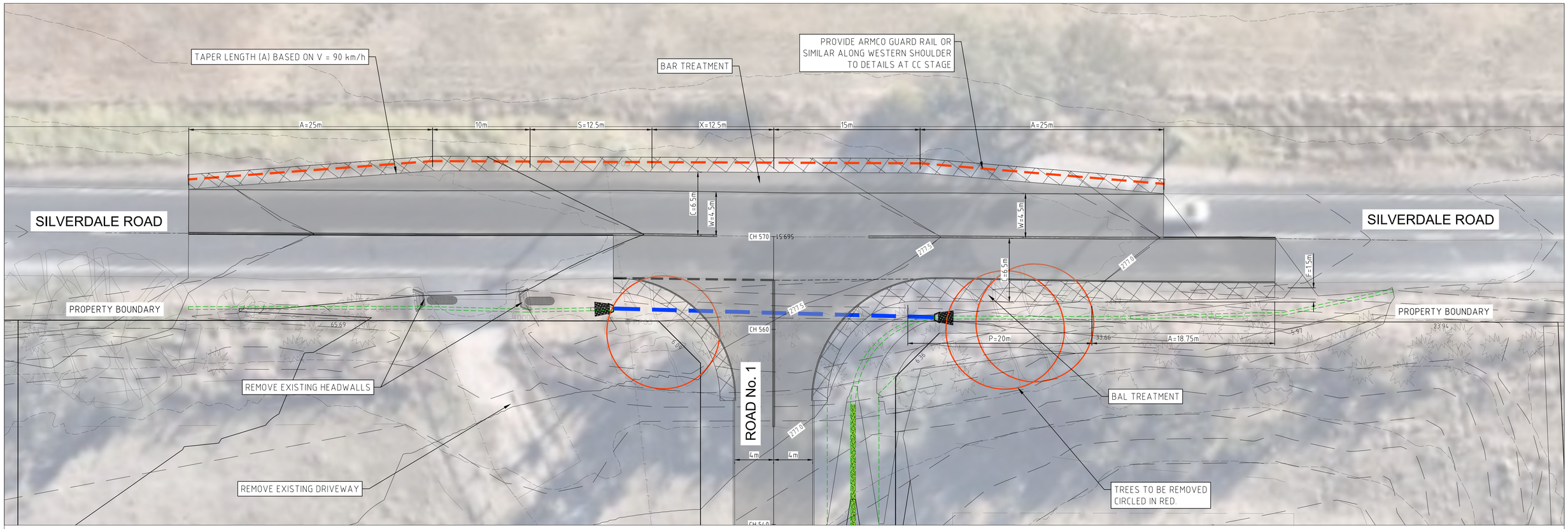
Client Title: MR & MRS NOCERA C/- PROFICIENT CONSTRUCTIONS (AUST)

Dwg Status: DA
Local Authority: WOLLONDILLY

Dwg Title: PROPOSED SUBDIVISION
80 SILVERDALE ROAD, THE OAKS

ROAD LONG SECTIONS

Ref & Dwg No: 23130.DA.C04
Sheet No: Sheet 04 of 14
Scale: AS NOTED @ A1
Date: 05.04.24
Rev: B
A1



LEGEND

- 40mm AC
- UNSEALED SHOULDER

INTERSECTION PLAN

SCALE 1:200

0 5 10 15 20 25 METRES

SCALE 1:200 @A1
1:400 @A3

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REVISIONS No.	DESCRIPTION	DRN	APP	DATE
A	PRELIMINARY CLIENT ISSUE	I.B.	A.C.	14.03.24
B	REVISED EARTHWORKS	I.B.	A.C.	05.04.24
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Approved	A.C.

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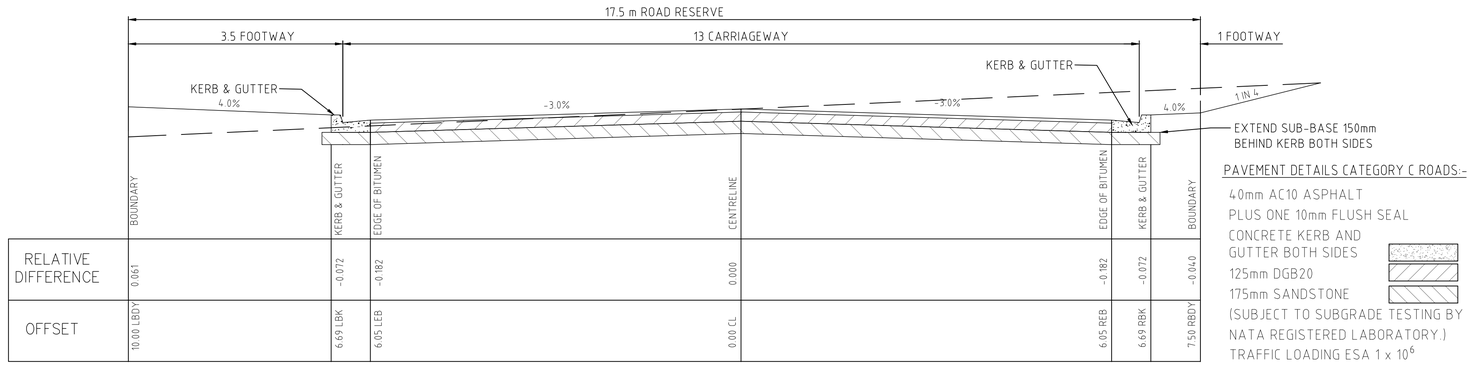
PROFICIENT CONSTRUCTIONS (AUST)

Dwg Status: DA
Local Authority: WOLLONDILLY

Dwg Title: PROPOSED SUBDIVISION
80 SILVERDALE ROAD, THE OAKS

INTERSECTION PLAN

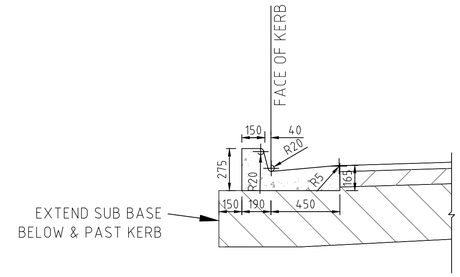
Ref & Dwg No	23130.DA.C05
Sheet No	Sheet 05 of 14
Scale	1:200 @ A1
Date	05.04.24
Rev	B
	A1



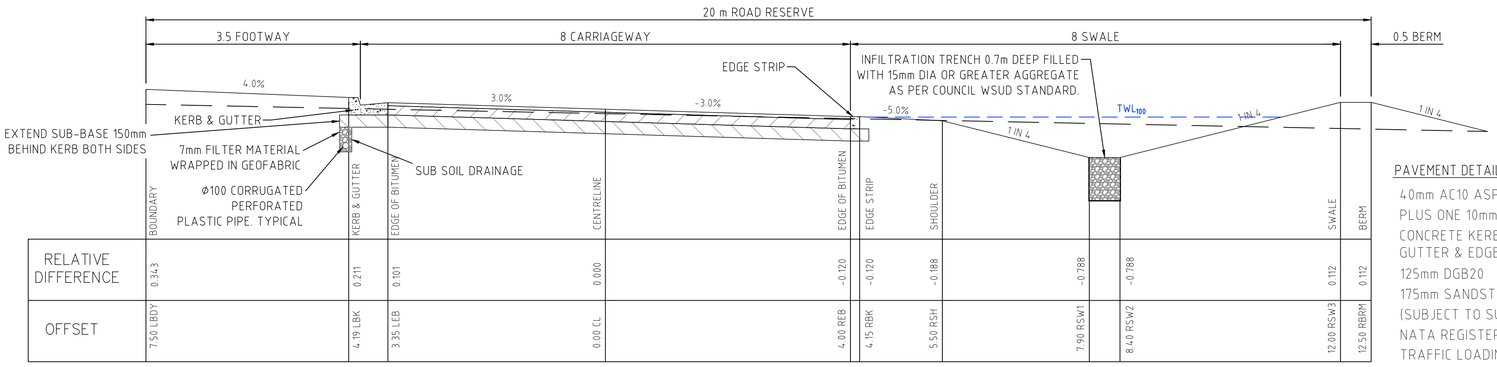
ROAD NO.1, CHAINAGES 0.000 - 71.306
TYPICAL CROSS SECTION
SCALE 1:50

PAVEMENT DETAILS CATEGORY C ROADS:-

40mm AC10 ASPHALT
PLUS ONE 10mm FLUSH SEAL
CONCRETE KERB AND GUTTER BOTH SIDES
125mm DGB20
175mm SANDSTONE
(SUBJECT TO SUBGRADE TESTING BY NATA REGISTERED LABORATORY.)
TRAFFIC LOADING ESA 1 x 10^6



KERB AND GUTTER (K&G)
SCALE 1:20



ROAD NO.1, CHAINAGES 71.306 - 101.000
TYPICAL CROSS SECTION
SCALE 1:50

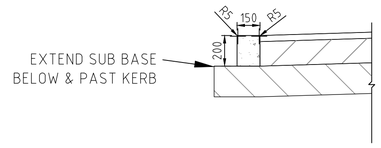
PAVEMENT DETAILS CATEGORY C ROADS:-

40mm AC10 ASPHALT
PLUS ONE 10mm FLUSH SEAL
CONCRETE KERB AND GUTTER & EDGE STRIP
125mm DGB20
175mm SANDSTONE
(SUBJECT TO SUBGRADE TESTING BY NATA REGISTERED LABORATORY.)
TRAFFIC LOADING ESA 1 x 10^6

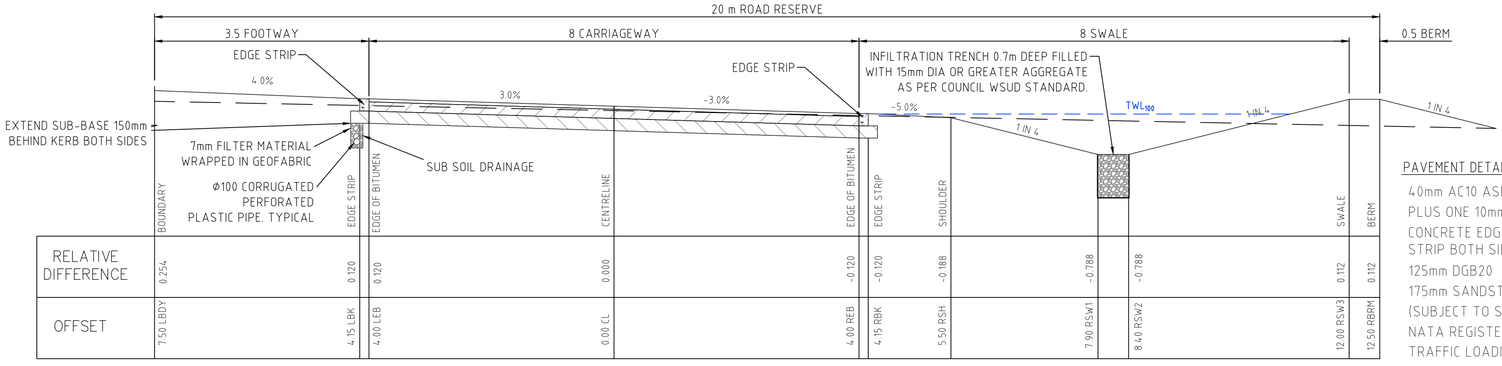
MANNING'S CALCULATIONS

S_0= 1.4% AVERAGE
'n'= 0.03
Q_{cap}= 4.16 m^3/s
V_A= 1.92 m/s
W.P.= 5.91 m
T.W.= 5.75 m
d= 0.66 m
$V.D_{max}$=1.27 m

FLOW CALCULATIONS:
Q_{100YR} = 3.94m^3/s



EDGE STRIP
SCALE 1:20



ROAD NO.1, CHAINAGES 101.000 - 569.513
TYPICAL CROSS SECTION
SCALE 1:50

PAVEMENT DETAILS CATEGORY C ROADS:-

40mm AC10 ASPHALT
PLUS ONE 10mm FLUSH SEAL
CONCRETE EDGE STRIP BOTH SIDES
125mm DGB20
175mm SANDSTONE
(SUBJECT TO SUBGRADE TESTING BY NATA REGISTERED LABORATORY.)
TRAFFIC LOADING ESA 1 x 10^6

MANNING'S CALCULATIONS

S_0= 1.4% AVERAGE
'n'= 0.03
Q_{cap}= 4.16 m^3/s
V_A= 1.92 m/s
W.P.= 5.91 m
T.W.= 5.75 m
d= 0.66 m
$V.D_{max}$=1.27 m

FLOW CALCULATIONS:
Q_{100YR} = 3.94m^3/s

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REVISIONS No.	DESCRIPTION	DRN	APP	DATE
A	PRELIMINARY CLIENT ISSUE	I.B.	A.C.	14.03.24
B	REVISED EARTHWORKS	I.B.	A.C.	05.04.24
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Designed	A.C.
Checked	A.C.
Approved	A.C.

Client Title: MR & MRS NOCERA C/- PROFICIENT CONSTRUCTIONS (AUST) ----

Dwg Status: DA

Local Authority: WOLLONDILLY

Dwg Title: PROPOSED SUBDIVISION 80 SILVERDALE ROAD, THE OAKS

ROAD TYPICAL SECTIONS

Ref & Dwg No	23130.DA.C06
Sheet No	Sheet 06 of 14
Scale	AS NOTED @ A1
Date	05.04.24
Rev	B
	A1

REFER TO FLOOD STUDY FOR DETAILS

CONNECT EXISTING BROWNS ROAD DRAINAGE INTO PROPOSED DRAINAGE NETWORK. EXISTING KERB INLET PITS IN BROWNS ROAD TO BE MAINTAINED

CONSTRUCT HEADWALL AND SCOUR PROTECTION TO PIPE OUTLET DETAIL BELOW TO CONVEY STORMWATER FROM SILVERDALE ROAD INTO ROAD SIDE SWALE. HEADWALL TO SUIT ⌀375mm RCP.

SILVERDALE RD

BROWNS RD

BENCH MARK SSM
TOP OF KERB
RL 281.45m
(AHD)

LOT 101 4006m²
LOT 102 4264m²
LOT 103 4620m²
LOT 104 5663m²
LOT 105 4728m²
LOT 106 4009m²
LOT 107 4298m²
LOT 108 4530m²
LOT 109 4826m²

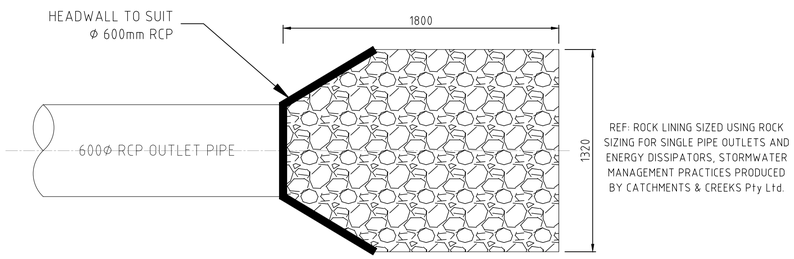
CAT - A/1 0.050ha
CAT - A/2 0.070ha
CAT - A/3 0.022ha
CAT - A/4 0.013ha
CAT - A/5 0.013ha
CAT - B/1 0.050ha
CAT - C/1 0.401ha
CAT - C/2 0.038ha
CAT - D/1 0.426ha
CAT - E/1 0.462ha
CAT - F/1 0.566ha
CAT - G/1 0.473ha
CAT - H/1 0.401ha
CAT - I/1 0.430ha
CAT - J/1 0.483ha
CAT - K/1 0.453ha
CAT - L/1 0.317ha

HEADWALL AND SCOUR PROTECTION TO DETAILS BELOW

WHOLE SITE TO DRAIN TO EXISTING FARM DAM

CONSTRUCT SWALE TO DETAILS ON SHEET 06 TO DIRECT OVERLAND FLOW INTO EXISTING FARM DAM

EACH LOT TO DISCHARGE STORMWATER TO PROPOSED SWALE VIA PIPE OUTLET WITH SCOUR PROTECTION TO DETAILS BELOW

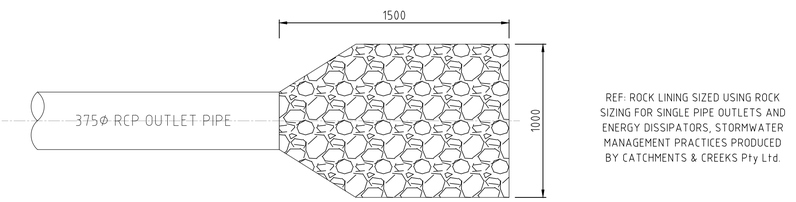


HEADWALL SCOUR PROTECTION DETAIL
SCALE 1:20

CATCHMENT PLAN
SCALE 1:750

0 5 10 20 30 50 70
METRES

SCALE 1:750 @A1
1:1500 @A3



PIPE OUTLET SCOUR PROTECTION DETAIL
SCALE 1:20

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REVISIONS

No.	DESCRIPTION	DRN	APP	DATE
A	PRELIMINARY CLIENT ISSUE	I.B.	A.C.	14.03.24
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Client Title: MR & MRS NOCERA C/- PROFICIENT CONSTRUCTIONS (AUST)

Dwg Status: DA

Local Authority: WOLLONDILLY

Dwg Title: PROPOSED SUBDIVISION
80 SILVERDALE ROAD, THE OAKS

CATCHMENT PLAN

Ref & Dwg No	23130.DA.C07
Sheet No	Sheet 07 of 14
Scale	1:750 @ A1
Date	05.04.24
Rev	B
	A1

Pit Schedule - Site Drainage

Pit No.	Pit Type	Pit Width	Pit Length	Outlet Diameter	Outlet Invert RL	Inlet Diameter	Inlet Invert RL	Pit Depth	Pit Lid Level	Easting	Northing	Comment
		(mm)	(mm)	(mm)	(m)	(mm)	(m)	(m)	(m)	(m)	(m)	
A/6	HEADWALL					600	278.273	0.948	279.221	276224.52	6227521.223	
A/5	KIP 2.4m Lintel	600	900	600	278.339	600	278.339	1.282	279.621	276218.38	6227519.980	
A/4	KIP 1.2m Lintel	600	900	600	278.552	600	278.577	1.273	279.825	276205.52	6227503.018	
A/3	KIP 2.4m Lintel	600	900	600	278.720	600	278.750	1.332	280.052	276192.60	6227501.243	
						375	278.991					
A/2	KIP 2.4m Lintel	600	900	600	279.640	600	279.674	1.322	280.962	276171.64	6227504.853	
B/1	KIP 2.4m Lintel	600	900	375	278.990			1.010	280.000	276195.11	6227513.365	
A/1	EXISTING PIT			600	280.070			1.525	281.595	276160.29	6227501.904	
C/3	PIPE OUTLET					375	278.085	0.910	278.995	276235.21	6227547.159	
C/2	KIP 2.4m Lintel	600	900	375	278.383	375	278.413	1.010	279.393	276225.63	6227549.698	
C/1	GSIP 900x900	900	900	375	278.610			1.057	279.667	276221.97	6227552.953	
D/2	PIPE OUTLET					375	277.390	1.010	278.400	276249.98	6227587.177	
D/1	GSIP 900x900	900	900	375	277.982			1.010	278.992	276235.79	6227590.335	
E/2	PIPE OUTLET					375	276.836	1.010	277.846	276262.62	6227625.349	
E/1	GSIP 900x900	900	900	375	277.384			1.010	278.394	276248.57	6227628.687	
F/2	PIPE OUTLET					375	276.114	1.010	277.124	276261.47	6227685.740	
F/1	GSIP 900x900	900	900	375	276.553			1.031	277.584	276247.68	6227686.349	
G/2	PIPE OUTLET					375	275.488	1.010	276.498	276267.86	6227721.009	
G/1	GSIP 900x900	900	900	375	276.076			1.010	277.086	276253.52	6227723.119	
H/2	PIPE OUTLET					375	274.960	1.010	275.970	276281.21	6227754.942	
H/1	GSIP 900x900	900	900	375	275.587			1.010	276.597	276266.14	6227757.245	
I/2	PIPE OUTLET					375	274.419	1.010	275.429	276301.74	6227785.616	
I/1	GSIP 900x900	900	900	375	275.052			1.010	276.062	276286.25	6227789.604	
J/2	PIPE OUTLET					375	273.563	1.010	274.573	276264.62	6227878.544	
J/1	GSIP 900x900	900	900	375	274.145			1.010	275.155	276262.52	6227863.996	
K/2	PIPE OUTLET					375	274.006	1.010	275.016	276234.57	6227883.333	
K/1	GSIP 900x900	900	900	375	274.570			1.010	275.580	276232.73	6227868.984	
L/2	HEADWALL					375	275.927	1.030	276.957	276173.36	6227904.242	
L/1	HEADWALL			375	276.265			1.201	277.466	276167.17	6227871.048	

HGL Report - Site Drainage Return Period: 20%yrs Location: depths The Oaks-2016

Pipe Connecting Pits (Downstream Upstream)	Pipe Class	Pipe Diameter	Pipe Length	Pipe Design Flow	Mannings n	Pipe Velocity	Pipe Part Velocity	Pipe Velocity Head	HGL at Downstream Pit	Pipe Friction Slope	Pipe Friction Loss	HGL at Upstream Pit	Pit Loss Coefficient	Pipe Head Loss	Adopted Upstream Water Level	Pit Surcharge Level (Pit Inlet/Outlet Level)	Downstream Pipe Obvert	Upstream Pipe Obvert	Downstream Pipe Invert	Upstream Pipe Invert	Pipe Slope	Pipe Design Flow	Pipe HGL Capacity	Pipe Manning Capacity
		(mm)	(m)	(l/s)		(m/s)	(m/s)	(m)	(m)	(%)	(m)	(m)	Ku	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(%)	(l/s)	(l/s)	(l/s)
A/2 A/1	Class 3 RCP	600	11.724	0.0	0.013	0.00	0.000	0.000	280.272	0.00	0.000	280.668	18.000	0.000	280.668	281.595	280.272	280.668	279.674	280.070	3.378	0.0	1540.6	0.0
A/3 A/2	Class 3 RCP	600	21.267	13.3	0.013	0.05	1.455	0.000	279.230	0.00	0.000	280.120	2.200	0.000	280.120	280.962	279.348	280.238	278.750	279.640	4.185	13.3	1717.9	1245.0
A/4 A/3	Class 3 RCP	600	13.046	27.0	0.013	0.10	1.126	0.000	279.085	0.00	0.000	279.228	2.650	0.001	279.230	280.052	279.175	279.318	278.577	278.720	1.098	27.0	867.6	637.7
A/5 A/4	Class 3 RCP	600	21.282	29.5	0.013	0.10	1.118	0.001	278.872	0.00	0.000	279.085	1.014	0.001	279.085	279.825	278.937	279.150	278.339	278.552	1.000	29.5	826.9	608.6
A/6 A/5	Class 3 RCP	600	6.267	31.9	0.013	0.11	1.168	0.001	278.871	0.00	0.000	278.871	1.000	0.001	278.872	279.621	278.871	278.937	278.273	278.339	1.052	31.9	848.7	624.2
A/3 B/1	Class 3 RCP	375	12.380	16.5	0.013	0.15	0.150	0.001	279.366	0.00	0.001	279.367	17.659	0.020	279.387	280.000	279.366	279.365	278.991	278.990	-0.008	16.5	18.9	16.1
C/2 C/1	Class 3 RCP	375	4.901	55.6	0.013	0.50	2.321	0.013	278.558	0.00	0.003	278.755	11.835	0.153	278.908	279.667	278.788	278.985	278.413	278.610	4.020	55.6	497.6	351.5
C/3 C/2	Class 3 RCP	375	9.914	83.3	0.013	0.75	2.348	0.029	278.460	0.00	0.013	278.518	1.406	0.041	278.558	279.393	278.460	278.758	278.085	278.383	3.011	83.3	429.3	304.2
D/2 D/1	Class 3 RCP	375	14.530	59.1	0.013	0.54	2.377	0.015	277.765	0.00	0.010	278.086	11.365	0.166	278.252	278.992	277.765	278.357	277.390	277.982	4.075	59.1	501.1	353.9
E/2 E/1	Class 3 RCP	375	14.433	64.1	0.013	0.58	2.370	0.017	277.211	0.00	0.011	277.494	10.823	0.186	277.680	278.394	277.211	277.759	276.836	277.384	3.795	64.1	483.2	341.6
F/2 F/1	Class 3 RCP	375	13.808	78.5	0.013	0.71	2.356	0.026	276.489	0.00	0.016	276.681	9.373	0.242	276.923	277.584	276.489	276.928	276.114	276.553	3.179	78.5	441.4	312.6
G/2 G/1	Class 3 RCP	375	14.498	65.6	0.013	0.59	2.446	0.018	275.863	0.00	0.012	276.186	10.661	0.192	276.377	277.086	275.863	276.451	275.488	276.076	4.058	65.6	500.0	353.2
H/2 H/1	Class 3 RCP	375	15.245	55.6	0.013	0.50	2.343	0.013	275.335	0.00	0.009	275.687	11.829	0.153	275.840	276.597	275.335	275.962	274.960	275.587	4.114	55.6	503.5	355.6
I/2 I/1	Class 3 RCP	375	16.002	59.6	0.013	0.54	2.359	0.015	274.794	0.00	0.011	275.157	11.308	0.168	275.325	276.062	274.794	275.427	274.419	275.052	3.959	59.6	493.8	348.8
I/2 I/1	Class 3 RCP	375	16.002	59.6	0.013	0.54	2.359	0.015	274.794	0.00	0.011	275.157	11.308	0.168	275.325	276.062	274.794	275.427	274.419	275.052	3.959	59.6	493.8	348.8
J/2 J/1	Class 3 RCP	375	14.699	66.9	0.013	0.61	2.439	0.019	273.938	0.00	0.013	274.256	10.519	0.197	274.453	275.155	273.938	274.520	273.563	274.145	3.959	66.9	493.7	348.8
K/2 K/1	Class 3 RCP	375	14.466	62.8	0.013	0.57	2.383	0.017	274.381	0.00	0.011	274.678	10.960	0.181	274.859	275.580	274.381	274.945	274.006	274.570	3.897	62.8	489.8	346.1
L/2 L/1	Class 3 RCP	375	33.767	60.2	0.013	0.55	1.441	0.015	276.302	0.00	0.024	276.416	11.235	0.170	276.587	277.466	276.302	276.640	275.927	276.265	1.000	60.2	243.5	175.3

Hydrologic Design Sheet - Site Drainage Return Period: 20% Location: depths The Oaks-2016

Pit	Catchment Flow Length	Catchment Slope	Catchment Roughness	Catchment Flow Time	Gutter Flow Time	Total Time	Pit C Factor	Total Catchment Area	Aera Contributing	Rainfall Intensity	Total Catchment Flow	Pit Type	Gutter Pit Inflow	Gutter Slope	Total Upstream Catchment
	(m)	(%)	'n'	(min)	(min)	(min)		(ha)	(l/s)	(mm/hr)	(l/s)		(l/s)	(%)	(ha)
A/1									0.0	118.9		SITEPLUS			0.0
A/2				20.00		20	1.000	0.07	0.1	68.4	13.3	SITEPLUS	9.3		0.1
	93.45	5.3	0.012				1.000	0.05							
							0.000								
	93.45	5.3	0.300				1.000	0.02							
A/3				5.00		5	1.000	0.02	0.1	118.9	7.3	SITEPLUS	5.1		0.1
	30.55	4.5	0.012				1.000	0.02							
							0.000								
	4.85	4.0	0.300				1.000	0.01							
A/4				5.00		5	1.000	0.01	0.2	118.9	4.3	SITEPLUS	3.0		0.2
	20.63	3.1	0.012				1.000	0.01							
							0.000								
	9.22	4.0	0.300				1.000	0.00							
A/5				5.00		5	1.000	0.01	0.2	118.9	4.3	SITEPLUS	3.0		0.2
	26.69	1.8	0.012				1.000	0.01							
							0.000								
	1.99	9.3	0.300				1.000	0.00							
B/1				5.00		5	1.000	0.05	0.1	118.9	16.5	SITEPLUS	11.6		0.1
	56.03	3.0	0.012				1.000	0.04							
							0.000								
	4.78	7.8	0.300				1.000	0.02							
C/1				20.00		20	1.000	0.40	0.4	68.4	76.1	SITEPLUS	22.8		0.4
	109.38	3.9	0.012				1.000	0.12							
							0.000								
	109.38	3.9	0.300				1.000	0.28							
C/2				5.00		5	1.000	0.04	0.4	118.9	12.6	SITEPLUS	8.8		0.4
	57.14	1.9	0.012				1.000	0.03							
							0.000								
	4.23	6.1	0.300				1.000	0.01							
D/1				20.00		20	1.000	0.43	0.4	68.4	81.0	SITEPLUS	24.3		0.4
	112.45	3.5	0.012				1.000	0.13							
							0.000								
	112.45	3.5	0.300				1.000	0.30							
E/1				20.00		20	1.000	0.46	0.5	68.4	87.8	SITEPLUS	26.3		0.5
	121.66	3.0	0.012				1.000	0.14							
							0.000								
	121.66	3.0	0.300				1.000	0.32							
F/1				20.00		20	1.000	0.57	0.6	68.4	107.6	SITEPLUS	32.3		0.6
	116.70	3.0	0.012				1.000	0.17							
							0.000								
	116.70	3.0	0.300				1.000	0.40							
G/1				20.00		20	1.000	0.47	0.5	68.4	89.8	SITEPLUS	26.9		0.5
	116.04	3.0	0.012				1.000	0.14							
							0.000								
	116.04	3.0	0.300				1.000	0.33							
H/1				20.00		20	1.000	0.40	0.4	68.4	76.2	SITEPLUS	22.9		0.4
	235.82	3.0	0.012				1.000	0.12							
							0.000								
	235.82	3.0	0.300				1.000	0.28							
I/1				20.00		20	1.000	0.43	0.4	68.4	81.7	SITEPLUS	24.5		0.4
	129.77	2.6	0.012				1.000	0.13							
							0.000								
	129.77	2.6	0.300				1.000	0.30							
J/1				20.00		20	1.000	0.48	0.5	68.4	91.7	SITEPLUS	27.5		0.5
	73.99	2.8	0.012				1.000	0.14							
							0.000								
	73.99	2.8	0.300				1.000	0.34							
K/1				20.00		20	1.000	0.45	0.5	68.4	86.1	SITEPLUS	25.8		0.5
	93.04	3.0	0.012				1.000	0.14							
							0.000								
	93.04	3.0	0.300				1.000	0.32							
L/1				20.00		20	1.000	0.32	0.3	68.4	60.2	SITEPLUS	42.2		0.3
	357.76	8.6	0.012				1.000	0.22							
							0.000								
	357.76	8.6	0.300				1.000	0.10							

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REVISIONS No.	DESCRIPTION	DRN	APP	DATE
A	PRELIMINARY CLIENT ISSUE	I.B.	A.C.	14.03.24
B	REVISED EARTHWORKS	I.B.	A.C.	05.04.24
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Height Datum	A.H.D
Drawn	I.B.
Designed	A.C.
Checked	A.C.
Approved	A.C.

Client Title: MR & MRS NOCERA C/- PROFICIENT CONSTRUCTIONS (AUST) ----

Dwg Status: DA

Local Authority: WOLLONDILLY

Dwg Title: PROPOSED SUBDIVISION 80 SILVERDALE ROAD, THE OAKS

DRAINAGE CALCULATIONS

Ref & Dwg No: 23130.DA.C08

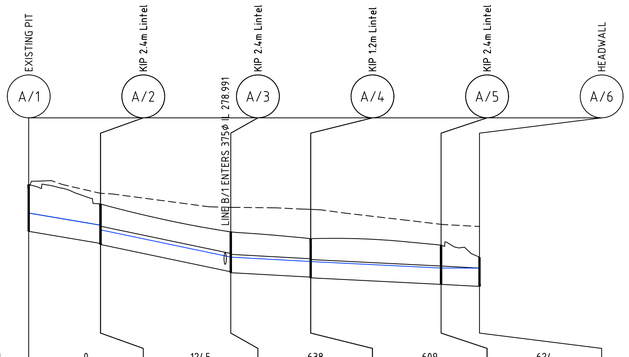
Sheet No: Sheet 08 of 14

Scale: AS NOTED @ A1

Date: 05.04.24

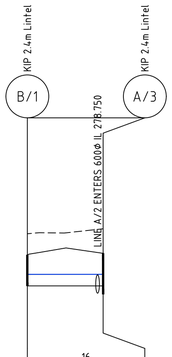
Rev: B

A1



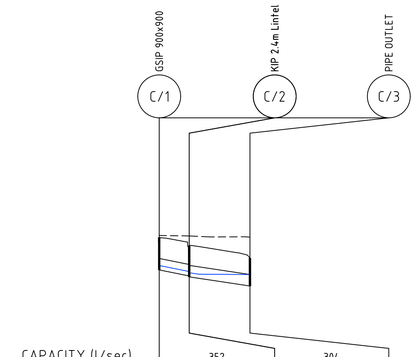
	A/1		A/2		A/3		A/4		A/5		A/6
CAPACITY (l/sec)		0		1245		638		609		624	
FLOW (l/sec)		0.00		13.30		26.98		29.45		31.92	
PIPE DETAILS		600Ø Class 3 RCP		600Ø Class 3 RCP		600Ø Class 3 RCP		600Ø Class 3 RCP		600Ø Class 3 RCP	
GRADE		3.378%		4.185%		1.098%		1.000%		1.052%	
DATUM RL 273.3											
HGL	280.668		280.272	280.120		279.230	279.228		278.872	278.871	278.871
DEPTH TO INVERT	1.525		1.288	1.322		1.302	1.332	1.248 / 1.273	1.282		0.948
INVERT LEVEL	280.070		279.674	279.640		278.750	278.720	278.527	278.339		278.273
FINISHED SURFACE	281.595		280.962		280.052		279.825		279.621		279.221
EXISTING SURFACE	281.557		281.311		280.854		280.789		280.299		280.228
CHAINAGE	0.000	11.724	11.724	21.267	32.991	13.046	46.037	21.282	67.319	6.267	73.586

LINE A
SCALES: HORIZ 1:500 VERT 1:100



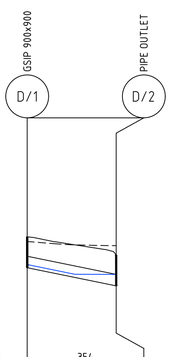
	B/1		A/3
CAPACITY (l/sec)		16	
FLOW (l/sec)		16.52	
PIPE DETAILS		375Ø Class 3 RCP	
GRADE		-0.008%	
DATUM RL 274			
HGL	279.387		279.366
DEPTH TO INVERT	1.010		1.061
INVERT LEVEL	278.990		278.991
FINISHED SURFACE	280.000		280.052
EXISTING SURFACE	280.691		280.854
CHAINAGE	0.000	12.380	12.380

LINE B
SCALES: HORIZ 1:500 VERT 1:100



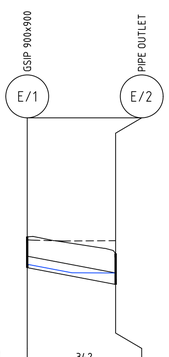
	C/1		C/2		C/3
CAPACITY (l/sec)		352		304	
FLOW (l/sec)		55.56		83.33	
PIPE DETAILS		375Ø Class 3 RCP		375Ø Class 3 RCP	
GRADE		4.020%		3.011%	
DATUM RL 273.1					
HGL	278.908		278.558 / 278.518		278.460
DEPTH TO INVERT	1.057		0.980 / 1.010		0.910
INVERT LEVEL	278.610		278.413 / 278.383		278.085
FINISHED SURFACE	279.667		279.393		278.995
EXISTING SURFACE	279.734		279.719		279.681
CHAINAGE	0.000	4.901	4.901	9.914	14.815

LINE C
SCALES: HORIZ 1:500 VERT 1:100



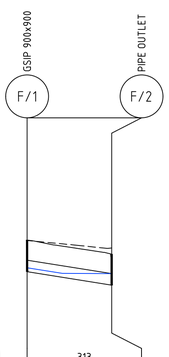
	D/1		D/2
CAPACITY (l/sec)		354	
FLOW (l/sec)		59.14	
PIPE DETAILS		375Ø Class 3 RCP	
GRADE		4.075%	
DATUM RL 272.4			
HGL	278.252		277.765
DEPTH TO INVERT	1.010		1.010
INVERT LEVEL	277.982		277.390
FINISHED SURFACE	278.992		278.400
EXISTING SURFACE	278.839		278.701
CHAINAGE	0.000	14.530	14.530

LINE D
SCALES: HORIZ 1:500 VERT 1:100



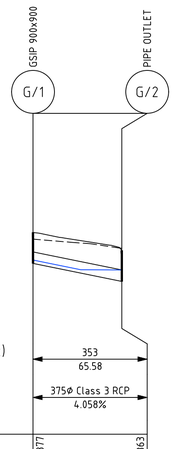
	E/1		E/2
CAPACITY (l/sec)		342	
FLOW (l/sec)		64.08	
PIPE DETAILS		375Ø Class 3 RCP	
GRADE		3.795%	
DATUM RL 271.8			
HGL	277.680		277.211
DEPTH TO INVERT	1.010		1.010
INVERT LEVEL	277.384		276.836
FINISHED SURFACE	278.394		277.846
EXISTING SURFACE	278.293		278.266
CHAINAGE	0.000	14.433	14.433

LINE E
SCALES: HORIZ 1:500 VERT 1:100



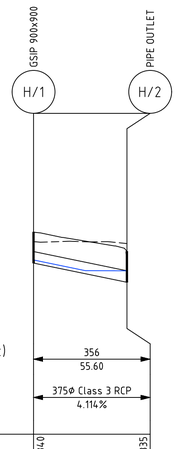
	F/1		F/2
CAPACITY (l/sec)		313	
FLOW (l/sec)		78.55	
PIPE DETAILS		375Ø Class 3 RCP	
GRADE		3.179%	
DATUM RL 271.1			
HGL	276.923		276.489
DEPTH TO INVERT	1.031		1.010
INVERT LEVEL	276.553		276.114
FINISHED SURFACE	277.584		277.124
EXISTING SURFACE	277.572		277.327
CHAINAGE	0.000	13.808	13.808

LINE F
SCALES: HORIZ 1:500 VERT 1:100



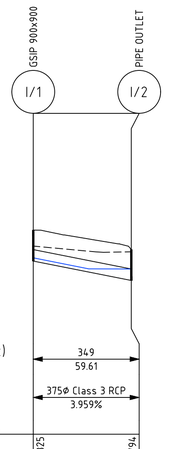
	G/1		G/2
CAPACITY (l/sec)		353	
FLOW (l/sec)		65.58	
PIPE DETAILS		375Ø Class 3 RCP	
GRADE		4.058%	
DATUM RL 270.5			
HGL	276.377		275.863
DEPTH TO INVERT	1.010		1.010
INVERT LEVEL	276.076		275.488
FINISHED SURFACE	277.086		276.498
EXISTING SURFACE	276.870		276.568
CHAINAGE	0.000	14.498	14.498

LINE G
SCALES: HORIZ 1:500 VERT 1:100



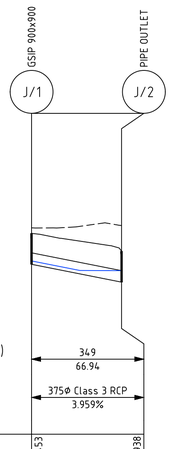
	H/1		H/2
CAPACITY (l/sec)		356	
FLOW (l/sec)		55.60	
PIPE DETAILS		375Ø Class 3 RCP	
GRADE		4.114%	
DATUM RL 270			
HGL	275.840		275.335
DEPTH TO INVERT	1.010		1.010
INVERT LEVEL	275.587		274.960
FINISHED SURFACE	276.597		275.970
EXISTING SURFACE	276.286		276.222
CHAINAGE	0.000	15.245	15.245

LINE H
SCALES: HORIZ 1:500 VERT 1:100



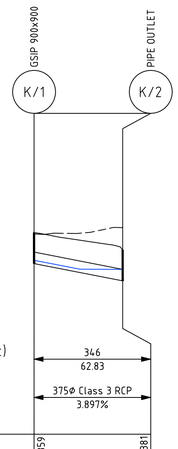
	I/1		I/2
CAPACITY (l/sec)		349	
FLOW (l/sec)		59.61	
PIPE DETAILS		375Ø Class 3 RCP	
GRADE		3.959%	
DATUM RL 269.4			
HGL	275.325		274.794
DEPTH TO INVERT	1.010		1.010
INVERT LEVEL	275.052		274.419
FINISHED SURFACE	276.062		275.429
EXISTING SURFACE	275.541		275.354
CHAINAGE	0.000	16.002	16.002

LINE I
SCALES: HORIZ 1:500 VERT 1:100



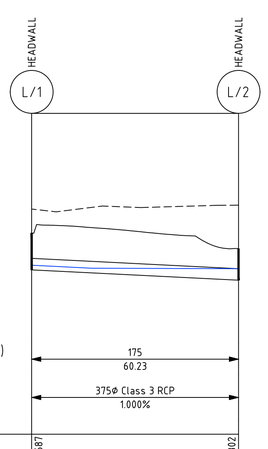
	J/1		J/2
CAPACITY (l/sec)		349	
FLOW (l/sec)		66.94	
PIPE DETAILS		375Ø Class 3 RCP	
GRADE		3.959%	
DATUM RL 268.6			
HGL	274.453		273.938
DEPTH TO INVERT	1.010		1.010
INVERT LEVEL	274.145		273.563
FINISHED SURFACE	275.155		274.573
EXISTING SURFACE	275.337		275.412
CHAINAGE	0.000	14.699	14.699

LINE J
SCALES: HORIZ 1:500 VERT 1:100



	K/1		K/2
CAPACITY (l/sec)		346	
FLOW (l/sec)		62.83	
PIPE DETAILS		375Ø Class 3 RCP	
GRADE		3.897%	
DATUM RL 269			
HGL	274.859		274.381
DEPTH TO INVERT	1.010		1.010
INVERT LEVEL	274.570		274.006
FINISHED SURFACE	275.580		275.016
EXISTING SURFACE	275.536		275.743
CHAINAGE	0.000	14.466	14.466

LINE K
SCALES: HORIZ 1:500 VERT 1:100



	L/1		L/2
CAPACITY (l/sec)		175	
FLOW (l/sec)		60.23	
PIPE DETAILS		375Ø Class 3 RCP	
GRADE		1.000%	
DATUM RL 270.9			
HGL	276.587		276.302
DEPTH TO INVERT	1.201		1.030
INVERT LEVEL	276.265		275.927
FINISHED SURFACE	277.466		276.957
EXISTING SURFACE	278.250		278.377
CHAINAGE	0.000	33.767	33.767

LINE L
SCALES: HORIZ 1:500 VERT 1:100

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REVISIONS

No.	DESCRIPTION	DRN	APP	DATE
A	PRELIMINARY CLIENT ISSUE	I.B.	A.C.	14.03.24
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E info@siteplus.com.au

Height Datum	A.H.D
Drawn	I.B.
Designed	A.C.
Checked	A.C.
Approved	A.C.

Client Title: MR & MRS NOCERA C/- PROFICIENT CONSTRUCTIONS (AUST)

Dwg Status: DA

Local Authority: WOLLONDILLY

Dwg Title: PROPOSED SUBDIVISION
80 SILVERDALE ROAD, THE OAKS

DRAINAGE LONG SECTIONS

Ref & Dwg No	23130.DA.C09
Sheet No	Sheet 09 of 14
Scale	AS NOTED @ A1
Date	05.04.24
Rev	B
	A1

ASSUMED 450m² ROOF AREA FOR EACH LOT

PROVIDE 20,000L RAINWATER TANK ON EACH LOT. DAILY AVERAGE DEMAND SHOWN RIGHT

SILVERDALE ROAD

BROWNS ROAD

BENCH MARK SSM
TOP OF KERB
RL 281.45m
(AHD)

LOT 101
4006m²

LOT 102
4264m²

LOT 103
4620m²

LOT 104
5663m²

LOT 105
4728m²

LOT 106
4009m²

LOT 107
4298m²

LOT 108
4530m²

LOT 109
4826m²

ROAD No. 1

INFILTRATION TRENCH TO DETAILS AT CC STAGE

REFER TO MUSIC MODEL FOR DETAILS

WATER QUALITY MUSIC MODEL RESULTS

BASED ON THE WATER QUALITY MEASURES OUTLINED IN THE WOLLONDILLY WUSD GUIDELINE, THE FOLLOWING FLOW REDUCTION WAS ATTAINED:

FLOW	13.400 ML/yr

REFER TO SITEPLUS'S MUSIC MODEL FOR DETAILS. WOLLONDILLY WUSD GUIDELINES REQUIRES RESIDUAL FLOW RANGING BETWEEN 2.5-3.0 ML/yr/ha

SITE REQUIREMENT CALCULATION:

DEVELOPMENT AREA	= 5.193 ha
RESIDUAL FLOW RANGE	= 12.983 - 15.579 ML/yr

RAINWATER TANK AVERAGE DAILY DEMAND

RAINWATER REUSE WAS BASED ON THE METHODOLOGY OUTLINED IN THE WOLLONDILLY WUSD GUIDELINE:

SIZE OF ROOF	= 450 m²
MIN SIZE OF RWT	= 18,000 L
MIN AVG DAILY DEMAND	= 2,700 L/day

LEGEND

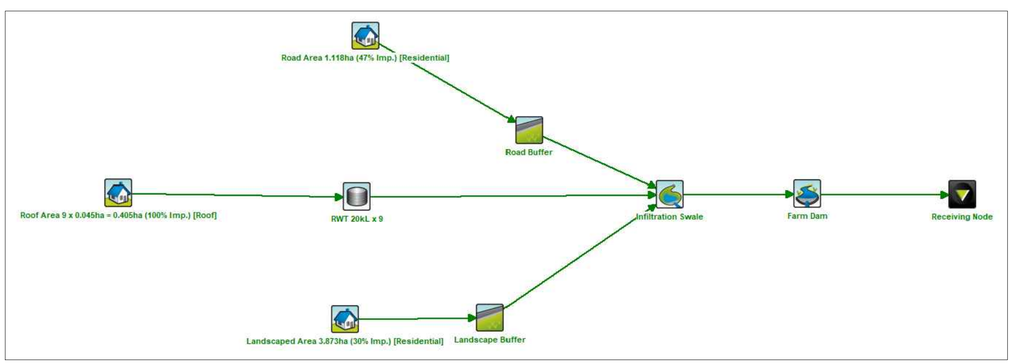
- ROOF AREA 450m² 100% IMPERVIOUS
- LANDSCAPE AREA 30% IMPERVIOUS
- ROAD RESERVE AREA 47% IMPERVIOUS

MUSIC CATCHMENT PLAN

SCALE 1:750

0 5 10 20 30 50 70
METRES

SCALE 1:750 @A1
1:1500 @A3



MUSIC SCHEMATIC

Treatment Train Effectiveness - Receiving Node

	Sources	Residual Load	% Reduction
Flow (ML/yr)	39.6	13.4	66.2
Total Suspended Solids (kg/yr)	5440	399	92.7
Total Phosphorus (kg/yr)	10.2	1.79	82.4
Total Nitrogen (kg/yr)	81.9	21.7	73.5
Gross Pollutants (kg/yr)	907	0	100

MUSIC RESULTS

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REVISIONS

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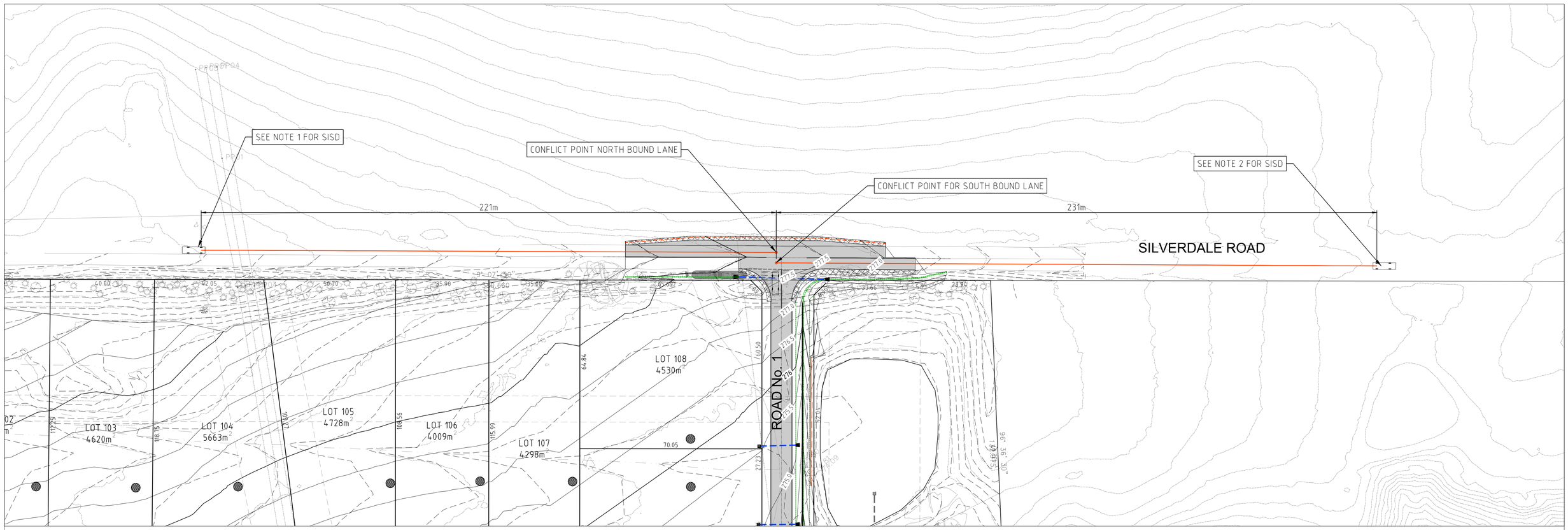
Approved	A.C.
Client Title	MR & MRS NOCERA C/- PROFICIENT CONSTRUCTIONS (AUST) ----
Dwg Status	DA
Local Authority	WOLLONDILLY
Dwg Title	PROPOSED SUBDIVISION 80 SILVERDALE ROAD, THE OAKS — MUSIC CATCHMENT PLAN
Ref & Dwg No	23130.DA.C10
Sheet No	Sheet 10 of 14
Scale	1:750 @ A1
Date	05.04.24
Rev	B
	A1



SAFE INTERSECTION SIGHT DISTANCE

SCALE 1:750

0 5 10 20 30 50 70

METRES

SCALE 1:750 @A1
1:1500 @A3

NOTE 1: HORIZONTAL SAFE INTERSECTION SIGHT DISTANCE

TABLE 3.2 AND TABLE 3.3 FROM AUSTROADS UNSIGNALLED INTERSECTIONS SAFE INTERSECTION SIGHT DISTANCE (SISD):

RURAL SISD FOR 90km/h = 226 m

APPROXIMATE ROAD GRADIENT = 1.8 %
UPGRADE CORRECTION TO SISD = -5 m

THEREFORE SISD FOR 90km/h = 221 m

NOTE 2: HORIZONTAL SAFE INTERSECTION SIGHT DISTANCE

TABLE 3.2 AND TABLE 3.3 FROM AUSTROADS UNSIGNALLED INTERSECTIONS SAFE INTERSECTION SIGHT DISTANCE (SISD):

RURAL SISD FOR 90km/h = 226 m

APPROXIMATE ROAD GRADIENT = -2.0 %
DOWNGRADE CORRECTION TO SISD = + 5 m

THEREFORE SISD FOR 90km/h = 231 m

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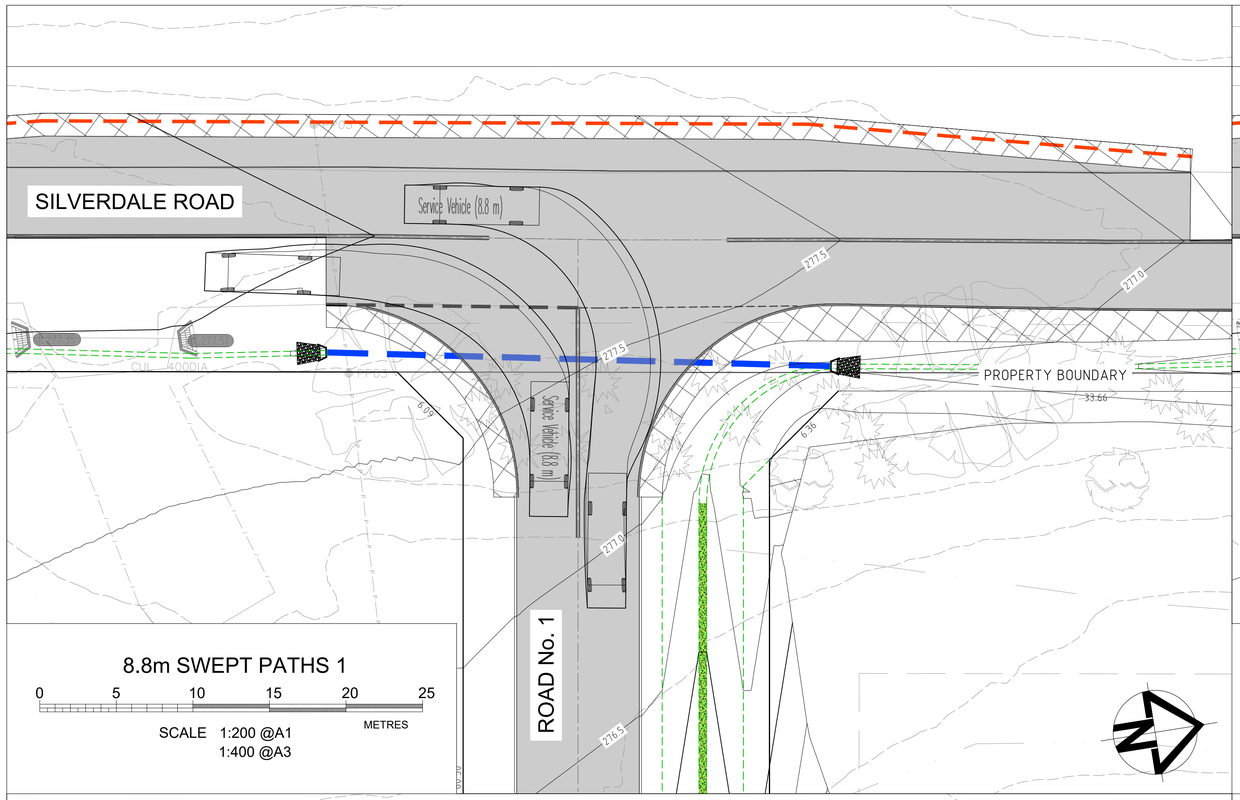
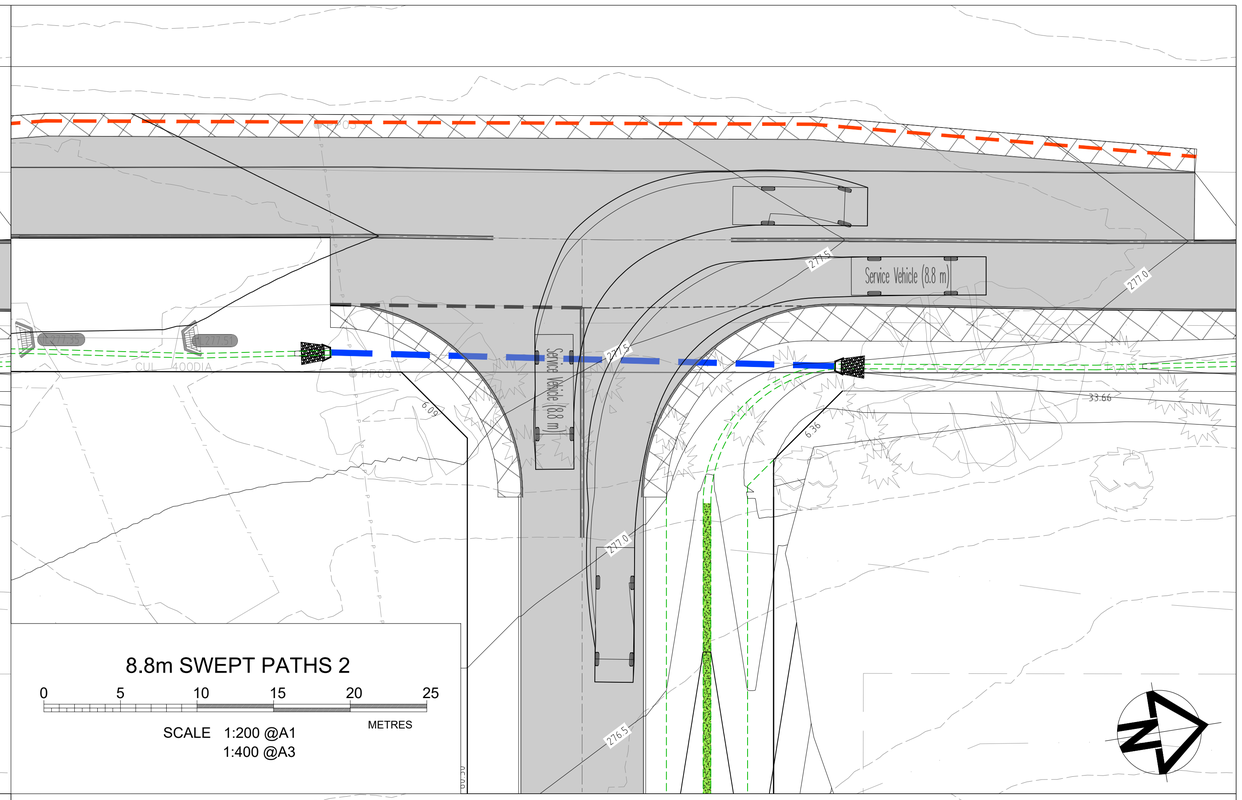
Client Title	MR & MRS NOCERA C/- PROFICIENT CONSTRUCTIONS (AUST) ----
Dwg Status	DA
Local Authority	WOLLONDILLY
Dwg Title	PROPOSED SUBDIVISION 80 SILVERDALE ROAD, THE OAKS INTERSECTION SIGHT DISTANCE
Ref & Dwg No	23130.DA.C11
Sheet No	Sheet 11 of 14
Scale	1:750 @ A1
Date	05.04.24
Rev	B
	A1



8.8m SWEPT PATHS 1

0 5 10 15 20 25 METRES

SCALE 1:200 @A1
1:400 @A3



8.8m SWEPT PATHS 2

0 5 10 15 20 25 METRES

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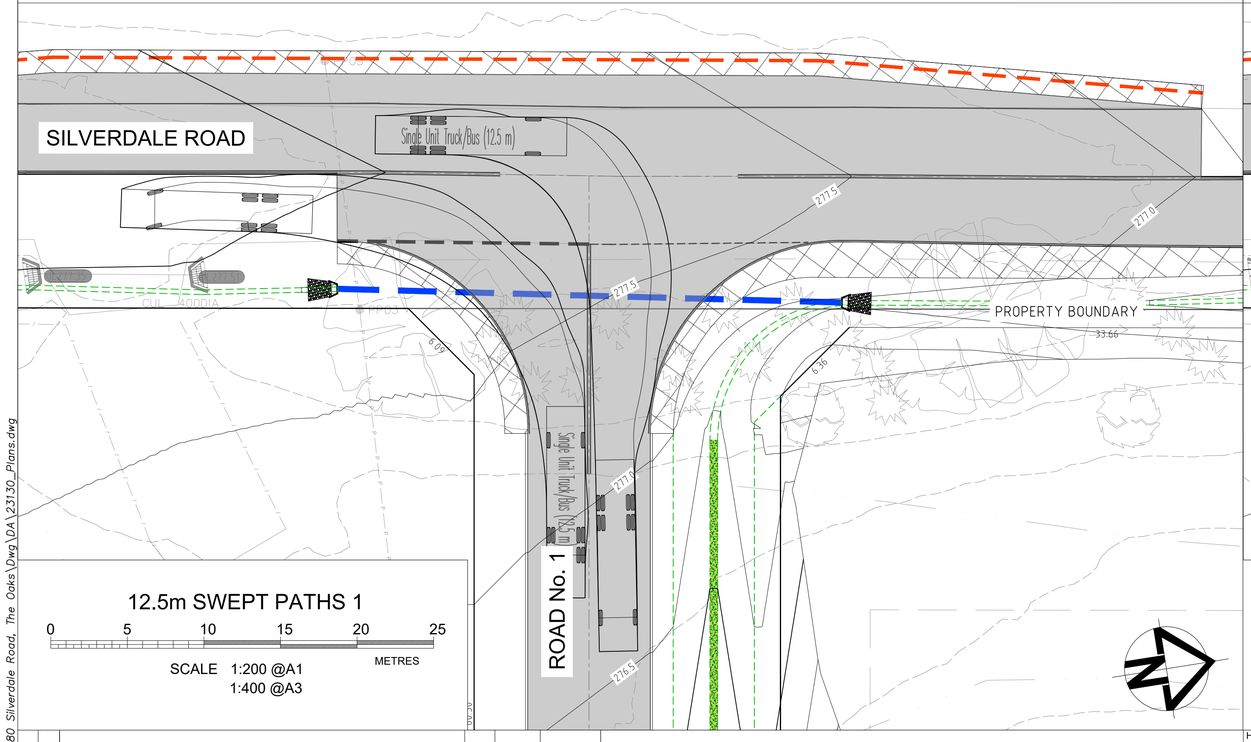
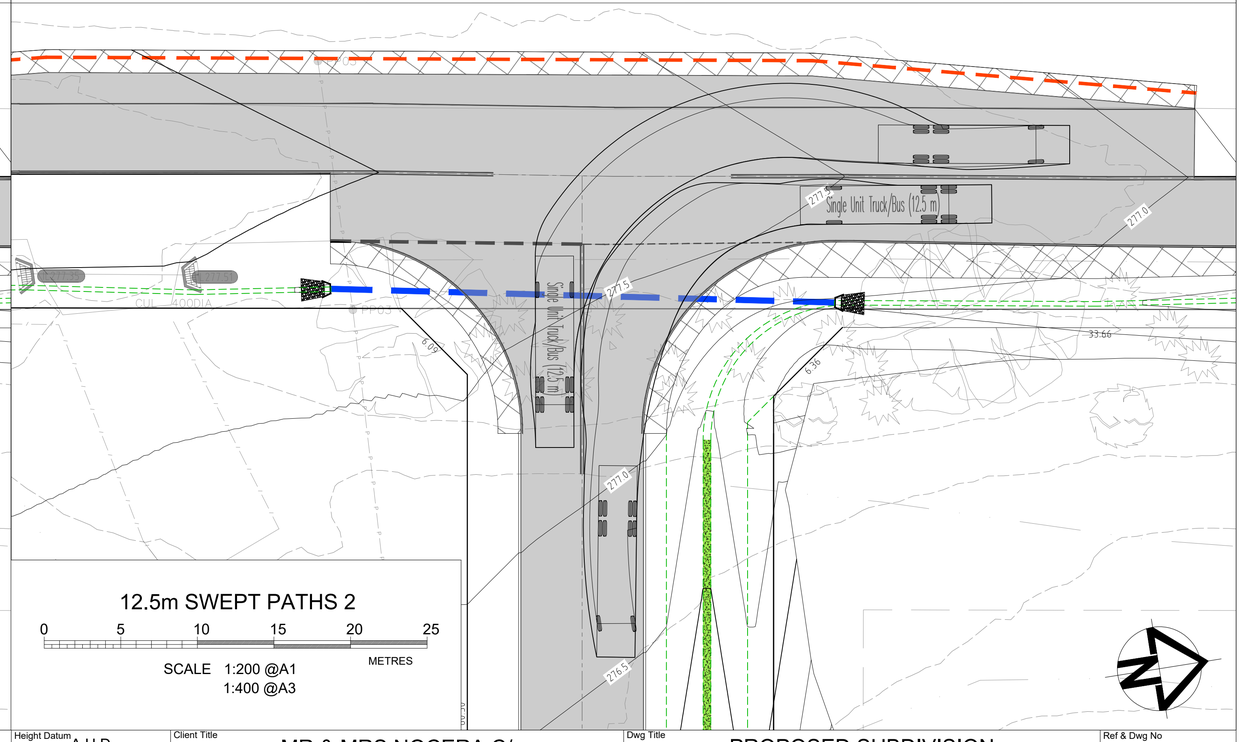


12.5m SWEPT PATHS 1

0 5 10 15 20 25 METRES

SCALE 1:200 @A1
1:400 @A3



12.5m SWEPT PATHS 2

0 5 10 15 20 25 METRES

SCALE 1:200 @A1
1:400 @A3

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Ref & Dwg No	23130.DA.C12
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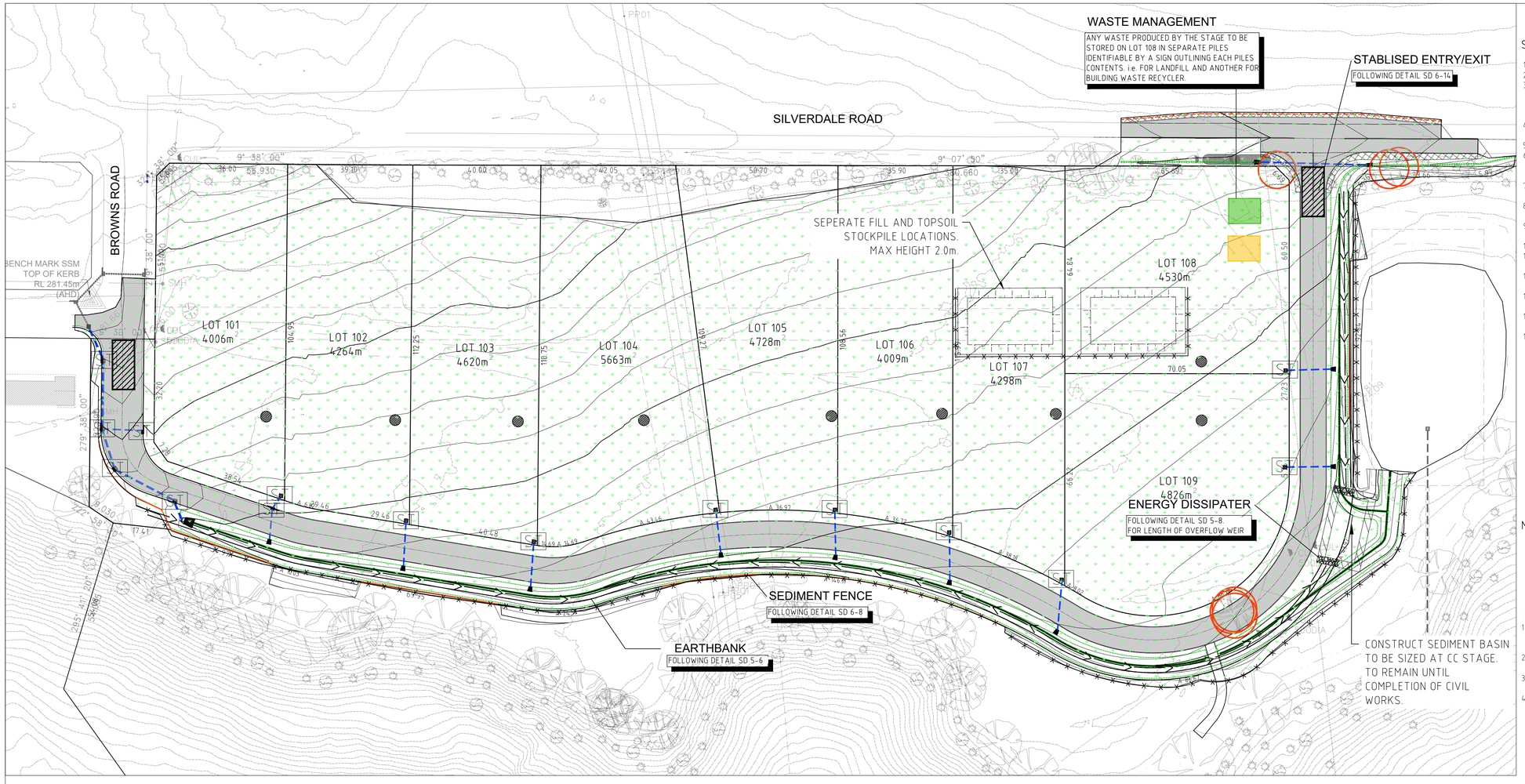
Scale	1:200 @ A1
Date	05.04.24
Rev	B
	A1



STATEMENT OF SOIL MANAGEMENT

1 ALL TOPSOIL IS TO BE STOCKPILED IN AREAS DESIGNATED ON PLAN.
2 ALL FORMED EMBANKMENTS (CUT & FILL) ARE TO BE SEEDED WITHIN 7 DAYS.
3 ALL DISTURBED AREAS INCLUDING ANY CONTROLLED FILL ARE TO BE TOPSOILED & SEEDED PRIOR TO COMPLETION OF WORKS. ALL DISTURBED AREAS THAT WILL NOT BE STABILIZED WITHIN 2 MONTHS MUST BE TEMPORARILY REVEGETATED WITHIN 7 DAYS OF CLEARING. AREAS THAT FAIL TO ESTABLISH MUST BE RESOWN IMMEDIATELY.
4 ALL GULLY PITS ARE TO BE PROVIDED WITH SEDIMENT FILTER BARRIERS SUCH AS STRAW BAIL OR SANDBAGS.
5 PROVIDE TEMPORARY DIVERSION BANKS ON SITE AS DIRECTED.
6 AT THE TOP OF ALL FILL EMBANKMENTS, PROVIDE A BERM TO PREVENT WATER RUNNING DOWN EMBANKMENTS, BERM IS TO BE MAINTAINED AT ALL TIMES AS THE FILL EMBANKMENT PROGRESSES TO FINAL LEVEL.
7 ALL FORMED EMBANKMENTS (CUT & FILL) TO BE TOPSOILED & SEEDED/FERTILIZED ON FINAL TRIMMING.
8 FOR TEMPORARY REVEGETATION PURPOSES, THE REVEGETATION MIXTURE SHOULD BE TO COUNCIL SPECIFICATIONS
9 TRENCHES FOR INTERLOT DRAINAGE LINES ARE TO BE REINSTATED WITH TOPSOIL FOLLOWING PIPE INSTALLATION & BACKFILLING & IMMEDIATELY SEEDED/FERTILIZED
10 THE GROUND SHALL BE TYNED / SCARIFIED TO A MIN DEPTH 100mm PRIOR TO SEEDING
11 CONTRACTOR SHOULD LIASE REGULARLY WITH ENGINEER TO DETERMINE AREAS WHICH CAN BE PROGRESSIVELY REVEGETATED
12 TO ASSIST IN DUST CONTROL/WIND EROSION A TRACKIFIER SUCH AS CUROSOL SHOULD BE USED. OR EQUIVALENT ENDORSED PRODUCT BY EPA, RATES AS PER MANUFACTURES SPECIFICATION
13 DESIGNATED PLANT AND MACHINERY ACCESSWAYS TO BE DEFINED ONSITE BY THE INSTALLATION OF PARAWEBBING FENCING TO MINIMIZE UNNECESSARY SITE DISTURBANCE.
14 IT IS THE CONTRACTORS RESPOSIBILITY TO MAINTAIN SOIL EROSION CONTROL DEVICES AND CONTROL DUST.
15 A LOG BOOK IS TO BE MAINTAINED ON SITE, MAKING ENTRIES AT LEAST WEEKLY, IMMEDIATELY BEFORE FORECAST RAIN AND AFTER RAINFALL. ENTRIES WILL INCLUDE:
(i) THE VOLUME AND INTENSITY OF ANY RAINFALL EVENTS;
(ii) THE CONDITION OF ANY SOIL AND WATER MANAGEMENT WORKS AND WETHER IT IS LIKELY TO BE EFFECTIVE UNTIL THE NEXT AUDIT;
(iii) INSTALLATION, REMOVAL & REPAIRS OF ANY EROSION CONTROLS;
(iv) THE CONDITION OF VEGETATION AND ANY NEED TO IRRIGATE;
(v) THE NEED FOR DUST PREVENTION STRATERGIES;
(vi) ANY REMEDIAL WORKS TO BE UNDERTAKEN;
(vii) INSTANCES RESULTING IN DAMAGE TO CONTROLS, ACCIDENTAL OR OTHERWISE;
(viii) TIME, DATE, VOLUME AND TYPE OF ANY FLOCCULANTS;
(ix) TIME, DATE, VOLUME AND TYPE OF SEDIMENT REMOVED FROM CONTROL STRUCTURES AND WHERE IT HAS BEEN DISPOSED;

THE LOG BOOK IS TO KEPT ON-SITE AND MADE AVAILABLE ON SITE TO ANY ONE REQUIRING IT. IT SHOULD ALSO CONTAIN MAINTAINENCE REQUIREMENTS AND PROCEDURES FOR ANY CONTROL REQUIRING IT.

MAINTENANCE PROCEDURES DURING CONSTRUCTION

1 ALL EROSION CONTROL MEASURES ARE TO BE MAINTAINED AT ALL TIMES SO THAT THOSE MEASURES ARE FULLY FUNCTIONAL / OPERATIONAL DURING THE CURRENCY OR WORKS. ALL SUCH CONTROLS MUST ALSO BE FULLY FUNCTIONAL / OPERATIONAL SHOULD WORK OPERATIONS CEASE TEMPORARILY, (e.g. WEEKENDS, ROSTERED DAYS OFF, etc.) 2 RESPREAD MATERIAL GAINED DURING MAINTENANCE OPERATION OR ALTERNATIVELY PLACE ON STOCKPILES.

GENERAL NOTES

1 REMOVE ALL SOIL & SPOIL MATERIAL FROM THE ROADWAY & GUTTER SYSTEM FOR THAT SECTION OF TRENCHING & / OR OTHER WORKS CARRIED OUT ON ANY ONE DAY. THIS IS TO BE UNDERTAKEN ON THE COMPLETION OF EACH DAY'S WORK.
2 ABSTAIN FROM PLACING SPOIL / STOCKPILES ON OR IN THE IMMEDIATE VICINITY OF THE KERB & GUTTER SYSTEM. A MINIMUM SET BACK OF THREE (3) METRES WILL BE REQUIRED.
3 STOCKPILES REFERED TO IN ITEM 2 ARE NOT TO BE PLACED WITHIN FIFTEEN (15) METRES EITHER SIDE OF KERB INLET PITS. THIS IS TO BE REGARDED AS A DESIGNATED EXCLUSION ZONE.
4 WHERE ROCK IS ENCOUNTERED DURING THE TRENCHING OPERATIONS & THIS MATERIAL IS CONSIDERED TO BE UNSUITABLE AS BACKFILL, THEN ALL OVERSIZED ROCK WILL BE REQUIRED TO BE REMOVED FROM THE SITE & WILL NOT BE PERMITTED TO REMAIN ON THE SURFACE OF REGRADING & SURFACE PREPARATION PRIOR TO SEEDING DISTURBED AREAS.

LEGEND PROPOSED

- LEVEL SPREADER
- STORMWATER PIPE
- GRATED PIT
- JUNCTION PIT
- KERB INLET PIT
- SEDIMENT FENCE
- SEDIMENT TRAP
- STABILISED CONSTRUCTION EXIT
- DISTURBED AREA
- DIVERSION BANK AND CHANNEL
- BARRIER FENCE
- DIVERSION BANK ONLY

SOIL AND WATER MANAGEMENT PLAN

SCALE 1:750

0 5 10 20 30 50 70 METRES

SCALE 1:750 @A1
1:1500 @A3

NOTE: All erosion and sediment controls must be in accordance with Landcom's Managing Urban Stormwater, Soils and Construction, Volume 1, 4th Edition, March 2004

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Dwg Status: DA
Local Authority: WOLLONDILLY

Dwg Title: PROPOSED SUBDIVISION
80 SILVERDALE ROAD, THE OAKS
SOIL & WATER MANAGEMENT PLAN

Ref & Dwg No	23130.DA.C13
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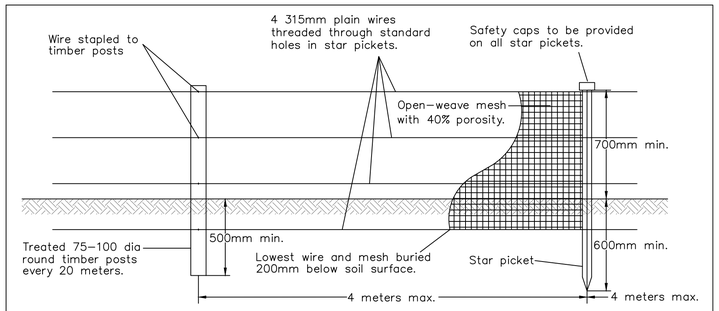
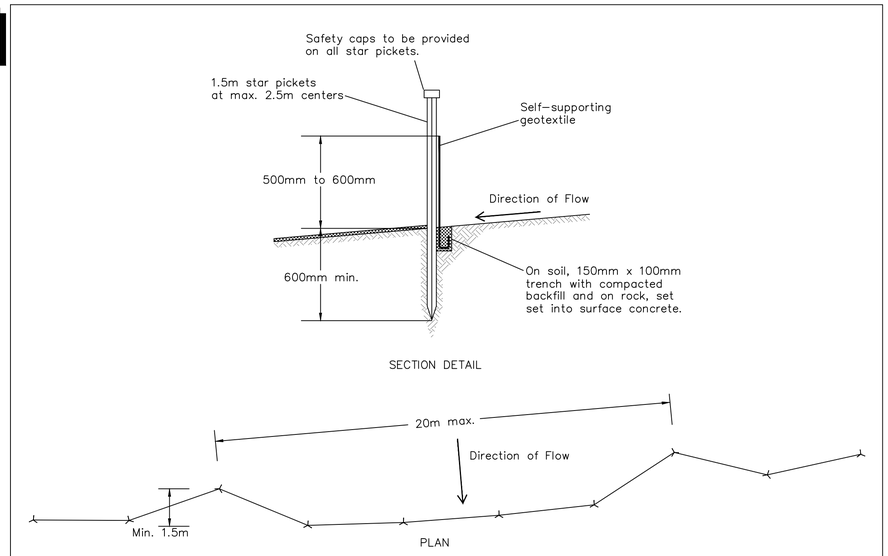
Scale	1:750 @ A1
Date	05.04.24
Rev	B
	A1

NOTE: All erosion and sediment controls must be in accordance with Landcom's Managing Urban Stormwater, Soils and Construction, Volume 1, 4th Edition, March 2004



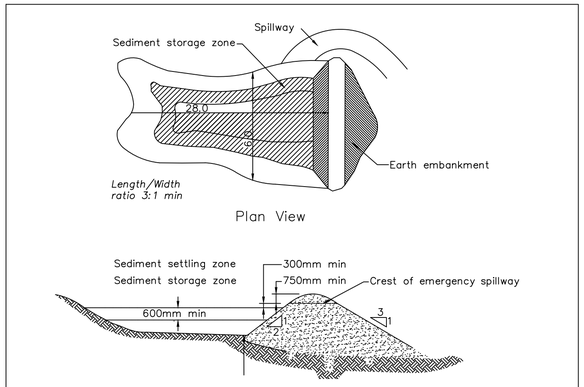
CONTROL OF WIND EROSION – SD 6–15

NOT TO SCALE



SEDIMENT FENCE – SD 6–8

NOT TO SCALE

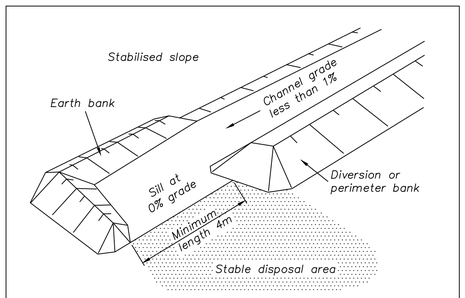


NOTES:

1. *Remove all vegetation and topsoil from under dam wall and from within storage area.*
2. *Construct cut–off trench 500mm deep and 1200mm wide along centreline of the embankment extending to a point on the gully wall level with riser crest.*
3. *Maintain the trench free of water and recompact the materials with equipment specified in the S SWMP to 95 per cent Standard Proctor Density.*
4. *Select fill according to the directions of the SWMP that is free of roots, wood, rock, large stones or foreign material.*
5. *Prepare the site under the embankment by ripping at least 100mm deep to help bond compacted fill to existing substrate.*
6. *Spread fill in 100mm to 150mm layers and compact at optimum moisture content in accordance with the SWMP.*
7. *Construct emergency spillway.*
8. *Rehabilitate structure in accordance with SWMP.*
9. *Place a "Full of Sediment" marker to show when less than design capacity occurs and sediment removal is required.*

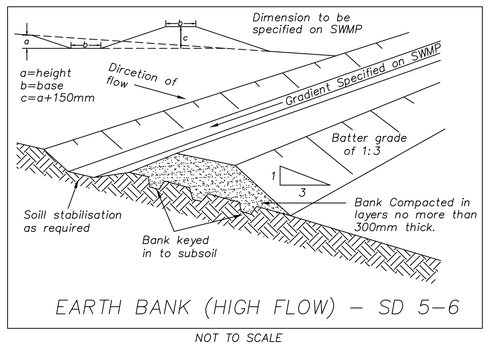
WET SEDIMENT BASIN – SD 6–4

NOT TO SCALE



LEVEL SPREADER (OR SILL) SD 5–6

NOT TO SCALE



EARTH BANK (HIGH FLOW) – SD 5–6

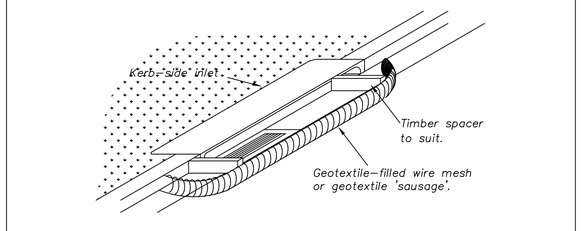
NOT TO SCALE

STABALISED SITE ACCESS – SD 6–14

NOT TO SCALE

GEOTEXTILE INLET FILTER – SD 6–12

NOT TO SCALE



MESH AND GRAVEL INLET FILTER – SD 6–11

NOT TO SCALE

BASIN TO BE TREATED WITH GYPSUM FLOCCULANT AT THE RATE OF 32 kg/100 m^3 OF STORED WATER. THE BASIN SHOULD THEN BE DRAINED FOLLOWING A PERIOD OF AT LEAST 3 DAYS, PROVIDING WATER ANALYSIS TESTS SHOW SUSPENDED SEDIMENT CONCENTRATIONS ARE BELOW 50 mg/l.

Flocculation

NOT TO SCALE

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SOIL & WATER MANAGEMENT DETAILS

Ref & Dwg No	23130.DA.C14
Sheet No	Sheet 14 of 14
Scale	N.T.S.
Date	05.04.24
Rev	B
	A1

Appendix B – Hydra Markup

Development area

Residue Lot

Possible gravity main/LPSS extension

Possible PW main extension

Map:340 Grid:N6 Edition:Sydney UBD Edition 41

0m 40m 80m 120m 160m 200m

Scale 1:5000

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