

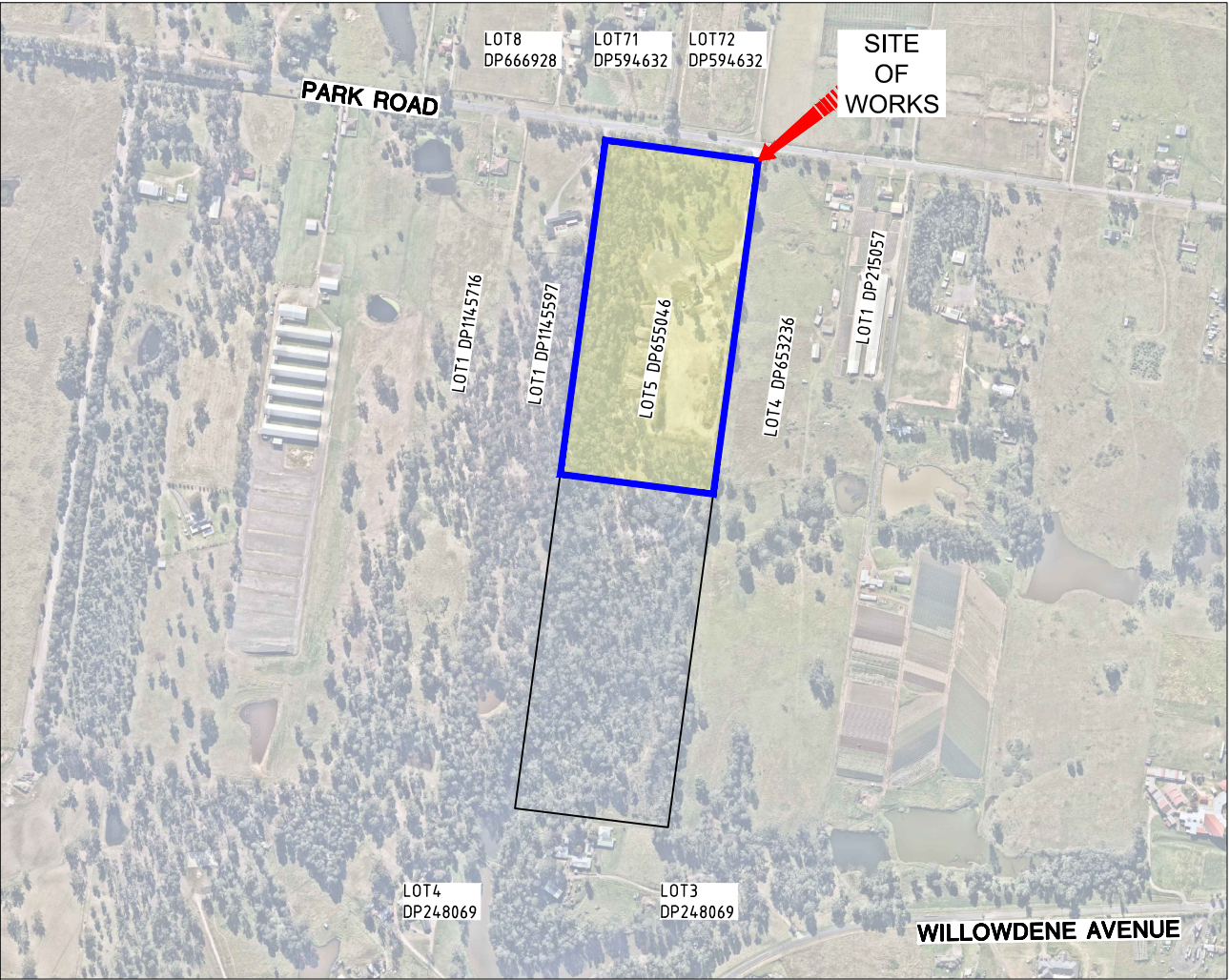
CIVIL ENGINEERING AND STORMWATER
FOR LOT5 DP655046

344 PARK ROAD
WALLACIA

ISSUED FOR DEVELOPMENT APPLICATION
AUGUST 2021

SCHEDULE OF DRAWINGS

PLAN NUMBER	DRAWING TITLE
7410-DA-000	COVER SHEET
7410-DA-001	GENERAL NOTES AND LEGEND
7410-DA-002	GENERAL ARRANGEMENT PLAN SHEET 1 OF 2
7410-DA-003	GENERAL ARRANGEMENT PLAN SHEET 2
7410-DA-020	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
7410-DA-021	EROSION AND SEDIMENT CONTROL PLAN
7410-DA-050	EARTHWORKS PLAN
7410-DA-051	SITE SECTIONS
7410-DA-060	GRADING PLAN SHEET 1 OF 2
7410-DA-061	GRADING PLAN SHEET 2
7410-DA-100	STORMWATER PLAN SHEET 1 OF 2
7410-DA-101	STORMWATER PLAN SHEET 2
7410-DA-200	CHAINAGE PLAN SHEET 1 OF 2
7410-DA-201	CHAINAGE PLAN SHEET 2
7410-DA-205	ROAD CROSS SECTIONS SHEET 1 OF 2
7410-DA-206	ROAD CROSS SECTIONS SHEET 2
7410-DA-210	ROAD LONGITUDINAL SECTIONS SHEET 1 OF 3
7410-DA-211	ROAD LONGITUDINAL SECTIONS SHEET 2
7410-DA-212	ROAD LONGITUDINAL SECTIONS SHEET 3
7410-DA-215	ROAD 1 CROSS SECTIONS SHEET 1 OF 2
7410-DA-216	ROAD 1 CROSS SECTIONS SHEET 2
7410-DA-217	ROAD 2 CROSS SECTIONS SHEET 1 OF 2
7410-DA-218	ROAD 2 CROSS SECTIONS SHEET 1 OF 2
7410-DA-219	ROAD 3 CROSS SECTIONS
7410-DA-220	ROAD 4 CROSS SECTIONS
7410-DA-300	CATCHMENT PLAN PRE DEVELOPMENT
7410-DA-301	CATCHMENT PLAN POST DEVELOPMENT
7410-DA-302	CATCHMENT PLAN EXTERNAL
7410-DA-303	MUSIC CATCHMENT PLAN AND SCHEDULE
7410-DA-405	ONSITE DETENTION DETAILS SHEET 1 OF 3
7410-DA-406	ONSITE DETENTION DETAILS SHEET 2
7410-DA-407	ONSITE DETENTION DETAILS SHEET 3
7410-DA-415	CULVERT DETAILS
7410-DA-420	INTERNAL DRIVEWAY ACCESS PLAN AND DETAILS



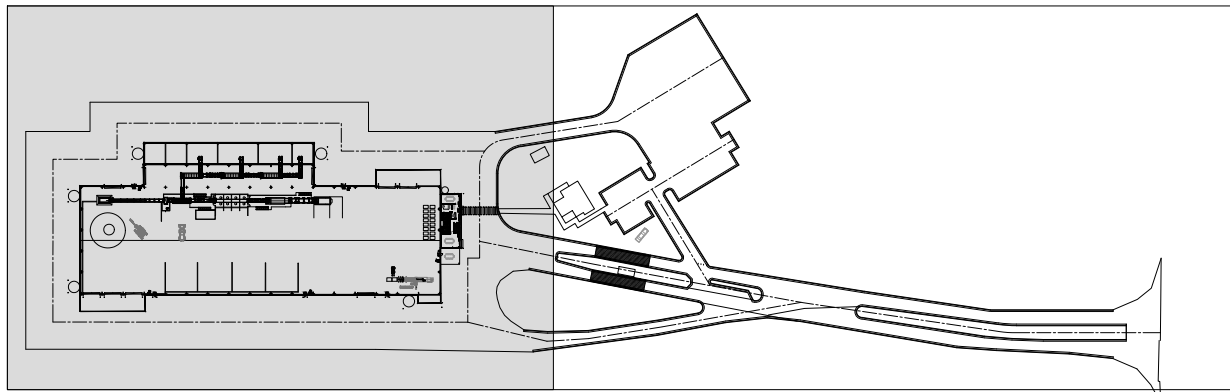
LOCALITY PLAN
NTS

CLIENT:

BENBOW ENVIRONMENTAL

CONSULTANTS:





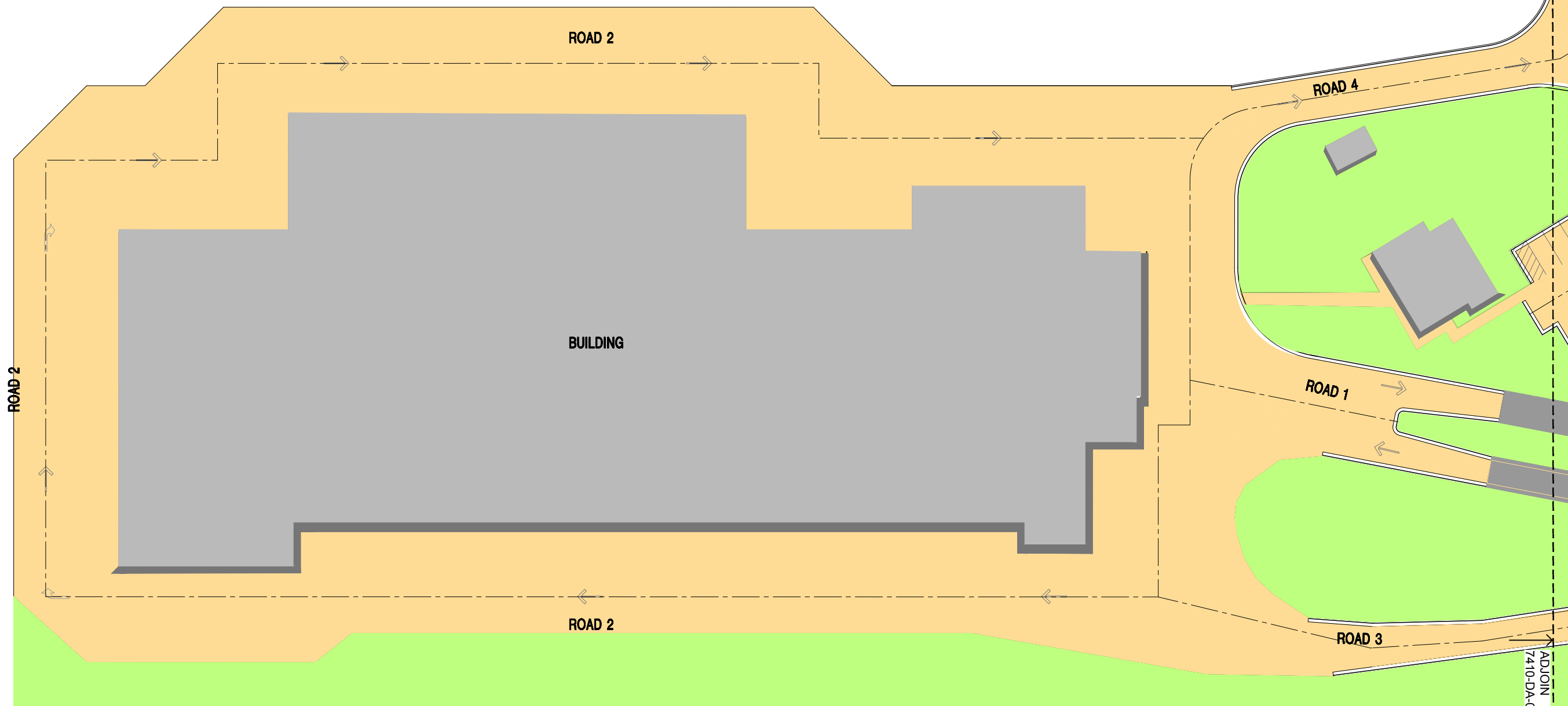
KEY PLAN
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LEGEND

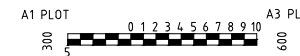
- PAVEMENT AREA
- LANDSCAPE AREA (BY OTHERS)
- BUILDING AREA (BY OTHERS)



ADJOIN
7410-DA-003



ADJOIN
7410-DA-003



No.	AMENDMENT	APPROVED	DATE	INDEXED BY	DEVELOPMENT TEAM
B	ADDRESSED COUNCIL COMMENTS	KN	05.08.2021	TN	
A	ADDRESSED COUNCIL COMMENTS	DG	18.09.2020	EJ	



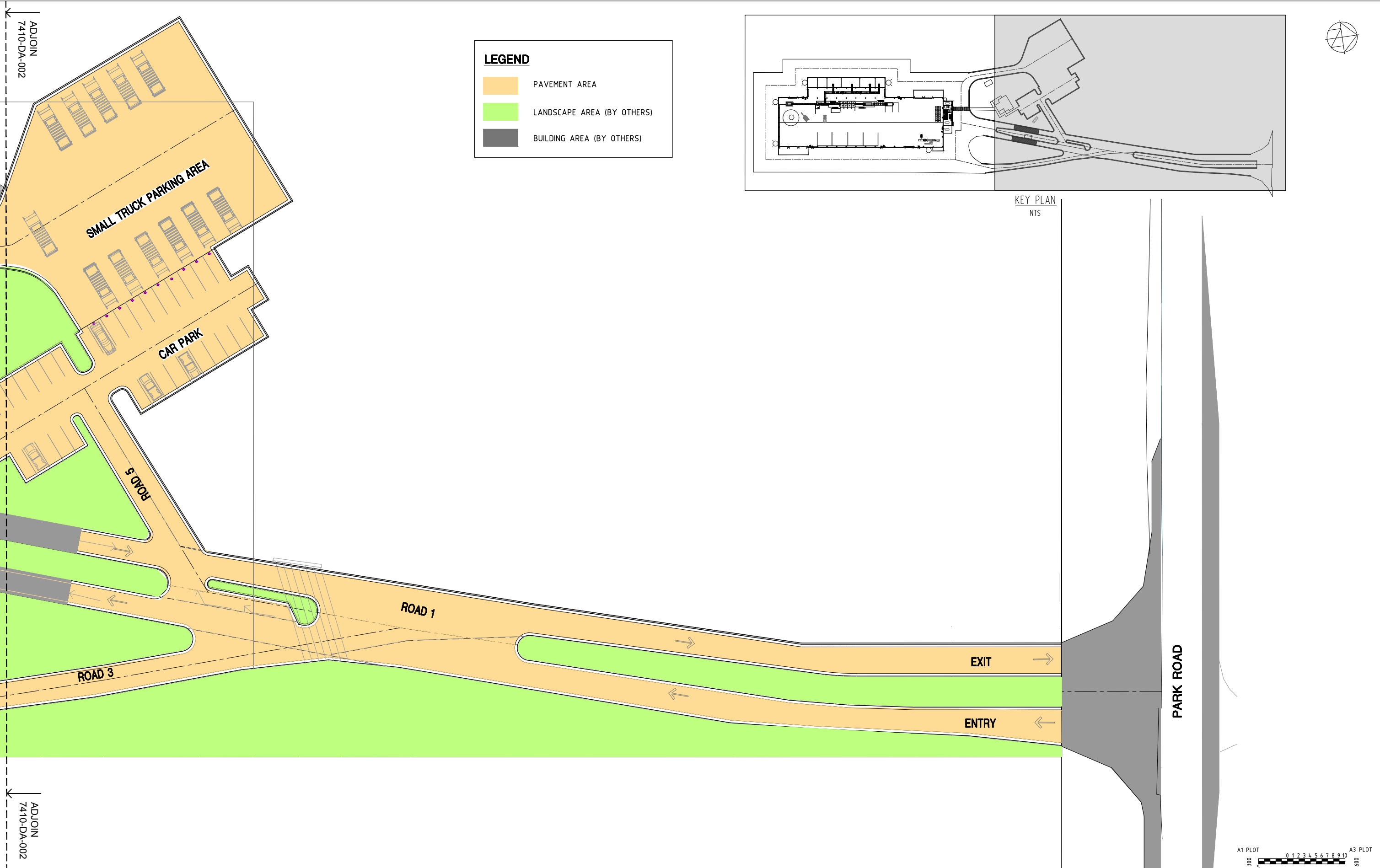
CLIENT



APPROVED	KN	DATE	01.08.2020
CHECKED	KN	DATE	01.08.2020
DESIGNED BY	DG		
DRAWN BY	EJ		
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SCALE	AS SHOWN	SHEET No.	

PROJECT
344 PARK ROAD WALLACIA

DRAWING TITLE	
GENERAL ARRANGEMENT PLAN SHEET 1 OF 2	
PROJECT No.	7410-DA
DRAWING No.	002
AMDT	A



No.		AMENDMENT		APPROVED	DATE	DESIGNED BY	DEVELOPMENT TEAM		CLIENT			APPROVED		CHECKED		DESIGNED BY		DRAWN BY		CAD FILE		SCALE		SHEET No.		PROJECT	DRAWING TITLE					

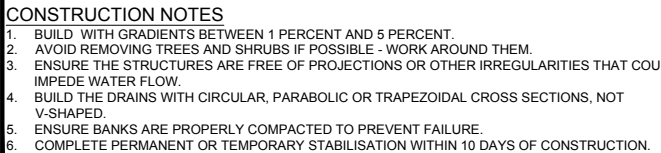
1.	ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED PRIOR TO SITE DISTURBANCE.		
2.	SELECTIVE CLEARING OF VEGETATION TO BE RESTRICTED TO NOMINATED AREAS WITH CLEARED VEGETATION STORED ALONG THE CONTOUR.		
3.	TOPSOIL FROM ALL AREAS THAT WILL BE DISTURBED TO BE STRIPPED AND STOCKPILED AT THE NOMINATED SITE.		
4.	NO MORE THAN 150m OF TRENCH TO BE OPEN AT ANY ONE TIME.		
5.	CUT AND FILL BATTER GRADIENTS MAXIMUM OF 1:3 (MAXIMUM).		
6.	ALL TEMPORARY EARTH STRUCTURES, INCLUDING SOIL STOCKPILES AND CUT AND FILL BATTERS, TO BE TRACK AND ROLLED AND/OR SEEDED WITHIN 14 DAYS OF THEIR CONSTRUCTION WITH THE FOLLOWING CROP COVER AND FERTILISER MIXTURE: (SUBJECT TO SOIL TESTING IF REQUIRED)		
	<ul style="list-style-type: none"> JAPANESE MILLET RYE CORN/OATS STARTER FERTILISER 		
7.	ALL KERB INLETS SUBJECT TO STORMWATER INUNDATION FROM CONSTRUCTION SITE TO BE PROTECTED FROM SEDIMENT FLOW BY MESH AND GRAVEL INLET FILTER.		
8.	ALL DISTURBED AREAS TO BE STABILISED AND/OR REVEGETATED WITHIN 14 DAYS OF EARTHWORKS COMPLETION USING TURF OR THE FOLLOWING SEED AND FERTILISER MIXTURE:		
		SPR/SUM	AUT/WIN
	JAPANESE MILLET	16kg/Ha	16kg/Ha
	RYE CORN/OATS	6kg/Ha	16kg/Ha
	COUCH GRASS	10kg/Ha	8kg/Ha
	RHODES GRASS	10kg/Ha	8kg/Ha
	PERENNIAL RYE GRASS	6kg/Ha	10kg/Ha
	STARTER FERTILISER (AT SOWING)	300kg/Ha	300kg/Ha
	MAINTENANCE FERTILISER (FOLLOWING SPRING/SUMMER)	100kg/Ha	100kg/Ha

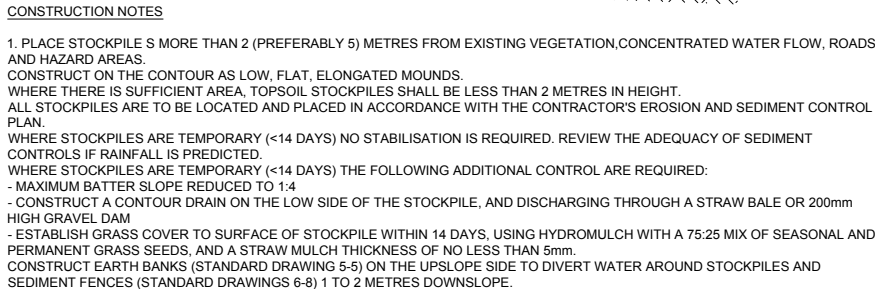
9. SEDIMENT FENCES AND BARRIER FENCES SHALL BE INSTALLED AS SHOWN ON THE SEDIMENT AND EROSION CONTROL PLAN (SECP).
10. CONSTRUCT STABILISED SITE ACCESS FOLLOWING THE SECP OR OTHER SUITABLE TECHNIQUE APPROVED BY THE COUNCIL.
11. ALL SEDIMENT CONTROL STRUCTURES TO BE INSPECTED AFTER EACH RAINFALL EVENT FOR STRUCTURAL DAMAGE AND ALL TRAPPED SEDIMENT TO BE REMOVED TO A NOMINATED SOIL STOCKPILE.
12. ALL SEDIMENT AND EROSION CONTROL MEASURES TO BE IMPLEMENTED AND INSTALLED IN ACCORDANCE WITH 'SOIL AND CONSTRUCTION' (BLUE BOOK) VOL. 1 ED. 4TH, MARCH 2004
13. THE SEDIMENT AND EROSION CONTROL MEASURES TO BE MAINTAINED FOR THE DURATION OF THE PROJECT OR UNTIL SUCH TIME THAT ALL OF THE DISTURBED AREAS ARE HYDROMULCHED
14. WHERE FLOCCULATION OF THE BASIN IS REQUIRED, THE RECOMMENDED INITIAL DOSE IS 30kg OF GYPSUM/100 m3 OF BASIN VOLUME, UNLESS OTHERWISE SPECIFIED. THIS RATE MAY VARY DEPENDING ON THE TESTING OF PREVIOUS WATER SAMPLES AND THE ACHIEVEMENT OF THE REQUIRED WATER QUALITY TARGETS.
15. CONTINUOUS DUST CONTROL MEASURES SHALL BE IMPLEMENTED DURING CONSTRUCTION TO THE SATISFACTION AND DURATION SPECIFIED BY THE SUPERINTENDENT AND COUNCIL.
16. ALL OF THE SOIL STORAGE, REVEGETATION AND SEDIMENT AND EROSION CONTROL MANAGEMENT DEVICES/MEASURES SHALL BE IMPLEMENTED TO NSW ENVIRONMENT PROTECTION AUTHORITY (EPA) AND DEPARTMENT OF LAND AND WATER REQUIREMENTS. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE SHOWN ON THE PLANS AND SHALL BE IMPLEMENTED PRIOR TO COMMENCEMENT OF LANDMANAGEMENT DURING

1. SPOIL AND TOPSOIL STOCKPILES SHALL BE LOCATED AWAY FROM DRAINAGE LINES AND AREAS WHERE WATER MAY CONCENTRATE.
2. IF STOCKPILES ARE TO BE IN PLACE FOR LONGER THAN 30 DAYS THEN THEY SHALL BE STABILIZED BY COVERING WITH MULCH OR WITH TEMPORARY VEGETATION.
3. FOLLOWING CONSTRUCTION, TOPSOIL SHALL BE RESPIRED TO A MINIMUM DEPTH OF 150MM ON THE BARE SOIL SURFACES AND REVEGETATE AS SHOWN ABOVE.

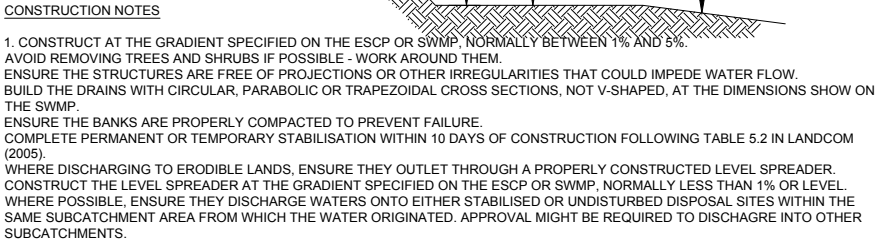
1. FILTER FABRIC (E.G. PROPOX OR EQUIVALENT) SHALL BE STRETCHED BETWEEN POSTS AT MAX. 3m C/M TO FORM THE SILT FENCE. THE FABRIC SHALL BE BURIED AND BACKFILLED WITH SOIL 150mm DEEP IN AN EXCAVATED TRENCH ALONG THE BASE OF THE FABRIC.
2. STRAW BALES SHALL BE PLACED IN A SINGLE ROW, END-TO-END, AND BOUND WITH WIRE. EACH BALE SHALL BE ANCHORED WITH TWO STEEL STAKES (DRIVEN 450mm IN THE GROUND) AT THE CENTRE LINE OF THE BALE. ALL BALES SHALL BE EMBEDDED 100mm INTO THE SOIL.

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN PROTECTION AGAINST WATER DAMAGE FOR THE DURATION OF THE CONTRACT. INDESCO DOES NOT GUARANTEE THE COMPLETENESS OF THE PLANS TO FULLY REDUCE WATER DAMAGE.
2. COUNCIL APPLICANT REPRESENTATIVES SHALL INSPECT THE SITE PRIOR TO COMMENCING EARTHWORKS, AND AFTER PEGGING/MARKING THE PROPOSED ROAD CENTRELINE. BOTH REPRESENTATIVES SHALL APPROPRIATELY IDENTIFY AND MARK ALL TREES TO BE RETAINED AND/OR CORDONED. NO TREES SHALL BE REMOVED WITHOUT COUNCIL'S APPROVAL.
3. MANAGEMENT DEVICES SHALL BE MAINTAINED/CLEANED REGULARLY AND REMAIN FOR THE DURATION OF THE MAINTENANCE PERIOD. SEDIMENT SHALL BE REMOVED AS PER THE ENGINEER.
4. INDESCO DOES NOT GUARANTEE THE EXACT LOCATION AND EXTENT OF SOIL AND WATER MANAGEMENT DEVICES. ACTUAL EXTENTS AND REQUIREMENTS SHALL BE CONFIRMED ON SITE.
5. THIS PLAN SHALL BE READ IN CONJUNCTION WITH GUIDELINES SET IN 'MANAGING URBAN STORMWATER SOILS AND CONSTRUCTION' (ED. 4) AND THE RELEVANT ROADS AND DRAINAGE PLANS.

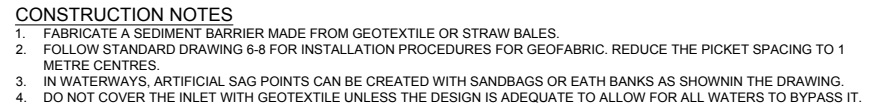




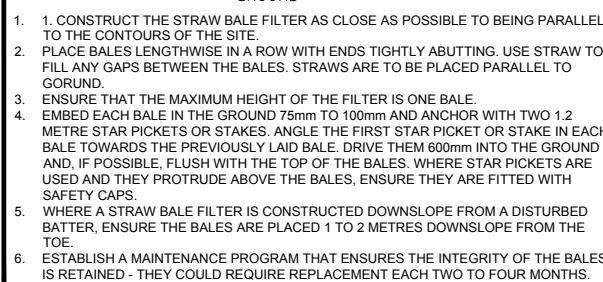
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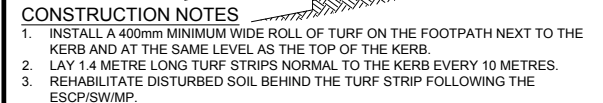
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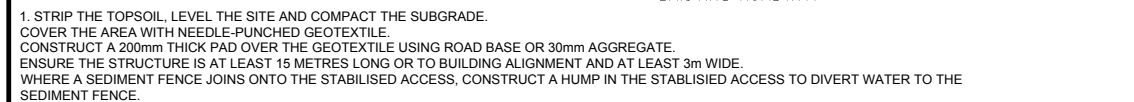
SD-6-



SD-6-7



SD-6-13



SD 6-14



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CHECKED	KN	DATE	01.05.2020
DESIGNED BY	DG		
DRAWN BY	EJ		
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SCALE		SHEET No.	
AS SHOWN			

**344 PARK ROAD
WALLACIA**

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

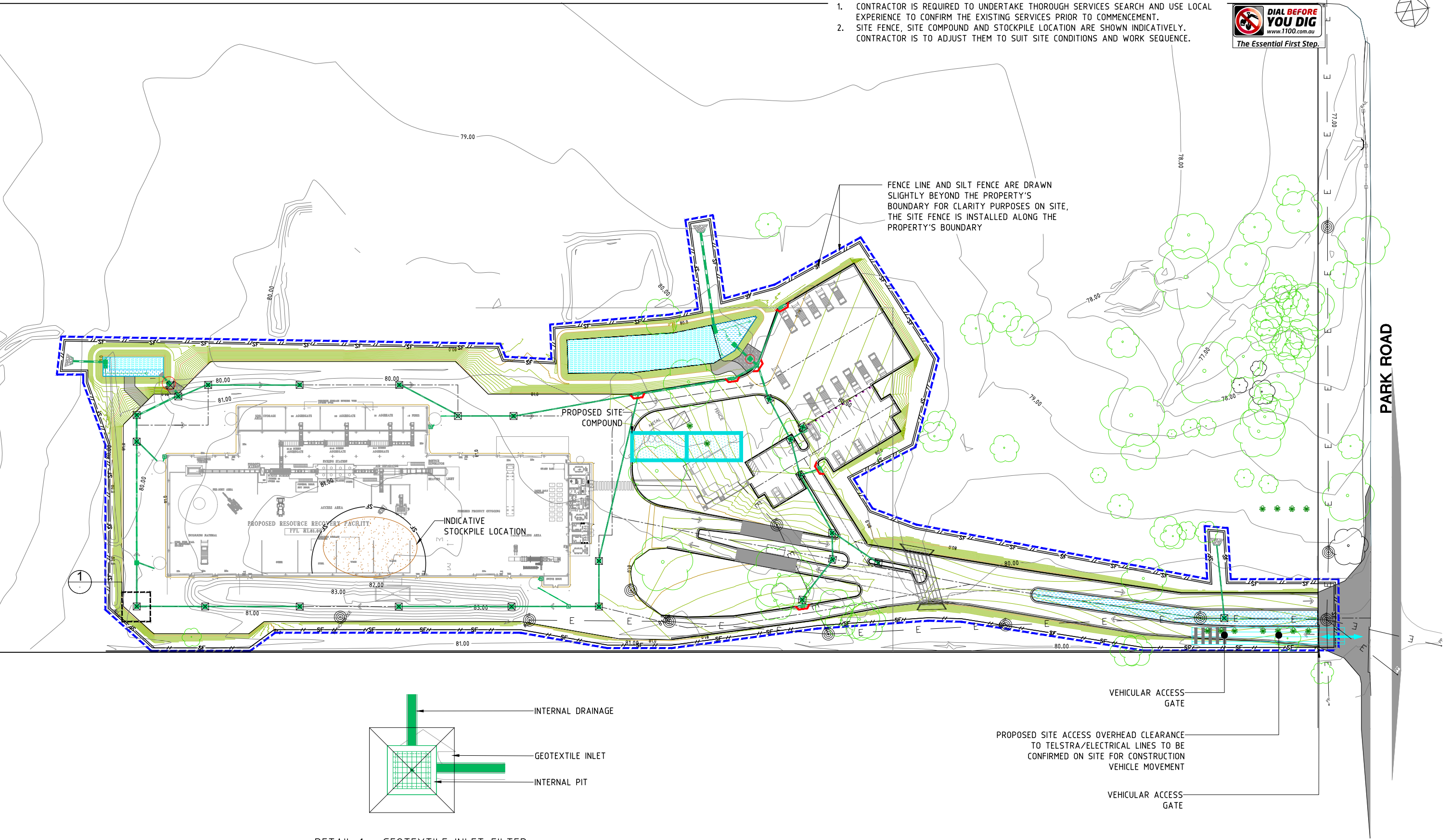
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7410-DA

DRAWING No.
020

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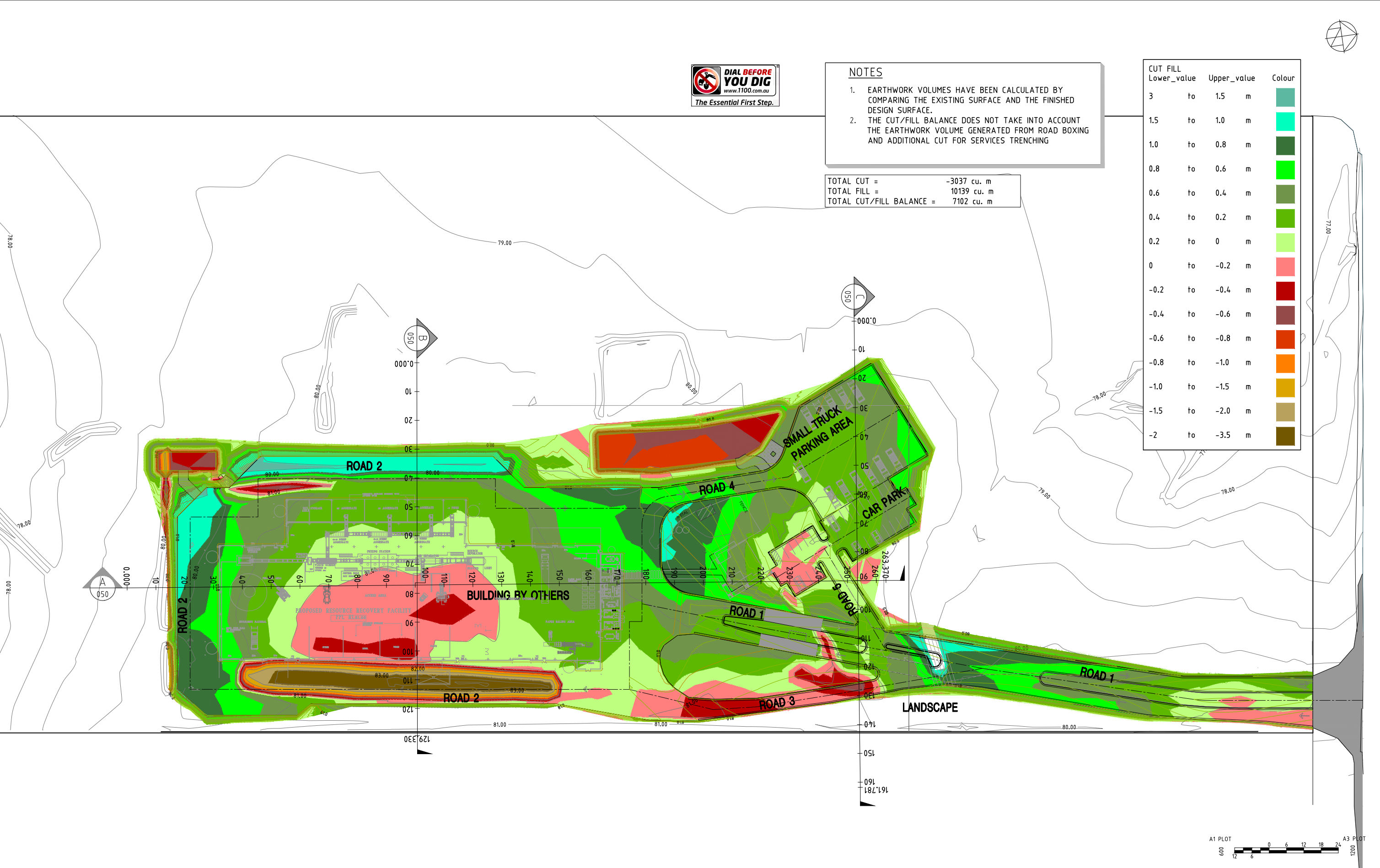
NOTES

1. CONTRACTOR IS REQUIRED TO UNDERTAKE THOROUGH SERVICES SEARCH AND USE LOCAL EXPERIENCE TO CONFIRM THE EXISTING SERVICES PRIOR TO COMMENCEMENT.
2. SITE FENCE, SITE COMPOUND AND STOCKPILE LOCATION ARE SHOWN INDICATIVELY. CONTRACTOR IS TO ADJUST THEM TO SUIT SITE CONDITIONS AND WORK SEQUENCE.



DETAIL 1 - GEOTEXTILE INLET FILTER
SCALE 1:50

No.		AMENDMENT		APPROVED	DATE	MODIFIED BY	DEVELOPMENT TEAM <div> Benbow ENVIRONMENTAL</div>	CLIENT <div> INDESCO CANBERRA SYDNEY WOLLONGONG www.indesco.com.au</div>	PROJECT <div> 344 PARK ROAD WALLACIA</div>	DRAWING TITLE EROSION AND SEDIMENT CONTROL PLAN		
C	ADDRESSED COUNCIL COMMENTS		KN	05.08.2021	TN	PROJECT No. 7410-DA				DRAWING No. 021	AMDT B	
B	ADDRESSED COUNCIL COMMENTS		DG	22.09.2020	EJ							
A	ISSUED FOR DA APPROVAL		DG	04.08.2020	EJ							



- NOTES
- 1. EARTHWORK VOLUMES HAVE BEEN CALCULATED BY COMPARING THE EXISTING SURFACE AND THE FINISHED DESIGN SURFACE.
 - 2. THE CUT/FILL BALANCE DOES NOT TAKE INTO ACCOUNT THE EARTHWORK VOLUME GENERATED FROM ROAD BOXING AND ADDITIONAL CUT FOR SERVICES TRENCHING

TOTAL CUT = -3037 cu. m
TOTAL FILL = 10139 cu. m
TOTAL CUT/FILL BALANCE = 7102 cu. m

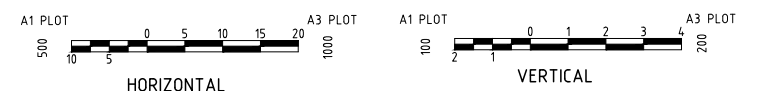
CUT FILL		Upper_value	Colour
Lower_value	to		
3	to	1.5 m	
1.5	to	1.0 m	
1.0	to	0.8 m	
0.8	to	0.6 m	
0.6	to	0.4 m	
0.4	to	0.2 m	
0.2	to	0 m	
0	to	-0.2 m	
-0.2	to	-0.4 m	
-0.4	to	-0.6 m	
-0.6	to	-0.8 m	
-0.8	to	-1.0 m	
-1.0	to	-1.5 m	
-1.5	to	-2.0 m	
-2	to	-3.5 m	

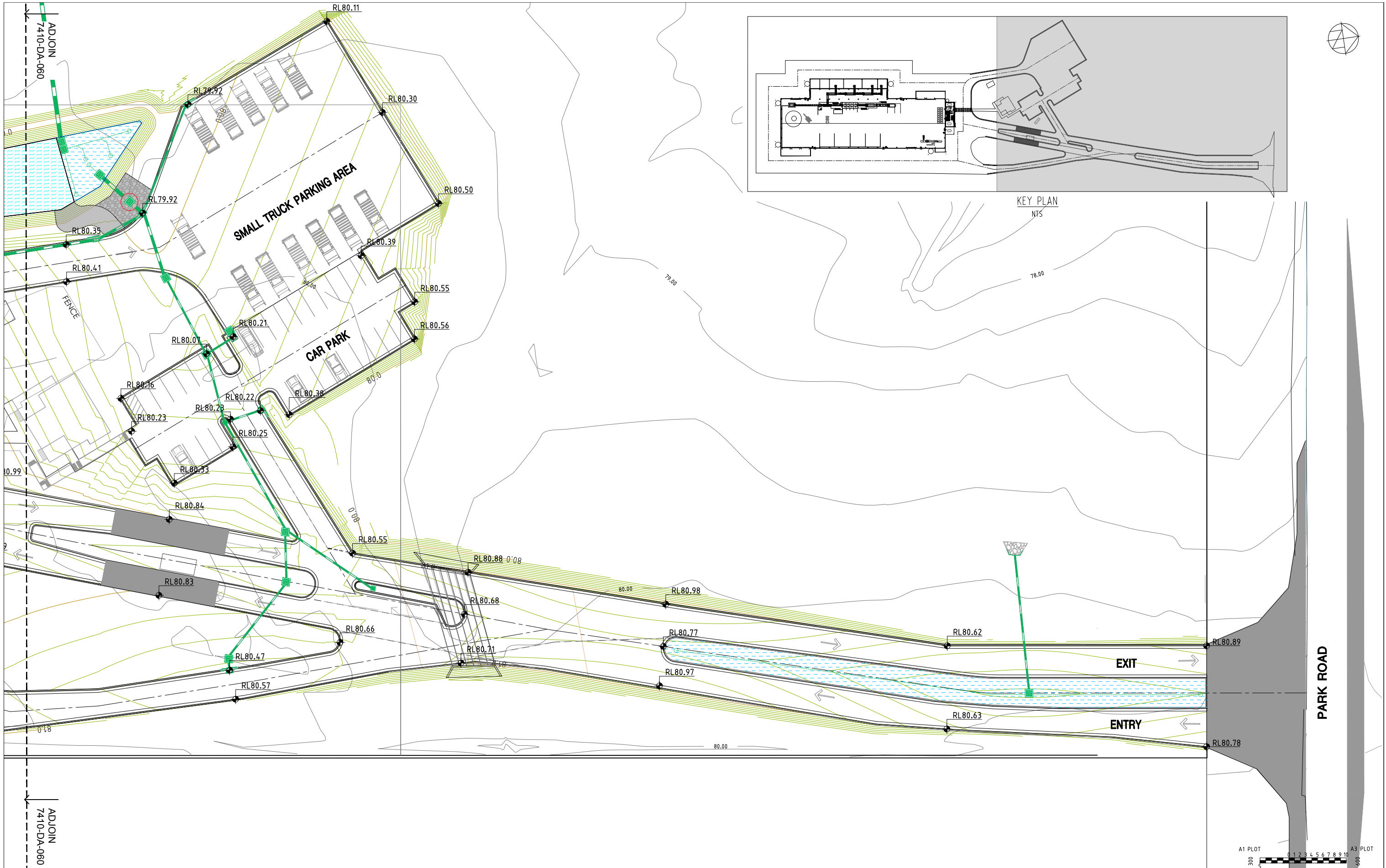
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							344 PARK ROAD WALLACIA	EARTHWORKS PLAN	7410-DA	050	B
B	ADDRESSED COUNCIL COMMENTS	DG	22.09.2020	EJ							
A	ISSUED FOR DA APPROVAL	DG	04.08.2020	EJ							



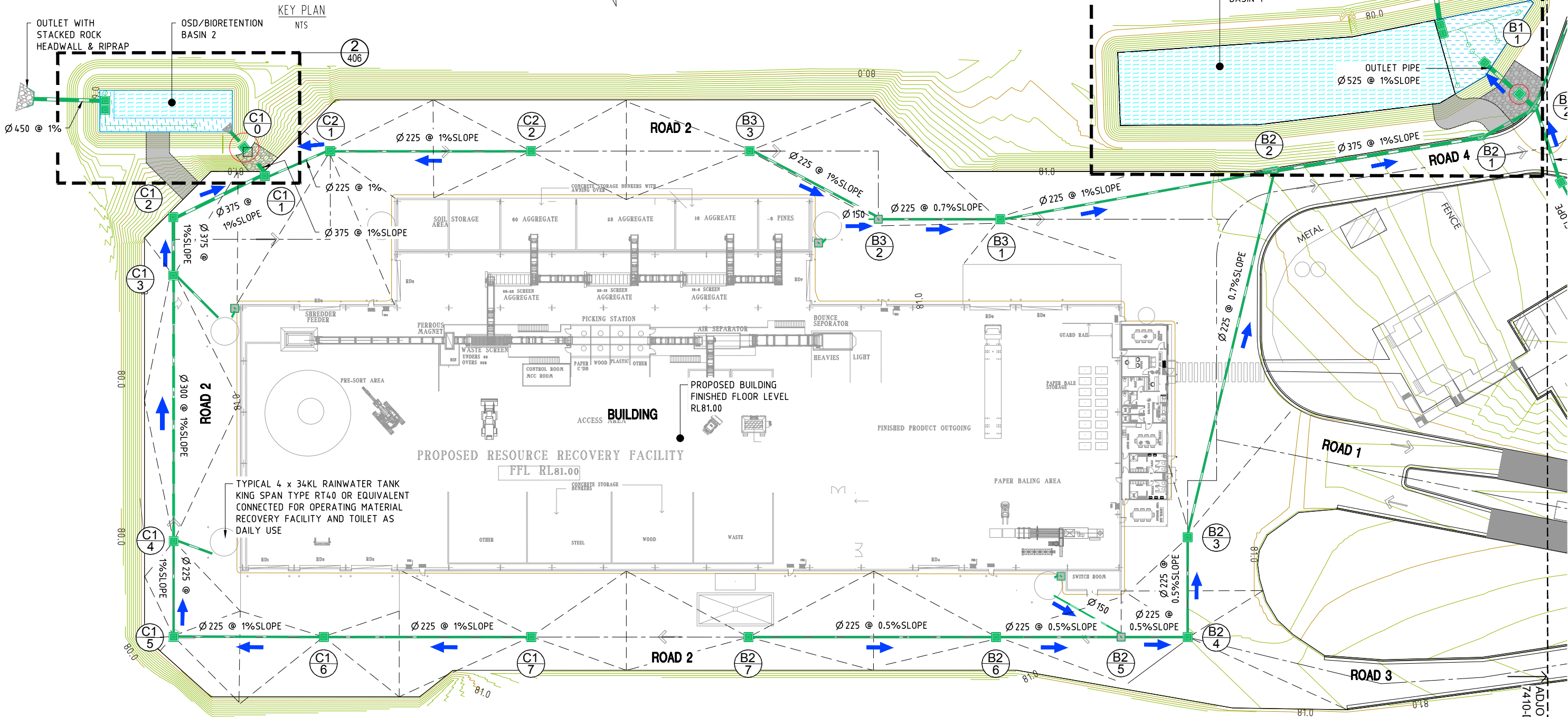
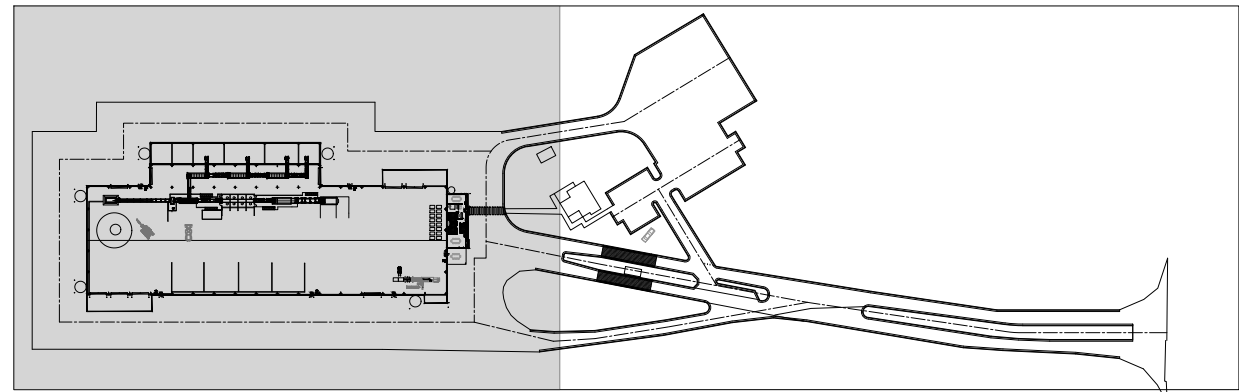
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No.	AMENDMENT	APPROVED	DATE	ISSUED BY	DEVELOPMENT TEAM
C	ADDRESSED COUNCIL COMMENTS	KN	05.08.2021	TN	
B	ADDRESSED COUNCIL COMMENTS	DG	22.09.2020	EJ	
A	ISSUED FOR DA APPROVAL	DG	04.08.2020	EJ	



CLIENT



APPROVED	KN	DATE	01.05.2020
CHECKED	KN	DATE	01.05.2020
DESIGNED BY	DG		
DRAWN BY	EJ		
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SCALE	AS SHOWN	SHEET No.	

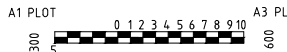
PROJECT
344 PARK ROAD WALLACIA

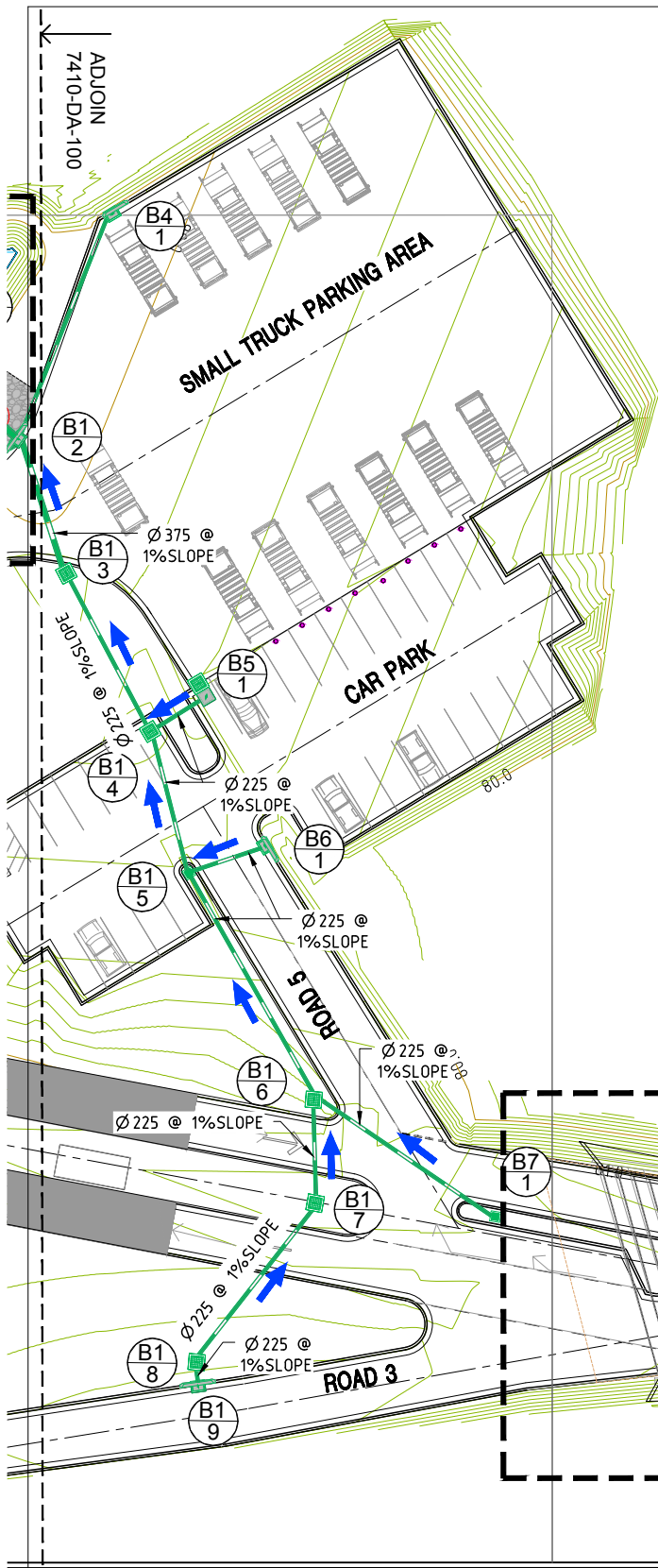
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**STORMWATER PLAN
SHEET 1 OF 2**

PROJECT No.
7410-DA

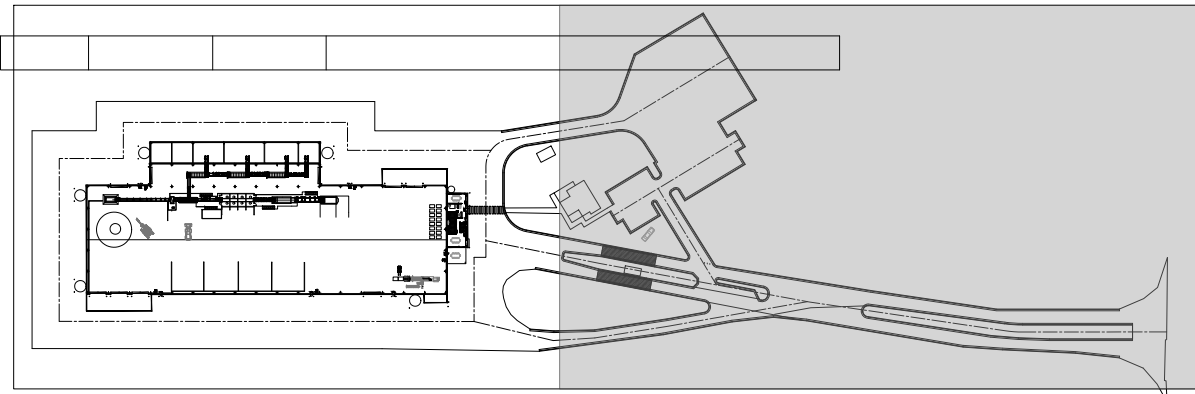
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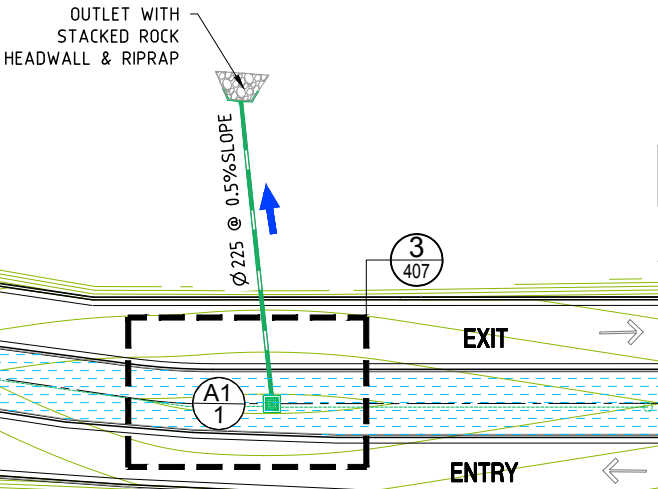




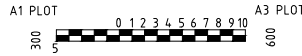
STORMWATER PIT SCHEDULE			
PIT ID	SURFACE LEVEL	INVERT LEVEL	TYPE
A1-1	80.32	79.25	GRATED PIT 900X900
B1-1	80.14	78.96	GPT SPEL VORTCEPTOR SVI.055 DIAMETER 2020 WITH GRATED PIT LID 900x900
B1-2	79.92	79	ONGRADE GRATED PIT KERB INLET 2.4m
B1-3	80.07	79.11	GRATED SURFACE INLET PIT 900X900
B1-4	80.07	79.27	GRATED SURFACE INLET PIT 900X900
B1-5	80.35	79.39	GRATED SURFACE INLET PIT 600X600
B1-6	80.47	79.61	GRATED SURFACE INLET PIT 900X900
B1-7	80.47	79.7	GRATED SURFACE INLET PIT 900X900
B1-8	80.47	79.86	GRATED SURFACE INLET PIT 900X900
B1-9	80.47	79.88	ONGRADE GRATED PIT KERB INLET 1.8m (SAG)
B2-1	80.1	79.09	ONGRADE GRATED PIT KERB INLET 1.8m
B2-2	80.67	79.41	ONGRADE GRATED PIT KERB INLET 1.8m
B2-3	80.9	79.79	GRATED SURFACE INLET PIT 900X900
B2-4	80.9	79.87	GRATED SURFACE INLET PIT 900X900
B2-5	80.9	79.92	JUNCTION PIT 900X900
B2-6	80.9	80.01	GRATED SURFACE INLET PIT 900X900
B2-7	80.9	80.2	GRATED SURFACE INLET PIT 900X900
B3-1	80.9	79.85	GRATED SURFACE INLET PIT 900X900
B3-2	80.9	79.98	GRATED SURFACE INLET PIT 900X900
B3-3	80.9	80.2	GRATED SURFACE INLET PIT 900X900
C1-0	80.3	78.84	GPT SPEL VORTCEPTOR SVI.025 DIAMETER 1200 WITH GRATED PIT LID 600x600
C1-1	80.9	78.85	JUNCTION PIT 900X900
C1-2	80.98	78.98	JUNCTION PIT 900X900
C1-4	80.9	79.52	GRATED SURFACE INLET PIT 900X900
C1-5	80.9	79.66	JUNCTION PIT 900X900
C1-6	80.9	79.89	GRATED SURFACE INLET PIT 900X900
C1-7	80.9	80.2	GRATED SURFACE INLET PIT 900X900
B4-1	79.92	79.2	ONGRADE GRATED PIT KERB INLET 1.8m
B5-1	80.21	79.32	GRATED SURFACE INLET PIT 900X900
B6-1	80.22	79.46	ONGRADE GRATED PIT KERB INLET 1.8m
B7-1	80.63	79.79	GRATED SURFACE INLET PIT 900X900
C3-1	80.16	79.79	GRATED SURFACE INLET PIT 900X900



KEY PLAN
NTS



PARK ROAD



No.	AMENDMENT	APPROVED	DATE	AMEND BY	DEVELOPMENT TEAM
C	ADDRESSED COUNCIL COMMENTS	KN	05.08.2021	TN	
B	ADDRESSED COUNCIL COMMENTS	DG	22.09.2020	EJ	
A	ISSUED FOR DA APPROVAL	DG	04.08.2020	EJ	

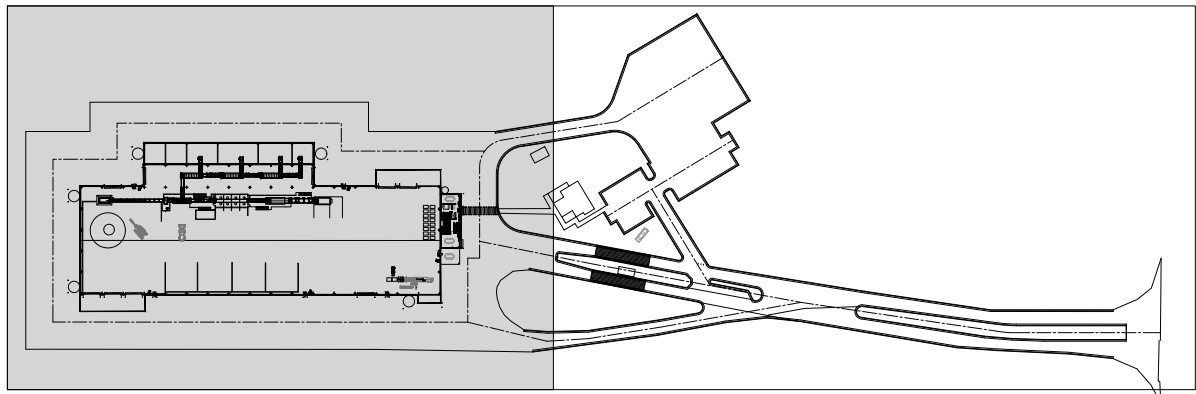


APPROVED	KN	DATE	01.06.2020
CHECKED	KN	DATE	01.06.2020
DESIGNED BY	DG		
DRAWN BY	EJ		
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SCALE	AS SHOWN	SHEET No.	

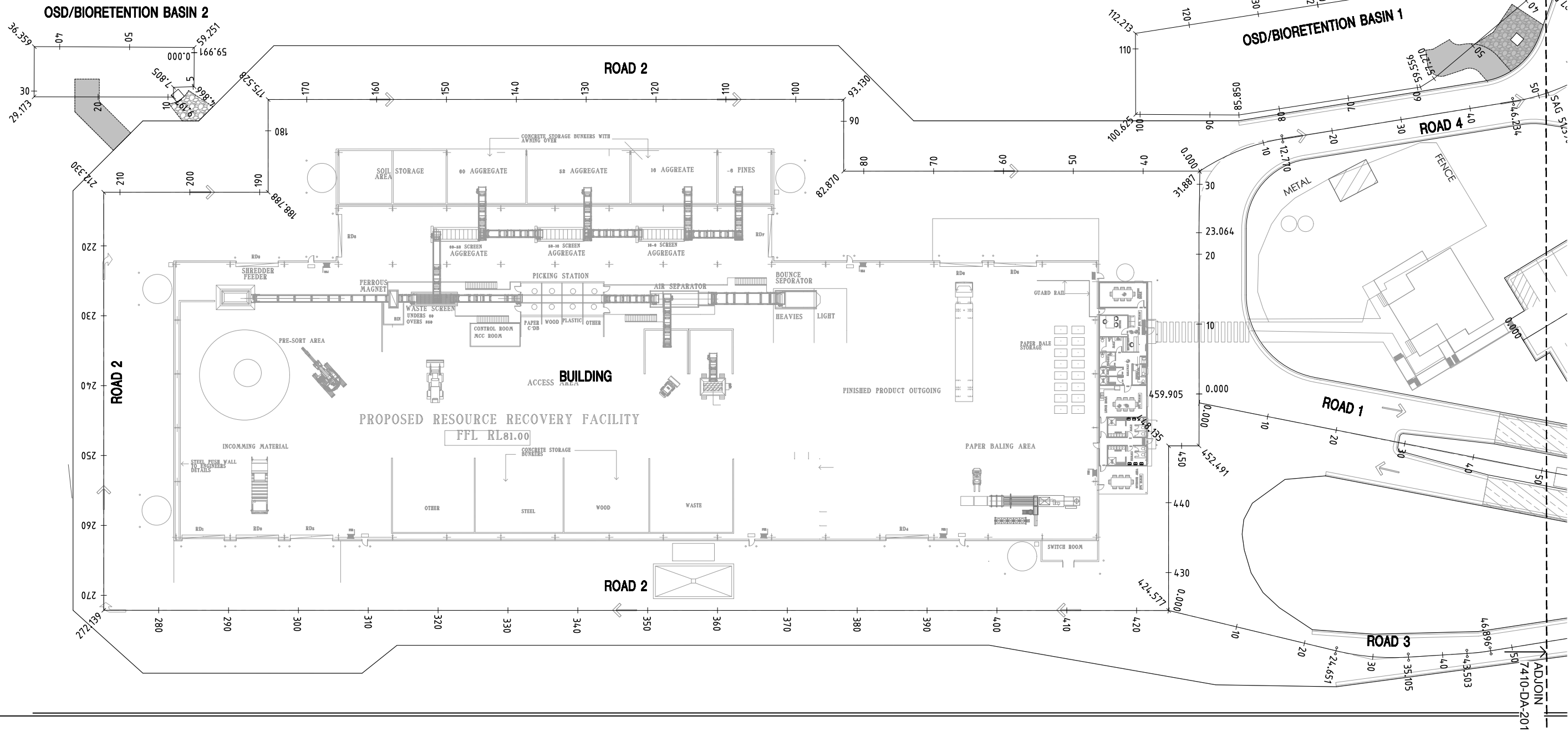
PROJECT
**344 PARK ROAD
WALLACIA**

DRAWING TITLE
**STORMWATER PLAN
SHEET 2**

PROJECT No. 7410-DA	DRAWING No. 101	AMDT B
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KEY PLAN
NTS



No.	AMENDMENT	APPROVED	DATE	ISSUED BY	DEVELOPMENT TEAM
C	ADDRESSED COUNCIL COMMENTS	KN	05.08.2021	TN	
B	ADDRESSED COUNCIL COMMENTS	DG	22.09.2020	EJ	
A	ISSUED FOR DA APPROVAL	DG	04.08.2020	EJ	



CLIENT



APPROVED	KN	DATE	01.08.2020
CHECKED	KN	DATE	01.08.2020
DESIGNED BY	DG		
DRAWN BY	EJ		
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SCALE	AS SHOWN	SHEET No.	

PROJECT

344 PARK ROAD
WALLACIA

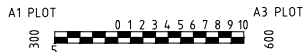
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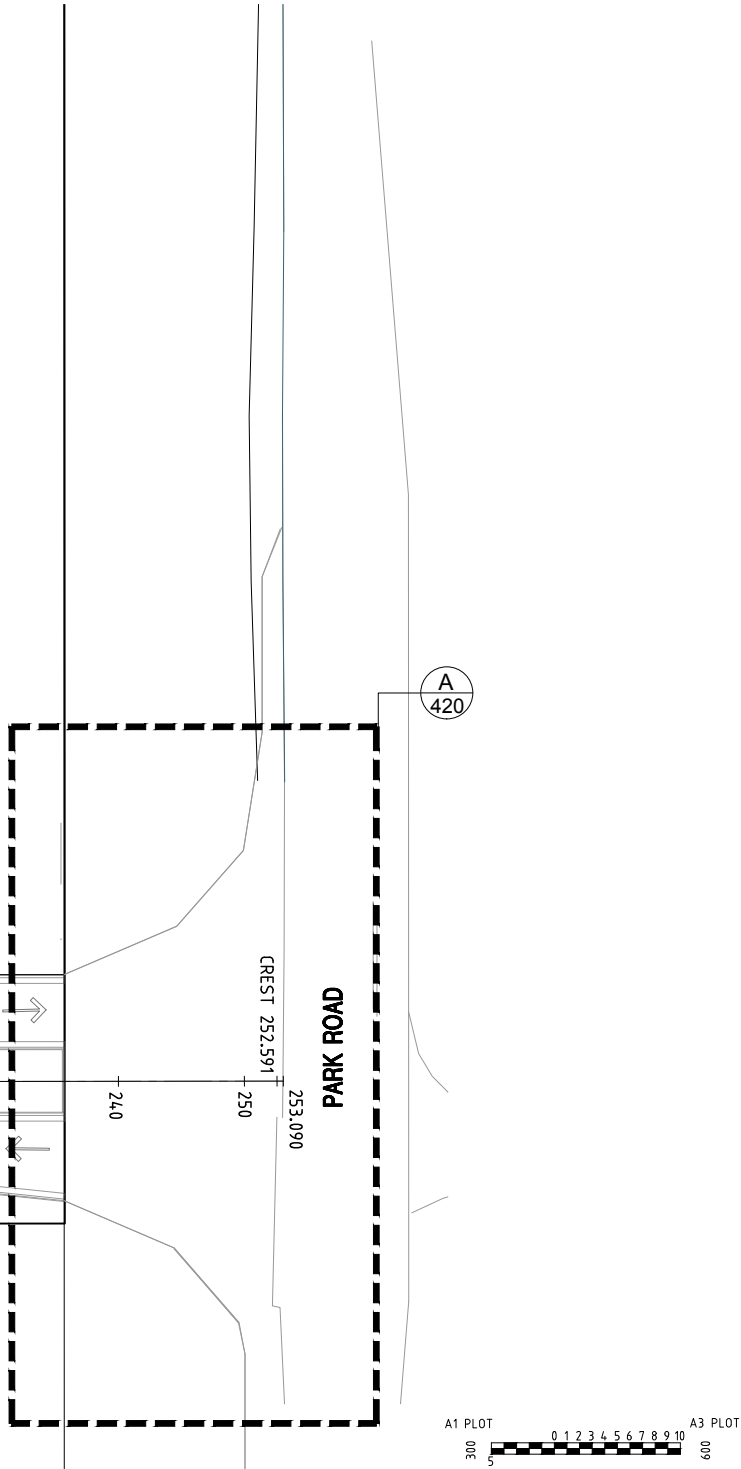
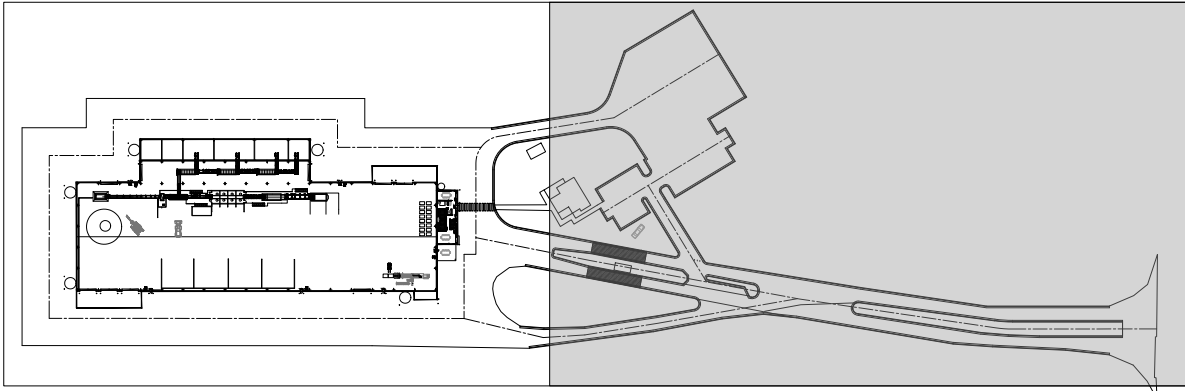
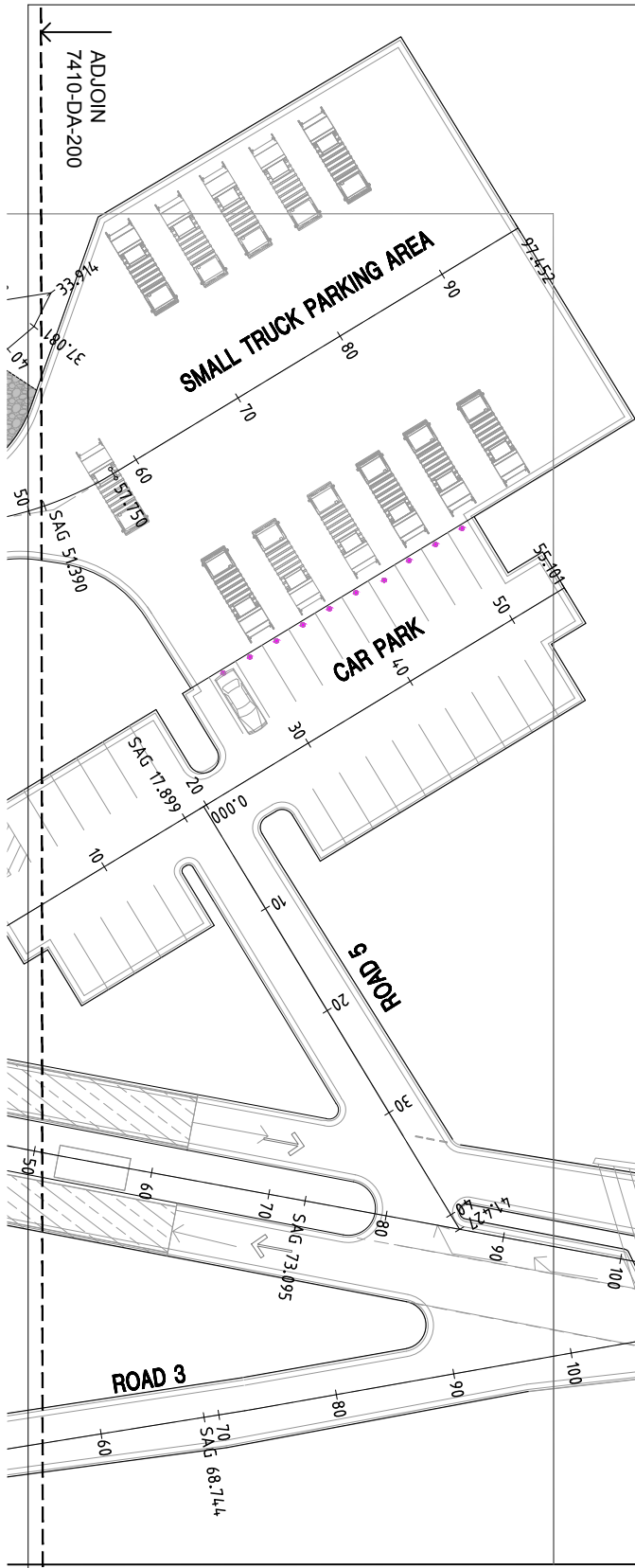
CHAINAGE PLAN
SHEET 1 OF 2

PROJECT No.
7410-DA

DRAWING No.
200

AMDT
B





No.	AMENDMENT	APPROVED	DATE	AMEND BY	DEVELOPMENT TEAM
C	ADDRESSED COUNCIL COMMENTS	KN	05.08.2021	TN	
B	ADDRESSED COUNCIL COMMENTS	DG	22.09.2020	EJ	
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APPROVED	KN	DATE	01.06.2020
CHECKED	KN	DATE	01.06.2020
DESIGNED BY	DG		
DRAWN BY	EJ		
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PROJECT

344 PARK ROAD
WALLACIA

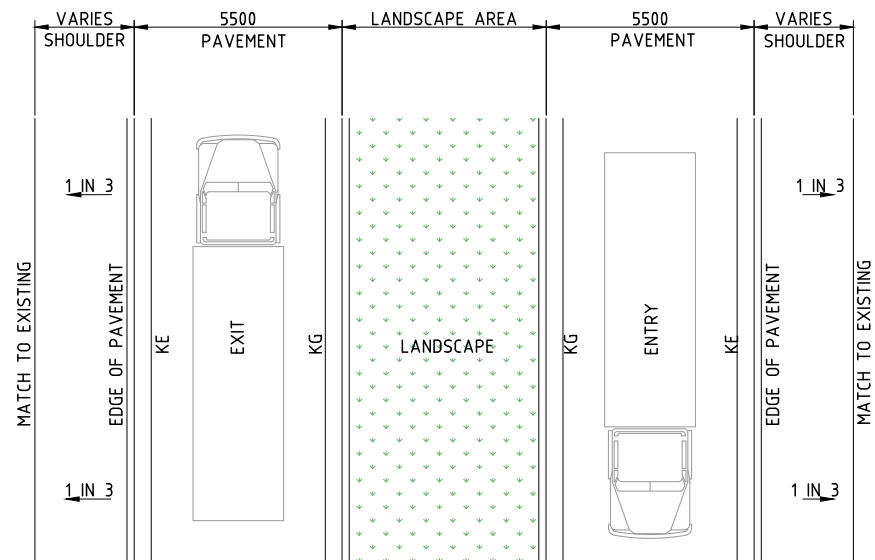
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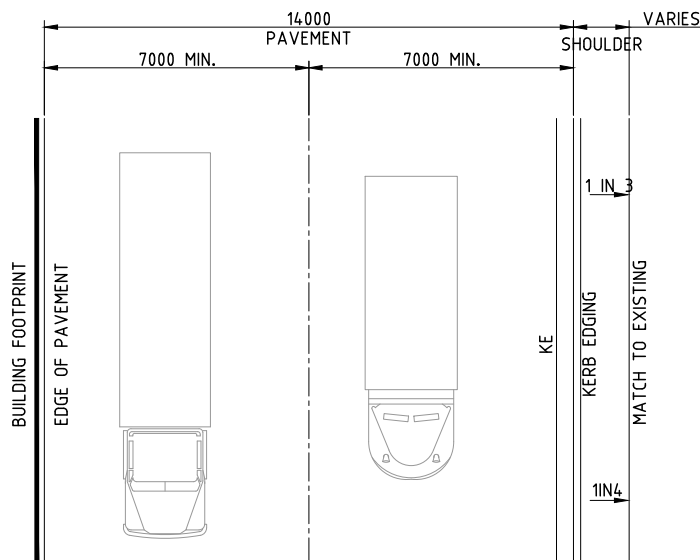
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7410-DA

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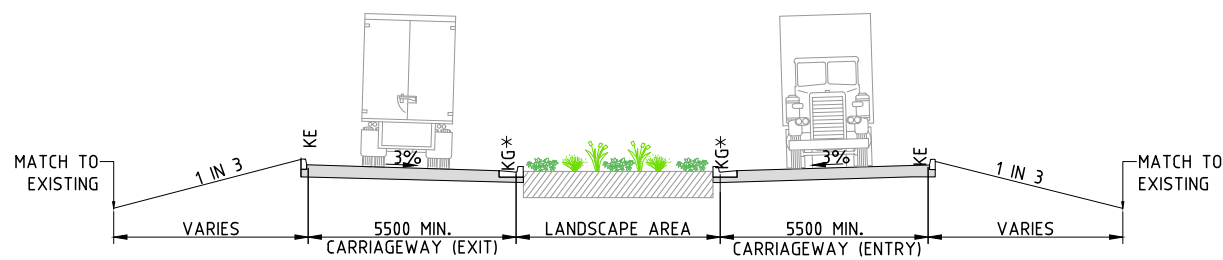
AMDT
B



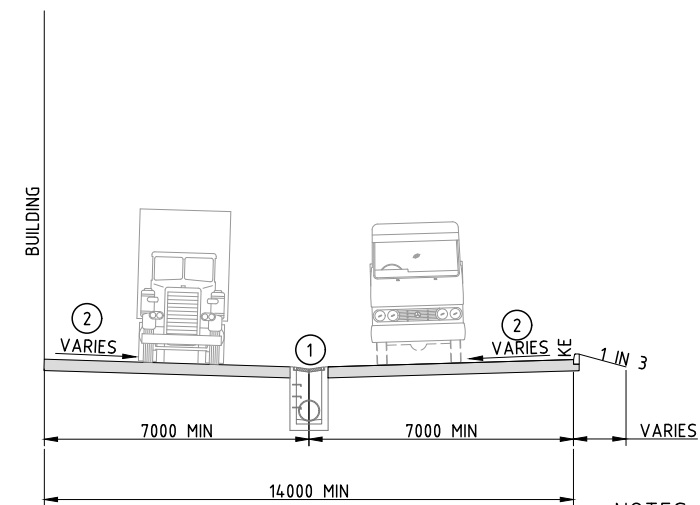
ROAD 1 - PLAN (CH0.00 - 235.68)
AS SHOWN



ROAD 2 - PLAN
AS SHOWN



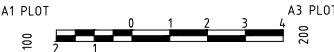
ROAD 1 TYPICAL SECTION
AS SHOWN



ROAD 2 TYPICAL SECTION
AS SHOWN

NOTES:

1. PIT LOCATION ON TYPICAL SECTION REFER TO STORMWATER PLAN DRG-7410-DA-100-101
2. TWO WAY CROSSFALL VARIES REFER TO GRADING PLAN DRG-7410-DA-

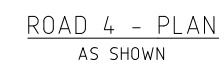
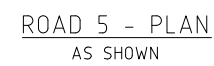
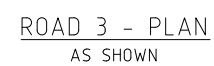


No.	AMENDMENT	APPROVED	DATE	AMDT	DEVELOPMENT TEAM	CLIENT	PROJECT	DRAWING TITLE	PROJECT No.	DRAWING No.	AMDT
							344 PARK ROAD WALLACIA	ROAD CROSS SECTIONS SHEET 1 OF 2	7410-DA	205	B
B	ADDRESSED COUNCIL COMMENTS	DG	22.09.2020	EJ							
A	ISSUED FOR DA APPROVAL	DG	04.08.2020	EJ							



APPROVED	KN	DATE	01.06.2020
CHECKED	KN	DATE	01.06.2020
DESIGNED BY	DG		
DRAWN BY	EJ		
CAD FILE:	S:\7410 344 Park Road Wallacia\Acad\Current Drawings\Civil\7410-DA-205-206.dwg		
SCALE	AS SHOWN	SHEET No.	

PROJECT	344 PARK ROAD WALLACIA	DRAWING TITLE	ROAD CROSS SECTIONS SHEET 1 OF 2
PROJECT No.	7410-DA	DRAWING No.	205
AMDT	B		



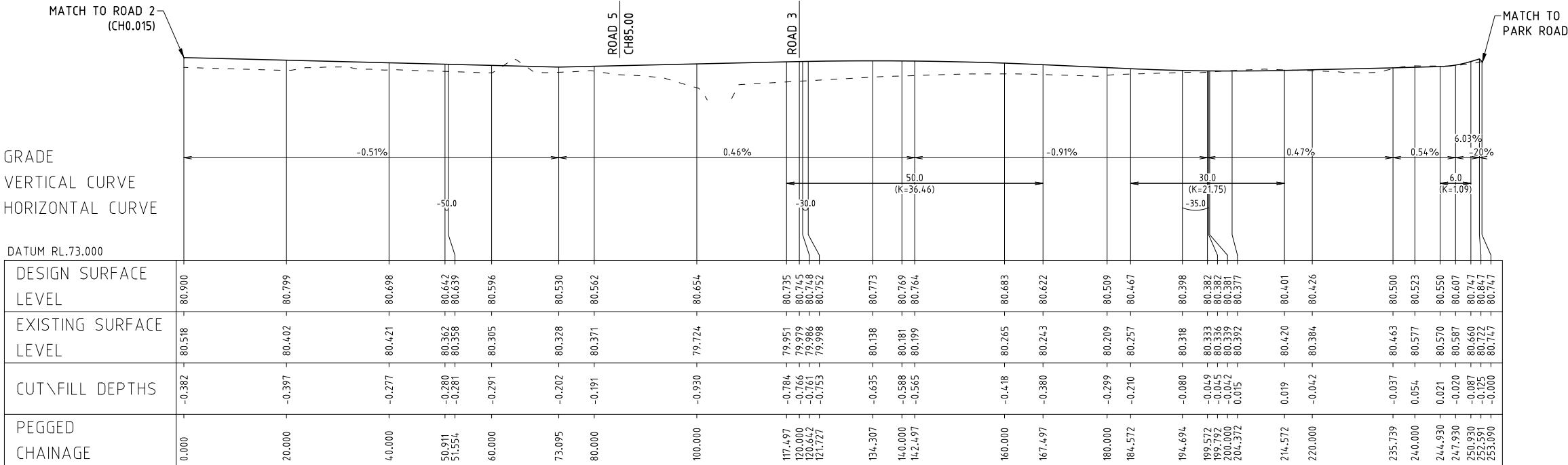
No.	AMENDMENT	APPROVED	DATE	AMENDED BY	DEVELOPMENT TEAM	CLIENT	PROJECT		DRAWING TITLE			
						 CANBERRA SYDNEY WOLLONGONG www.indesco.com.au	 CONSULT AUSTRALIA	  	344 PARK ROAD WALLACIA		ROAD CROSS SECTIONS SHEET 2	
B	ADDRESSED COUNCIL COMMENTS	DG	22.09.2020	EJ								
A	ISSUED FOR DA APPROVAL	DG	24.09.2020	EJ								


Benbow
ENVIRONMENTAL

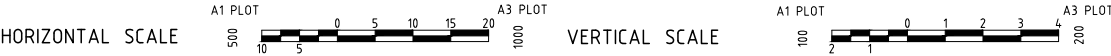
PROJECT	344 PARK ROAD WALLACIA		
DRAWING TITLE	ROAD CROSS SECTIONS SHEET 2		
PROJECT No.	7410-DA	DRAWING No.	206
AMDT			B

LEGEND

———— DESIGN LEVEL
----- EXISTING LEVEL



LONGITUDINAL SECTION (ALONG CENTRELINE) - ROAD 1

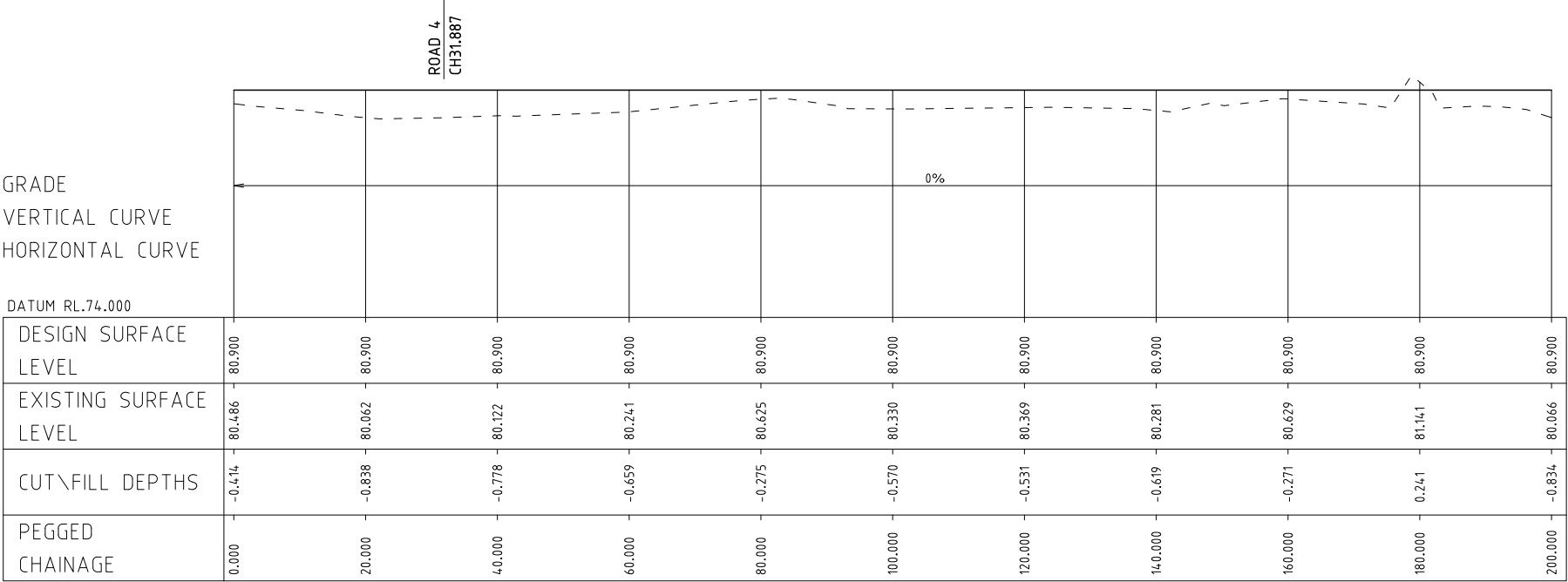


No.	AMENDMENT	APPROVED	DATE	AMOUNT	DEVELOPMENT TEAM	CLIENT	PROJECT	DRAWING TITLE	PROJECT No.	DRAWING No.	AMDT
							344 PARK ROAD WALLACIA	ROAD LONGITUDINAL SECTIONS SHEET 1 OF 3	7410-DA	210	B
B	ADDRESSED COUNCIL COMMENTS	DG	22.09.2020	EJ							
A	ISSUED FOR DA APPROVAL	DG	04.08.2020	EJ							

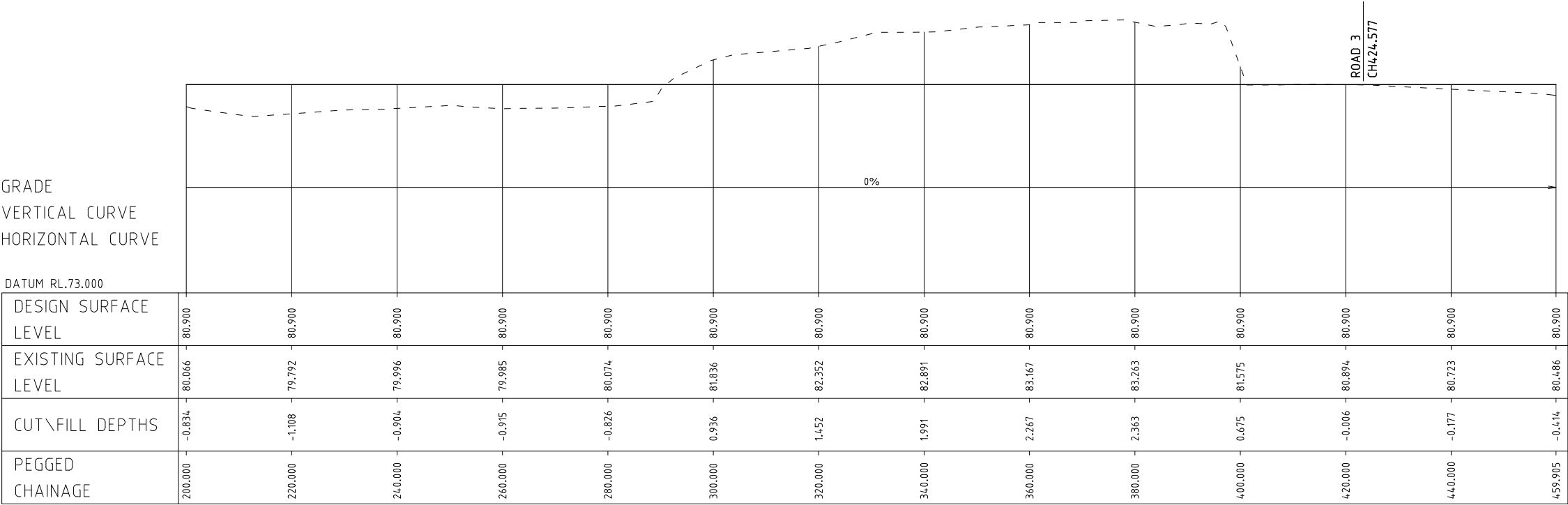
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DESIGN LEVEL

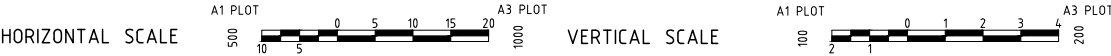
EXISTING LEVEL



LONGITUDINAL SECTION (ALONG CENTRELINE) - ROAD 2 (CH0.000-CH200)



LONGITUDINAL SECTION (ALONG CENTRELINE) - ROAD 2 (CH200-CH459.905)



No.

AMENDMENT

APPROVED

DATE

AMDED BY

DEVELOPMENT TEAM

B

ADDRESSED COUNCIL COMMENTS

DG

22.09.2020

EJ

A

ISSUED FOR DA APPROVAL

DG

04.08.2020

EJ

BE

Benbow

ENVIRONMENTAL

CLIENT

INDESCO

CANBERRA | SYDNEY | WOLLONGONG

www.indesco.com.au

QUALITY MANAGEMENT

100%

APPROVED

KN

DATE

01.06.2020

CHECKED

KN

DATE

01.06.2020

DESIGNED BY

DG

DRAWN BY

EJ

CAD FILE:

S:\7410 344 Park Road Wallacia\Acad\Current Drawings\Civil\7410-DA-210-212.dwg

SCALE

AS SHOWN

SHEET No.

PROJECT

344 PARK ROAD WALLACIA

DRAWING TITLE

ROAD LONGITUDINAL SECTIONS SHEET 2

PROJECT No.

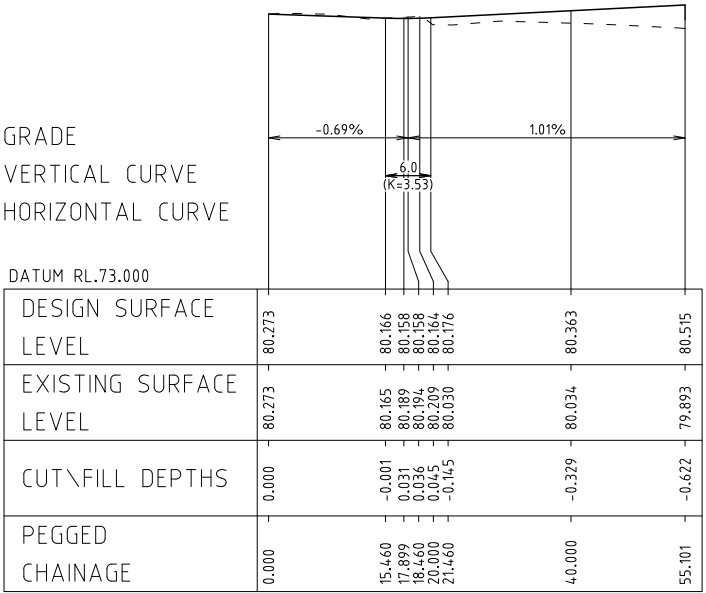
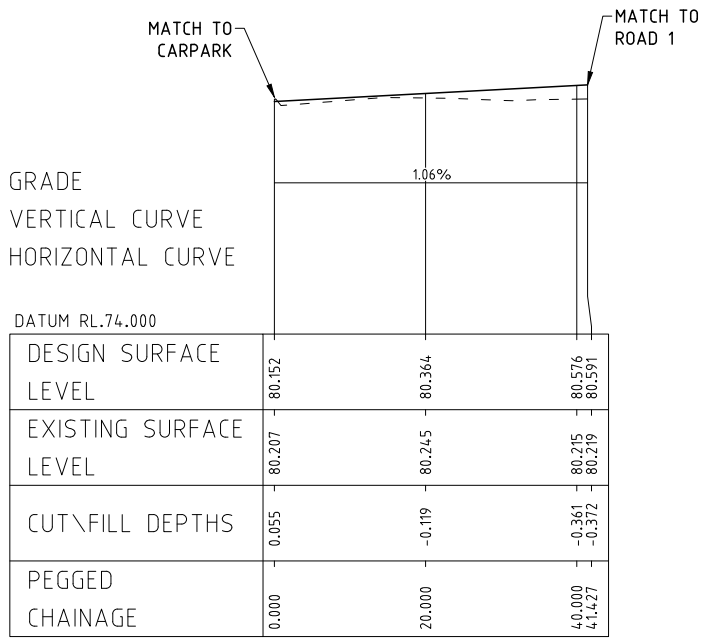
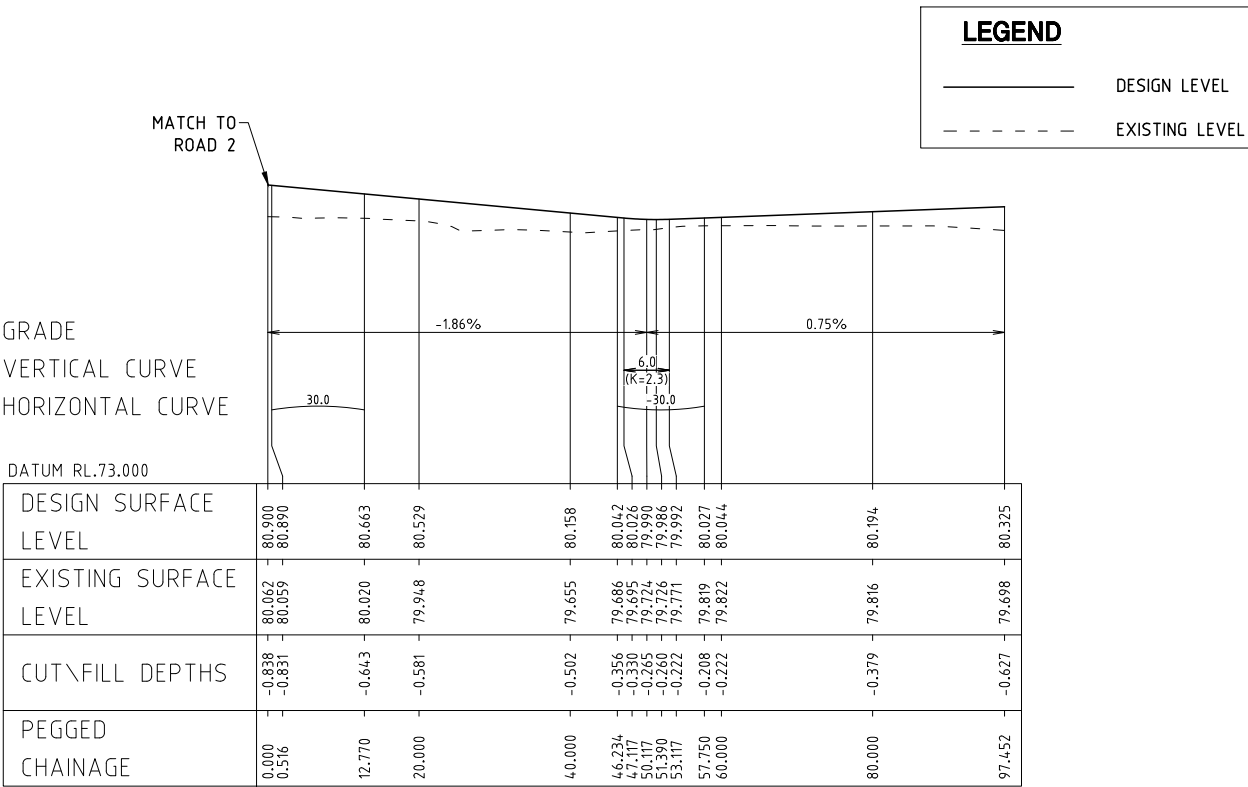
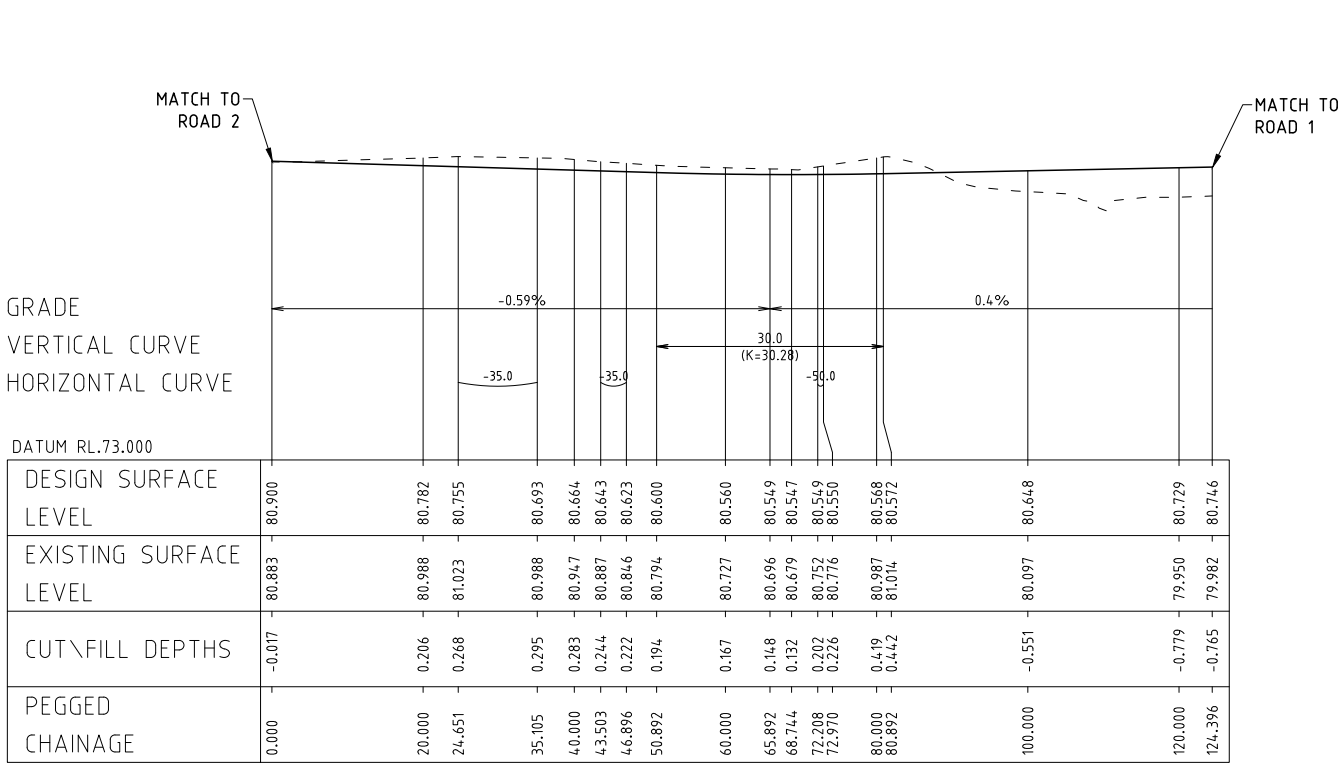
7410-DA

DRAWING No.

211

AMDT

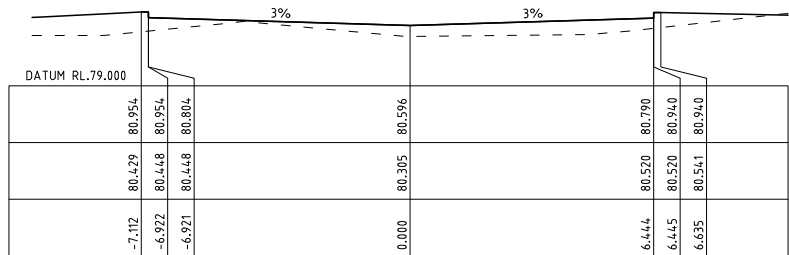
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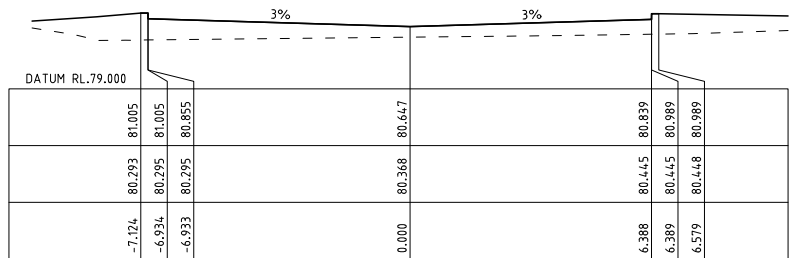
No.	AMENDMENT	APPROVED	DATE	AMDT	DEVELOPMENT TEAM	CLIENT	PROJECT	DRAWING TITLE	PROJECT No.	DRAWING No.	AMDT
B	ADDRESSED COUNCIL COMMENTS	DG	22.09.2020	EJ			344 PARK ROAD WALLACIA	ROAD LONGITUDINAL SECTIONS SHEET 3	7410-DA	212	B
A	ISSUED FOR DA APPROVAL	DG	04.08.2020	EJ							

LEGEND

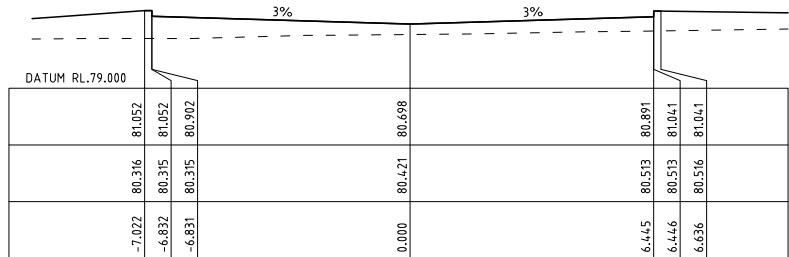
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----- EXISTING LEVEL



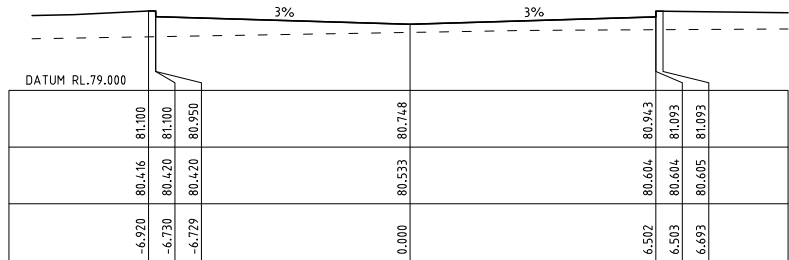
CH 60.000



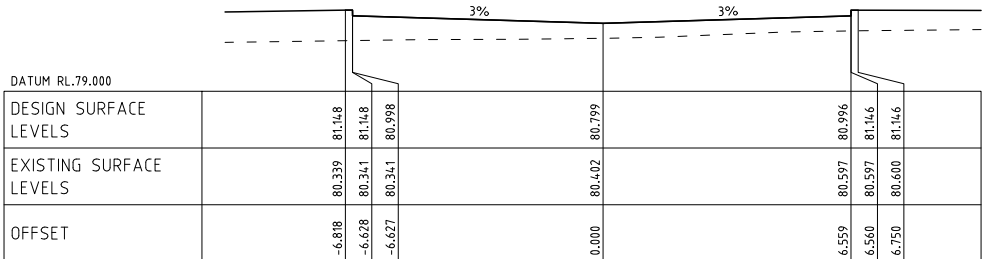
CH 50.000



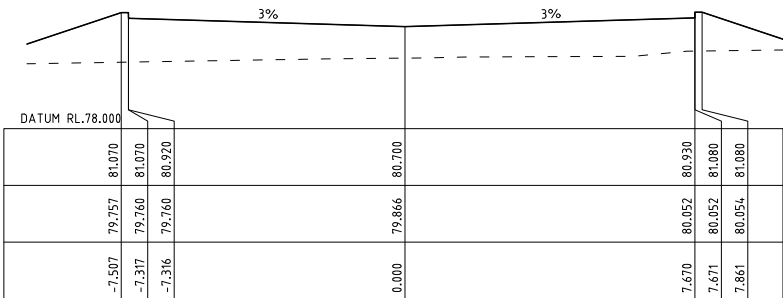
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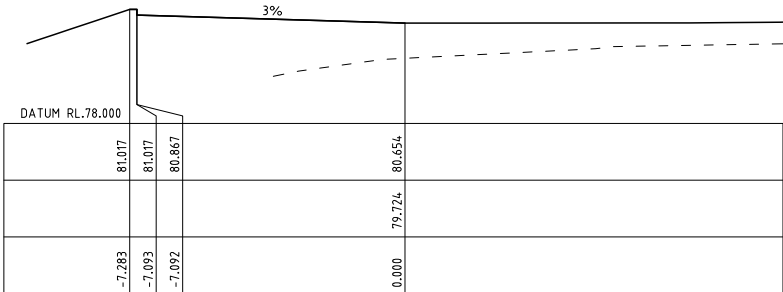
CH 30.000



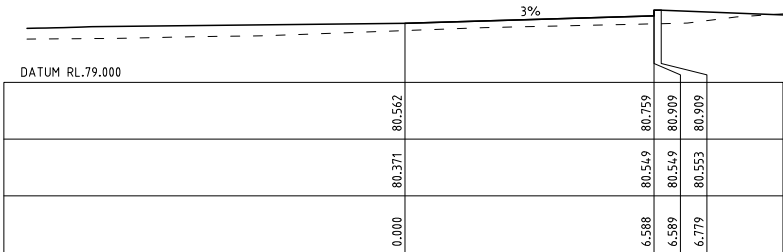
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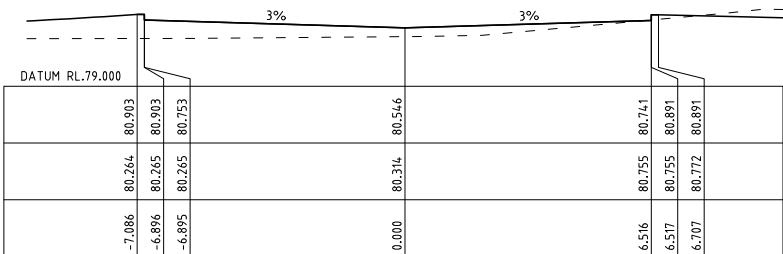
CH 110.000



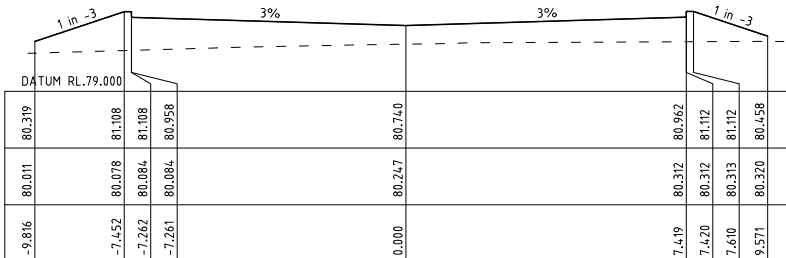
CH 100.000



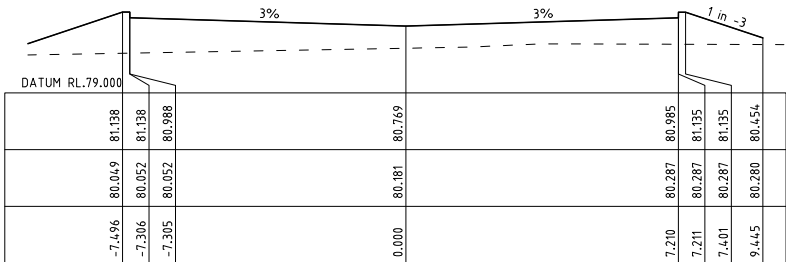
CH 80.000



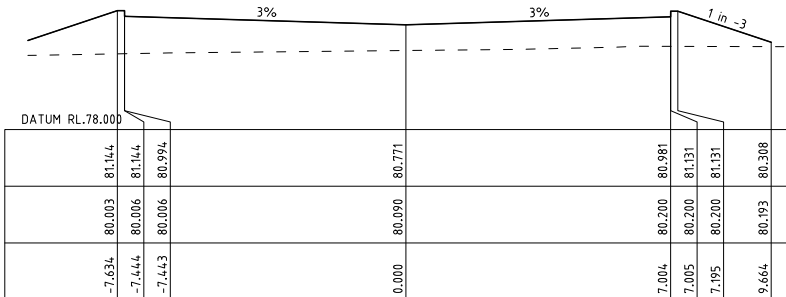
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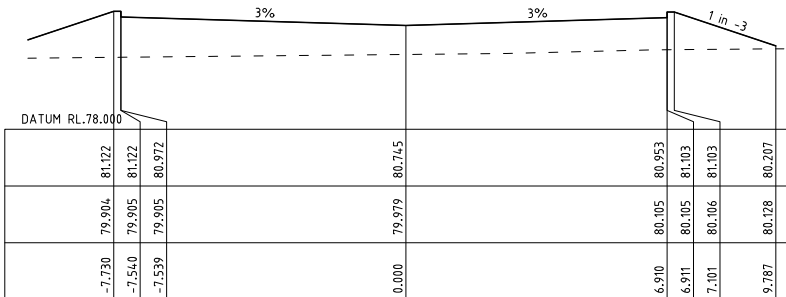
CH 150.000



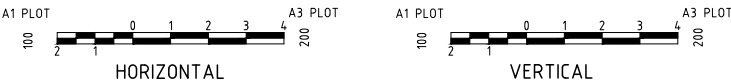
CH 140.000



CH 130.000



CH 120.000



No.	AMENDMENT	APPROVED	DATE	DESIGNED BY	DEVELOPMENT TEAM	CLIENT	PROJECT	DRAWING TITLE	PROJECT No.	DRAWING No.	AMDT
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A	ISSUED FOR DA APPROVAL	DG	04.08.2020	EJ							

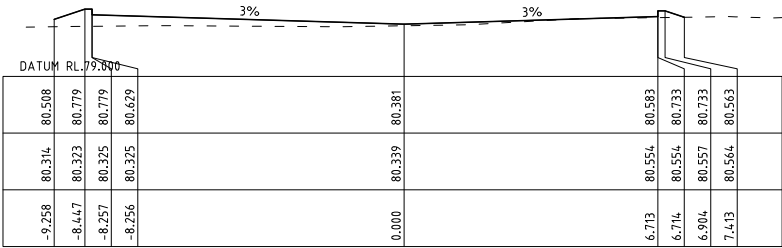


APPROVED	KN	DATE	01.06.2020
CHECKED	KN	DATE	01.06.2020
DESIGNED BY	DG		
DRAWN BY	EJ		
CAD FILE:	S:\7410 344 Park Road Wallacia\Acad\Current Drawings\Civil\7410-DA-215-220.dwg		
SCALE	AS SHOWN	SHEET No.	

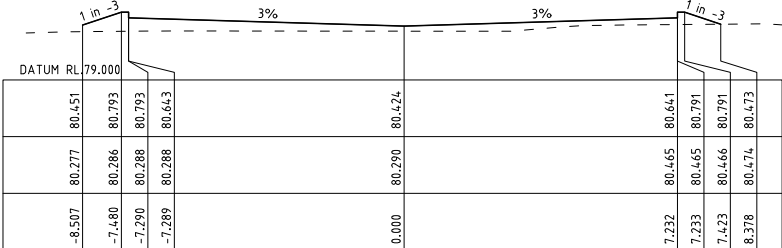
LEGEND

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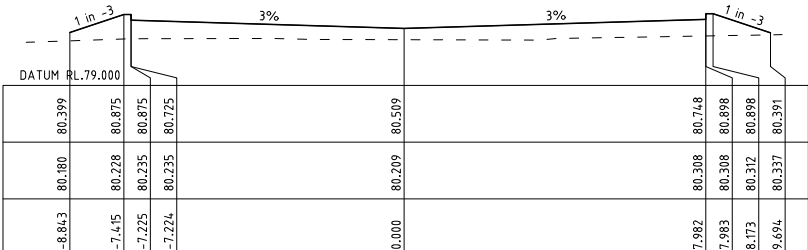
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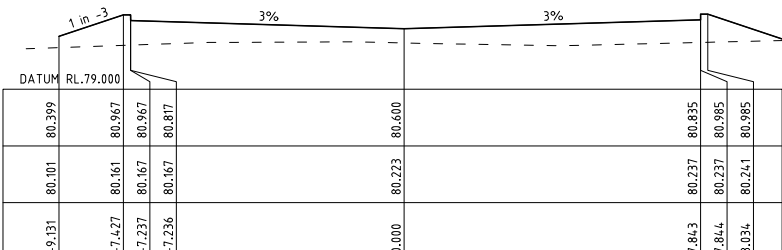
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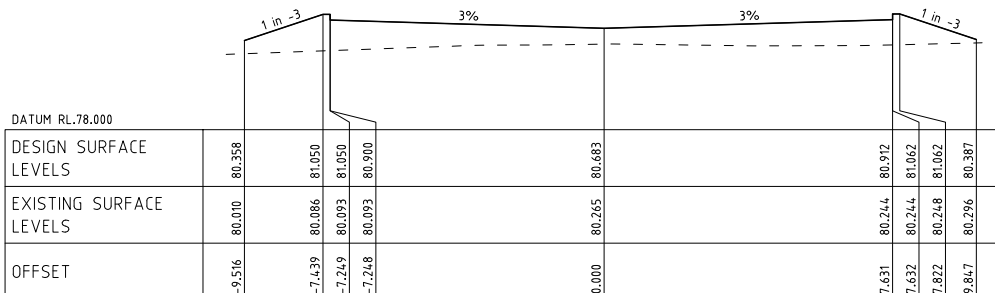
CH 190.000



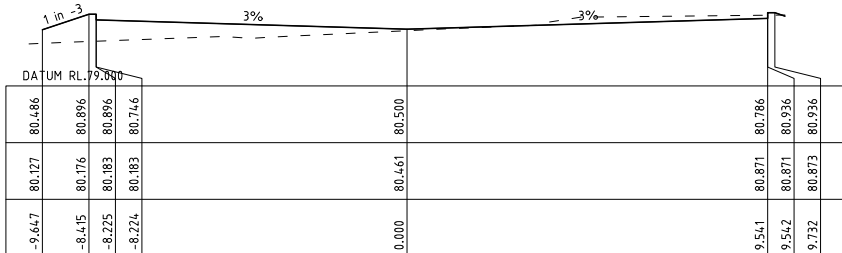
CH 180.000



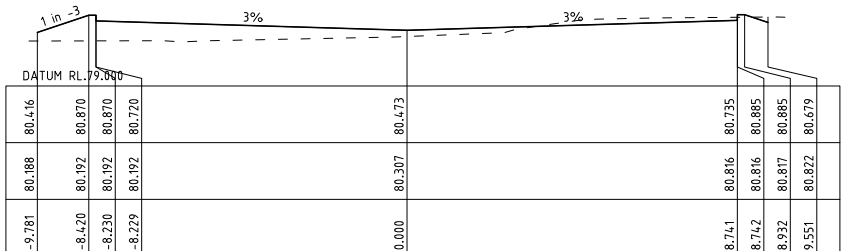
CH 170.000



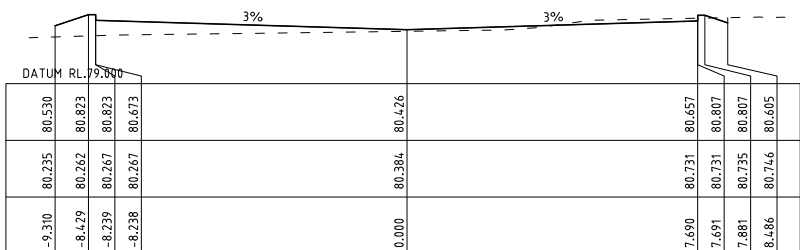
CH 160.000



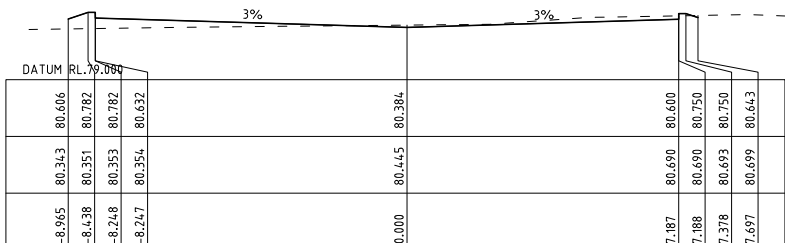
CH 235.688



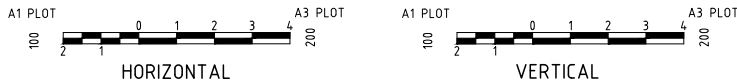
CH 230.000



CH 220.000



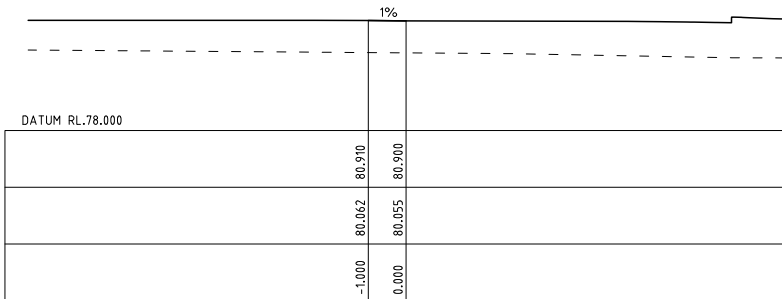
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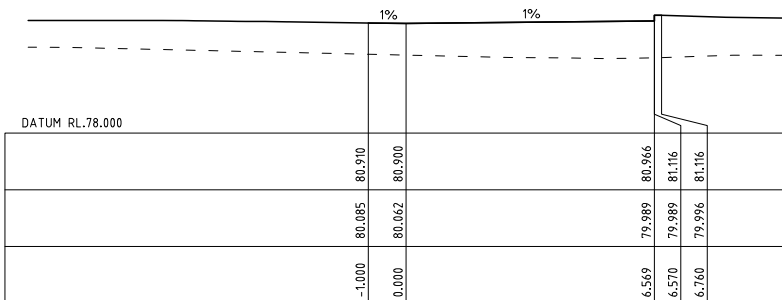
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LEGEND

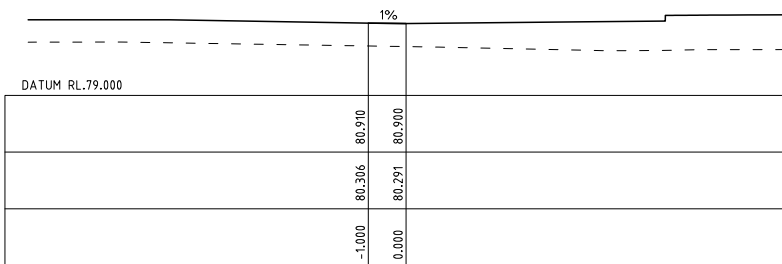
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CH 30.000



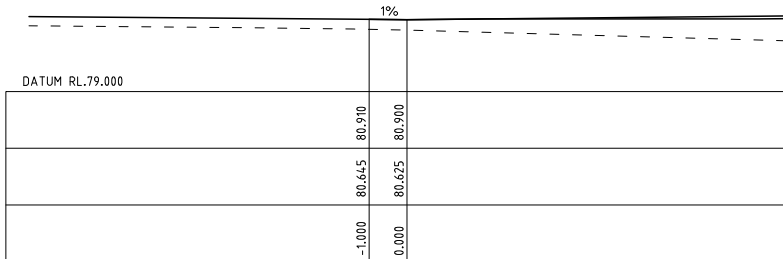
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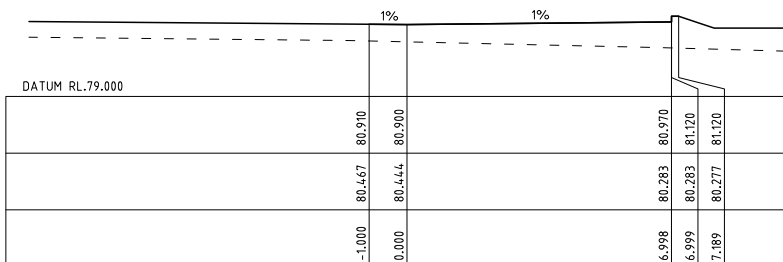
CH 10.000

Offset	Design Level (RL)	Existing Level (RL)
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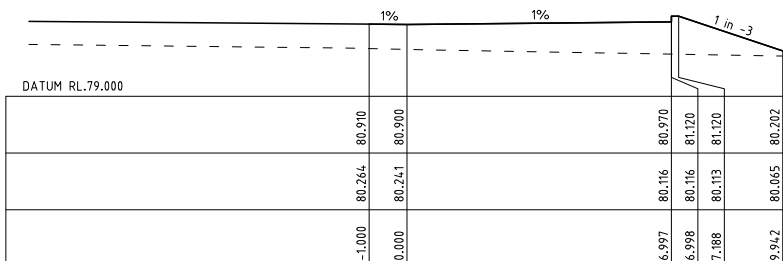
CH 0.000



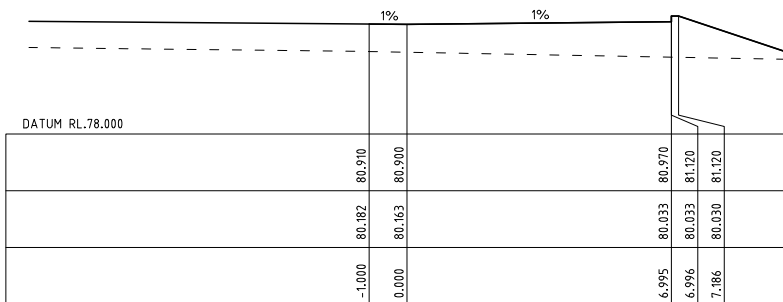
CH 80.000



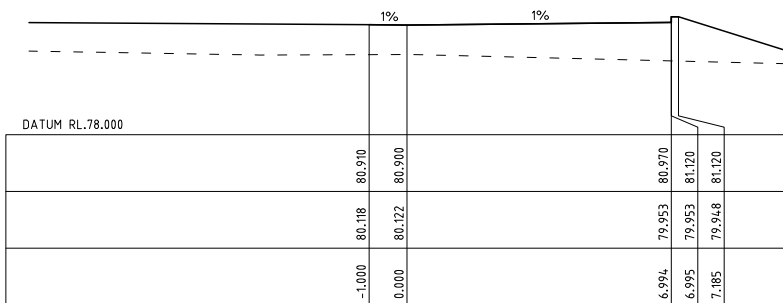
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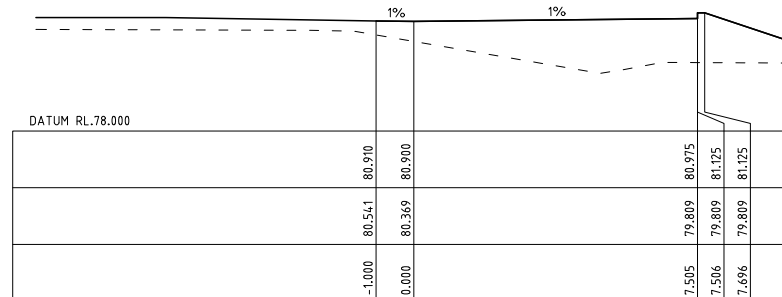
CH 60.000



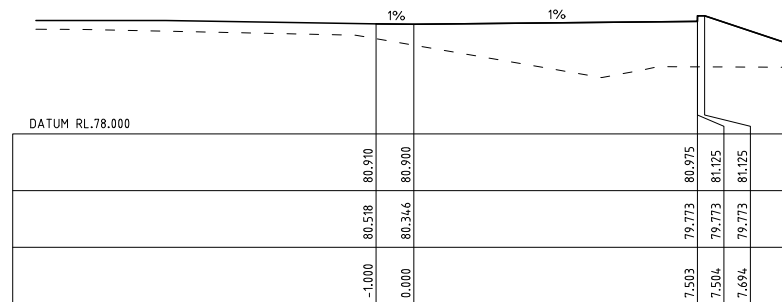
CH 50.000



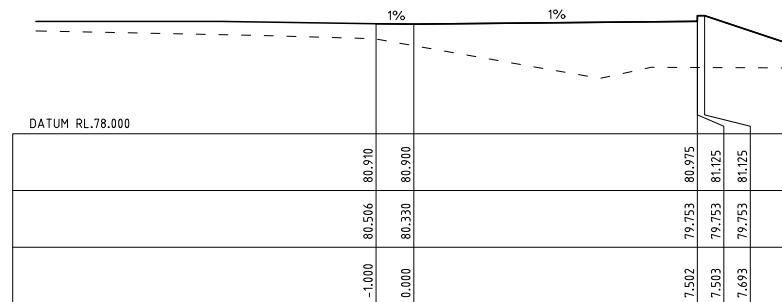
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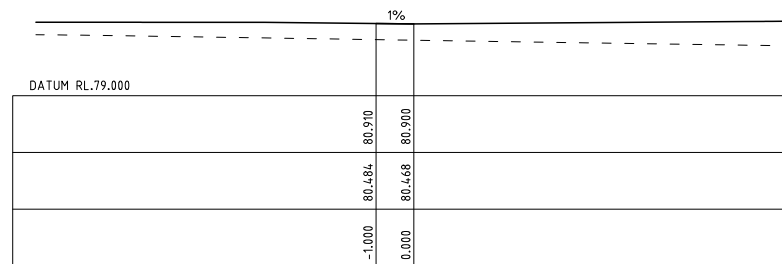
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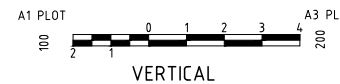
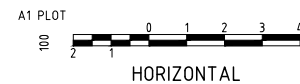
CH 110.000



CH 100.000



CH 90.000



No.	AMENDMENT	APPROVED	DATE	AMDT	DEVELOPMENT TEAM	CLIENT	APPROVED	CHECKED	DESIGNED BY	DRAWN BY	CAD FILE	SCALE	SHEET No.	PROJECT	DRAWING TITLE	PROJECT No.	DRAWING No.	AMDT
A	ISSUED FOR DA APPROVAL	DG	04.08.2020	EJ							S:\7410 344 Park Road Wallacia\Acad\Current Drawings\Civil\7410-DA-215-220.dwg	AS SHOWN		344 PARK ROAD WALLACIA	ROAD 2 CROSS SECTIONS SHEET 1 OF 2	7410-DA	217	A



APPROVED	KN	DATE	01.05.2020
CHECKED	KN	DATE	01.05.2020
DESIGNED BY	DG		
DRAWN BY	EJ		

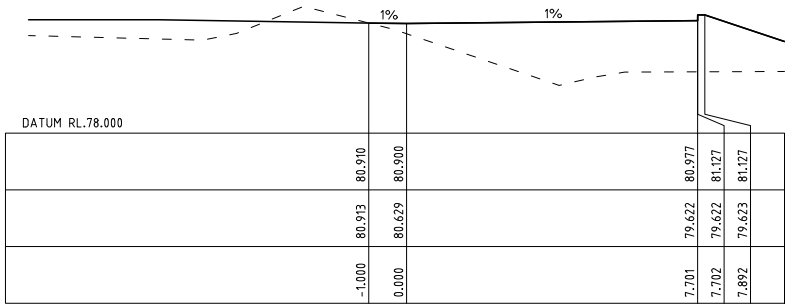
344 PARK ROAD WALLACIA

ROAD 2 CROSS SECTIONS SHEET 1 OF 2

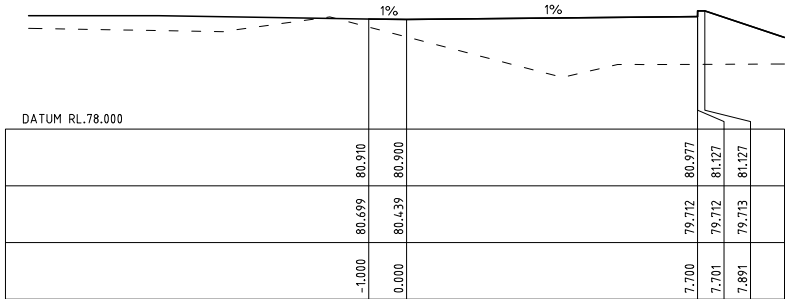
PROJECT No. 7410-DA
DRAWING No. 217
AMDT A

LEGEND

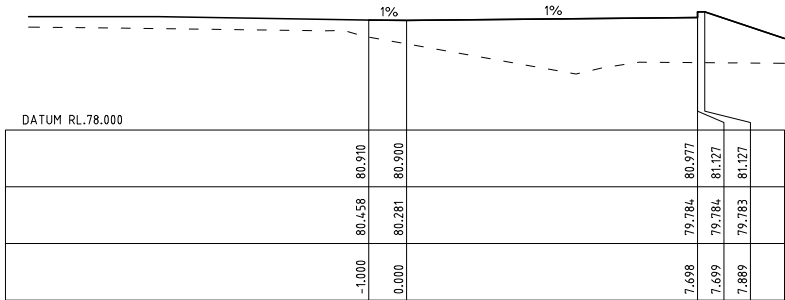
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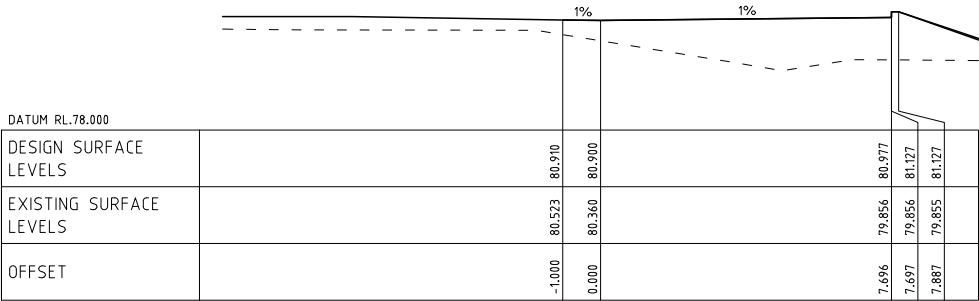
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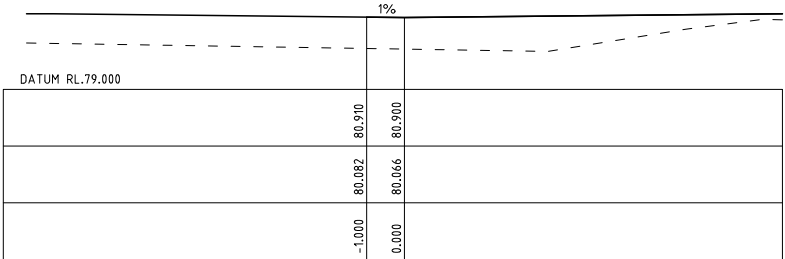
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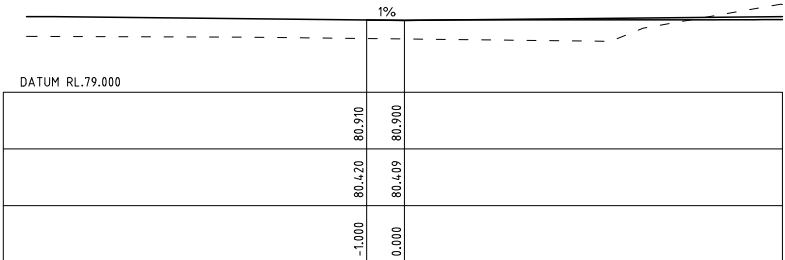
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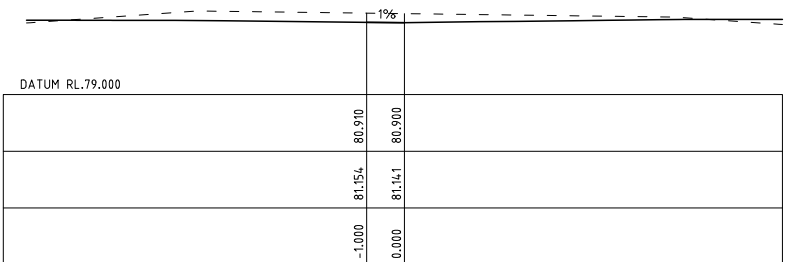
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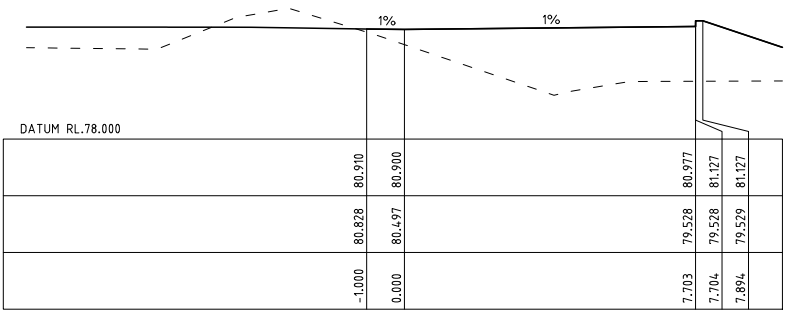
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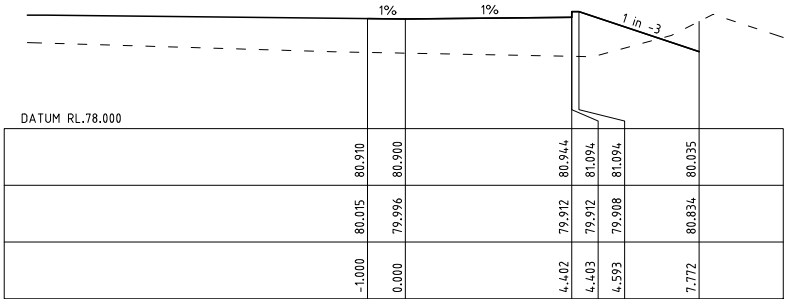
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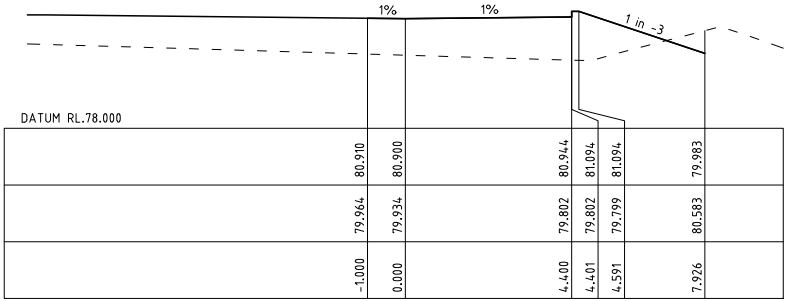
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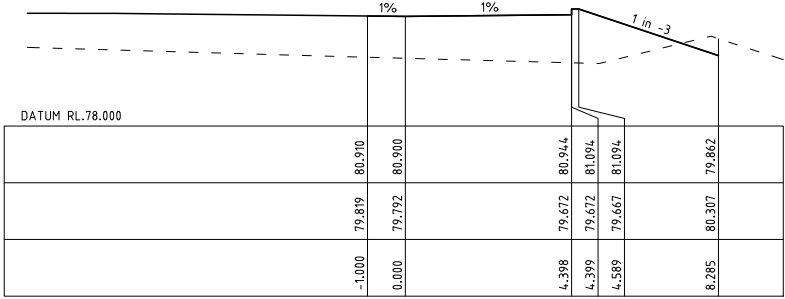
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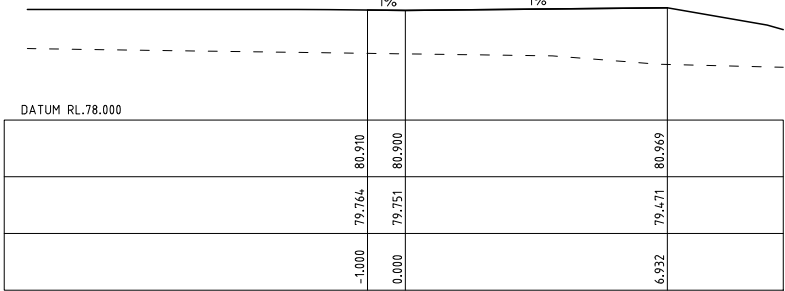
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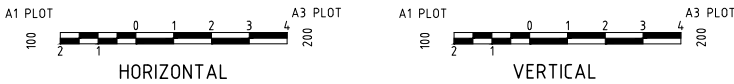
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CH 220.000



CH 210.000



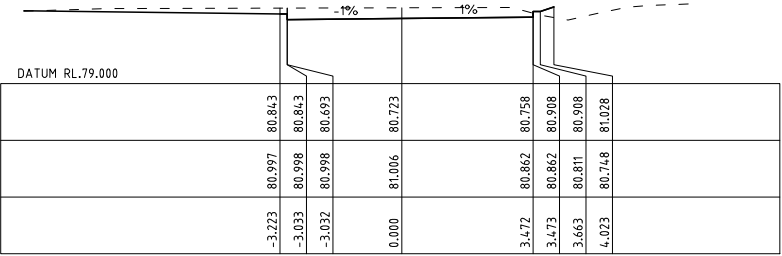
No.	AMENDMENT	APPROVED	DATE	AMDT	DEVELOPMENT TEAM	CLIENT	PROJECT	DRAWING TITLE	PROJECT No.	DRAWING No.	AMDT
							344 PARK ROAD WALLACIA	ROAD 2 CROSS SECTIONS SHEET 1 OF 2	7410-DA	218	A
A	ISSUED FOR DA APPROVAL	DG	04.08.2020	EJ							



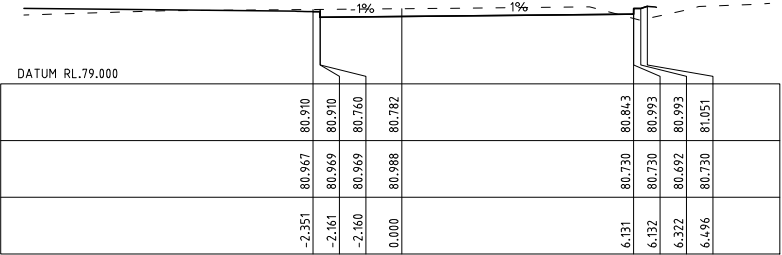
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CHECKED	KN	DATE	01.05.2020
DESIGNED BY	DG		
DRAWN BY	EJ		
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SCALE	AS SHOWN	SHEET No.	

LEGEND

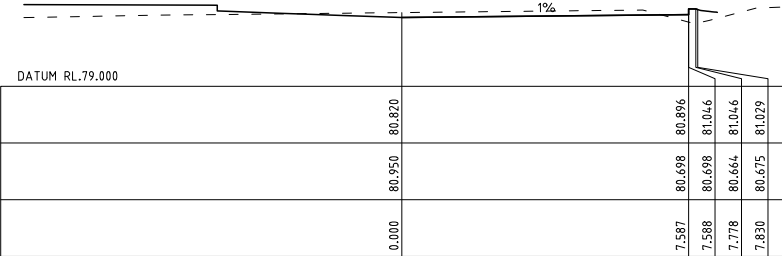
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- - - - - EXISTING LEVEL



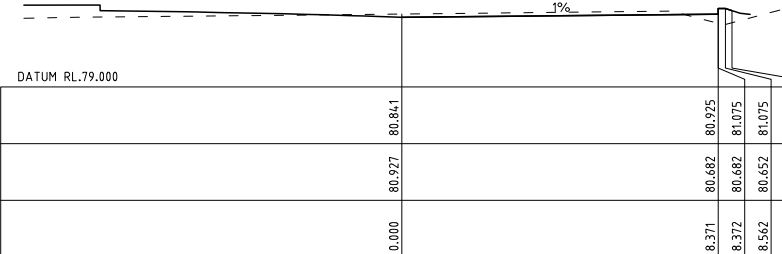
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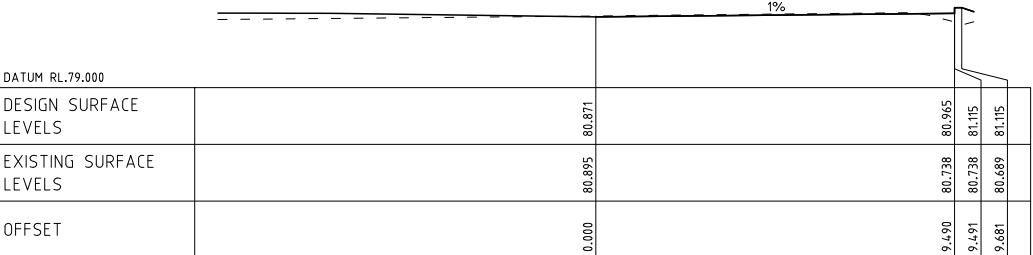
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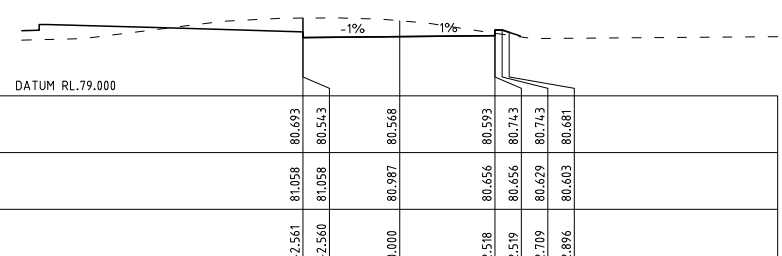
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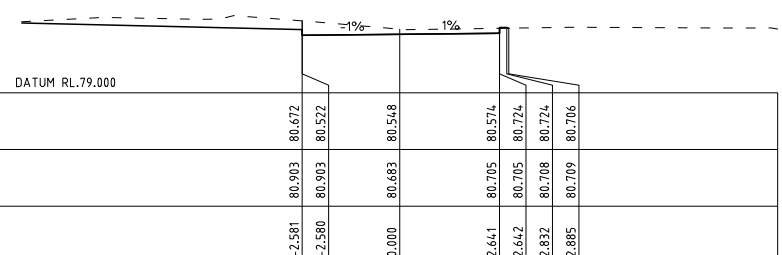
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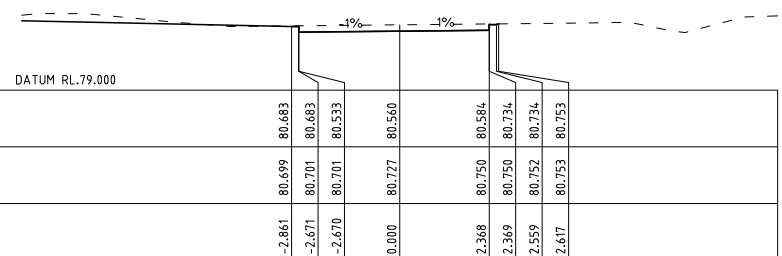
CH 5.000



CH 80.000



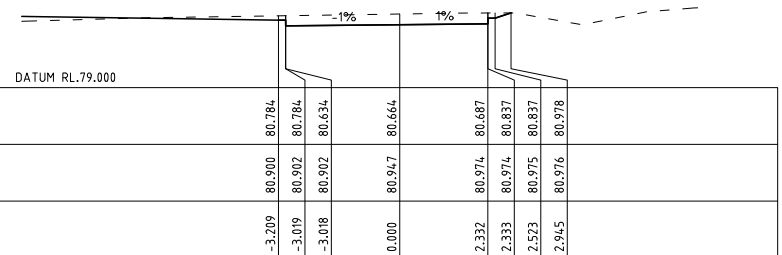
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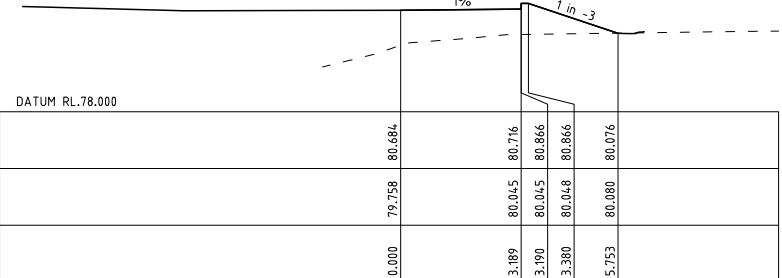
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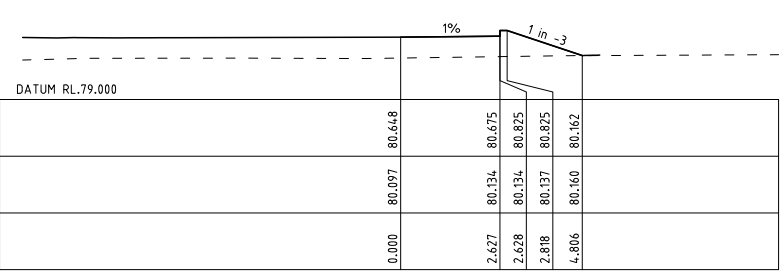
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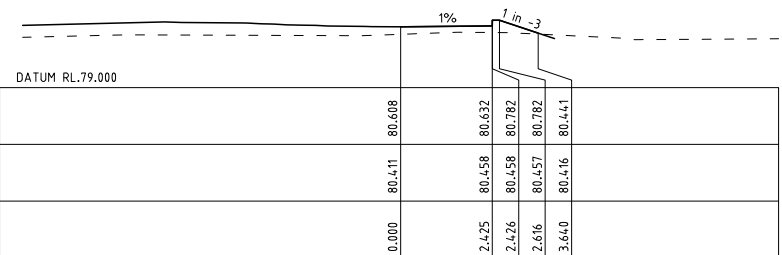
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CH 109.000



CH 100.000



CH 90.000

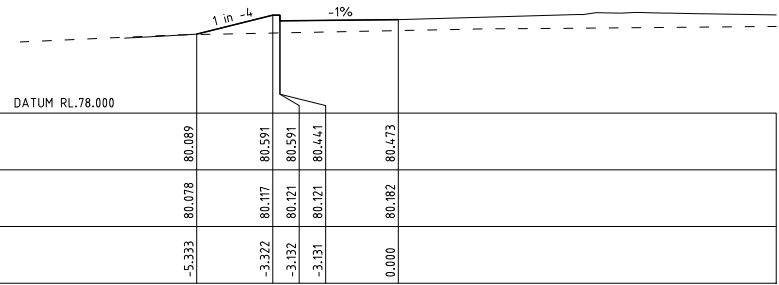


No.	AMENDMENT	APPROVED	DATE	AMEND BY	DEVELOPMENT TEAM	CLIENT	AS SHOWN			PROJECT	DRAWING TITLE																											
					 Benbow ENVIRONMENTAL		 INDESCO CANBERRA SYDNEY WOLLONGONG www.indesco.com.au	 CURRENTLY AMENDMENT	  	<table><tr><td>APPROVED</td><td>KN</td><td>DATE</td><td>01/05/2020</td></tr><tr><td>CHECKED</td><td>KN</td><td>DATE</td><td>01/05/2020</td></tr><tr><td>DESIGNED BY</td><td>DG</td><td></td><td></td></tr><tr><td>DRAWN BY</td><td>EJ</td><td></td><td></td></tr><tr><td colspan="4">CAD FILE: S:\7410 344 Park Road Wallacia\Acad\Current Drawings\Civil\7410-DA-215-220.dwg</td></tr><tr><td>SCALE</td><td></td><td>SHEET No.</td><td></td></tr></table>	APPROVED	KN	DATE	01/05/2020	CHECKED	KN	DATE	01/05/2020	DESIGNED BY	DG			DRAWN BY	EJ			CAD FILE: S:\7410 344 Park Road Wallacia\Acad\Current Drawings\Civil\7410-DA-215-220.dwg				SCALE		SHEET No.		344 PARK ROAD WALLACIA	ROAD 3 CROSS SECTIONS		
APPROVED	KN	DATE	01/05/2020																																			
CHECKED	KN	DATE	01/05/2020																																			
DESIGNED BY	DG																																					
DRAWN BY	EJ																																					
CAD FILE: S:\7410 344 Park Road Wallacia\Acad\Current Drawings\Civil\7410-DA-215-220.dwg																																						
SCALE		SHEET No.																																				
A	ISSUED FOR DA APPROVAL	DG	04.08.2020	EJ					PROJECT No. 7410-DA	DRAWING No. 219	AMDT A																											

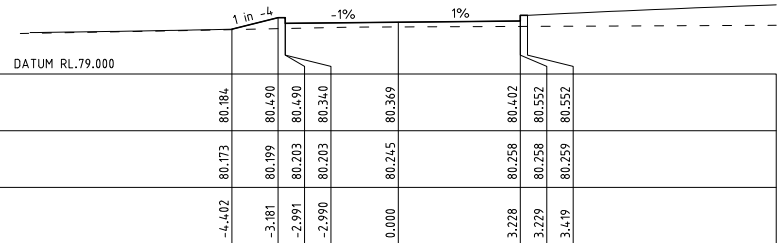
LEGEND

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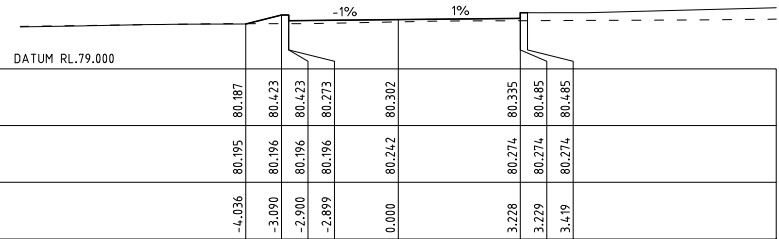
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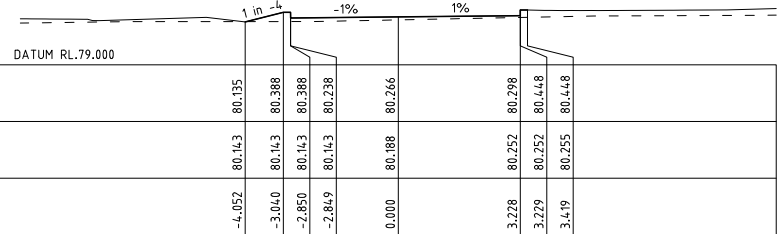
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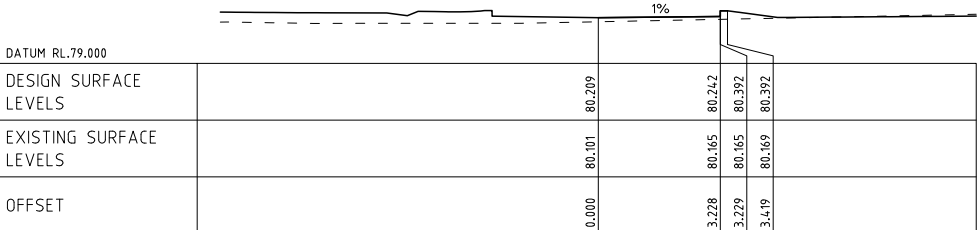
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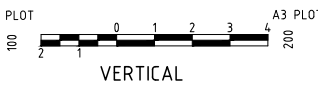
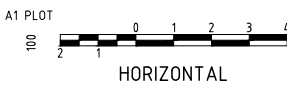
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CH 10.00



CH 4.500

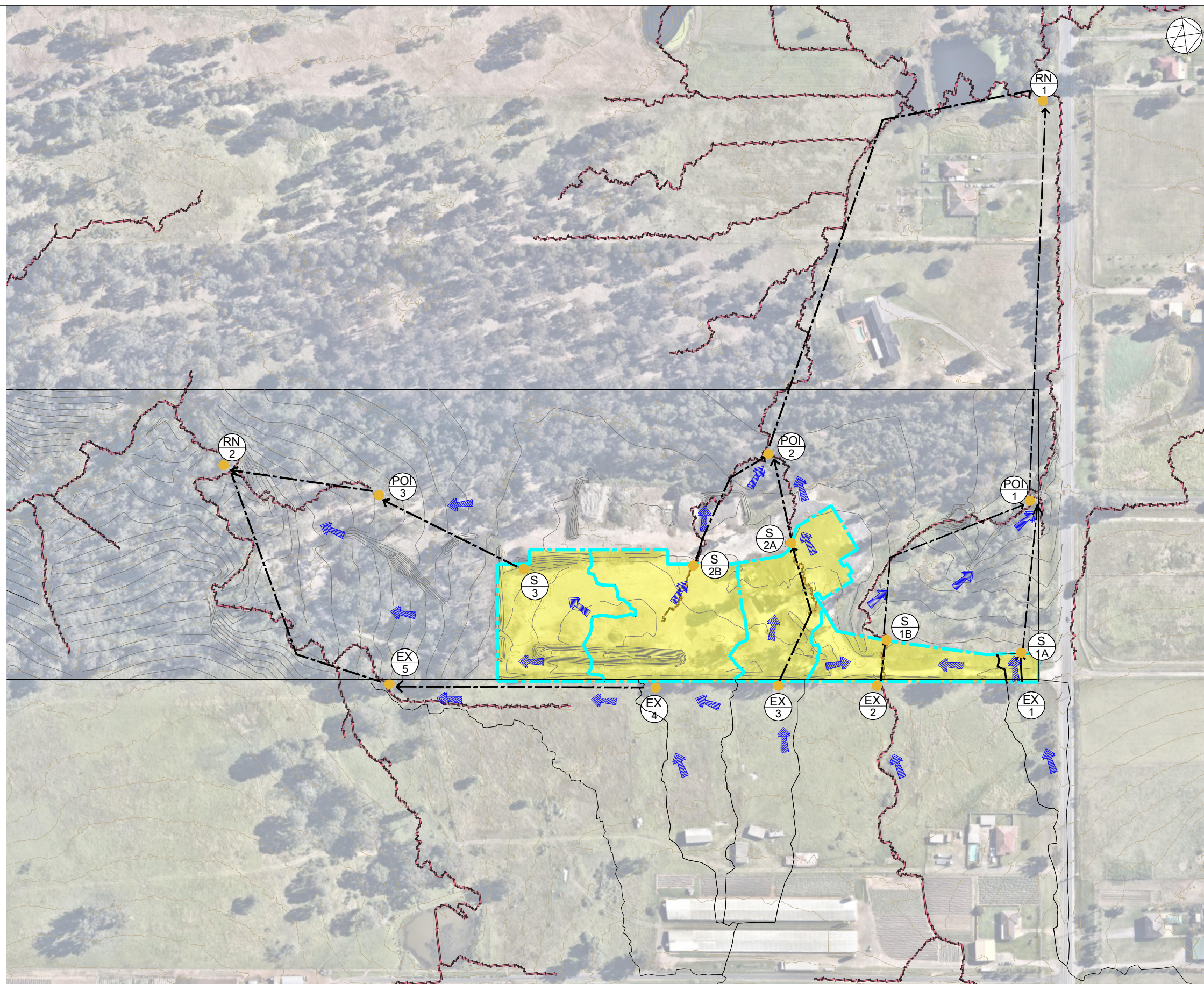
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	CATCHMENT BOUNDARY
	SUBJECT SITE
	STREAM FLOW
	CATCHMENT NAME
	CATCHMENT NODE
	OVERLAND FLOW DIRECTION
	HYDROLOGY LINK

SUBCATCHMENT ID	SUBCATCHMENT	AREA (Ha)	IMPERVIOUS (%)
INTERNAL			
S1A	EXISTING	0.057	5
S1B	EXISTING LAND	0.413	5
S2A	EXISTING HOUSE	0.703	10
S2B	EXISTING HOUSE	0.951	10
S3	EXISTING	0.652	5
	TOTAL	2.777	
EXTERNAL			
EX1	EXISTING	0.444	5
EX2	EXISTING	13.505	5
EX3	EXISTING	0.840	5
EX4	EXISTING	0.702	5
EX5	EXISTING	1.814	5
	TOTAL	17.305	

STORM EVENTS AEP	EXISTING
(%)	(m3/s)
0.5EY	1.325
0.2EY	2.401
10	2.953
5	3.686
2	4.416
1	5.16

STORM EVENTS AEP	EXISTING
(%)	(m ³ /s)
0.5EY	0.386
0.2EY	0.638
10	0.777
5	0.953
2	1.142
1	1.326



No.	AMENDMENT	APPROVED	DATE	REVIEW BY	DEVELOPMENT TEAM
B	ADDRESSED COUNCIL COMMENTS	DG	22.09.2020	EJ	
A	ISSUED FOR QA APPROVAL	DG	04.08.2020	EJ	



CLIENT



* ORIGINAL SIGNED

APPROVED	* KN	DATE	01.05.2020
CHECKED	* KN	DATE	01.05.2020
DESIGNED BY	DG		
DRAWN BY	EJ		

CAD FILE S:\7410 344 Park Road Wallacia\Acad\Current Drawings\Civil\7410-DA-300.dwg

SCALE SHEET No.

AS SHOWN

	PROJECT
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344 PARK ROAD
WALLACIA

	DRAWING TITLE
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CATCHMENT PLAN PRE DEVELOPMENT

PROJECT No.
7410-DA

DRAWING No.	300
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	AND B
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CATCHMENT SCHEDULE

SUBCATCHMENT ID	SUBCATCHMENT	AREA (Ha)	IMPERVIOUS (%)
INTERNAL			
A1-1	ROAD, LANDSCAPE	0.156	70
B1-2	TRUCK PARK & ROAD	0.091	100
B1-3	LANDSCAPE	0.161	5
B1-4	CARPARK	0.035	100
B1-5	LANDSCAPE	0.022	5
B1-7	ROAD, LANDSCAPE	0.090	70
B1-8	LANDSCAPE	0.110	5
B1-9	ROAD	0.050	100
B2-1	ROAD	0.067	100
B2-2	ROAD	0.072	100
B2-3	ROAD	0.108	100
B2-5 (R4)	ROOF	0.141	100
B2-6	ROAD	0.073	100
B2-7	ROAD	0.074	100
B3-2 (R3)	ROOF	0.196	100
B3-3	ROAD	0.070	100
B4-1	TRUCK PARK	0.099	100
B5-1	CARPARK	0.053	100
B6-1	ROAD	0.042	100
B7-1	ROAD, LANDSCAPE	0.063	70
C1-3 + R1	ROAD & ROOF	0.264	100
C1-4 + R2	ROAD & ROOF	0.234	100
C1-5	ROAD	0.033	100
C1-6	ROAD	0.068	100
C2-1	ROAD	0.078	100
C2-2	ROAD	0.043	100
C3-1	LANDSCAPE	0.077	5
E	LANDSCAPE	0.206	5
	TOTAL	2.777	
EXTERNAL			
EX1	EXISTING	0.444	5
EX2	EXISTING	13.505	5
EX3	EXISTING	0.840	5
EX4	EXISTING	0.702	5
EX5	EXISTING	1.814	5
	TOTAL	17.305	

FLOW SUMMARY AT RECEIVING NODE (RN1)

STORM EVENTS AEP	PRE_DEVELOPMENT	POST_DEVELOPMENT (WITH OSD)
(%)	(m3/s)	(m3/s)
0.5EY	1.325	1.143
0.2EY	2.401	2.048
10	2.953	2.605
5	3.686	3.325
2	4.416	4.028
1	5.16	4.686

FLOW SUMMARY AT RECEIVING NODE (RN2)

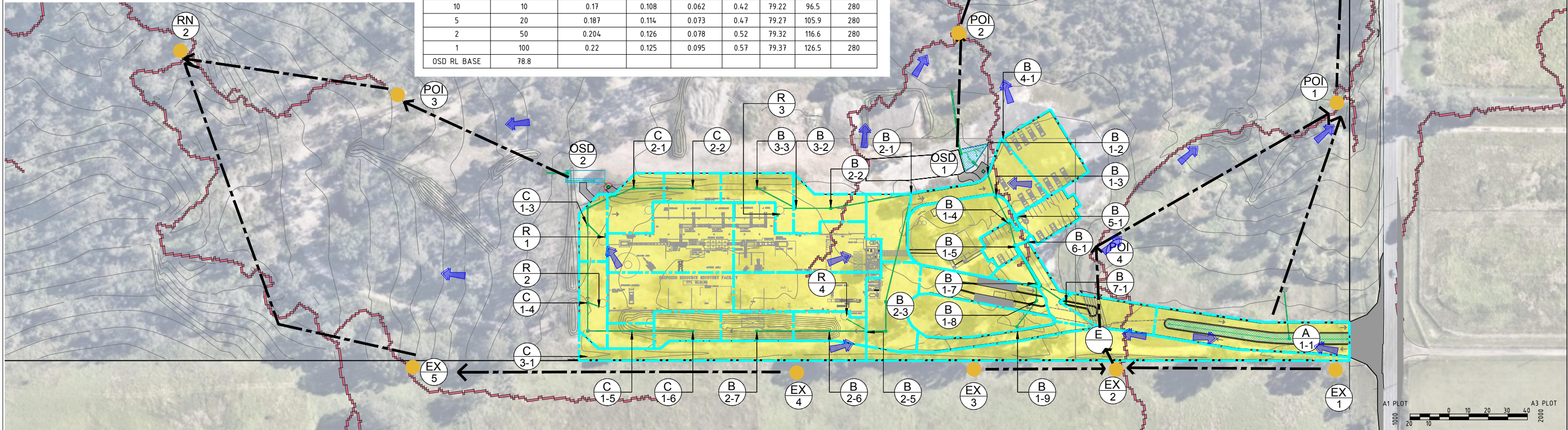
STORM EVENTS AEP	PRE_DEVELOPMENT	POST_DEVELOPMENT (WITH OSD)
(%)	(m3/s)	(m3/s)
0.5EY	0.386	0.38
0.2EY	0.638	0.581
10	0.777	0.694
5	0.953	0.842
2	1.142	0.997
1	1.326	1.145

OSD 1 PERFORMANCE SUMMARY

AEP	STORM EVENTS	Q ENTRY	Q EXIT	Q REDUCTION	PONDING DEPTH	WATER LEVEL	VOLUME	ORIFICE
(%)	YEAR ARI	m3/s	m3/s	m3/s	m	mAHD	m3	mm
0.5EY	2	0.276	0.103	0.173	0.24	79.44	338.24	400
0.2EY	5	0.353	0.138	0.215	0.28	79.48	370.51	400
10	10	0.393	0.176	0.217	0.32	79.52	410.28	400
5	20	0.495	0.215	0.28	0.4	79.6	475	400
2	50	0.62	0.239	0.381	0.5	79.7	559.05	400
1	100	0.701	0.258	0.443	0.58	79.78	635.88	400
OSD RL BASE	79.2							

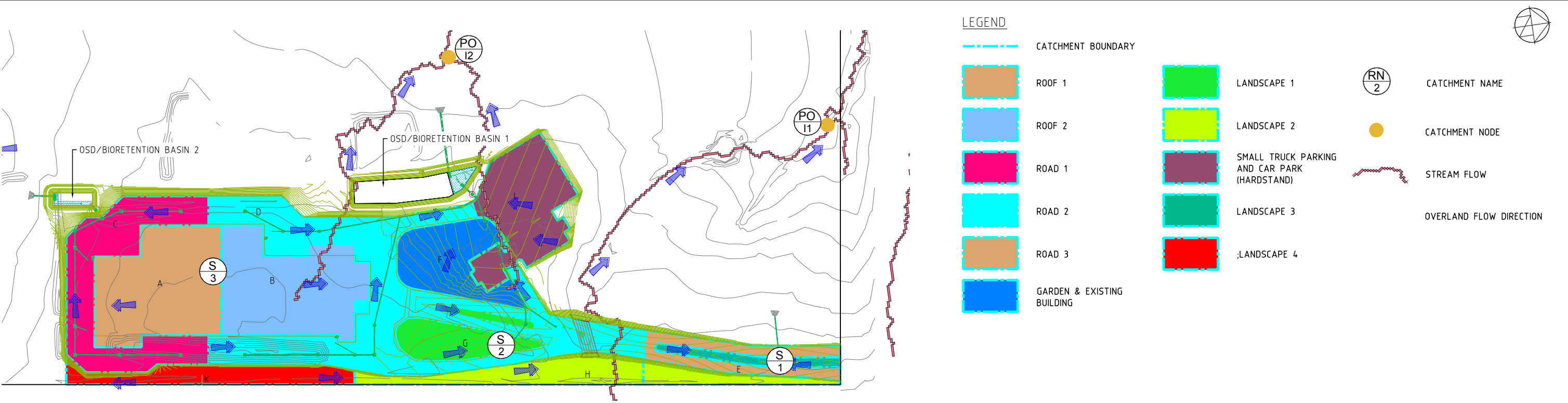
OSD 2 PERFORMANCE SUMMARY

AEP	STORM EVENTS	Q ENTRY	Q EXIT	Q REDUCTION	PONDING DEPTH	WATER LEVEL	VOLUME	ORIFICE
(%)	YEAR ARI	m3/s	m3/s	m3/s	m	mAHD	m3	mm
0.5EY	2	0.139	0.093	0.046	0.32	79.12	76.5	280
0.2EY	5	0.157	0.103	0.054	0.39	79.19	89.7	280
10	10	0.17	0.108	0.062	0.42	79.22	96.5	280
5	20	0.187	0.114	0.073	0.47	79.27	105.9	280
2	50	0.204	0.126	0.078	0.52	79.32	116.6	280
1	100	0.22	0.125	0.095	0.57	79.37	126.5	280
OSD RL BASE	78.8							



No.	AMENDMENT	APPROVED	DATE	ISSUED BY	DEVELOPMENT TEAM
C	ADDRESSED COUNCIL COMMENTS	KN	05.08.2021	TN	
B	ADDRESSED COUNCIL COMMENTS	DG	22.09.2020	EJ	
A	ISSUED FOR DA APPROVAL	DG	04.08.2020	EJ	

	CLIENT			APPROVED KN DATE 01.05.2020 CHECKED KN DATE 01.05.2020 DESIGNED BY DG DRAWN BY EJ CAD FILE: S:\7410 344 Park Road Wallacia\Acad\Current Drawings\Civil\7410-DA-301.dwg SCALE AS SHOWN SHEET No.	PROJECT 344 PARK ROAD WALLACIA	DRAWING TITLE CATCHMENT PLAN POST DEVELOPMENT PROJECT No. 7410-DA DRAWING No. 301 AMDT B
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MUSIC CATCHMENT SCHEDULE

SUBCATCHMENT ID	SUBCATCHMENT	AREA (Ha)	IMPERVIOUS (%)
A	ROOF 1	0.338	100
B	ROOF 2	0.337	100
C	ROAD 1	0.382	100
D	ROAD 2	0.714	100
E	ROAD 3	0.112	100
F	GARDEN & EX-BUILDING	0.182	50
G	LANDSCAPE 1	0.134	5
H	LANDSCAPE 2	0.206	5
I	SMALL TRUCK PARKING AND CAR PARK (HARDSTAND)	0.250	100
J	LANDSCAPE 3	0.044	5
K	LANDSCAPE 4	0.077	5
TOTAL		2.7765	

MUSIC TREATMENT TRAIN SCHEDULE

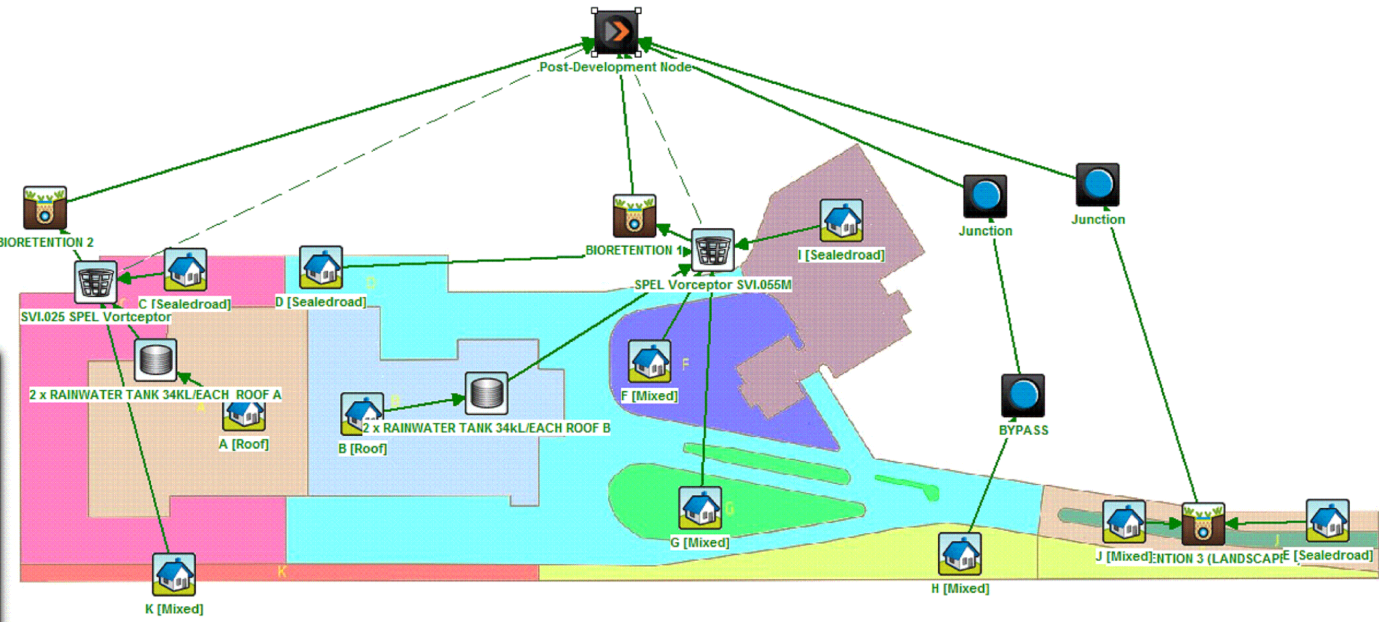
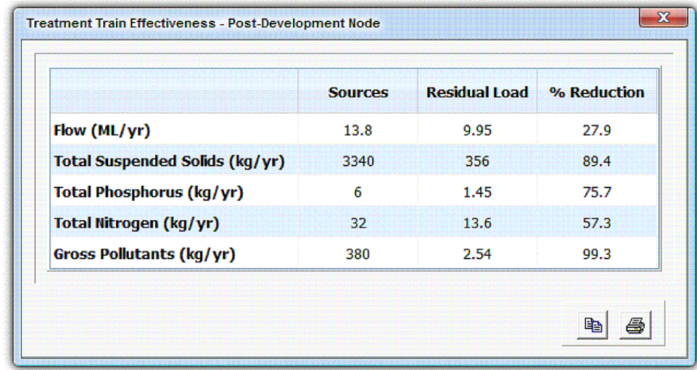
TREATMENT TRAIN	TYPE	UNIT	SIZE	QTY
BIORETENTION 1	400 mm FILTER MEDIA	m2	100	1
BIORETENTION 2	400 mm FILTER MEDIA	m2	50	1
BIORETENTION 3	400 mm FILTER MEDIA	m2	50	1
GPT SPEL	VORTCEPTOR SVI.055M	N/A	1	1
GPT SPEL	VORTCEPTOR SVI.025	N/A	1	1
RAINWATER TANK	RT-40 KINGSPAN	kL	40KL	4

(*) ONLY 80% VOLUME OF RAIN WATER TANK HAS BEEN MODELED IN MUSIC

MUSIC RESULT SCHEDULE

POLLUTANT DICHARGE TREATMENT	SOURCES	RESIDUAL LOAD	% REDUCTION
Flow (ML/yr)	13.8	9.95	27.9
Total Suspended Solids (kg/yr)	3340	356	89.4
Total Phosphorus (kg/yr)	6	1.45	75.7
Total Nitrogen (kg/yr)	32	13.6	57.3

MUSIC MODEL & RESULT



No.

AMENDMENT

APPROVED

DATE

MODED BY

DEVELOPMENT TEAM

C

ADDRESSED COUNCIL COMMENTS

KN

05.08.2021

TN

B

ADDRESSED COUNCIL COMMENTS

DG

22.09.2020

EJ

A

ISSUED FOR DA APPROVAL

DG

04.08.2020

EJ

BE

Benbow

ENVIRONMENTAL

CLIENT

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APPROVED

KN

DATE

01.05.2020

CHECKED

KN

DATE

01.05.2020

DRAWN BY

DG

SCALE

AS SHOWN

SHEET No.

PROJECT

344 PARK ROAD WALLACIA

DRAWING TITLE

MUSIC CATCHMENT PLAN AND SCHEDULE

PROJECT No.

7410-DA

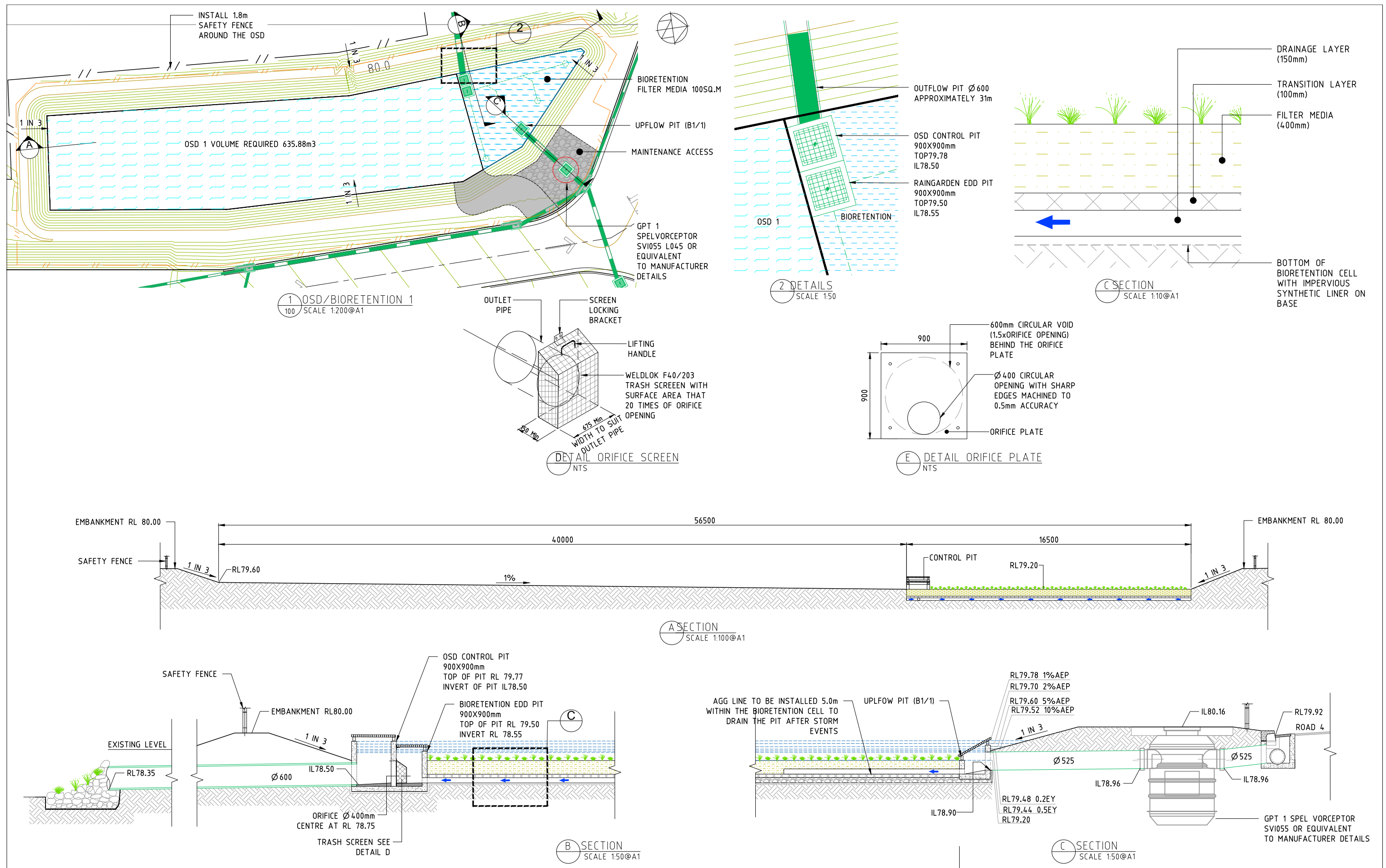
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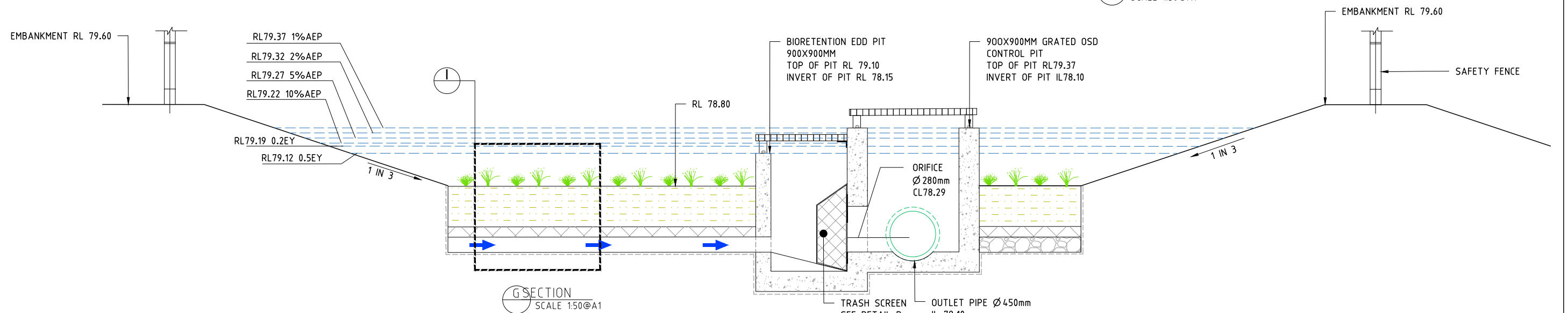
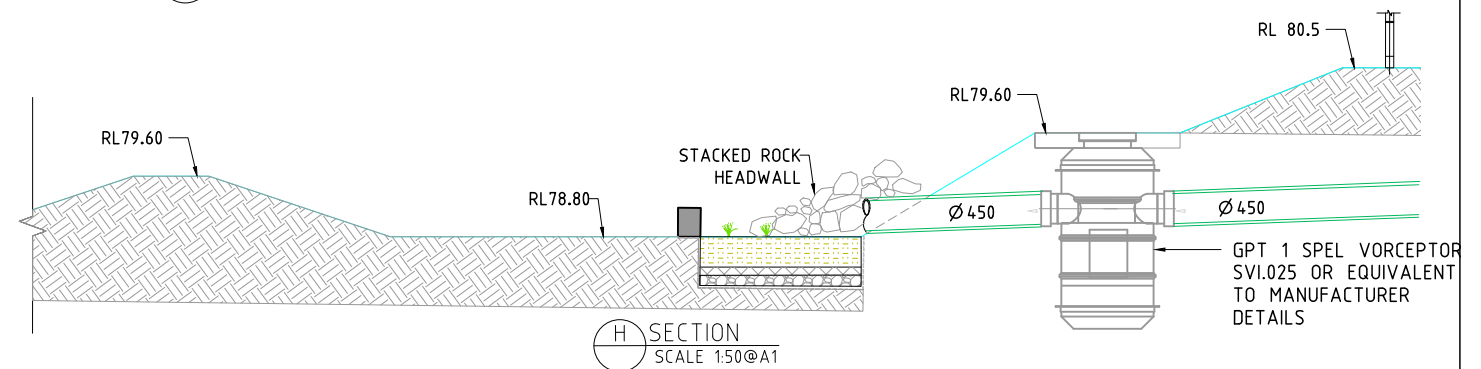
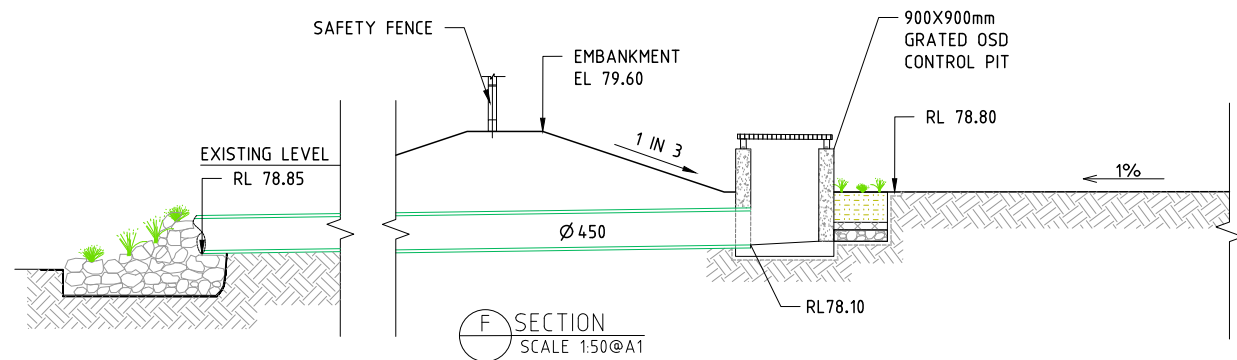
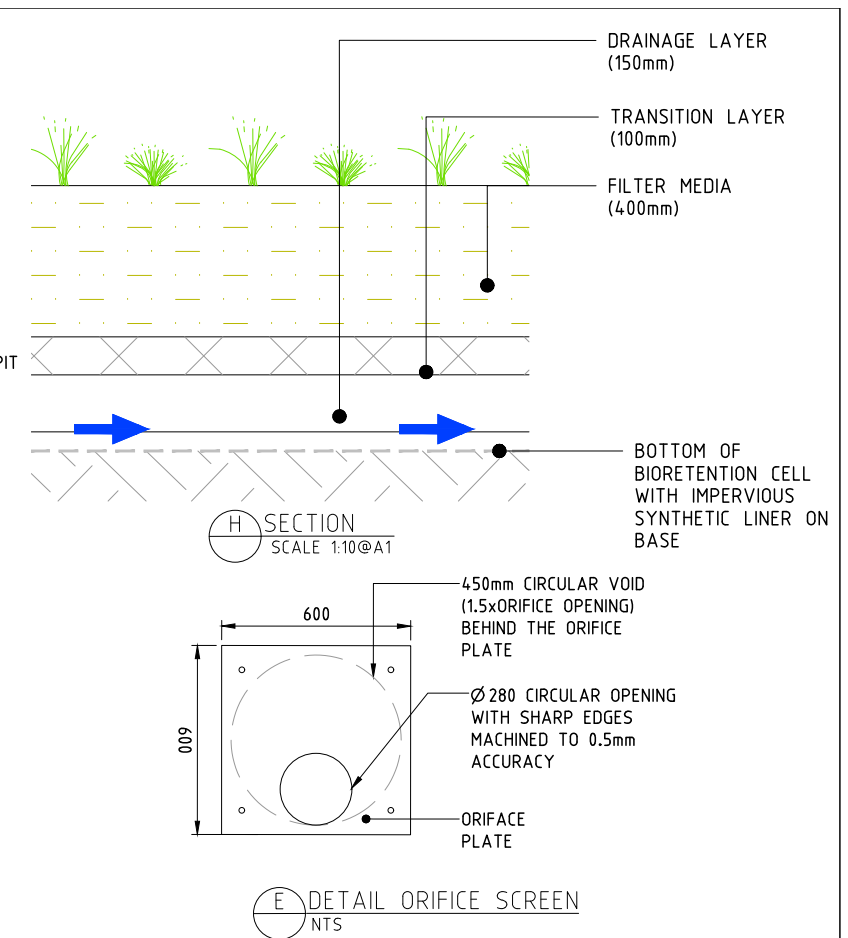
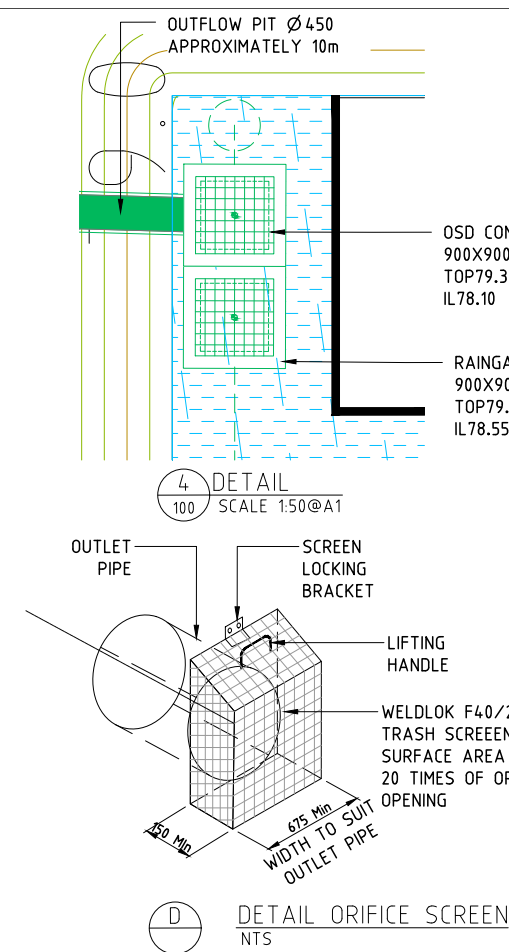
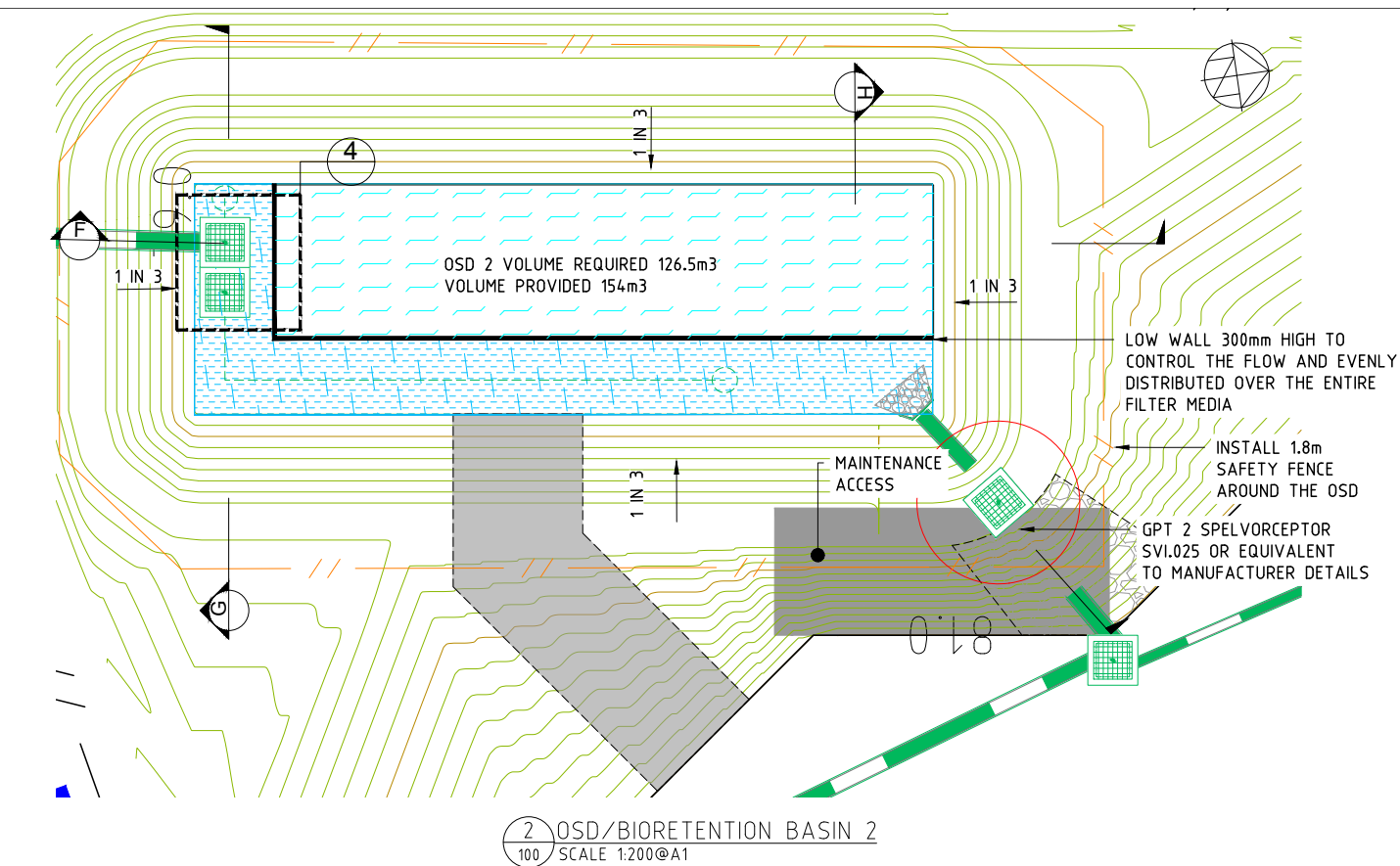
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Version: 1, Version Date: 06/08/2021



No.	AMENDMENT	APPROVED	DATE	AMEND BY	DEVELOPMENT TEAM	CLIENT	PROJECT	DRAWING TITLE	PROJECT No.	DRAWING No.	AMDT
C	ADDRESSED COUNCIL COMMENTS	KN	05.08.2021	TN				344 PARK ROAD WALLACIA	7410-DA	405	C
B	ADDRESSED COUNCIL COMMENTS	DG	22.09.2020	EJ							
A	ISSUED FOR DA APPROVAL	DG	04.08.2020	EJ							



No.	AMENDMENT	APPROVED	DATE	ISSUED BY	DEVELOPMENT TEAM
C	ADDRESSED COUNCIL COMMENTS	KN	05.08.2021	TN	
B	ADDRESSED COUNCIL COMMENTS	DG	22.09.2020	EJ	
A	ISSUED FOR DA APPROVAL	DG	04.08.2020	EJ	



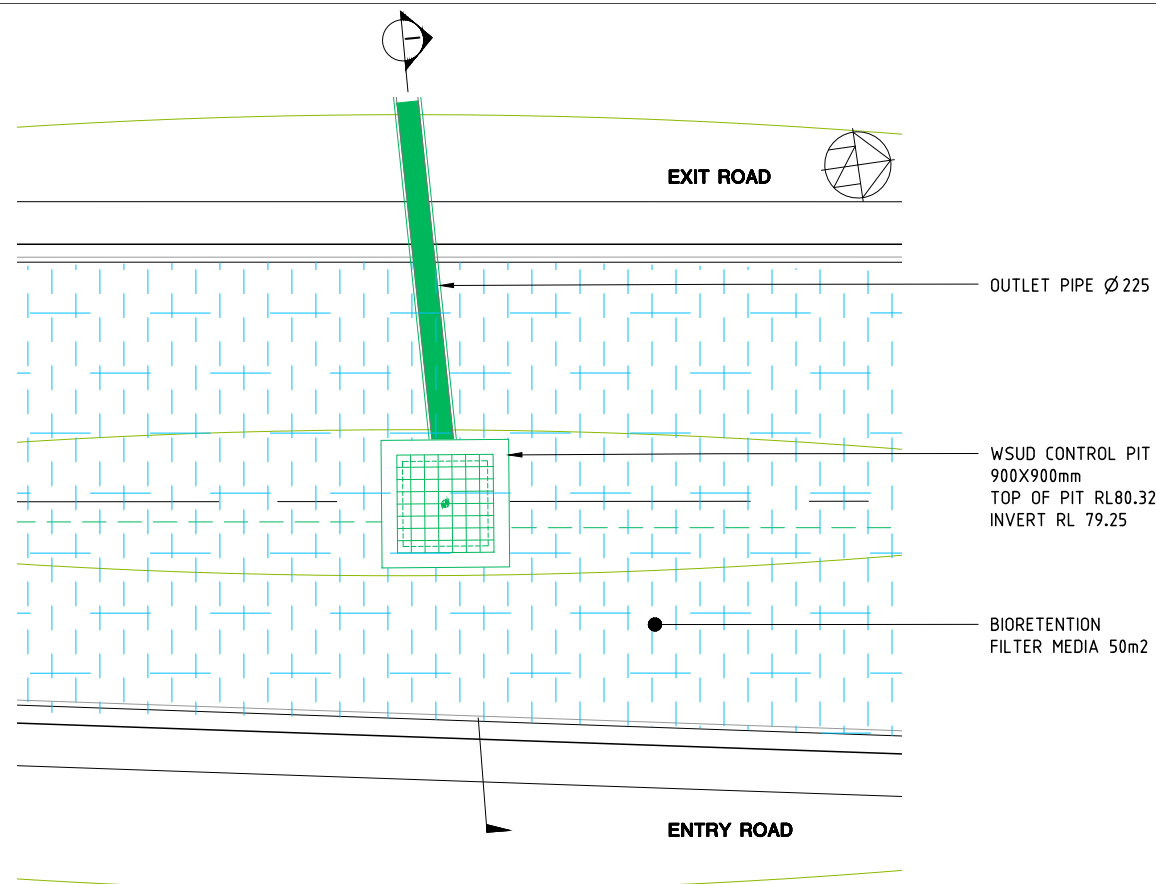
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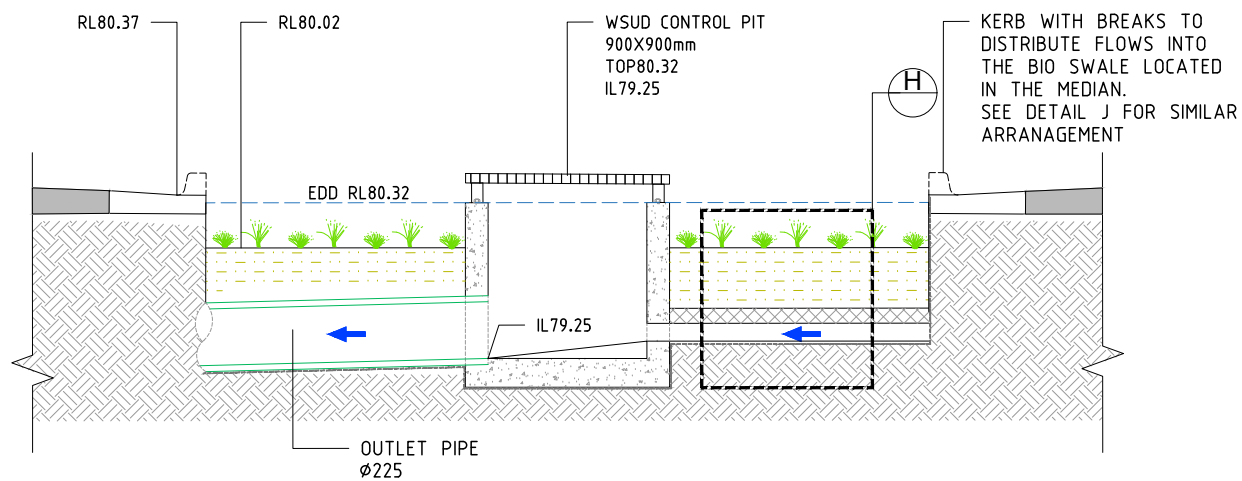
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CHECKED	* KN	DATE	01.05.2020
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PROJECT	344 PARK ROAD WALLACIA
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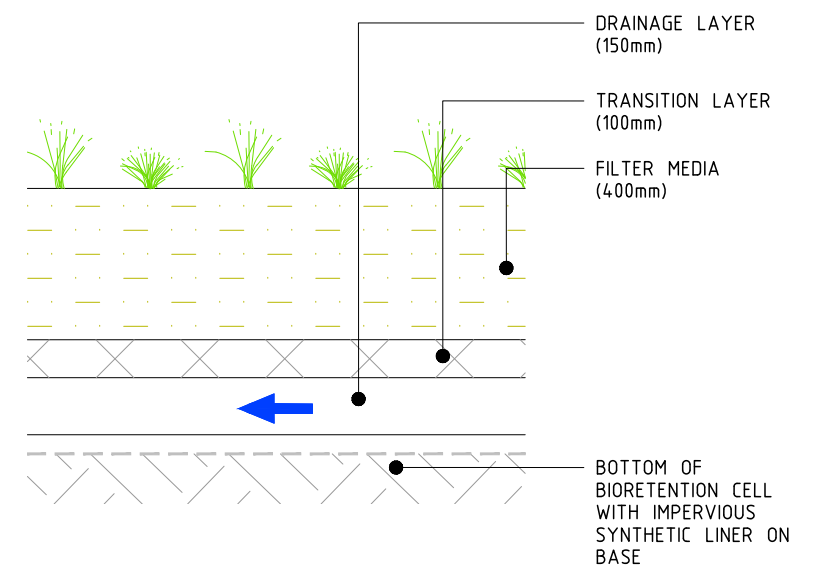
DRAWING TITLE	ONSITE DETENTION DETAILS SHEET 2
PROJECT No.	7410-DA
DRAWING No.	406
AMDT	C



3 BIORETENTION 3
SCALE 1:40@A1



I SECTION
SCALE 1:25@A1



H SECTION
SCALE 1:10@A1



J BIORETENTION PERSPECTIVE
NTS

No.	AMENDMENT	APPROVED	DATE	ISSUED BY	DEVELOPMENT TEAM
C	ADDRESSED COUNCIL COMMENTS	KN	05.08.2021	TN	
B	ADDRESSED COUNCIL COMMENTS	DG	22.09.2020	EJ	
A	ISSUED FOR DA APPROVAL	DG	04.08.2020	EJ	



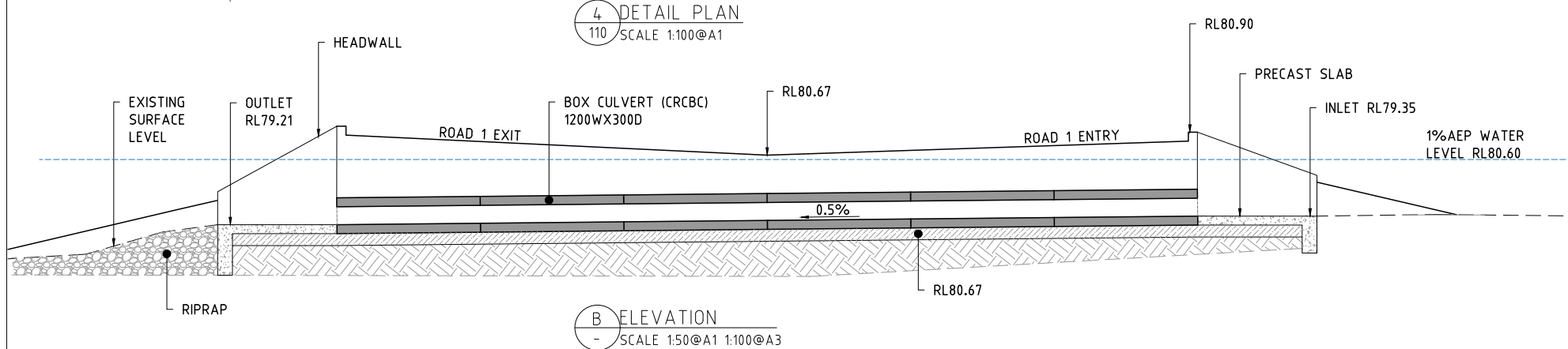
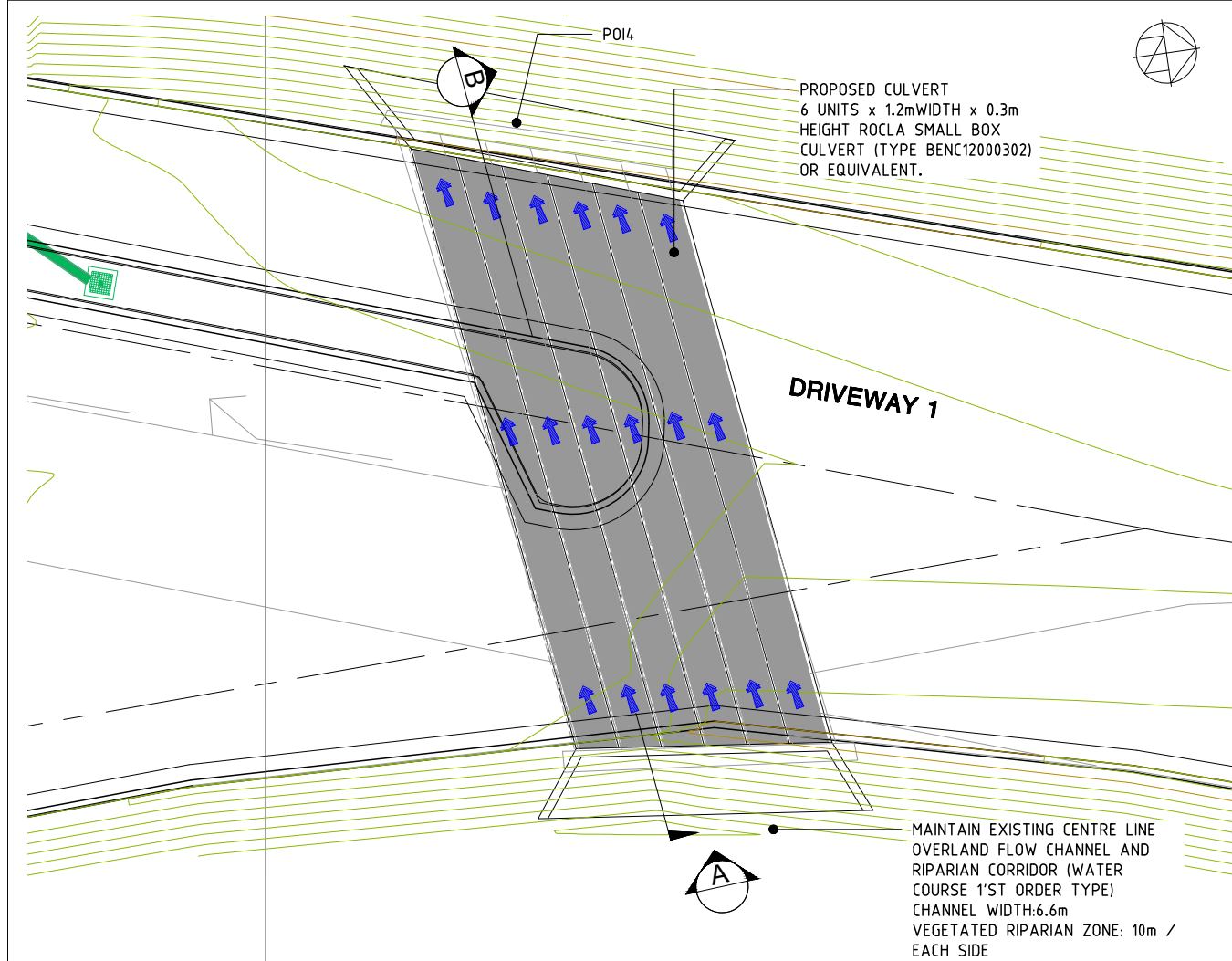
CLIENT



APPROVED	* ORIGINAL SIGNED	DATE	01.05.2020
CHECKED	* KN	DATE	01.05.2020
DESIGNED BY	DG		
DRAWN BY	EJ		
CAD FILE	S:\7410 344 Park Road Wallacia\Acad\Current Drawings\Civil\7410-DA-405-407.dwg		
SCALE	AS SHOWN	SHEET No.	

PROJECT	344 PARK ROAD WALLACIA
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DRAWING TITLE	ONSITE DETENTION DETAILS SHEET 3
PROJECT No.	7410-DA
DRAWING No.	407
AMDT	C



NOTES ON CULVERT DESIGN METHODOLOGY:

THE CULVERT HAS BEEN SIZED WITH REFERENCE TO AUSTRROAD - GUIDE TO ROAD DESIGN PART 5B - SECTION 3. CULVERT USING MONOGRAPHY IN APPENDIX B UNDER INLET CONTROL.

SUMMARY

1. UPSTREAM CATCHMENTS AREA AT POI4 = 14.99 Ha
2. FLOW FROM UPSTREAM CATCHMENT POI4 1%AEP = 5.27m³/s (20% BLOCKAGE FACTOR INCLUDED)
3. NATURAL WATERWAY INTO PROPOSED BOX CULVERT
INLET RL79.35
OUTLET RL79.21
4. UPSTREAM FLOOD LEVEL RL80.6 (COUNCIL FLOOD MAP)
5. ROAD PAVEMENT LEVEL RL 80.6
6. REQUIRED FREEBOARD NIL
7. MAXIMUM HEADWATER HEIGHT (HW) = 80.6 - 79.35 = 1.25m

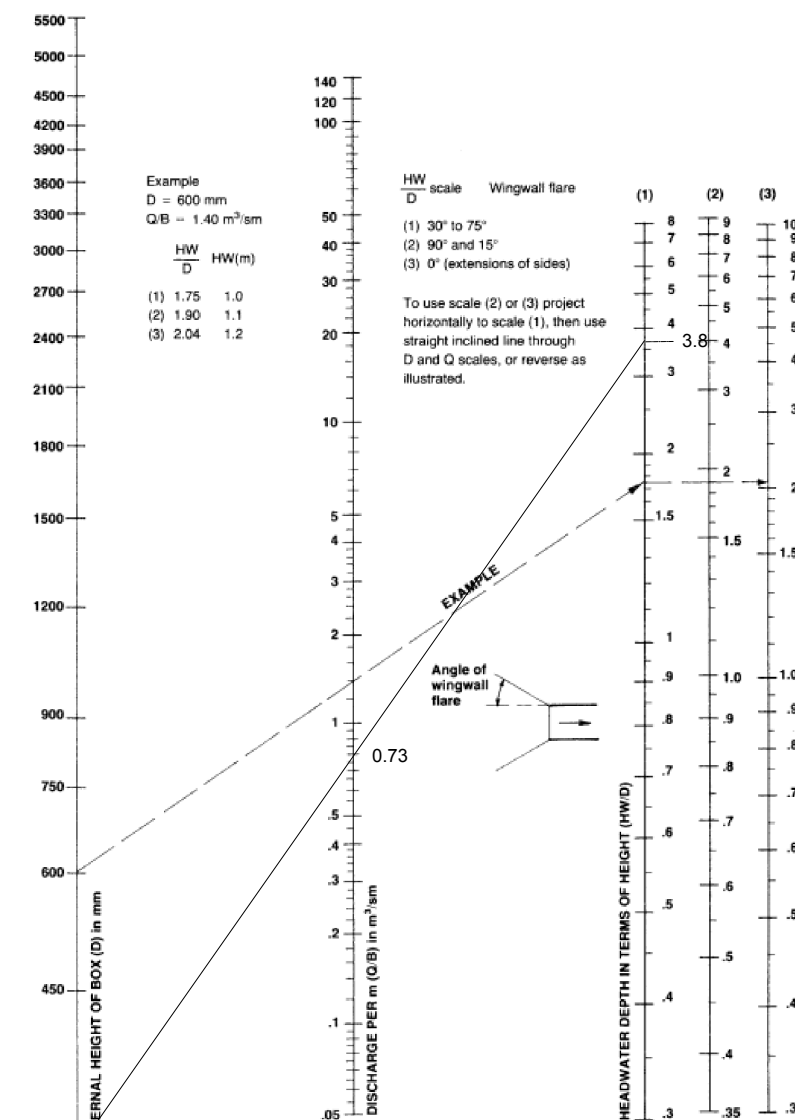
CULVERT DESIGN CALCULATION

1. TRY 6 CELL OF BOX CULVERT W1200 xD300
2. FLOW PER CELL = 5.27 / 6 = 0.88 m³/s
3. BOX CULVERT DEPTH (D) = 300 mm, WIDTH (B) = 1200 mm
4. DISCHARGE PER m (Q / B) m³/s m =
0.88/1.2 = 0.73 m³/s m
5. USE HEADWATER (HW / D) SCALE (1) FROM FIGURE 3.4 = 3.8
6. HW = 3.8 x 0.3 = 1.14m < 1.25m (OK)

TO ADOPT 6 CELLS OF BOX CULVERT 1200 WIDE x300 DEPTH ROCLA TYPE (TYPE BGNC1200302) OR EQUIVALENT

CULVERTS

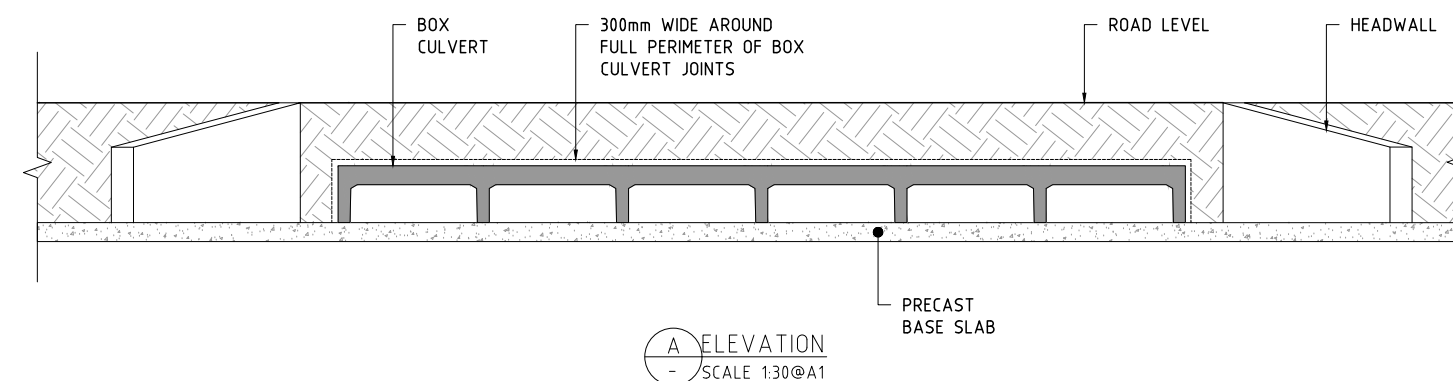
SECTION 3



HEADWATER DEPTH FOR BOX CULVERT WITH INLET CONTROL

Figure 3.4
Adapted from [3.4]

FIGURE 3.4



No.	AMENDMENT	APPROVED	DATE	MODIFIED BY	DEVELOPMENT TEAM
C	ADDRESSED COUNCIL COMMENTS	KN	05.08.2021	TN	
B	ADDRESSED COUNCIL COMMENTS	DG	22.09.2020	EJ	
A	ISSUED FOR DA APPROVAL	DG	04.08.2020	EJ	



CLIENT



APPROVED	KN	DATE	01.08.2020
CHECKED	KN	DATE	01.08.2020
DESIGNED BY	DG		
DRAWN BY	EJ		
CAD FILE	S:\7410 344 Park Road Wallacia\Acad\Current Drawings\Civil\7410-DA-415.dwg		
SCALE	AS SHOWN	SHEET No.	

PROJECT

344 PARK ROAD
WALLACIA

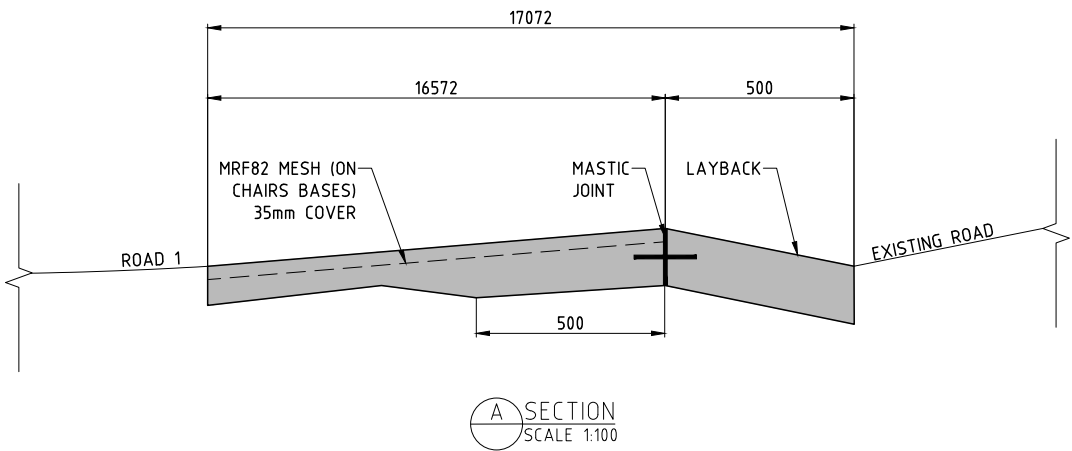
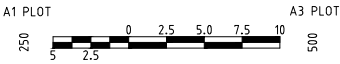
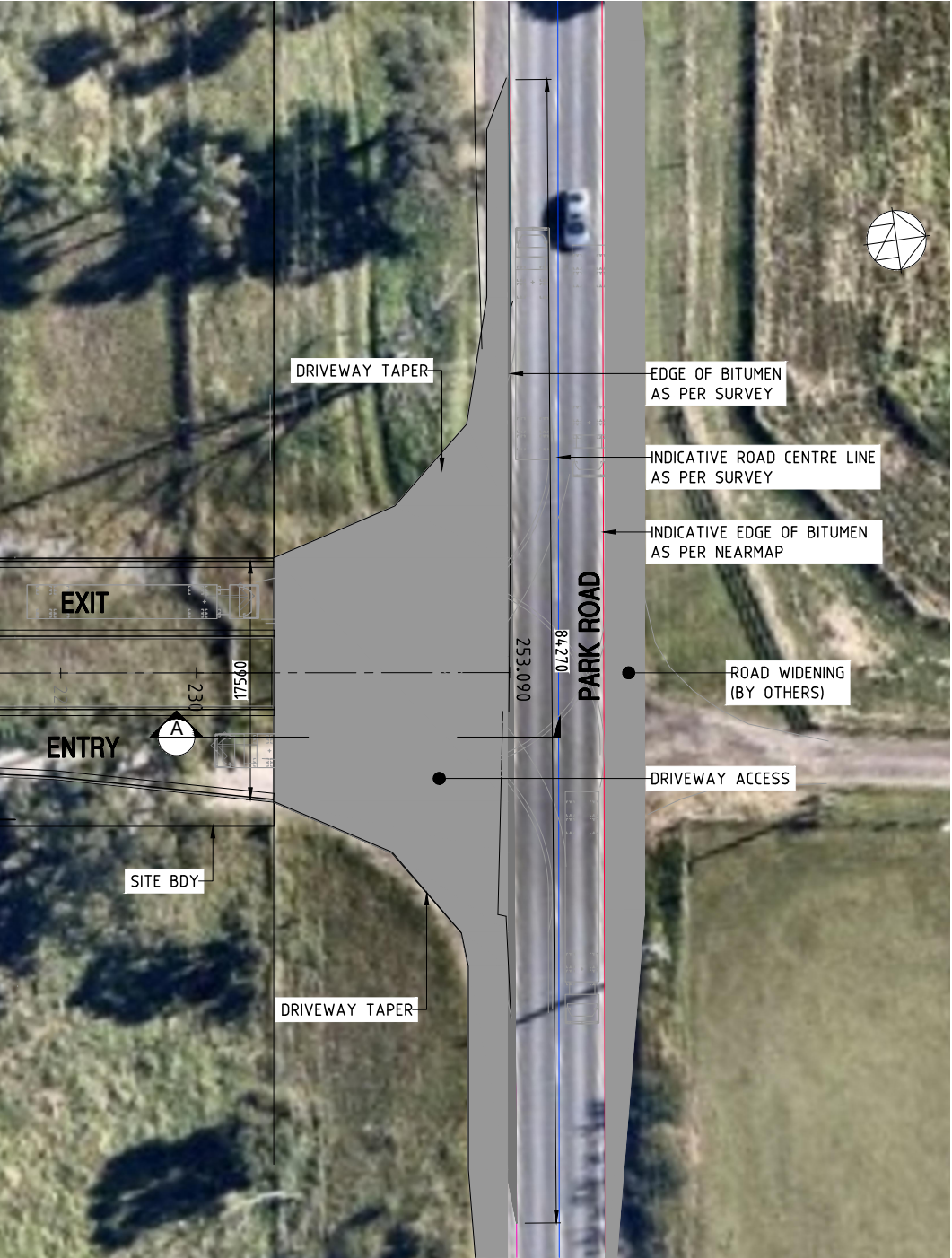
DRAWING TITLE

CULVERT DETAILS

PROJECT No.
7410-DA

DRAWING No.
415

AMDT
C



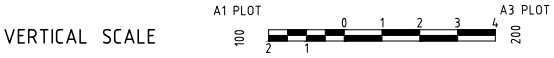
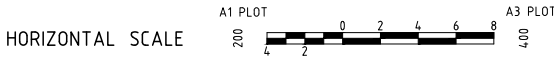
GRADE
VERTICAL CURVE
HORIZONTAL CURVE

DATUM RL.74.000

DESIGN SURFACE LEVEL	80.473	80.500	80.523	80.550	80.607	80.747	80.847	80.747
EXISTING SURFACE LEVEL	80.307	80.463	80.577	80.570	80.587	80.660	80.722	80.747
CUT\FILL DEPTHS	-0.166	-0.037	0.054	0.021	-0.020	-0.087	-0.125	-0.000
PEGGED CHAINAGE	230.000	235.739	240.000	244.930	247.930	250.930	252.591	253.090

DRIVEWAY LONGITUDINAL SECTION (ALONG CENTRELINE)

LEGEND	
	DESIGN LEVEL
	EXISTING LEVEL



No.	AMENDMENT	APPROVED	DATE	MODIFIED BY	DEVELOPMENT TEAM	CLIENT	PROJECT	DRAWING TITLE
							344 PARK ROAD WALLACIA	INTERNAL DRIVEWAY ACCESS PLAN AND DETAILS
B	ADDRESSED COUNCIL COMMENTS	KN	05.08.2021	TN				
A	ADDRESSED COUNCIL COMMENTS	DG	22.09.2020	EJ				

CANBERRA SYDNEY WOLLONGONG				
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APPROVED KN DATE 01.08.2020	PROJECT	DRAWING TITLE
CHECKED KN DATE 01.08.2020		INTERNAL DRIVEWAY ACCESS PLAN AND DETAILS
DESIGNED BY DG		
DRAWN BY EJ		
CAD FILE: S:\7410 344 Park Road Wallacia\Acad\Current Drawings\Civil\7410-DA-420.dwg		
SCALE AS SHOWN SHEET No.		

PROJECT No. 7410-DA	DRAWING No. 420	AMDT 0
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