

# CIVIL ENGINEERING WORKS



Sheet List Table	
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CD-000-001	COVER SHEET
CD-060-001	GENERAL ARRANGEMENT PLAN - SHEET 1 OF 2
CD-060-002	GENERAL ARRANGEMENT PLAN - SHEET 2 OF 2
CD-070-001	SEDIMENT & EROSION CONTROL PLAN - SHEET 1 OF 2
CD-070-002	SEDIMENT & EROSION CONTROL PLAN - SHEET 2 OF 2



LEND LEASE

CLIENT

MORPETH AGED CARE

PROJECT



253824-MO CD-000-001 A

PROJECT No

DRAWING No

REV





**LEGEND**

- SITE BOUNDARY
- PROPOSED SURFACE LEVELS (0.1m INTERVALS)
- EXISTING SURFACE LEVELS (0.1m INTERVALS)
- EXISTING TREES
- PROPOSED KERB & GUTTER (IN ACCORDANCE WITH COUNCIL STANDARDS)
- PROPOSED KERB RAMP (IN ACCORDANCE WITH COUNCIL STANDARDS)
- PROPOSED ROAD PAVEMENT
- STORMWATER HEADWALL / OUTLET WITH ENERGY DISSIPATOR / SCOUR PROTECTION
- PROPOSED STORMWATER DRAINAGE (SIZED FOR MINOR EVENT)
- PROPOSED STORMWATER DRAINAGE (SIZED FOR MAJOR EVENT)
- EXISTING STORMWATER DRAINAGE
- PROPOSED KERB INLET STORMWATER PIT
- PROPOSED JUNCTION PIT
- PROPOSED GRATED SURFACE INLET PIT (SIZED FOR MINOR EVENT)
- PROPOSED GRATED SURFACE INLET PIT (SIZED FOR MAJOR EVENT)

**NOTES**

1. PIT AND PIPE LAYOUT INDICATIVE. TO BE COORDINATED WITH LANDSCAPE AT CC.

REV	DESCRIPTION	DRAWN	APPD	DATE
C	ISSUED FOR DEVELOPMENT APPLICATION	CPO	OKW	13.02.20
B	ISSUED FOR DEVELOPMENT APPLICATION	JDU	OKW	18.12.18
A	ISSUED FOR DEVELOPMENT APPLICATION	JDL	OKW	26.07.18

DRAWN	JDL
DESIGNED	GLE
VERIFIED	OKW 26.07.18
APPROVED FOR TENDER	- J.J.
APPROVED FOR CONSTRUCTION	- J.J.



MORPETH AGED CARE

GENERAL ARRANGEMENT PLAN - SHEET 1 OF 2

PROJECT TITLE



**FOR APPROVAL**  
NOT FOR CONSTRUCTION

AS SHOWN 253824-MO CD-060-001 C

SCALE @ A1 PROJECT No DRAWING No REV

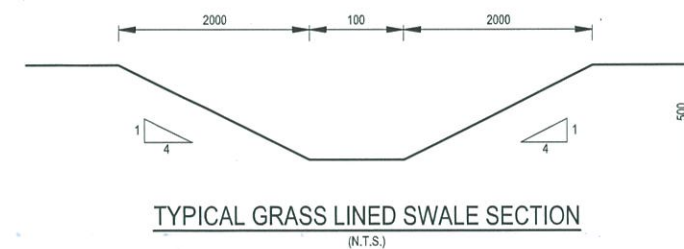




LEGEND	
	SITE BOUNDARY
	PROPOSED SURFACE LEVELS (0.1m INTERVALS)
	EXISTING SURFACE LEVELS (0.1m INTERVALS)
	EXISTING TREES
	PROPOSED KERB & GUTTER (IN ACCORDANCE WITH COUNCIL STANDARDS)
	PROPOSED KERB RAMP (IN ACCORDANCE WITH COUNCIL STANDARDS)
	PROPOSED ROAD PAVEMENT
	STORMWATER HEADWALL / OUTLET WITH ENERGY DISSIPATOR / SCOUR PROTECTION
	PROPOSED STORMWATER DRAINAGE (SIZED FOR MINOR EVENT)
	PROPOSED STORMWATER DRAINAGE (SIZED FOR MAJOR EVENT)
	EXISTING STORMWATER DRAINAGE
	PROPOSED KERB INLET STORMWATER PIT
	PROPOSED JUNCTION PIT
	PROPOSED GRATED SURFACE INLET PIT (SIZED FOR MINOR EVENT)
	PROPOSED GRATED SURFACE INLET PIT (SIZED FOR MAJOR EVENT)

**NOTES**

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REV	DESCRIPTION	DRAWN	APPD	DATE
D	ISSUED FOR DEVELOPMENT APPLICATION	CPO	OKW	13.02.20
C	ISSUED FOR DEVELOPMENT APPLICATION	JDU	OKW	19.12.19
B	ISSUED FOR DEVELOPMENT APPLICATION	JDU	OKW	18.12.18
A	ISSUED FOR DEVELOPMENT APPLICATION	JDL	OKW	26.07.18

DRAWN:	JDL
DESIGNED:	GLE
VERIFIED:	OKW 26.07.18
APPROVED FOR TENDER:	...
APPROVED FOR CONSTRUCTION:	...



MORPETH AGED CARE

GENERAL ARRANGEMENT PLAN - SHEET 2 OF 2

PROJECT

TITLE



**FOR APPROVAL**  
NOT FOR CONSTRUCTION

AS SHOWN	253824-MO	CD-060-002	D
SCALE @ A1	PROJECT No	DRAWING No	REV





**LEGEND**

- SITE BOUNDARY
- PROPOSED SURFACE LEVELS (0.1m INTERVALS)
- EXISTING SURFACE LEVELS (0.1m INTERVALS)
- PROPOSED SILT FENCE
- EXISTING TREES
- TEMPORARY STABILISED ACCESS POINT (IN ACCORDANCE WITH COUNCIL STANDARD DRAWING SD31)
- SANDBAG KERB INLET SEDIMENT TRAP OR SIMILAR



REV	DESCRIPTION	DRAWN	APPD	DATE
B	ISSUED FOR DEVELOPMENT APPLICATION	JDU	OKW	19/12/19
A	ISSUED FOR DEVELOPMENT APPLICATION	JDL	OKW	26.07.18

DRAWN	JDL
DESIGNED	GLE
VERIFIED	OKW 26.07.18
APPROVED FOR TENDER	- J.J. -
APPROVED FOR CONSTRUCTION	- J.J. -



MORPETH AGED CARE

SEDIMENT & EROSION CONTROL PLAN - SHEET 1 OF 2

PROJECT TITLE



**FOR APPROVAL**  
NOT FOR CONSTRUCTION

AS SHOWN 253824-MO CD-070-001 B

SCALE @ A1 PROJECT No DRAWING No REV





LEGEND

SITE BOUNDARY

90.00

PROPOSED SURFACE LEVELS  
(0.1m INTERVALS)

90.00

EXISTING SURFACE LEVELS  
(0.1m INTERVALS)

PROPOSED SILT FENCE

EXISTING TREES

TEMPORARY STABILISED ACCESS POINT (IN  
ACCORDANCE WITH COUNCIL STANDARD  
DRAWING SD31)

SANDBAG KERB INLET SEDIMENT TRAP  
OR SIMILAR

JOINS SHEET C1-070-01



REV	DESCRIPTION	DRAWN	APPD	DATE
C	ISSUED FOR DEVELOPMENT APPLICATION	JDU	OKW	19/12/19
B	ISSUED FOR DEVELOPMENT APPLICATION	JDU	OKW	18.12.18
A	ISSUED FOR DEVELOPMENT APPLICATION	JDL	OKW	26.07.18

DRAWN:	JDL
DESIGNED:	GLE
VERIFIED:	OKW 26.07.18
APPROVED FOR TENDER:	J.L.
APPROVED FOR CONSTRUCTION:	J.L.

ARCHITECT/CLIENT

MORPETH AGED CARE

SEDIMENT & EROSION CONTROL  
PLAN - SHEET 2 OF 2

PROJECT

TITLE

FOR APPROVAL  
NOT FOR CONSTRUCTION

AS SHOWN

253824-MO

CD-070-002

C

SCALE @ A1

PROJECT No

DRAWING No

REV





**CUT AND FILL VOLUME**  
CUT: 2,080 m<sup>3</sup>  
FILL: 1,500 m<sup>3</sup>  
NET: 580 m<sup>3</sup> (CUT)

- NOTES:**
- VOLUMES ARE BASED ON A COMPARISON BETWEEN THE DESIGN SURFACE AND THE SURVEYED SURFACE. NO STRIPPING OF THE EXISTING SURFACE HAS BEEN APPLIED.
  - NO BULKING FACTORS HAVE BEEN APPLIED.
  - NO ALLOWANCE FOR PAVEMENT BOXING HAS BEEN APPLIED.

CUT/FILL DEPTH RANGES		
COLOUR	LOWER	UPPER
	-3.5	-3.0
	-3.0	-2.5
	-2.5	-2.0
	-2.0	-1.5
	-1.5	-1.0
	-1.0	-0.5
	-0.5	0.0
	0.0	0.5
	0.5	1.0
	1.0	1.5
	1.5	2.0
	2.0	2.5

1:200	2	0	2	4	6	8	10	A1
1:400								A3
REV	DESCRIPTION	DRAWN	APP'D	DATE				
C	RE-ISSUED FOR INFORMATION	GLE	OKW	19/12/19				
B	RE-ISSUED FOR INFORMATION	GLE	OKW	13/08/18				
A	ISSUED FOR INFORMATION	GLE	OKW	25/07/18				

DRAWN: [ ]  
DESIGNED: [ ]  
VERIFIED: [ ]  
APPROVED FOR TENDER: [ ]  
APPROVED FOR CONSTRUCTION: [ ]

**lendlease**

ARCHITECT/CLIENT

MORPETH AGED CARE

BULK EARTHWORKS PLAN

PROJECT

TITLE

**W**

WOOD & GRIEVE ENGINEERS

FOR INFORMATION  
NOT FOR CONSTRUCTION

AS SHOWN

253824-MO

SCALE @ A1

PROJECT No

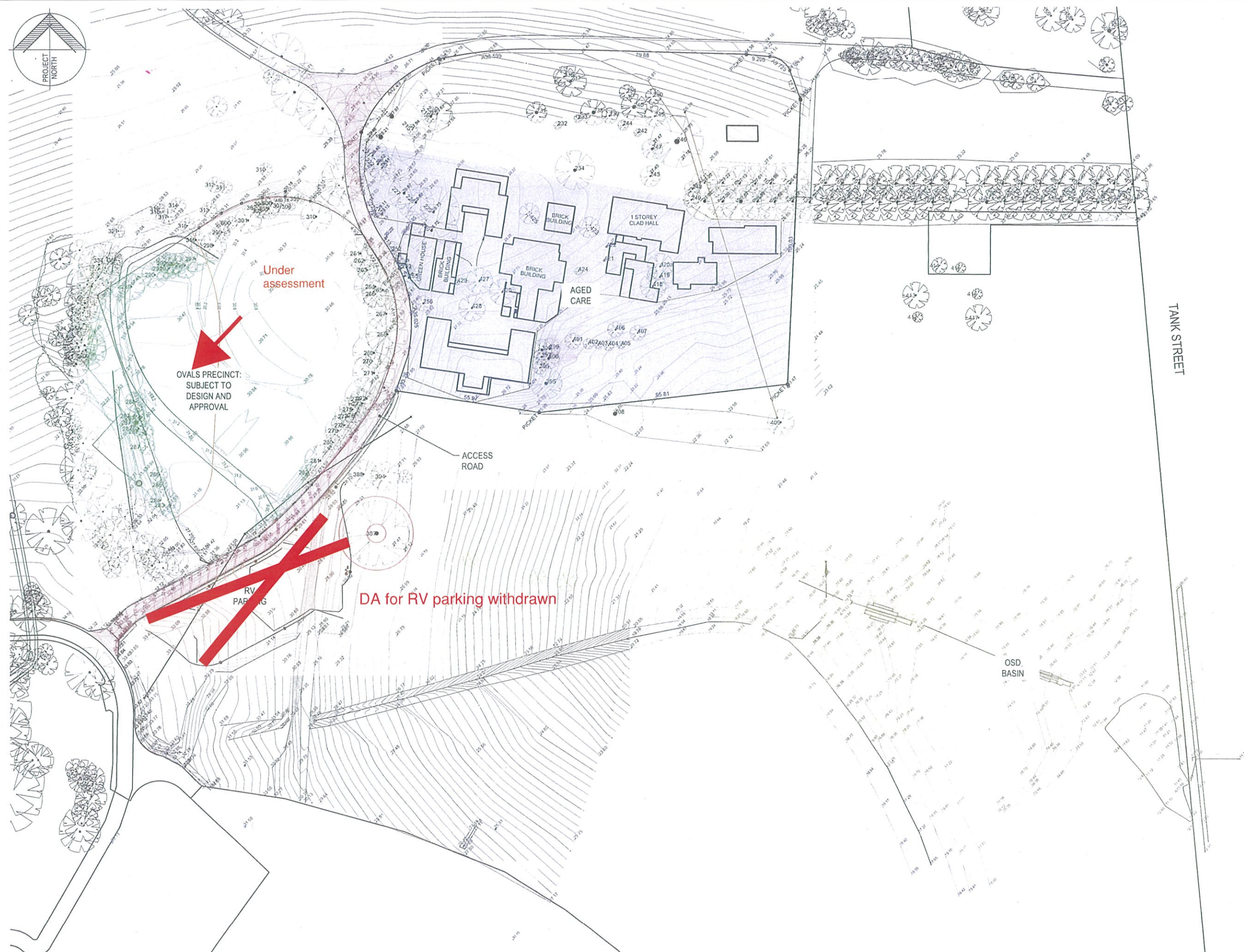
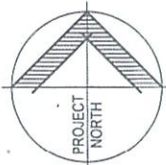
CD-100-01

DRAWING No

C

REV





**GENERAL ARRANGEMENT PLAN**  
SCALE 1:700

A	05/02/20	ISSUED FOR DA APPROVAL	K.M.	C.D.
REV	DATE	DRAWING STATUS	DRN	APP
TITLE				

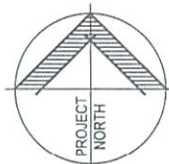
**GENERAL ARRANGEMENT PLAN**

DRAWING STATUS			SHEET SIZE	
FOR APPROVAL			A1	
DRAWN	DESIGNED	APPROVED	SCALE	
K. McNulty	C. Davies	C. Davies	1:700	
PROJECT No		DRAWING No	REVISION	
12607		DA-2203	A	

NOT FOR CONSTRUCTION

12607 DA-2203 A





PROJECT  
**MORPETH HOUSE HERITAGE ESTATE**  
**MORPETH ROAD, MORPETH NSW**

CLIENT  
**LEND LEASE PRIMELIFE RETIREMENT**  
**VILLAGE (CLOSEBOURNE) PTY LTD**

#### LEGEND

- EXISTING CONTOUR
- EXISTING SPOTLEVEL
- DESIGN CONTOUR
- NEW SEALED ACCESS ROAD
- NEW STORMWATER DRAINAGE PIT
- NEW STORMWATER DRAINAGE PIPE
- HEADWALL
- NEW GRASS LINED SWALE, DENOTES DIVERSION DRAIN, REFER TO DRAWINGS DA-2205, DA-2207 FOR DETAILS
- BOUNDARY LINE
- EXISTING FENCE
- EXISTING TREE

#### STORMWATER NOTES

THE PROPOSED WORKS CONSIST OF:

- CONSTRUCTION OF 14 VILLAS
- CONSTRUCTION OF ASSOCIATED ROAD, PARKING AND DRAINAGE WORKS
- INCLUSION OF SURROUNDING PATHWAYS AND LANDSCAPING

**STORMWATER QUALITY**  
A SITE WIDE CATCHMENT ANALYSIS WAS UNDERTAKEN TO DETERMINE THE CATCHMENT EXTENT DIRECTED TO THE TANK STREET OSD BASIN. THE RESULTANT WATER QUALITY INCLUSIONS FOR THIS SPECIFIC DEVELOPMENT TO ACHIEVE THE COUNCIL DISCHARGE PARAMETERS ARE AS FOLLOWS:

- EACH VILLA TO HAVE A 2,000L RE-USE TANK TO COLLECT ALL ROOF WATER FOR OUTDOOR IRRIGATION
- STORMWATER RUNOFF DIRECTED TO A 4.1m WIDE SWALE FOR WATER QUALITY TREATMENT PRIOR TO ENTERING THE TANK STREET BASINS

A MUSIC MODEL WAS UNDERTAKEN TO CONFIRM THE WATER QUALITY TARGETS ARE ACHIEVED WITH THE ABOVE MEASURES. FOR FURTHER DETAIL REGARDING THE PROPOSED WATER QUALITY MEASURES AND RESULTS, REFER TO THE TANK STREET DRAINAGE ANALYSIS REPORT PREPARED BY LINDSAY DYNAN.

**STORMWATER DETENTION**  
SIMILAR TO THE WATER QUALITY ANALYSIS, DETENTION RATES WERE ALSO MODELLED BASED ON VARIOUS IMPERVIOUS FRACTIONS ACROSS THE SITE. THESE WORKS ARE DETAILED IN THE TANK STREET DRAINAGE ANALYSIS REPORT.

TO ALLOW THE OVAL VILLA WORKS, THE TANK STREET BASIN WORKS ARE ANTICIPATED TO INCLUDE:

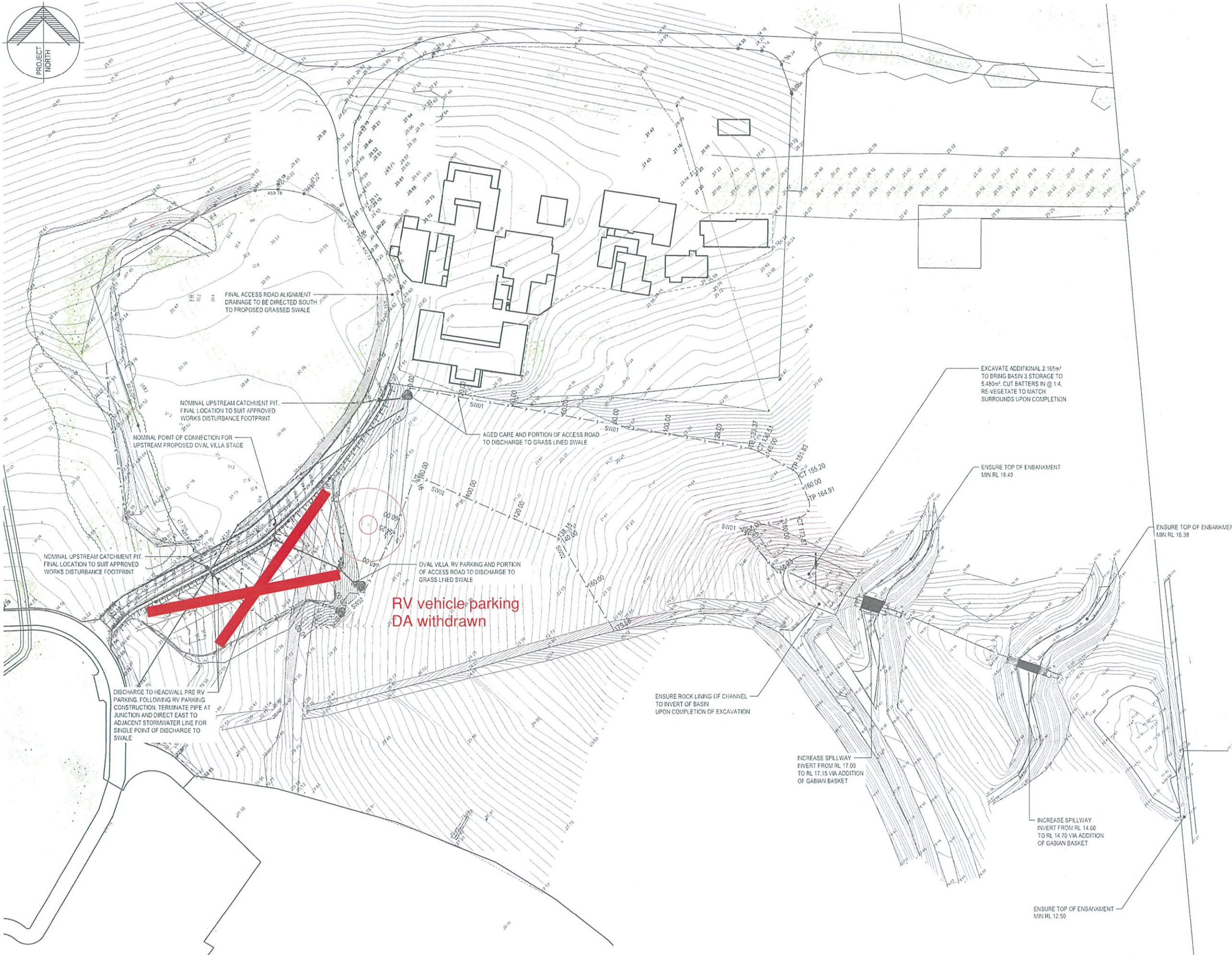
- RAISING THE BASE OF THE FIRST WEIR TO INCREASE INITIAL WATER HOLDING CAPACITY
- EXCAVATION WITHIN THE FIRST BASIN TO INCREASE STORAGE CAPACITY

THE ABOVE WORKS ARE ANTICIPATED TO RETAIN PRE-DEVELOPMENT DISCHARGE RATES FOLLOWING THE PROPOSED DEVELOPMENT.

REV	DATE	DRAWING STATUS	K.M.	C.D.
A	06/02/20			

#### SITE STORMWATER PLAN

DRAWING STATUS			SHEET SIZE	
FOR APPROVAL			A1	
DRAWN K.McNulty	DESIGNED C.Davies	APPROVED C.Davies	SCALE 1:700	
PROJECT No.		DRAWING No.	REVISION	
12607		DA-2204	A	



**SITE STORMWATER PLAN**  
SCALE 1:700

NOT FOR CONSTRUCTION

12607 DA-2204 A



PROJECT  
MORPETH HOUSE HERITAGE ESTATE  
MORPETH ROAD, MORPETH NSW

CLIENT  
LEND LEASE PRIMELIFE RETIREMENT  
VILLAGE (CLOSEBOURNE) PTY LTD

STORMWATER NOTES

- THE PROPOSED WORKS CONSIST OF:
- CONSTRUCTION OF 14 VILLAS
  - CONSTRUCTION OF ASSOCIATED ROAD, PARKING AND DRAINAGE WORKS
  - INCLUSION OF SURROUNDING PATHWAYS AND LANDSCAPING

STORMWATER QUALITY

A SITE WIDE CATCHMENT ANALYSIS WAS UNDERTAKEN TO DETERMINE THE CATCHMENT EXTENT DIRECTED TO THE TANK STREET OSD BASIN. THE RESULTANT WATER QUALITY INCLUSIONS FOR THIS SPECIFIC DEVELOPMENT TO ACHIEVE THE COUNCIL DISCHARGE PARAMETERS ARE AS FOLLOWS:

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- STORMWATER RUNOFF DIRECTED TO A 4.1m WIDE SWALE FOR WATER QUALITY TREATMENT PRIOR TO ENTERING THE TANK STREET BASINS.

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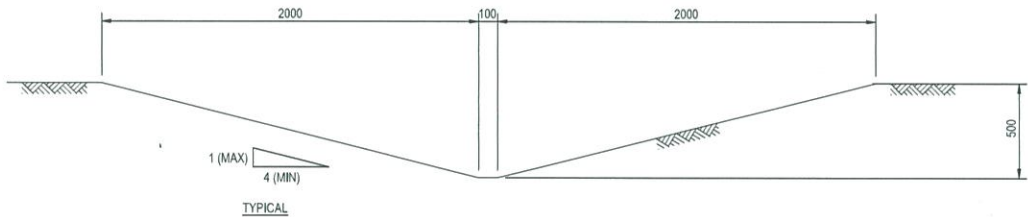
STORMWATER DETENTION

SIMILAR TO THE WATER QUALITY ANALYSIS, DETENTION RATES WERE ALSO MODELLED BASED ON VARIOUS IMPERVIOUS FRACTIONS ACROSS THE SITE. THESE WORKS ARE DETAILED IN THE TANK STREET DRAINAGE ANALYSIS REPORT.

TO ALLOW THE OVAL VILLA WORKS, THE TANK STREET BASIN WORKS ARE ANTICIPATED TO INCLUDE:

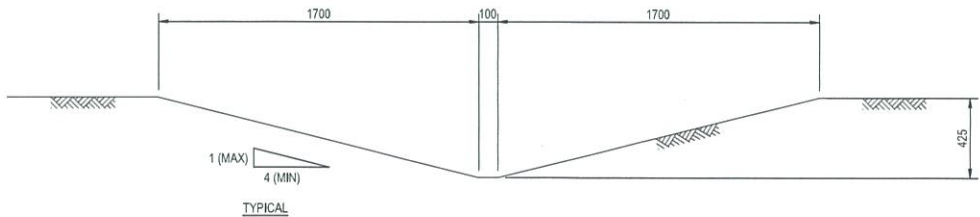
- RAISING THE BASE OF THE FIRST WEIR TO INCREASE INITIAL WATER HOLDING CAPACITY
- EXCAVATION WITHIN THE FIRST BASIN TO INCREASE STORAGE CAPACITY

THE ABOVE WORKS ARE ANTICIPATED TO RETAIN PRE-DEVELOPMENT DISCHARGE RATES FOLLOWING THE PROPOSED DEVELOPMENT.



4.1m WIDE GRASS LINED STORMWATER DRAINAGE SWALE (SW01)

SCALE 1:20



3.5m WIDE GRASS LINED STORMWATER DRAINAGE SWALE (SW02)

SCALE 1:20

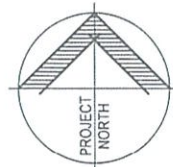
A	06/02/20	FOR APPROVAL	K.M.	C.D.
REV	DATE	DRAWING STATUS	DRN	APP
TITLE				

STORMWATER DETAILS

DRAWING STATUS			SHEET SIZE
FOR APPROVAL			A1
DRAWN	DESIGNED	APPROVED	SCALE
K.McNulty	C.Davies	C.Davies	1:700
PROJECT No.	DRAWING No.		REVISION
12607	DA-2205		A

NOT FOR CONSTRUCTION





'R'

See internal link road  
approval DA 19-575

RV Parking DA  
withdrawn



Sydney | Perth | Newcastle | Central Coast

5 Newton Street Broadmeadow NSW 2292  
T: +61 2 49415900 E: mail@lindsaydynan.com.au

PROJECT  
MORPETH HOUSE HERITAGE ESTATE  
MORPETH ROAD, MORPETH NSW

CLIENT  
LEND LEASE PRIMELIFE RETIREMENT  
VILLAGE (CLOSEBOURNE) PTY LTD

#### LEGEND

- NEW SEALED ACCESS ROAD  
NEW UNSEALED ACCESS ROAD

AGED CARE FACILITY ACCESS ROAD  
PAVEMENT PLAN  
SCALE 1:700

NOT FOR CONSTRUCTION

A	07/02/20	FOR APPROVAL	K.M.	C.D.
REV	DATE	DRAWING STATUS	DSN	APP
TITLE				
AGED CARE FACILITY ACCESS ROAD PAVEMENT PLAN				
DRAWING STATUS			SHEET SIZE	
FOR APPROVAL			A1	
DRAWN	DESIGNED	APPROVED	SCALE	
K.McNulty	C.Davies	C.Davies	1:700	
PROJECT No.		DRAWING No.	REVISION	
12607		DA-2206	A	





Sydney | Perth | Newcastle | Central Coast

5 Newton Street Broadmeadow NSW 2292  
T: +61 2 49419900 E: mail@lindsaydynan.com.au

PROJECT  
MORPETH HOUSE HERITAGE ESTATE  
MORPETH ROAD, MORPETH NSW

CLIENT  
LEND LEASE PRIMELIFE RETIREMENT  
VILLAGE (CLOSEBOURNE) PTY LTD

LEGEND

- 21.50 EXISTING CONTOUR
- EXISTING SPOTLEVEL
- 31.2 DESIGN CONTOUR
- NEW SEALED ACCESS ROAD
- NEW STORMWATER DRAINAGE PIT
- NEW STORMWATER DRAINAGE PIPE
- HEADWALL
- NEW GRASS LINED SWALE
- BOUNDARY LINE
- EXISTING FENCE
- EXISTING TREE

STORMWATER NOTES

- THE PROPOSED WORKS CONSIST OF:
- CONSTRUCTION OF 14 VILLAS
  - CONSTRUCTION OF ASSOCIATED ROAD, PARKING AND DRAINAGE WORKS
  - INCLUSION OF SURROUNDING PATHWAYS AND LANDSCAPING

STORMWATER QUALITY

A SITE WIDE CATCHMENT ANALYSIS WAS UNDERTAKEN TO DETERMINE THE CATCHMENT EXTENT DIRECTED TO THE TANK STREET OSD BASIN. THE RESULTANT WATER QUALITY INCLUSIONS FOR THIS SPECIFIC DEVELOPMENT TO ACHIEVE THE COUNCIL DISCHARGE PARAMETERS ARE AS FOLLOWS:

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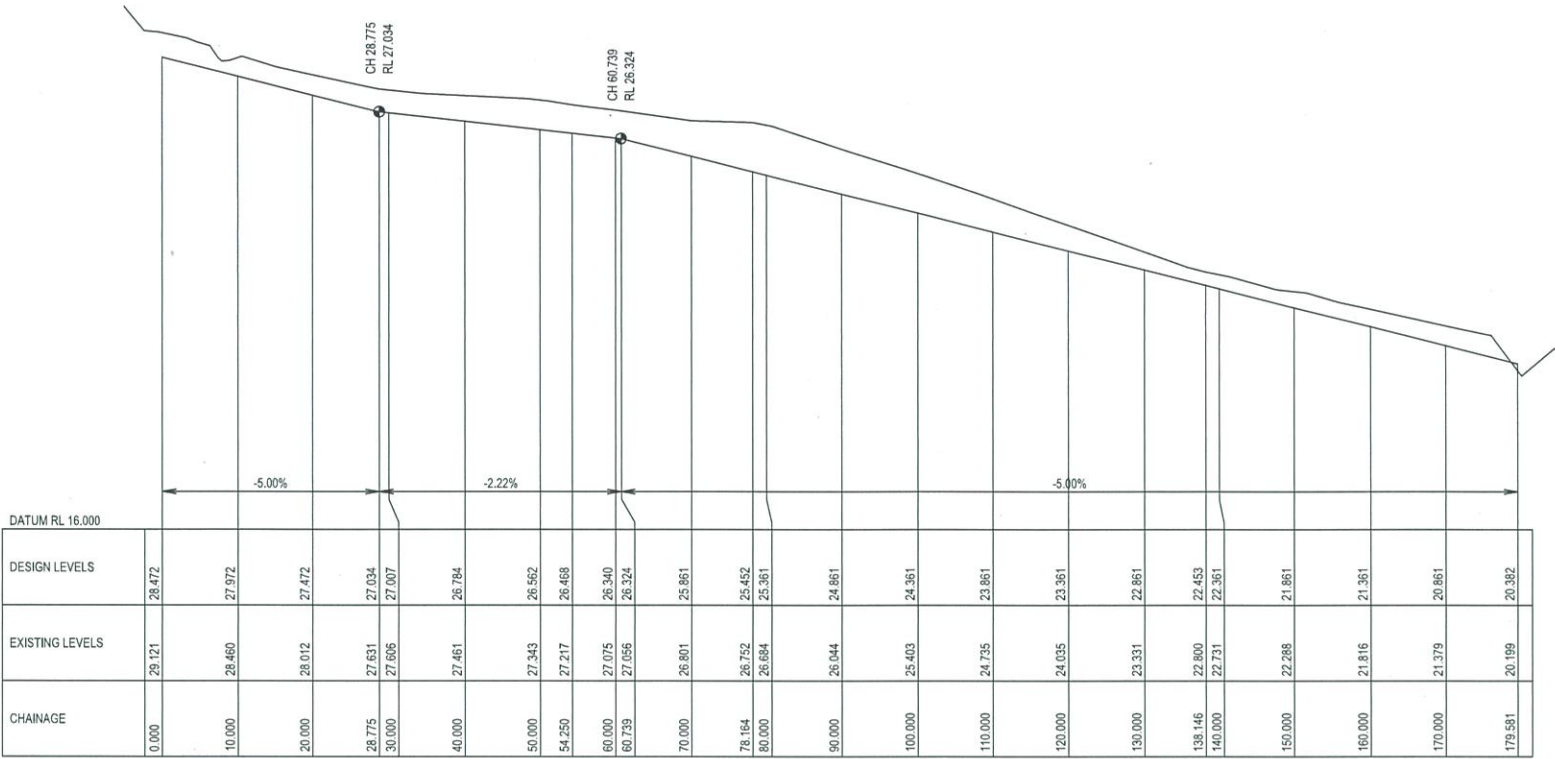
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- EXCAVATION WITHIN THE FIRST BASIN TO INCREASE STORAGE CAPACITY

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A	06/02/20	FOR APPROVAL	K.M.	C.D.
REV	DATE	DRAWING STATUS	DRN	APP

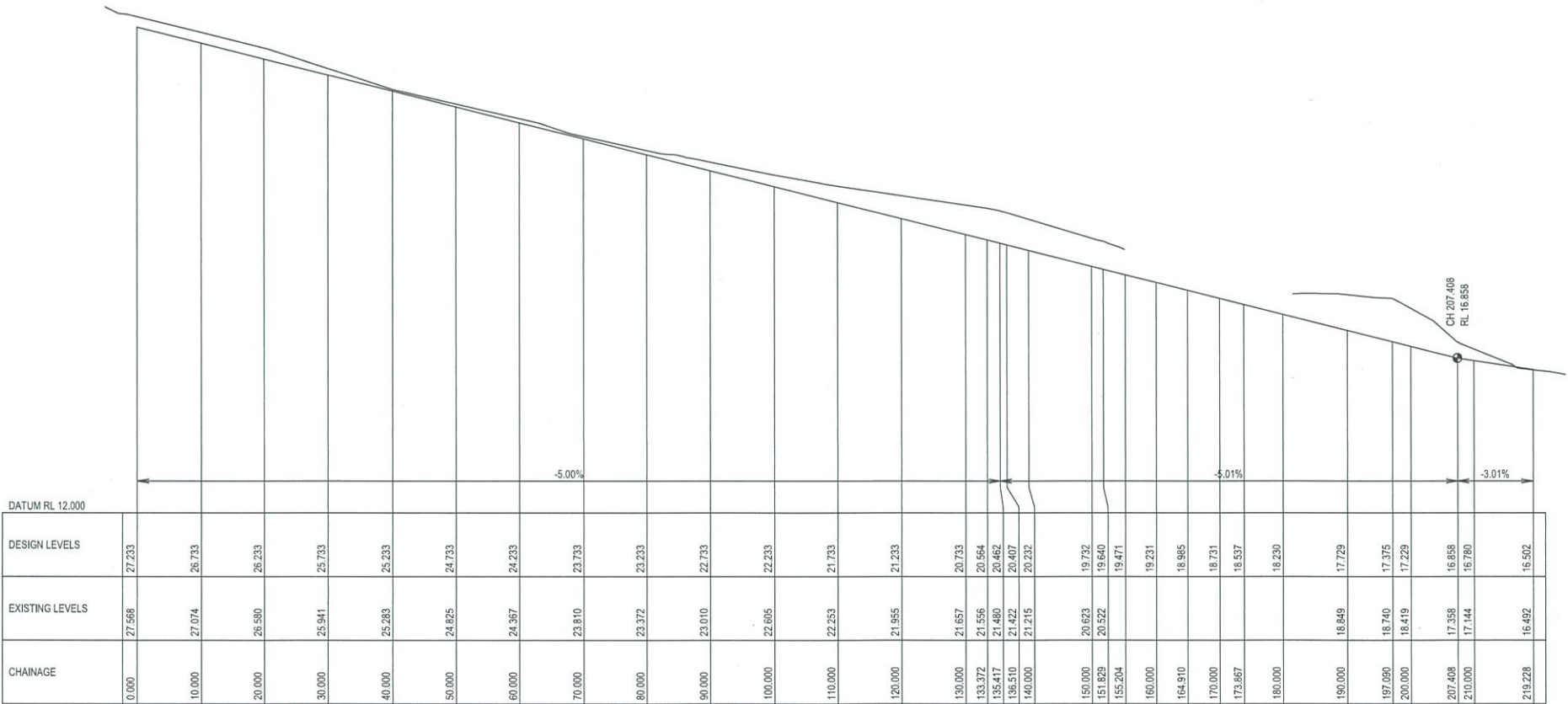
CONTROL SWALES  
LONGITUDINAL SECTIONS

DRAWING STATUS			SHEET SIZE
FOR APPROVAL			A1
DRAWN K.McNulty	DESIGNED C.Davies	APPROVED C.Davies	SCALE 1:500
PROJECT No.	DRAWING No.	REVISION	
12607	DA-2207	A	



LONGITUDINAL SECTION ALONG CONTROL SW02

HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100



LONGITUDINAL SECTION ALONG CONTROL SW01

HORIZONTAL SCALE 1:500  
VERTICAL SCALE 1:100

NOT FOR CONSTRUCTION