



Douglas Shire Council  
Marrs Creek Flood Study and Levee Design  
Stage 2 Preliminary Design Report

January 2018

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## Appendices

Appendix A – Concept Design Options

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## **Limitations**

*This report has been prepared by GHD for Douglas Shire Council and may only be used and relied on by Douglas Shire Council for the purpose agreed between GHD and the Douglas Shire Council as set out in this report.*

*GHD otherwise disclaims responsibility to any person other than Douglas Shire Council arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.*

*The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.*

*The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.*

*The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.*

*GHD has prepared this report on the basis of information provided by Douglas Shire Council and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.*

# 1. Introduction

## 1.1 Background

GHD Pty Ltd (GHD) was commissioned by Douglas Shire Council (DSC) to undertake a Flood Study (Stage 1) for Marrs Creek and associated Levee Design Civil Works (Stage 2).

The Stage 1 flood study is documented in the GHD report: *Marrs Creek Flood Study and Levee Design, Detailed Report, 2017*. Flood levels from Stage 1 informed the levee height for preliminary design in Stage 2. This document summarises the Stage 2 preliminary design.

The purpose of Stage 2 was to design (preliminary) the levee alignment and tie in details.

## 1.2 Scope of Works

Stage 2 entailed the following scope of works:

- Review of the Stage 1 results.
- Review existing survey.
- Consider site constraints.
- Concept design of two (2) levee alignment options.
- Preliminary design of one (1) preferred levee alignment option.
- Levee tie in details to Johnston Road, including drain regrading.
- Levee tie in details to the Jack Street drain outlet.
- Approximate fill volumes for potential developable areas.

## 1.3 Site Constraints

The following site constraints were considered during the concept design. Site constraints included:

- Existing partial development of levee.
- Private property.
- Existing overhead electrical.
- New footpath development.
- Existing vegetation.
- Existing open channel and flood gates.
- Existing horse stables.
- Existing sporting field.
- Existing access road.

## 2. Design

### 2.1 Concept Options

Two (2) concept alignment options were prepared for DSC review, attached in Appendix A.

#### 2.1.1 Option 1

Option 1 levee ties into Johnston Road between Lots 1 (SP295098) and 94 (SP199692) to reduce intrusion on private land. The road level is approximately 250 mm lower than the top of levee. In order to reduce the risk of floodwater escaping (via the road), the road level would be required to be increased by approximately 250 mm over a length of approximately 100 mm. Furthermore, the Johnston Road table drain would require regrading. Benefits and constraints of Option 1 are detailed as follows.

##### **Benefits**

- Avoids traversing through Lot 94 (SP199692).
- An easement is not required.

##### **Constraints**

- Level of existing road shoulder.
- Length of drain channel tie in.
- Length of pavement superelevation transition to the existing curve, west of the Levee.
- Stopping sight distance for any level alterations to the road vertical alignment.

#### 2.1.2 Option 2

Option 2 levee ties into Johnston Road at a location where Johnston Road elevation is equivalent to the proposed top of levee. This option was in order to prevent raising the road (therefore, reducing construction costs), however, this alignment intrudes on the private Lot 94 (SP199692). Similarly to Option 1, the Johnston Road table drain would require regrading. Benefits and constraints of Option 2 are detailed as follows.

##### **Benefits**

- Alterations to Johnston Road are negligible.
- The length of drain regrading is less in comparison to Option 1.
- There is some potential developable immunity for the land owner of Lot 94 (SP199692).
- An easement is not required.

##### **Constraints**

- An easement is required through Lot 94 (SP199692).
- Fill batters through Lot 94 (SP199692) are flatter to accommodate existing land usage.
- The existing terrain falls away from the road reserve at a steep gradient.

## 2.2 Preliminary Design

DSC agreed to move forward with the preliminary design of Option 2. DSC had undertaken consultation with the private land owner to confirm construction of the levee on their land.

The preliminary design drawings are attached in Appendix B. These drawings detail:

- Project locality.
- Location of surrounding existing features and services, including clashes.
- Proposed demolition and reinstatement of existing features and services.
- Cross section geometry.
- Horizontal and vertical geometry.
- Extent of earthworks interfaces.

## 2.3 Progression to Detailed Design

Upon Council acceptance of Stage 2, detailed design is recommended prior to construction. Detailed design was outside the scope of works for this project. The following items require further consideration upon progression to detailed design.

- Compaction and testing requirements.
- Construction proximity to existing services.
- Interfacing details with the existing Levee.
- Structural design for interfacing with existing structures.
- Condition assessments for altering existing structures.
- Material selection.
- Environmental impacts.
- Erosion and Sediment Control.

*Note that this list is indicative only, and not exhaustive.*

### 3. Summary

GHD Pty Ltd (GHD) was commissioned by Douglas Shire Council (DSC) to undertake a Flood Study (Stage 1) for Marrs Creek and associated Levee Design Civil Works (Stage 2).

The Stage 1 flood study is documented in the GHD report: *Marrs Creek Flood Study and Levee Design, Detailed Report, 2017*. Flood levels from Stage 1 informed the levee height for preliminary design in Stage 2. This document details the Stage 2 preliminary design.

The purpose of Stage 2 was to design (preliminary) the levee alignment and tie in details.

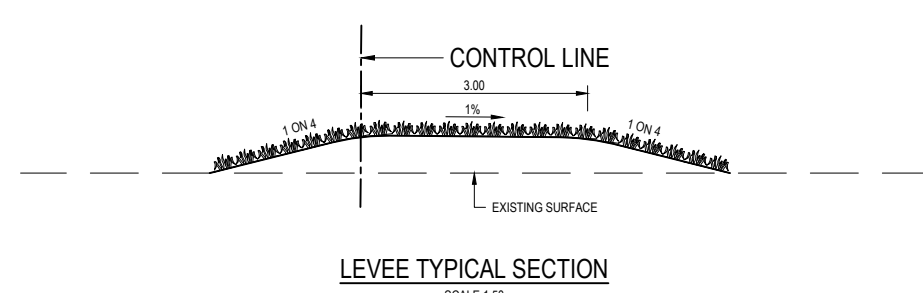
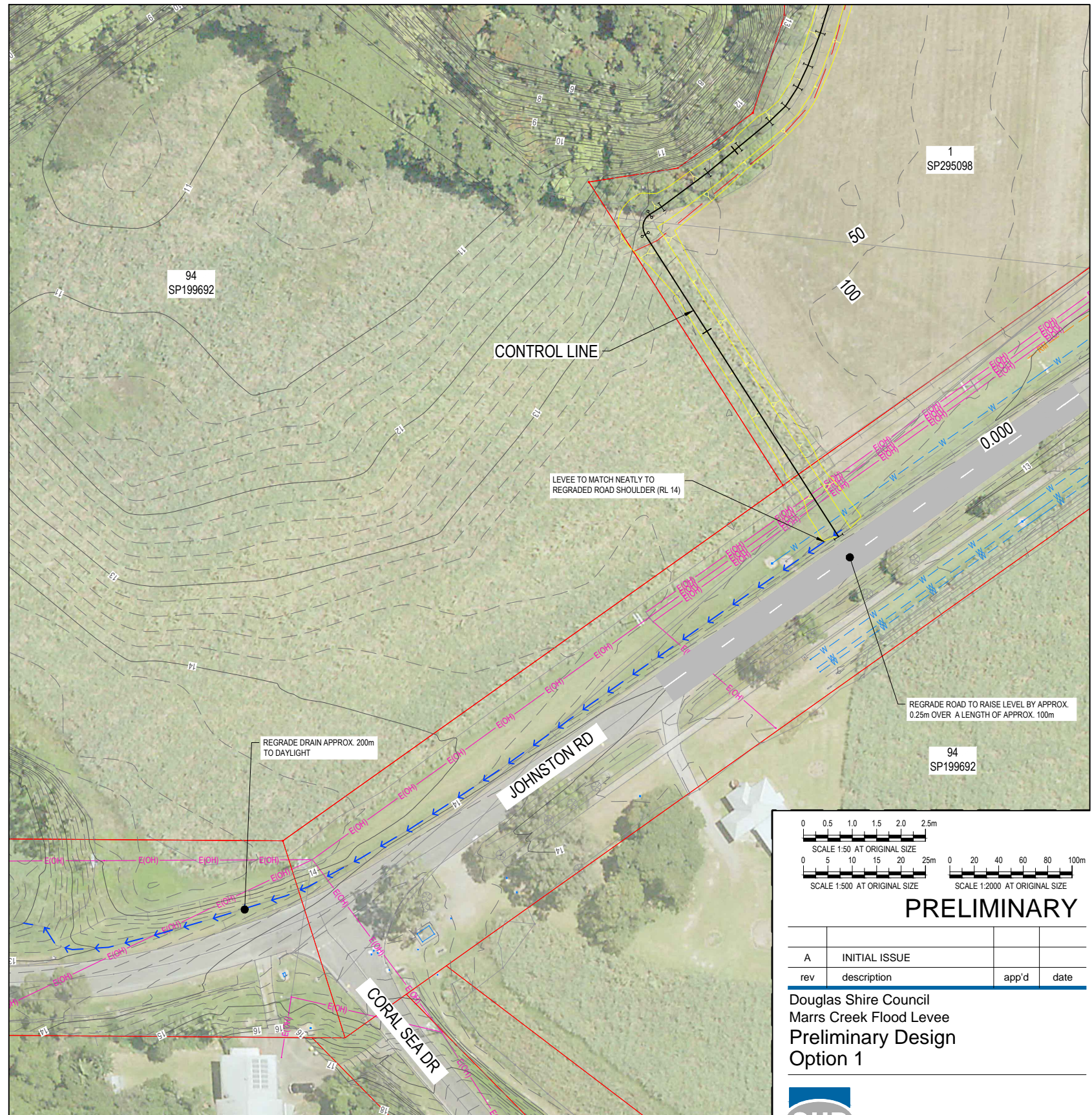
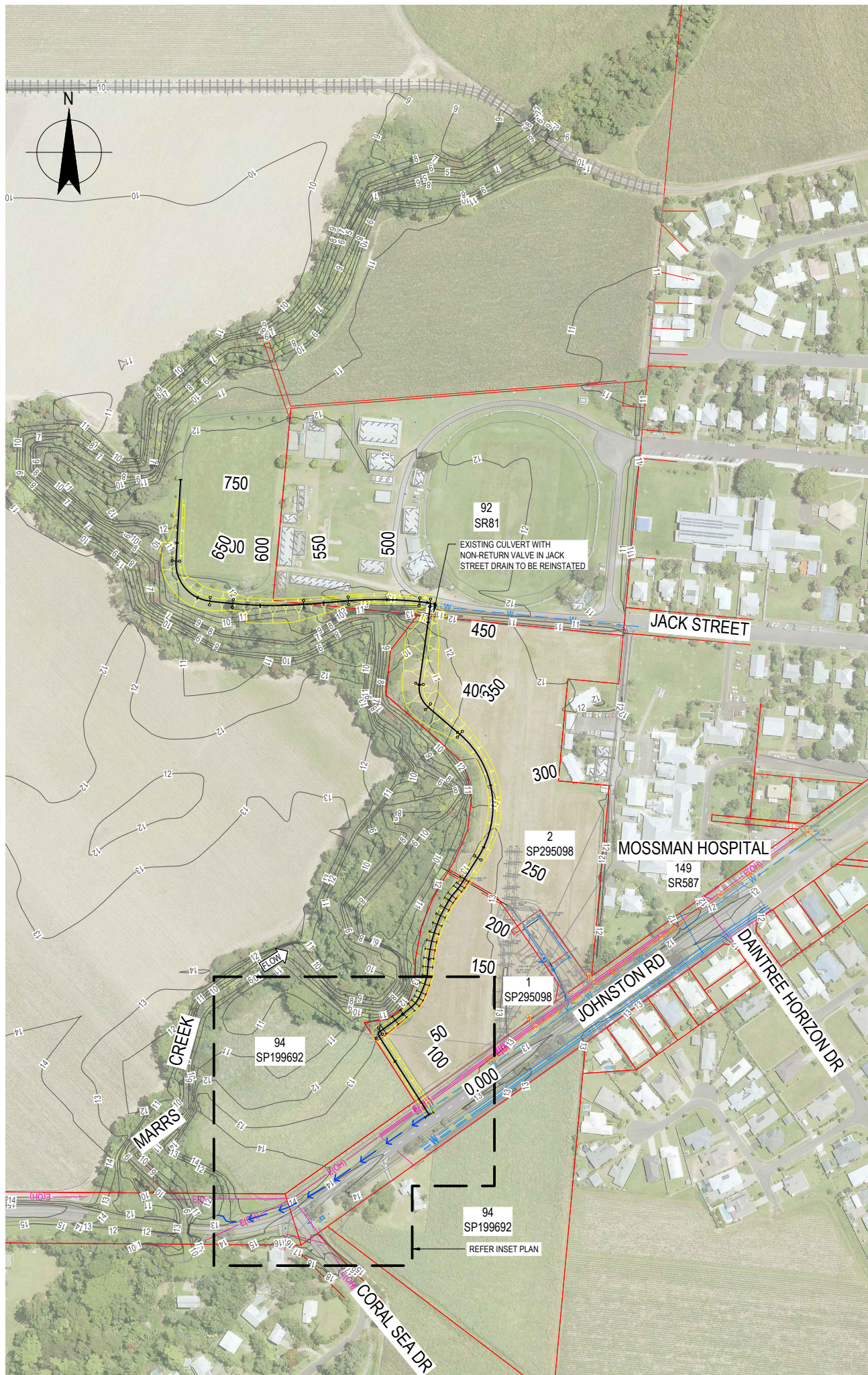
Two (2) concept options for the levee were presented to Council. Through discussions with Council, it was deemed that Option 2 was preferred to progress to preliminary design due to the minimal impact on Johnston Road.

Detailed design was outside the scope of works for the project. Detailed design is recommended prior to construction of the levee, refer Section 2.3.

# Appendices



# Appendix A – Concept Design Options



**PRELIMINARY**

rev	description	app'd	date
A	INITIAL ISSUE		

Douglas Shire Council  
 MARRS CREEK FLOOD LEVEE  
 Preliminary Design  
 Option 1

Level 1, 85 Spence Street, Cairns QLD 4870 Australia  
 PO Box 819, Cairns QLD 4870  
 T 61 7 4044 2222 F 61 7 4044 2288  
 E cnsmail@ghd.com.au W www.ghd.com.au

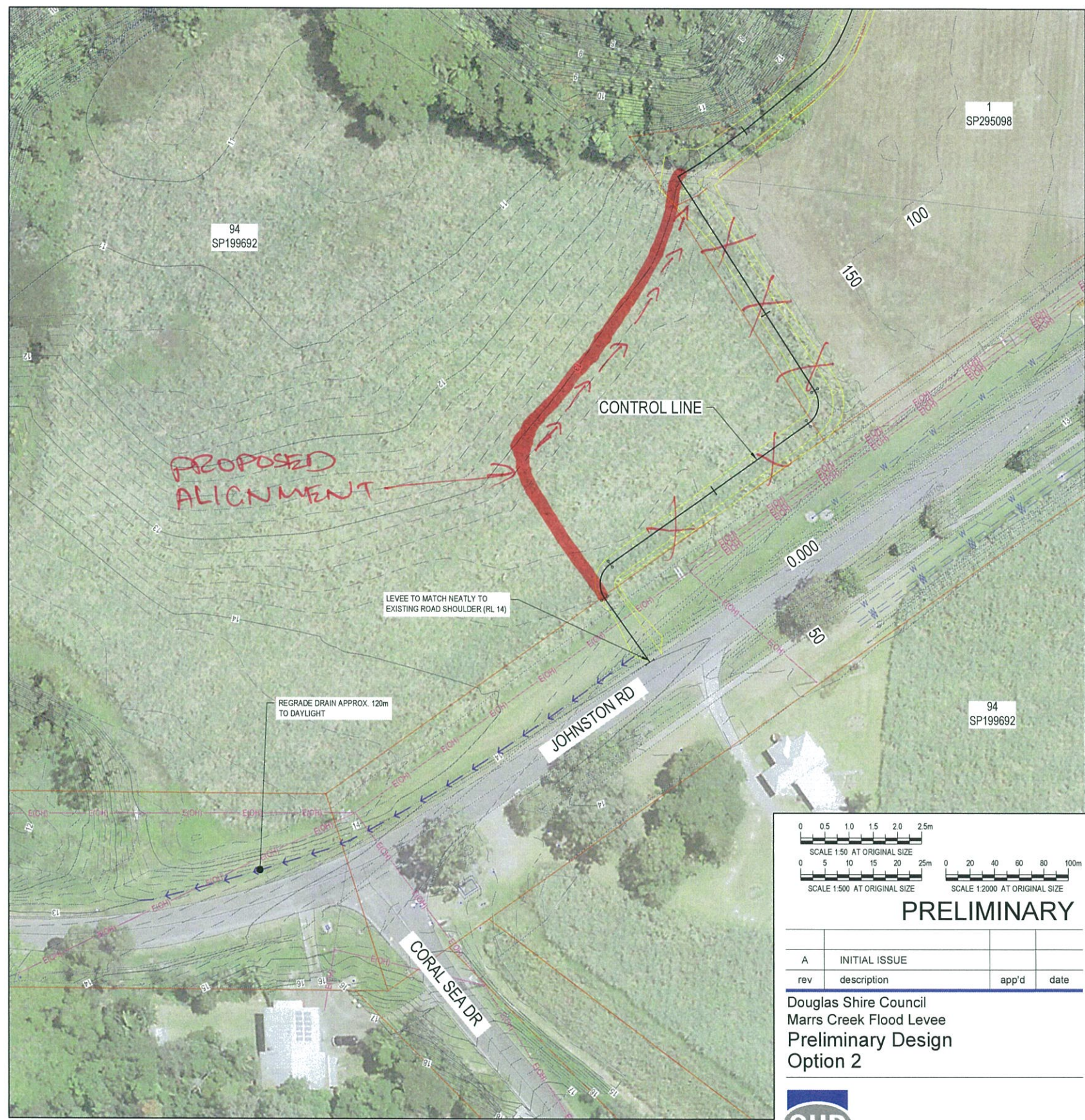
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 date Nov 2017 rev no. A

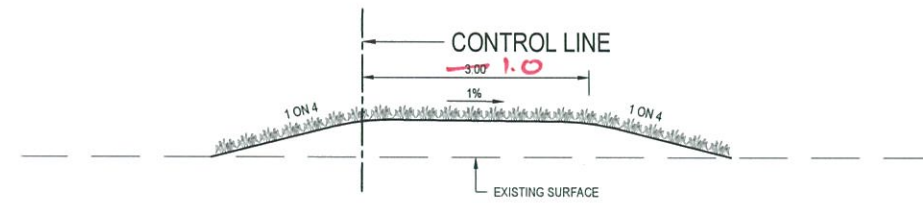
approved (PD) ..... SK001



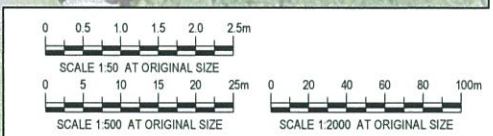
PLAN  
SCALE 1:2000  
Plot Date: 2 November 2017 - 4:29 PM Plotted by: Joel Tomson Cad File No: G:\42\20085\CADD\Drawings\42-20085-SK001\_SK002.dwg



INSET  
SCALE 1:500



LEVEE TYPICAL SECTION  
SCALE 1:50



**PRELIMINARY**

rev	description	app'd	date
A	INITIAL ISSUE		

Douglas Shire Council  
Marrs Creek Flood Levee  
Preliminary Design  
Option 2



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scale as shown for A1 job no. 42-20085  
date Nov 2017 rev no. A

approved (PD) SK002

*J. Tomson*  
*08/11/17*

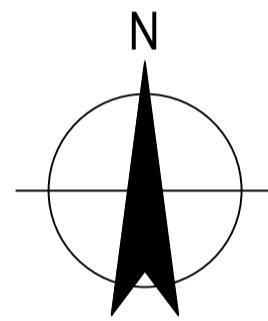
# Appendix B – Preliminary Design

# DOUGLAS SHIRE COUNCIL

## MARRS CREEK FLOOD LEVEE

### PRELIMINARY DESIGN

# 42-20085



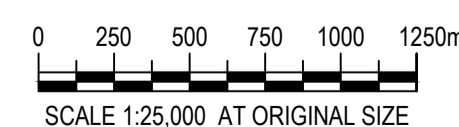
LOCALITY PLAN  
SCALE 1:25,000

#### DRAWING LIST

DRG No.	DRAWING TITLE
42-20085-G001	COVER SHEET, LOCALITY PLAN AND DRAWING INDEX
42-20085-G002	COMPILATION PLAN AND LOCALITY
42-20085-C001	NOTES, LEGEND, TYPICAL SECTIONS AND DETAILS
42-20085-C002	PLAN AND LONGITUDINAL SECTION - SHEET 1 OF 2
42-20085-C003	PLAN AND LONGITUDINAL SECTION - SHEET 2 OF 2
42-20085-C004	ANNOTATED CROSS SECTION - SHEET 1 OF 4
42-20085-C005	ANNOTATED CROSS SECTION - SHEET 2 OF 4
42-20085-C006	ANNOTATED CROSS SECTION - SHEET 3 OF 4
42-20085-C007	ANNOTATED CROSS SECTION - SHEET 4 OF 4

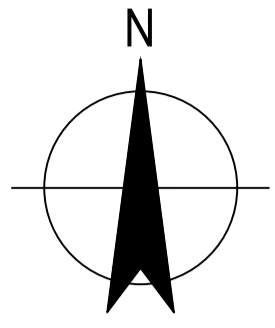
**PRELIMINARY**

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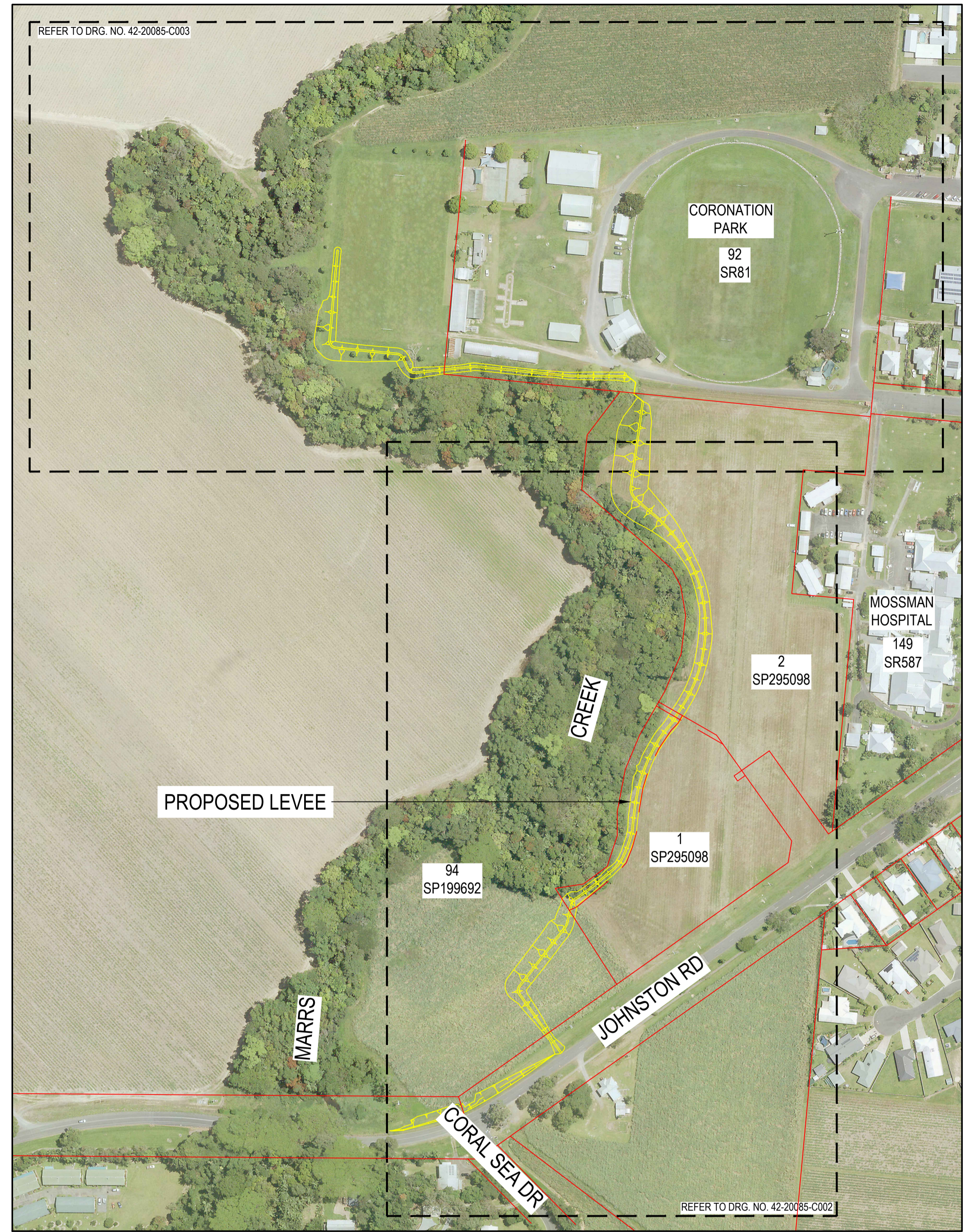


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DO NOT SCALE		Drawn J. TOWNSON	Designer J. TOWNSON	Client
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	Approved (Project Director)			
	Date			
Scale	1:25,000	This Drawing must not be used for Construction unless signed as Approved		Original Size <b>A1</b> Drawing No: <b>42-20085-G001</b> Rev: <b>A</b>



**LOCALITY**  
SCALE 1:5000



**INSET - COMPILATION PLAN**  
SCALE 1:2000

**PRELIMINARY**

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
A	PRELIMINARY ISSUE		JST	JAG*	JAG*	17.11.17



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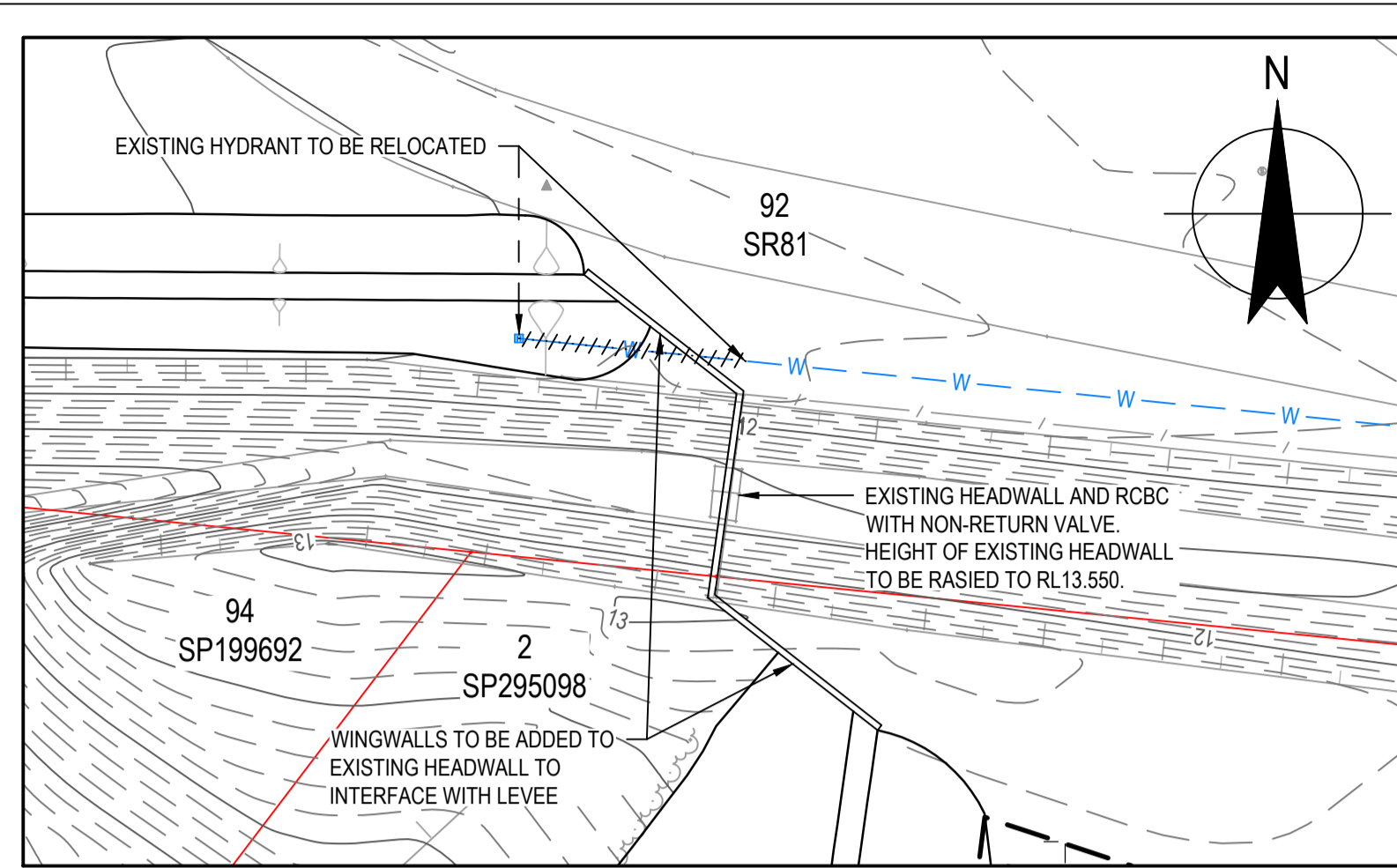
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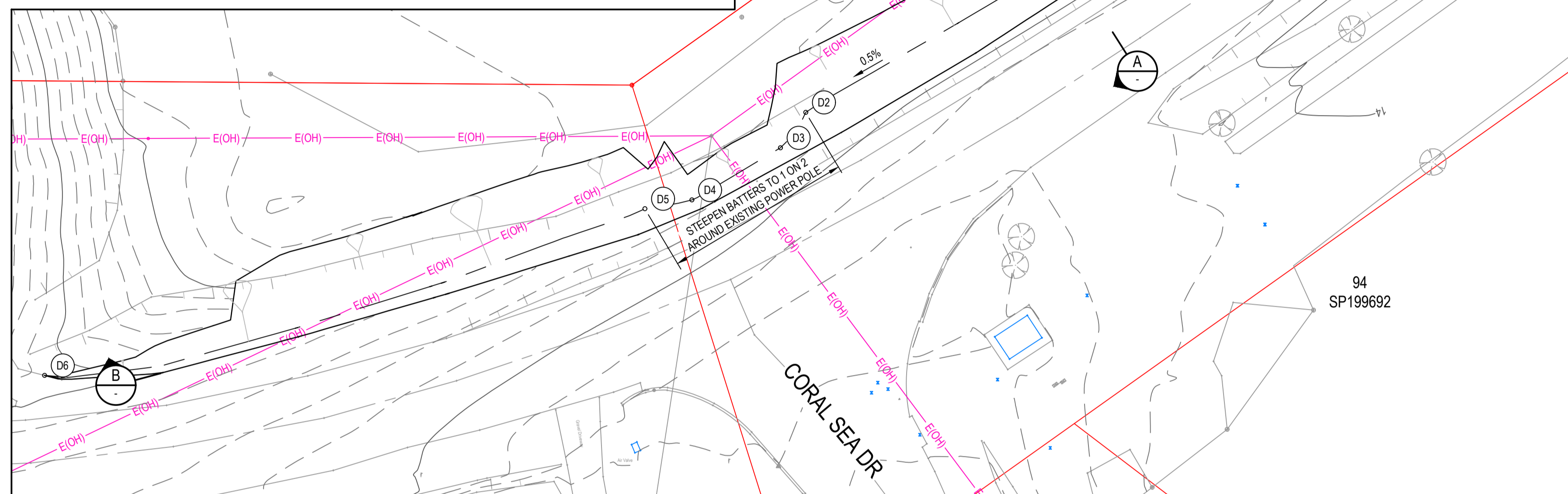
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Drafting Check		Design Check	
Approved (Project Director)		Date	
Scale	AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	

Client	<b>DOUGLAS SHIRE COUNCIL</b>
Project	<b>MARRS CREEK FLOOD LEVEE</b>
Title	<b>COMPILATION PLAN AND LOCALITY</b>
Original Size	<b>A1</b>
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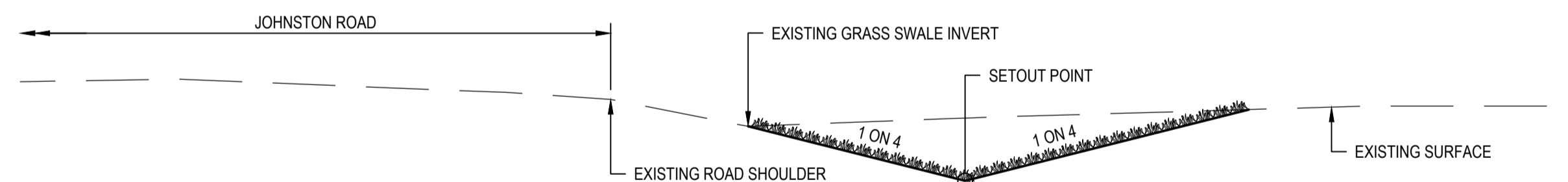
Rev: **A**



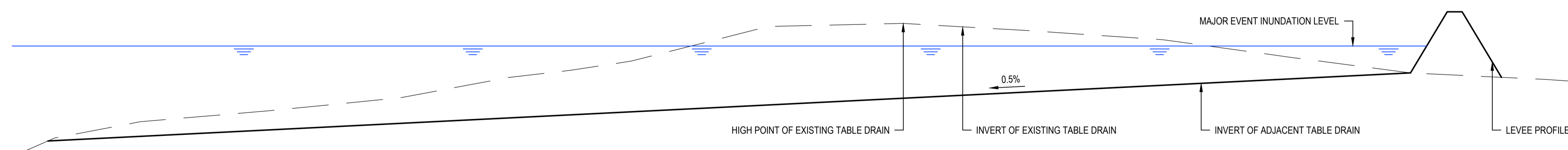
**2 DETAIL**  
C003 SCALE 1 : 250



**1 DETAIL**  
C002 SCALE 1 : 250



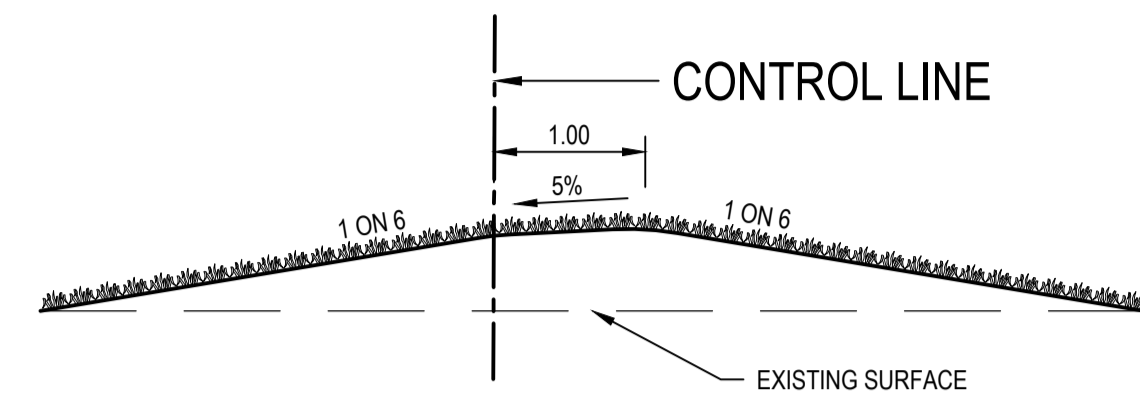
**A SECTION**  
SCALE 1 : 50



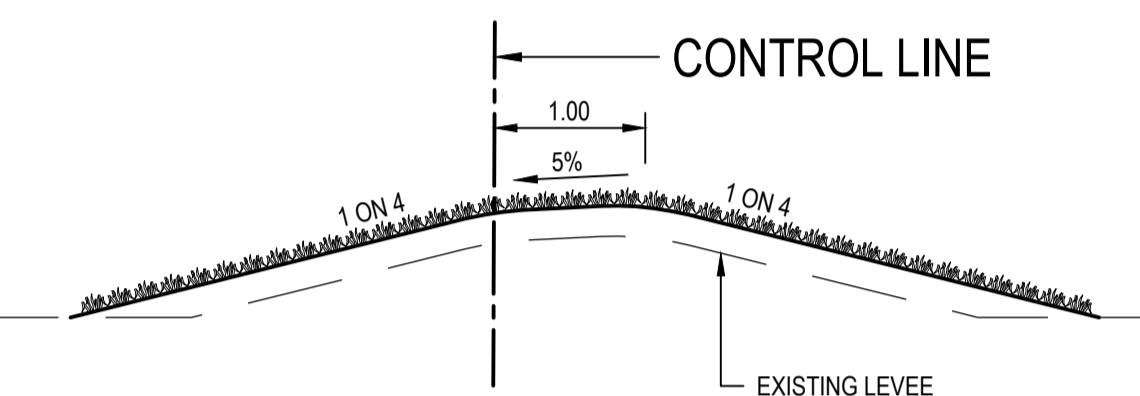
**B SECTION**  
SCALE HORIZ 1:250, VERT 1:25

DRAIN SETOUT POINTS			
POINT	EASTING	NORTHING	ELEVATION
D1*	325558.252	8178744.180	13.466
D2	325508.779	8178714.428	13.177
D3	325506.867	8178711.753	13.162
D4	325500.166	8178707.809	13.122
D5	325496.610	8178707.144	13.107
D6*	325451.202	8178694.556	12.839

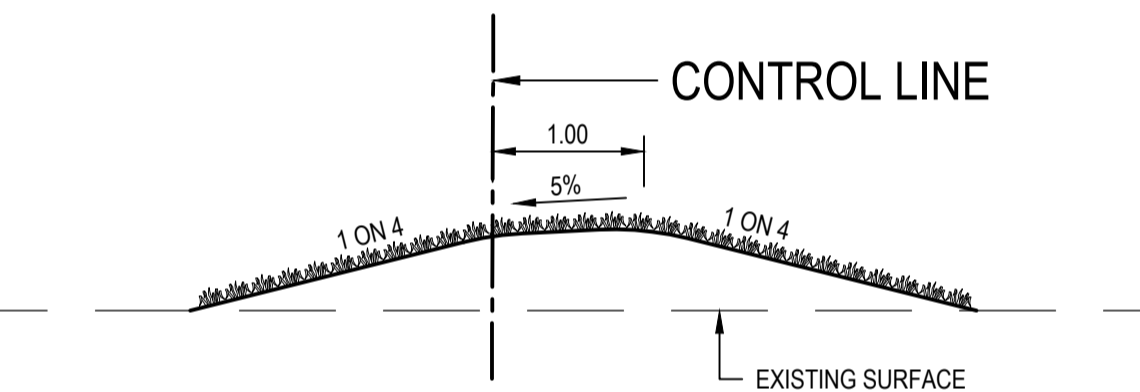
\* DENOTES MATCHES EXISTING LEVEL



**LEVEE TYPICAL SECTION A**  
CH0 - CH120  
SCALE 1:50



**LEVEE TYPICAL SECTION B**  
CH120 - CH279  
SCALE 1:50



**LEVEE TYPICAL SECTION C**  
CH279 - CH770  
SCALE 1:50

**SURVEY NOTES**

1. SURVEYOR - RPS
2. SURVEY DATE - 04.07.2016
3. TOWN - MOSSMAN
4. LOCAL AUTHORITY - DOUGLAS SHIRE COUNCIL
5. LEVEL DATUM - AHD
6. LEVEL ORIGIN - PSM 100497 RL 10.110
7. HORIZ. GRID SYSTEM - MGA ZONE 55

**GENERAL NOTES**

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2. GRADE EVENLY BETWEEN LEVELS SHOWN.
3. THE CONTRACTOR SHALL VERIFY ALL SETOUT DETAILS AND DIMENSIONS ON SITE PRIOR TO COMMENCEMENT OF SITE WORKS. ANY DISCREPANCIES TO BE REPORTED TO THE SUPERINTENDENT IMMEDIATELY.
4. SPOIL MATERIAL NOT USED IN SITE FILL SHALL BE REMOVED OFF SITE AS DIRECTED.
5. CONTRACTOR TO BE RESPONSIBLE FOR SITE SEDIMENT AND EROSION CONTROL IN ACCORDANCE WITH AS 3798-2007 AND LOCAL COUNCIL REQUIREMENTS.
6. CONTRACTOR TO ALLOW FOR FULL TIME LEVEL 2 GEOTECHNICAL SUPERVISION DURING ALL EARTHWORKS.
7. UNO. ONLY UNCONTAMINATED SOIL IS TO BE REMOVED FROM SITE AS SPOIL. SUCH MATERIAL SHALL BE VERIFIED AS BEING UNCONTAMINATED BY TESTING TO DNRM REQUIREMENTS.
8. CONCRETING CARRIED OUT SHALL BE IN ACCORDANCE WITH FNQROC SPECIFICATION S7 - CONCRETE WORKS.
9. LANDSCAPING CARRIED OUT TO THE FINISHED SURFACE SHALL BE IN ACCORDANCE WITH FNQROC SPECIFICATION S8 - LANDSCAPING.

**EARTHWORKS**

- EARTHWORKS SHALL BE IN ACCORDANCE WITH THE SPECIFICATION, INCLUDING THE FOLLOWING:
1. ALL EARTHWORKS AND SITE WORKS TO BE CARRIED OUT IN STRICT ACCORDANCE WITH THE GEOTECHNICAL INVESTIGATION. ALL WORKS TO BE CARRIED OUT UNDER LEVEL 2 GEOTECHNICAL SUPERVISION. ANY AREAS NOT COVERED BY THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT TO WHERE THE REQUIREMENTS ARE LESS THAN THOSE BELOW THE FOLLOWING NOTES SHALL ALSO APPLY.
  2. THE SITE SHALL BE STRIPPED OF ALL WET OR SOFT MATERIAL, AND ANY VEGETATION AND ANY OTHER DELETERIOUS MATERIAL AND THE ASSOCIATED LAYER OF TOPSOIL TO A DEPTH OF 200mm WHERE REQUIRED. HOLES LEFT FROM EXCAVATION TO BE BACKFILLED. FILL MATERIAL TO BE COMPACTED IN ACCORDANCE WITH NOTE 3 BELOW.
  3. THE EXCAVATED MATERIAL SHOULD BE REMOVED AND SPREAD OUT ACROSS A SPECIALLY DESIGNATED TREATMENT AREA IN A THIN LAYER TO DRY, PRIOR TO BEING ASSESSED BY EXPERIENCED PERSONNEL REGARDING ITS SUITABILITY FOR RE-USE AS ENGINEERED FILL.
  4. ASSESS THE MOISTURE CONTENT OF THE EXPOSED REMNANT SUBGRADE SOIL, WHICH SHOULD BE ADJUSTED TO RANGE FROM OMC -2% (DRY) TO OMC +2% (WET), WHERE OMC IS OPTIMUM MOISTURE CONTENT AT STANDARD COMPACTION. AS NECESSARY, WET UP, OR TYNE (TO ALLOW DRYING) THE EXPOSED SUBGRADE PRIOR TO TEST ROLLING.
  5. TEST ROLL THE COMPLETE SURFACE OF THE NATURAL SUBGRADE WITH A MINIMUM 12 TONNE STATIC ROLLER, UNDER INSPECTION BY EXPERIENCED PERSONNEL, IN ORDER TO DETECT THE PRESENCE OF ANY SOFT OR LOOSE ZONES, WHICH SHOULD BE EXCAVATED OUT AND REPLACED WITH APPROVED COMPACTED FILLING.
  6. COMPACT THE NATURAL FOUNDATION SOIL TO A MINIMUM DRY DENSITY RATIO OF 95% STANDARD.
  7. ANY EXPOSED COHESIVE SUBGRADE SOIL, AT OR CLOSE TO FORMATION LEVEL, SHOULD BE SEALED OR COVERED AS SOON AS PRACTICABLE TO REDUCE THE OPPORTUNITY FOR DESICCATION AND CRACKING, OR SOFTENING AND SWELLING UNDER MOISTURE INGRESS.

**LEGEND**

**EXISTING FEATURES AND SERVICES:**

- CADASTRAL BOUNDARY
- 12 — CONTOUR (1.0m INTERVAL)
- — CONTOUR (0.2m INTERVAL)
- TOP OF BATTER
- BUILDING
- FENCE
- VEGETATION EXTENT
- E(OH) — E(OH) — ELECTRICAL (OVERHEAD)
- S — S — SEWER MAIN (UNDERGROUND)
- RM — RM — SEWER RISING MAIN (UNDERGROUND)
- SW — SW — STORMWATER (UNDERGROUND)
- W — W — WATER MAIN (UNDERGROUND)

**DEMOLITIONS:**

- WATER MAIN (UNDERGROUND)
- BUILDING
- TREE TO BE REMOVED / RELOCATED

**GENERAL:**

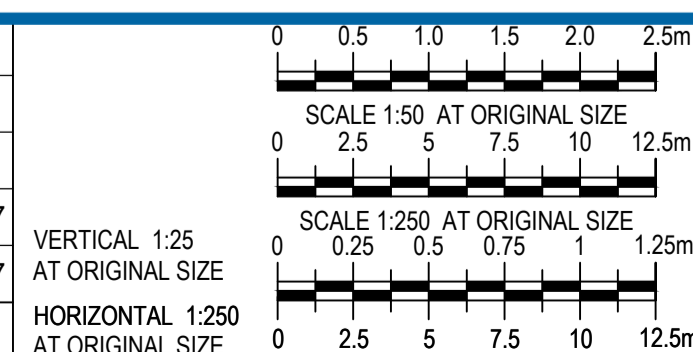
- D1 — DRAIN SETOUT POINT
- TOP OF BATTER
- TOE OF BATTER
- DRAIN INVERT
- ADDITIONAL FILL MATERIAL

**NOTE:** CONTRACTOR TO VERIFY ALL INVERT LEVELS, SURFACE LEVELS, CLEARANCES AND COVERS ARE CORRECT AND TO BE OBTAINABLE BEFORE COMMENCEMENT OF ANY WORKS. ALL UNDERGROUND SERVICES SHOWN ON THESE PLANS ARE INDICATIVE ONLY AND HAVE BEEN PLOTTED FROM THE RELEVANT AUTHORITIES RECORDS. SERVICES NOT SHOWN ON THESE PLANS MAY EXIST. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ON SITE THE LOCATION OF ALL UNDERGROUND SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR IS LIABLE FOR ANY DAMAGE TO ANY UNDERGROUND SERVICE.



**PRELIMINARY**

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
B	SECTION B ADDED		JST	JAG*	JAG*	29.11.17
A	PRELIMINARY ISSUE		JST	JAG*	JAG*	17.11.17



**DO NOT SCALE**

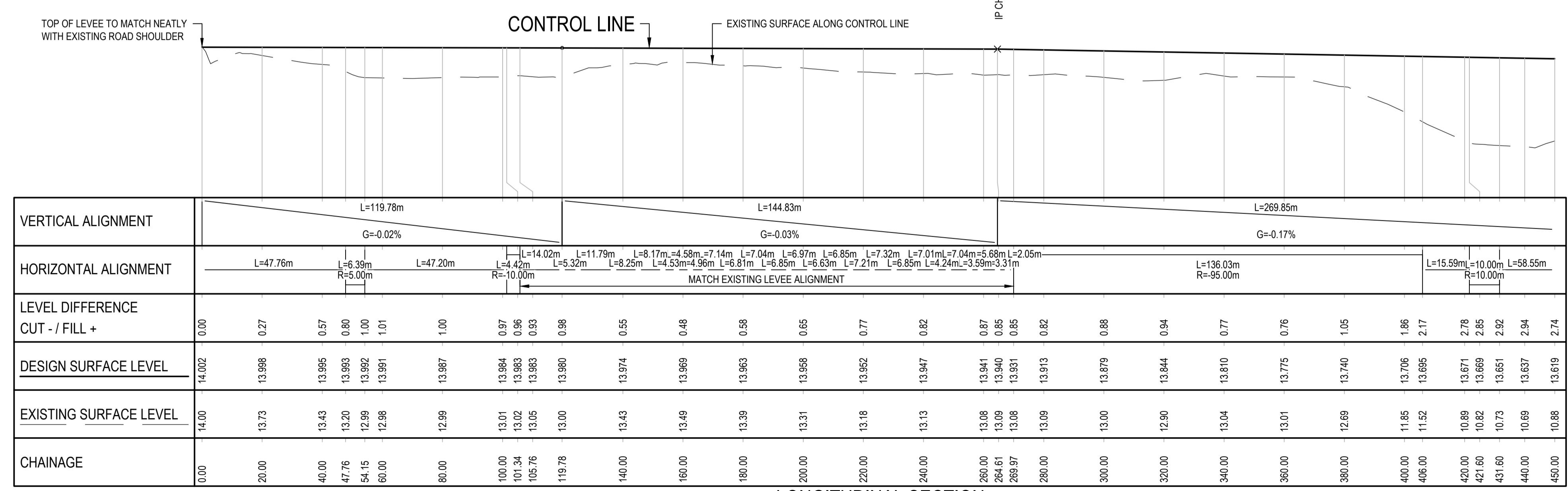
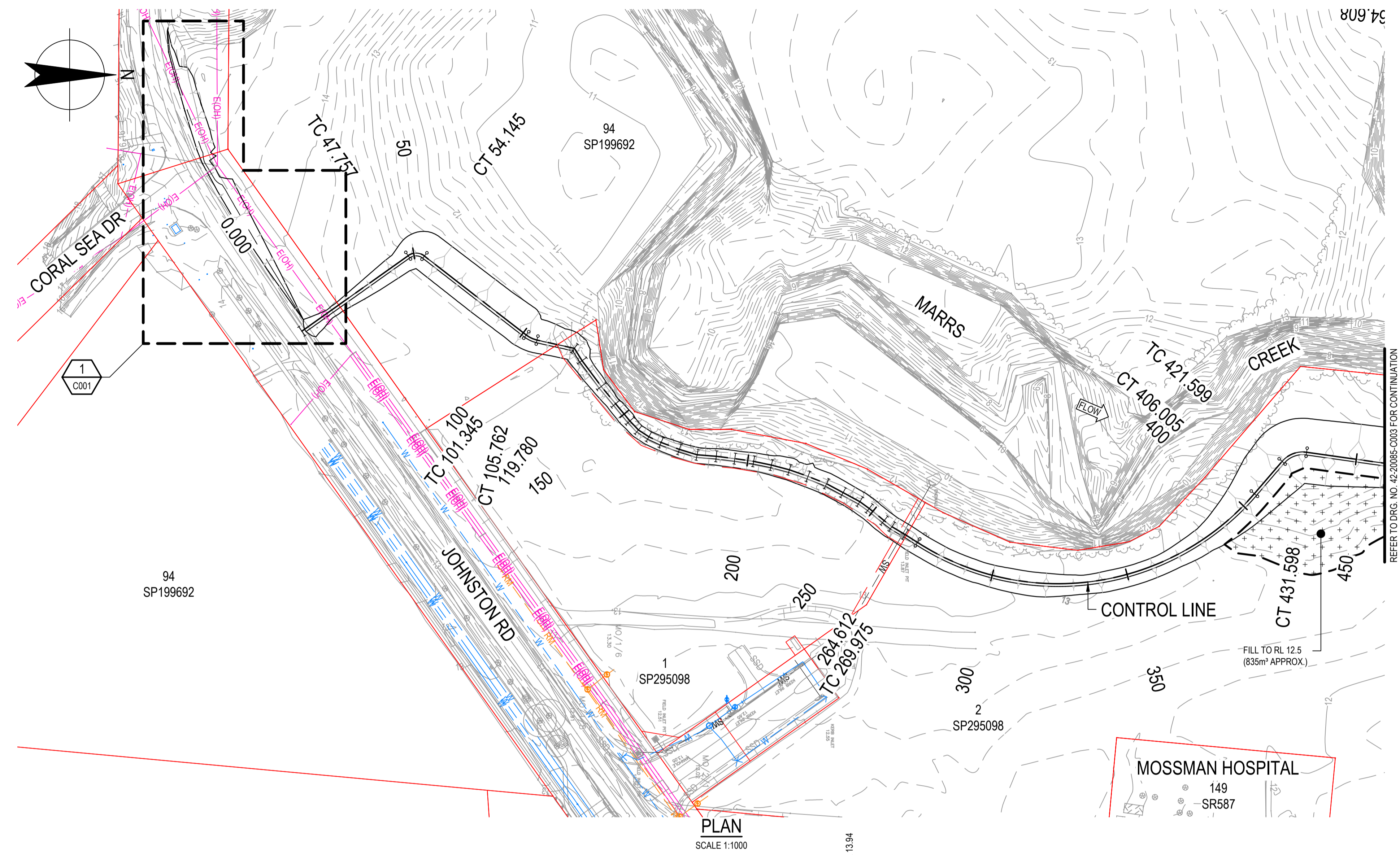
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Approved (Project Director)		Date	
Scale	AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	

Client **DOUGLAS SHIRE COUNCIL**  
Project **MARRS CREEK FLOOD LEVEE**  
Title **NOTES, LEGEND, TYPICAL SECTIONS AND DETAILS**

Original Size **A1** Drawing No: **42-20085-C001**

Rev: **B**

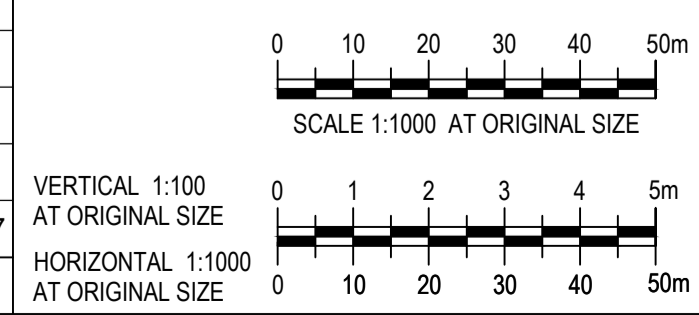


**LONGITUDINAL SECTION**  
SCALE HORIZ 1:1000, VERT 1:100

**NOTES**  
1. REFER TO DRG. NO. 42-20085-C001 FOR LEGEND AND ALL OTHER NOTES.

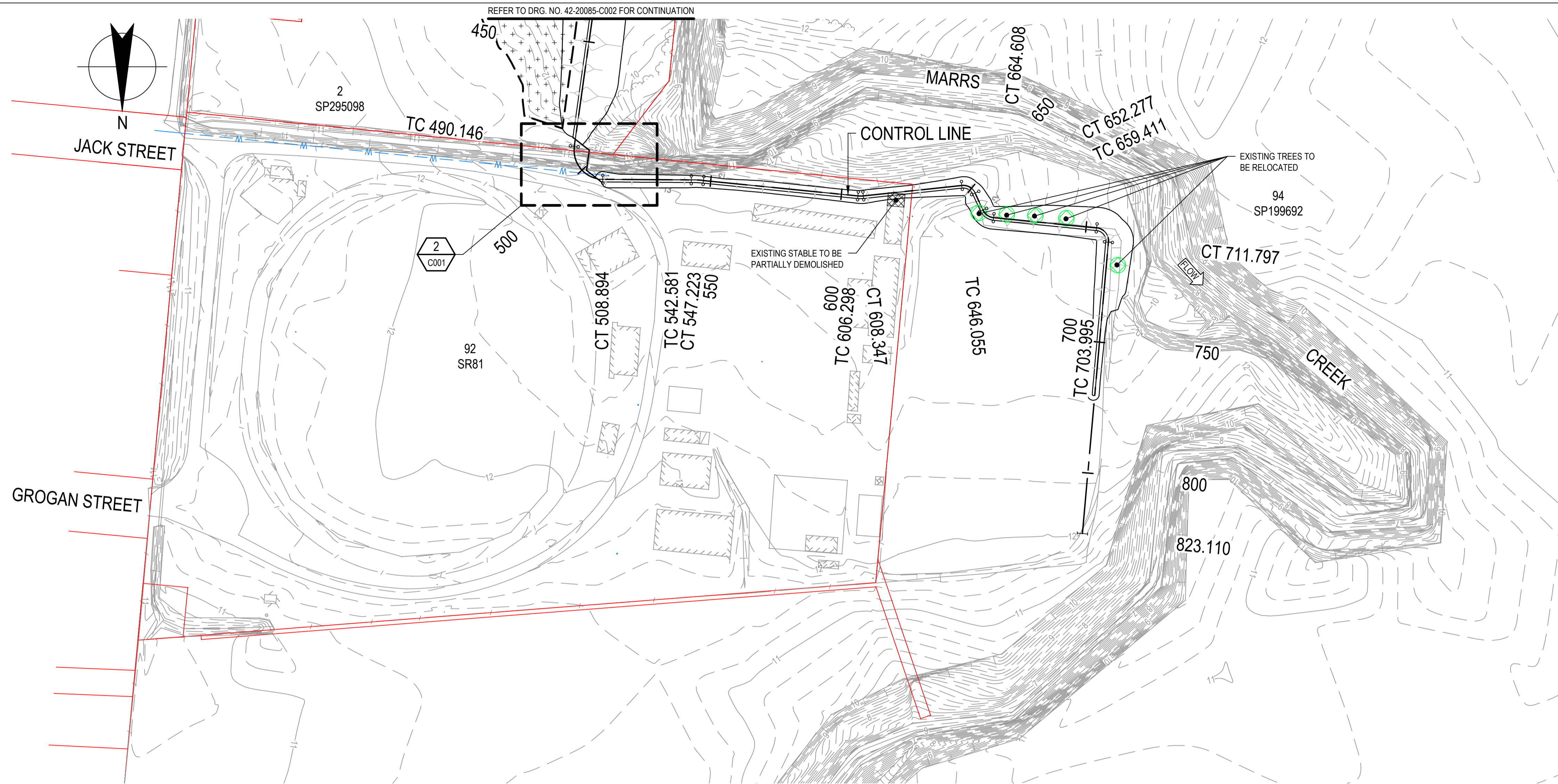
**PRELIMINARY**

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
A	PRELIMINARY ISSUE		JST	JAG*	JAG*	17.11.17

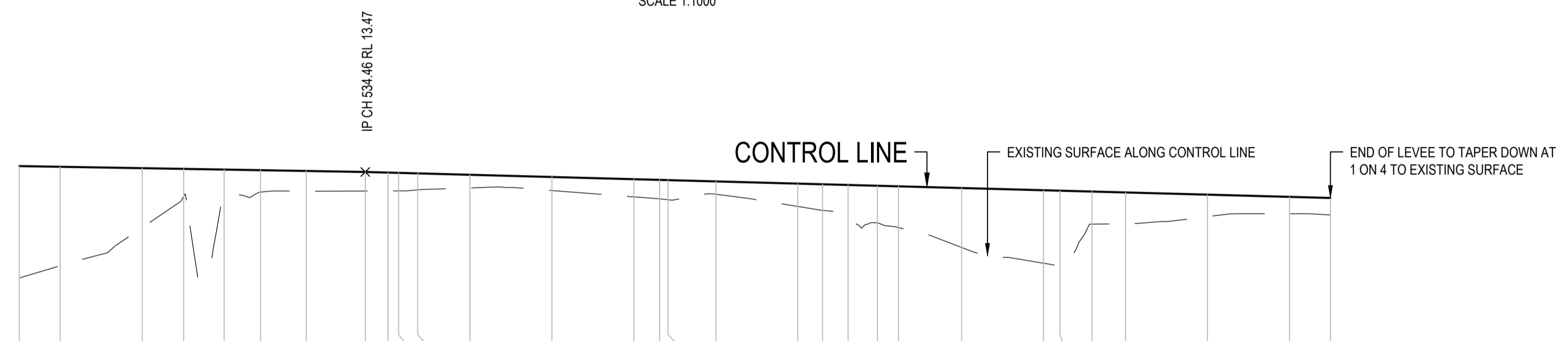


<b>DO NOT SCALE</b>	Drawn J. TOWNSON	Designer J. TOWNSON	Client <b>DOUGLAS SHIRE COUNCIL</b>
Conditions of Use. This document may only be used by GHD's client (and any other person who GHD has agreed can use this document) for the purpose for which it was prepared and must not be used by any other person or for any other purpose.	Drafting Check	Design Check	Project <b>MARRS CREEK FLOOD LEVEE</b>
	Approved (Project Director)	Date	Title <b>PLAN AND LONGITUDINAL SECTION SHEET 1 OF 2</b>
	Scale AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	Original Size <b>A1</b> Drawing No: <b>42-20085-C002</b>
			Rev: <b>A</b>





PLAN  
SCALE 1:1000



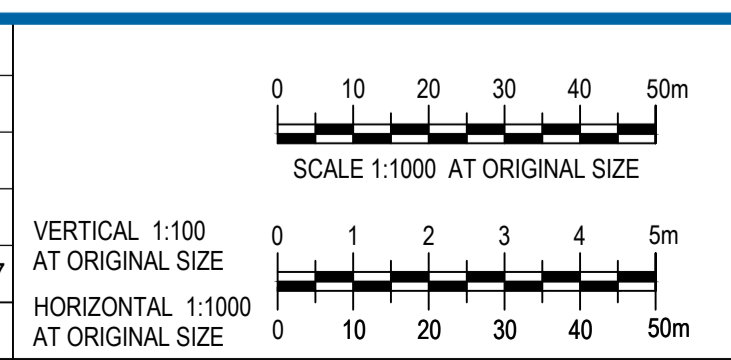
VERTICAL ALIGNMENT	L=269.85m										L=235.54m																				
	G=-0.17%										G=-0.27%																				
HORIZONTAL ALIGNMENT	L=58.55m		L=18.75m R=11.00m		L=33.69m		L=4.64m R=50.00m		L=59.08m		L=2.05m R=10.00m		L=37.71m		L=6.22m R=5.00m		L=5.20m R=5.00m		L=39.39m		L=7.80m R=5.00m		L=111.31m								
LEVEL DIFFERENCE CUT - / FILL +	2.74	2.42	1.45	0.67	0.70	0.54	0.50	0.46	0.45	0.44	0.40	0.32	0.33	0.43	0.46	0.48	0.46	0.31	0.56	0.64	0.84	0.91	1.01	1.45	1.78	1.84	0.79	0.77	0.54	0.41	0.42
DESIGN SURFACE LEVEL	13.619	13.602	13.568	13.550	13.533	13.518	13.498	13.473	13.458	13.451	13.439	13.404	13.350	13.296	13.279	13.274	13.242	13.188	13.172	13.155	13.136	13.122	13.080	13.026	13.016	12.995	12.972	12.918	12.864	12.846	
EXISTING SURFACE LEVEL	10.88	11.18	12.11	12.88	12.83	12.98	13.00	13.01	13.01	13.01	13.04	13.08	13.02	12.87	12.82	12.80	12.53	12.63	12.53	12.32	12.23	12.12	11.63	11.24	11.18	12.20	12.20	12.38	12.45	12.42	
CHAINAGE	450.00	460.00	480.00	490.15	500.00	508.89	520.00	534.46	540.00	542.58	547.22	560.00	580.00	600.00	606.30	608.35	620.00	640.00	646.05	652.28	659.41	664.61	680.00	700.00	704.00	711.80	720.00	740.00	760.00	770.00	

LONGITUDINAL SECTION  
SCALE HORIZ 1:1000, VERT 1:100

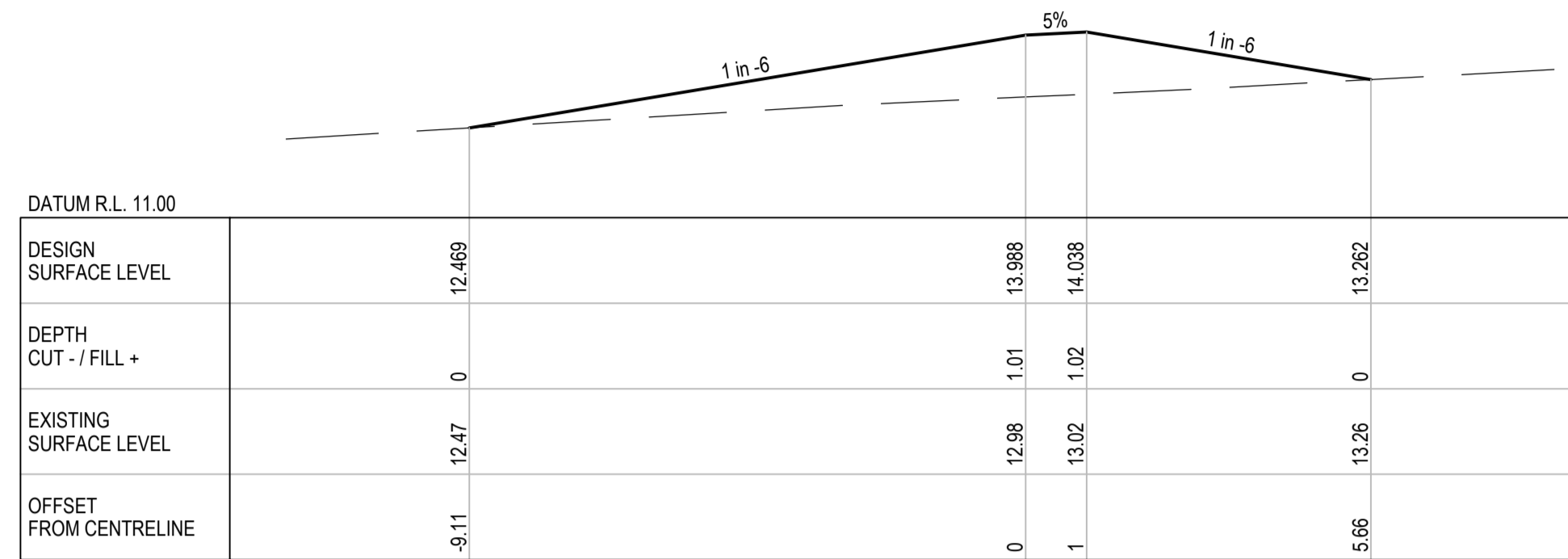
**NOTES**  
1. REFER TO DRG. NO. 42-20085-C001 FOR LEGEND AND ALL OTHER NOTES.

**PRELIMINARY**

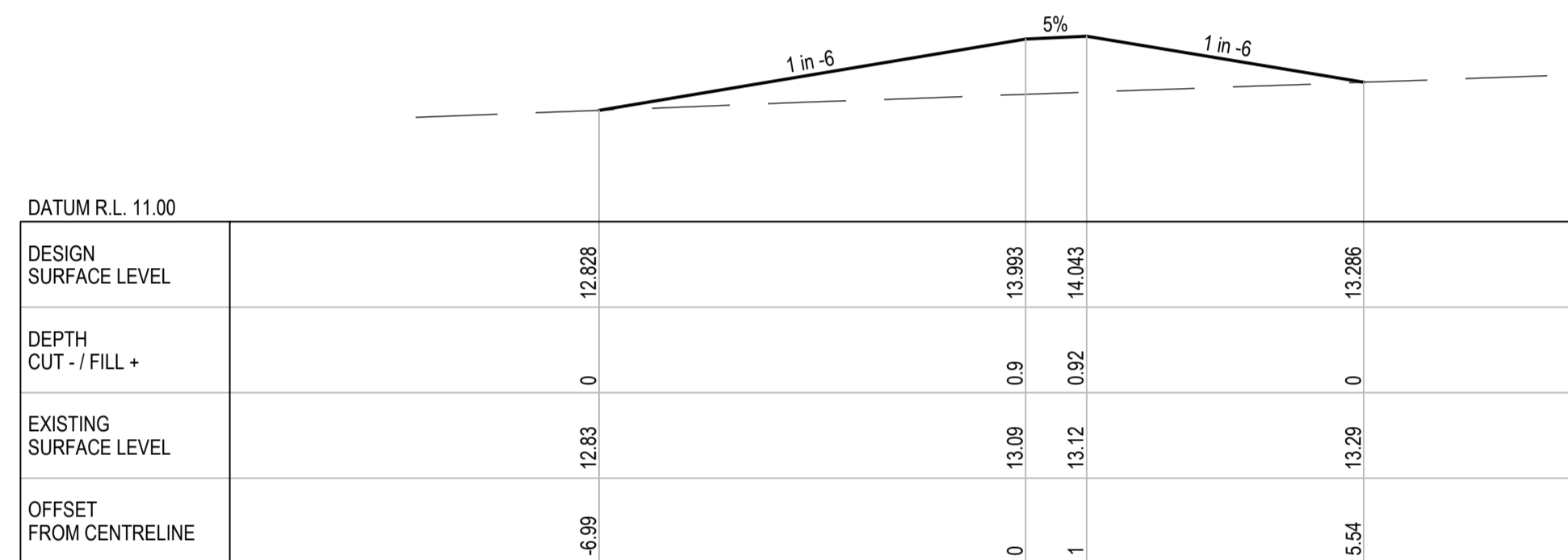
No	Revision	Note	Drawn	Job Manager	Project Director	Date
A	PRELIMINARY ISSUE		JST	JAG*	JAG*	17.11.17



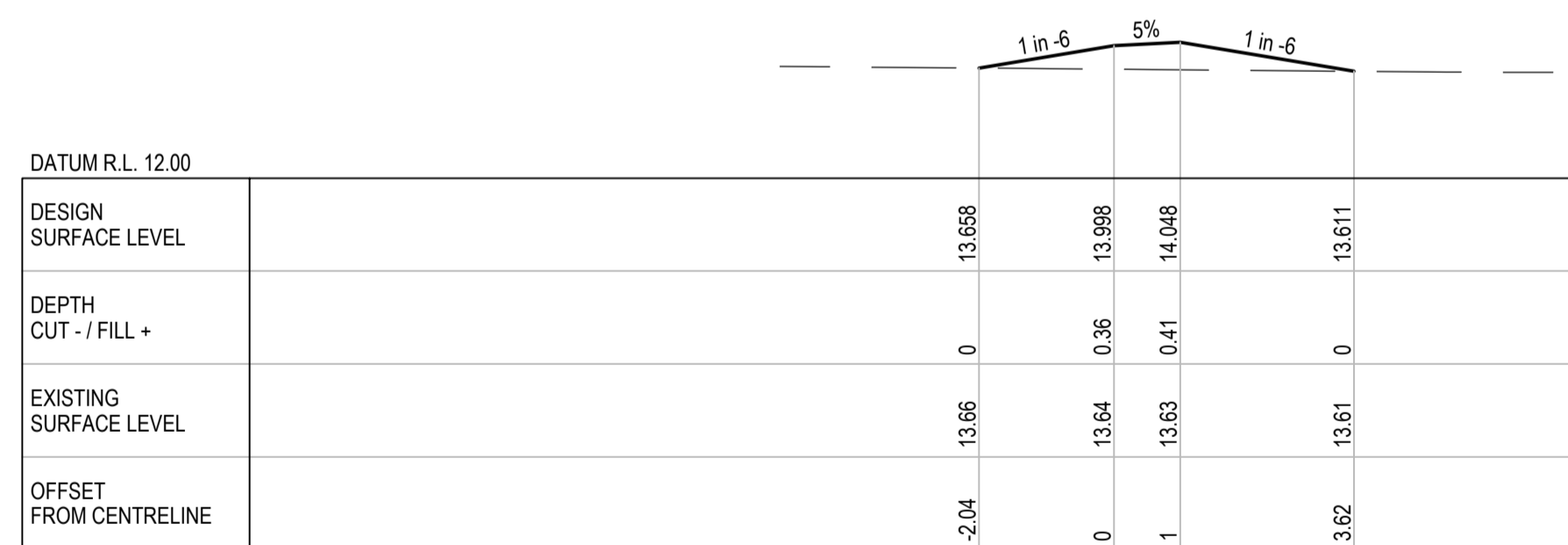
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		Drafting Check	Design Check	<b>MARRS CREEK FLOOD LEVEE</b>
		Approved (Project Director)	Date	<b>PLAN AND LONGITUDINAL SECTION</b>
		Scale AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	<b>SHEET 2 OF 2</b>
				Original Size <b>A1</b> Drawing No: <b>42-20085-C003</b>
				Rev: <b>A</b>



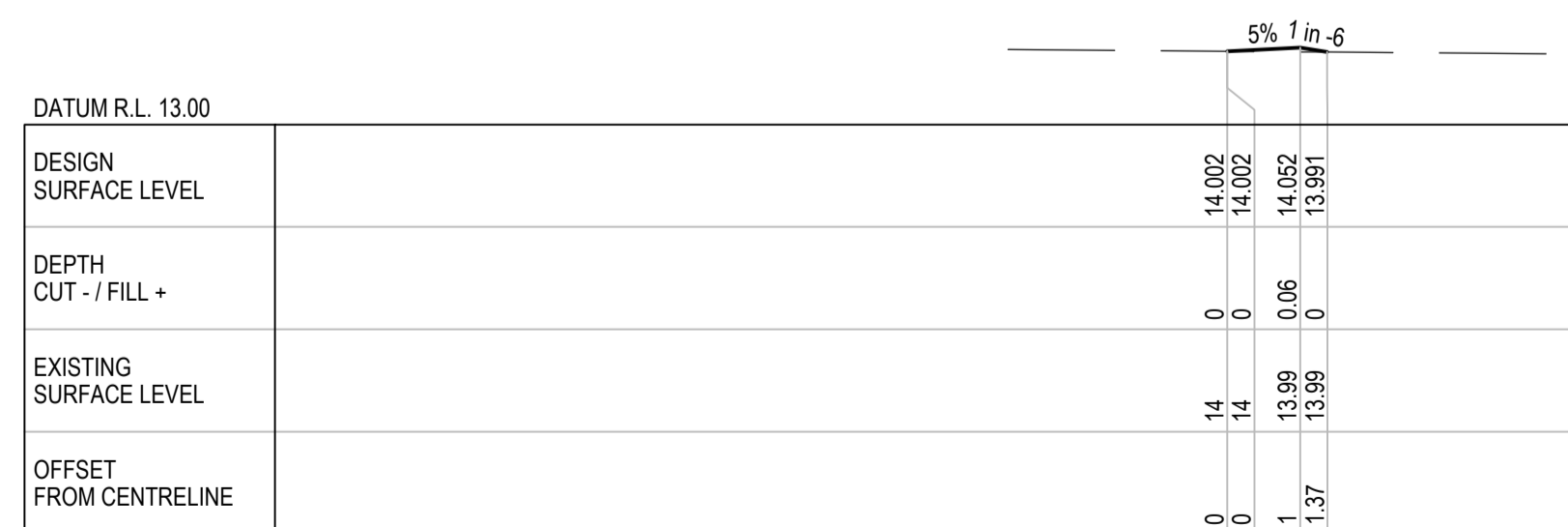
CH 75



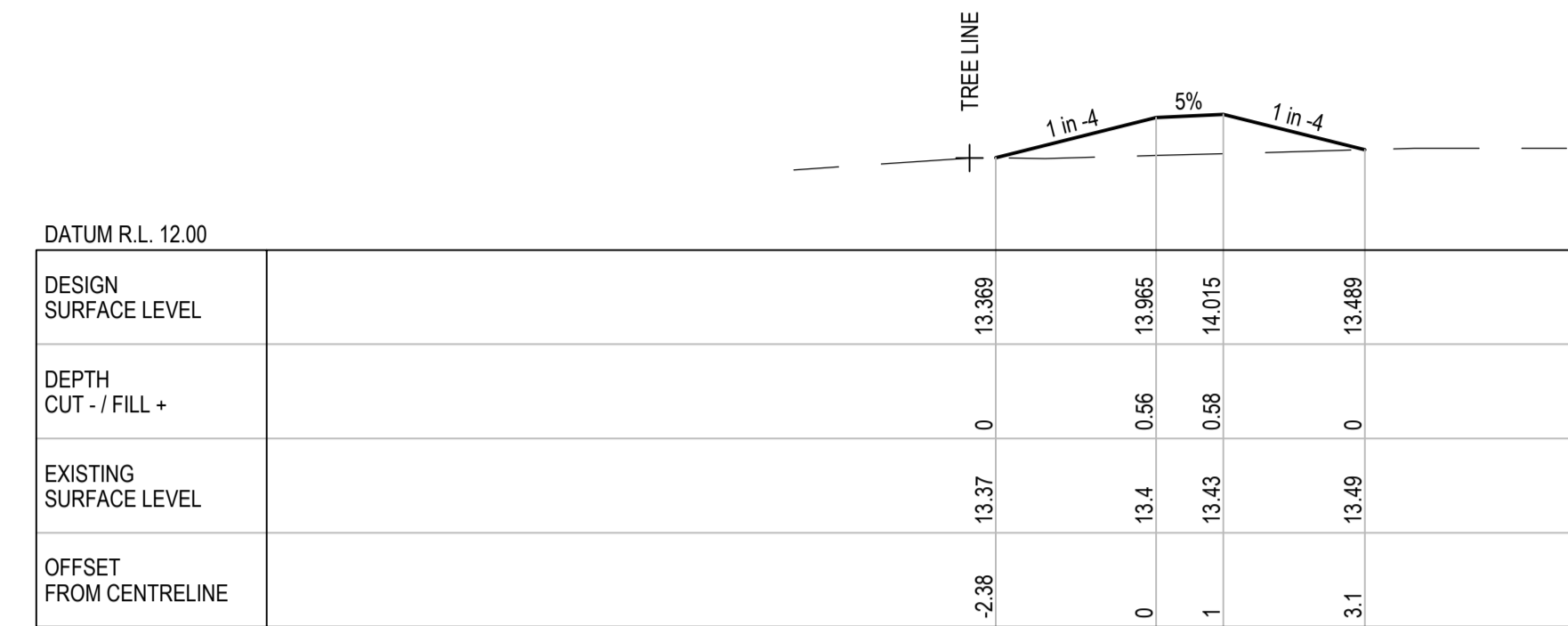
CH 50



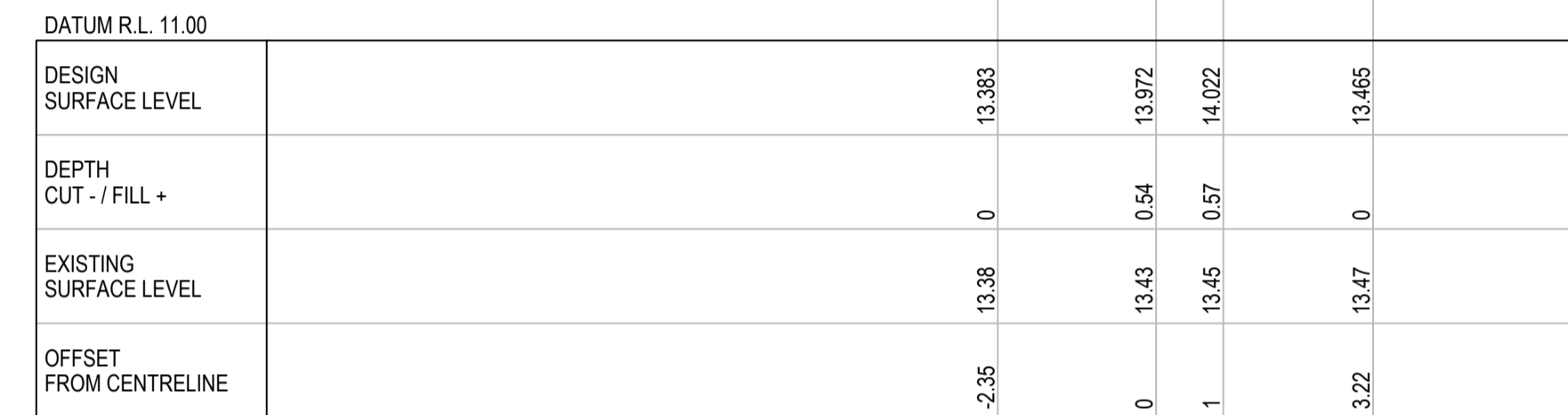
CH 25



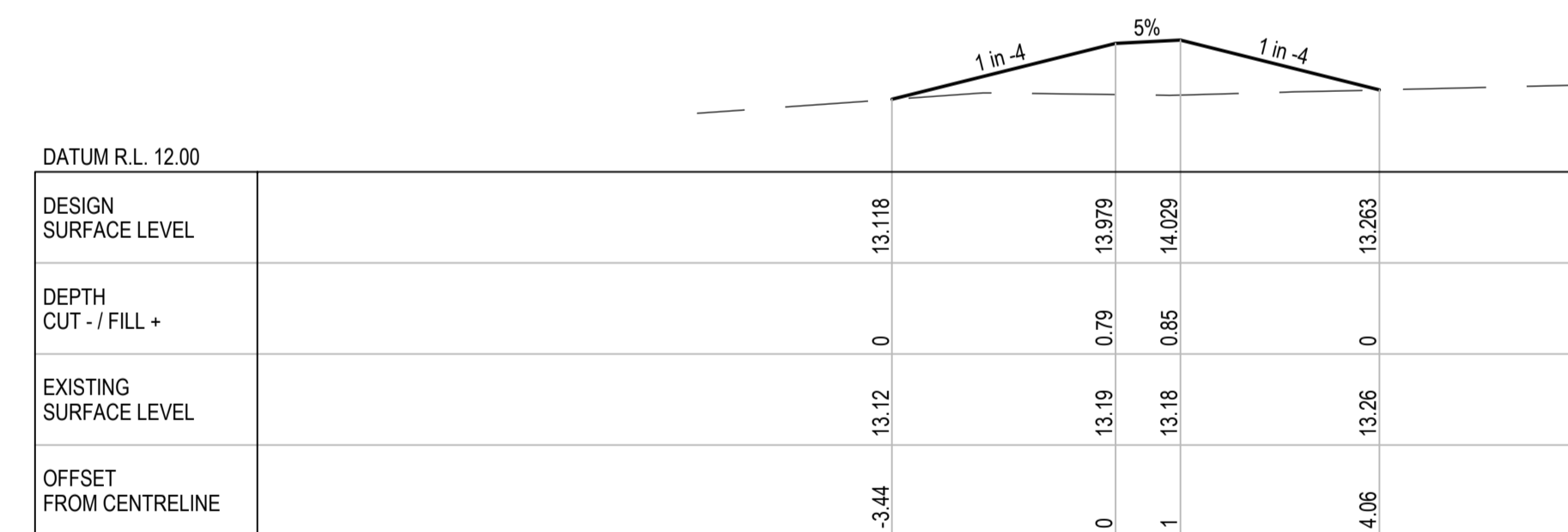
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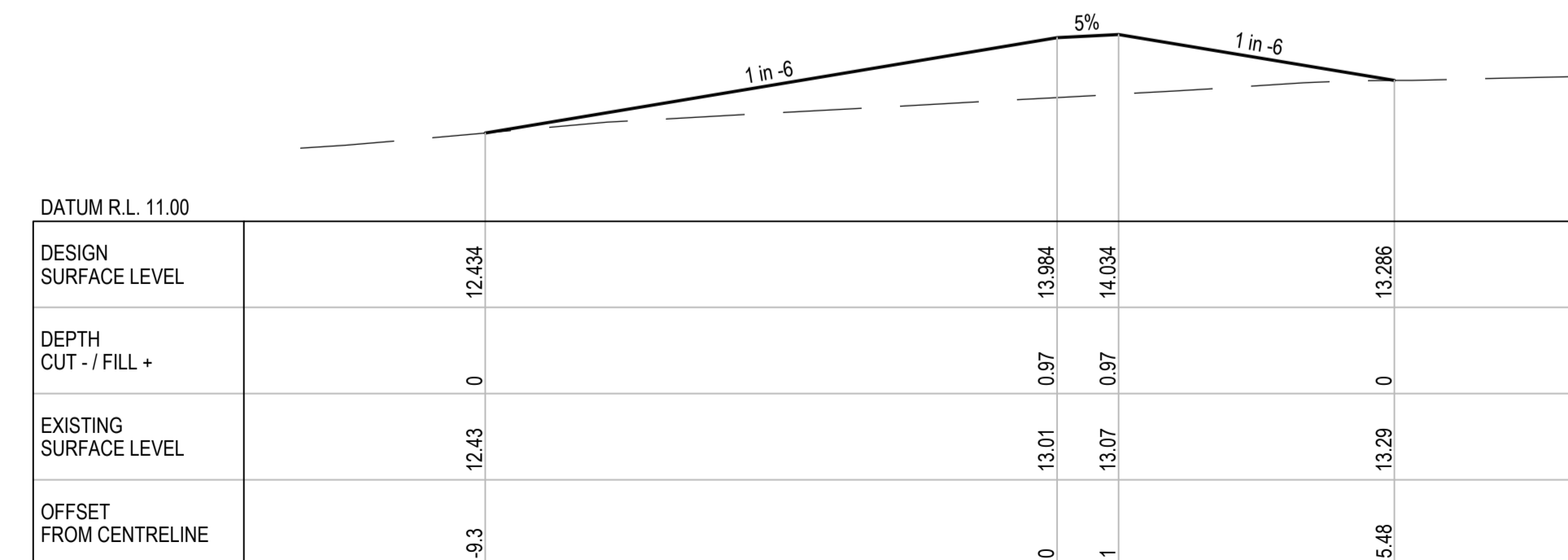
CH 175



CH 150



CH 125



CH 100



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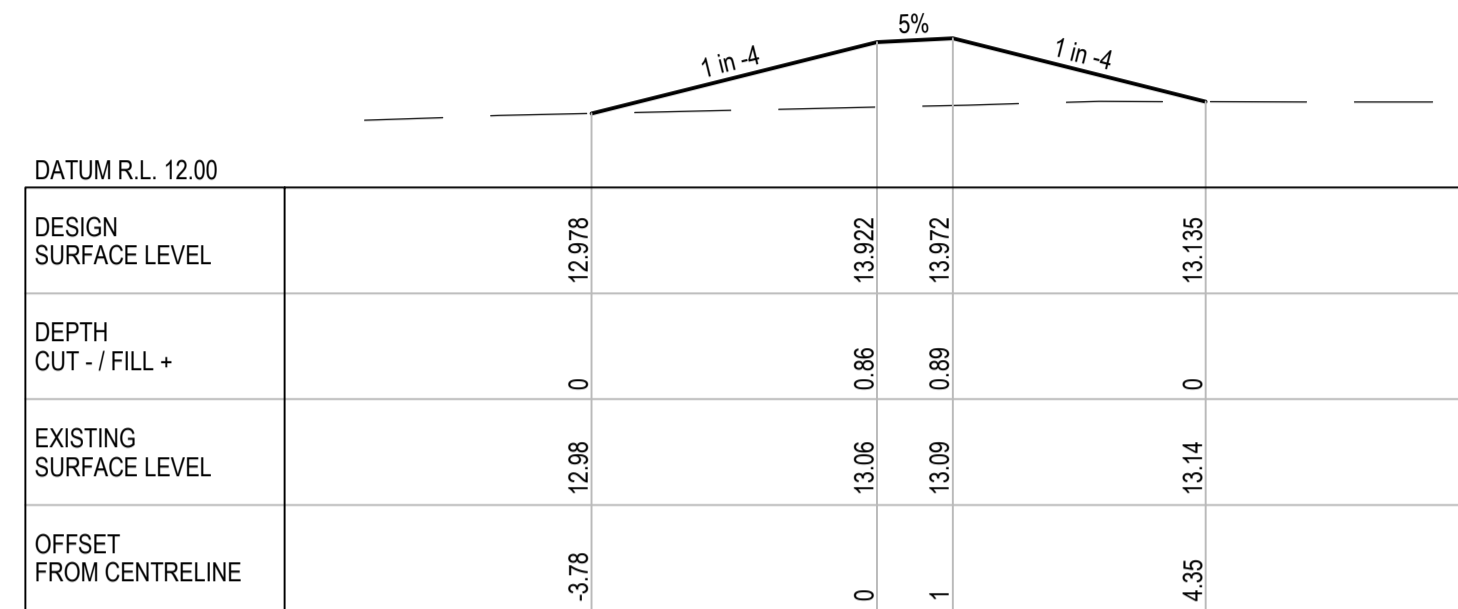
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Drafting Check		Design Check	
Approved (Project Director)		Date	
Scale	1:100	This Drawing must not be used for Construction unless signed as Approved	

Client **DOUGLAS SHIRE COUNCIL**  
 Project **MARRS CREEK FLOOD LEVEE**  
 Title **ANNOTATED CROSS SECTIONS SHEET 1 OF 4**

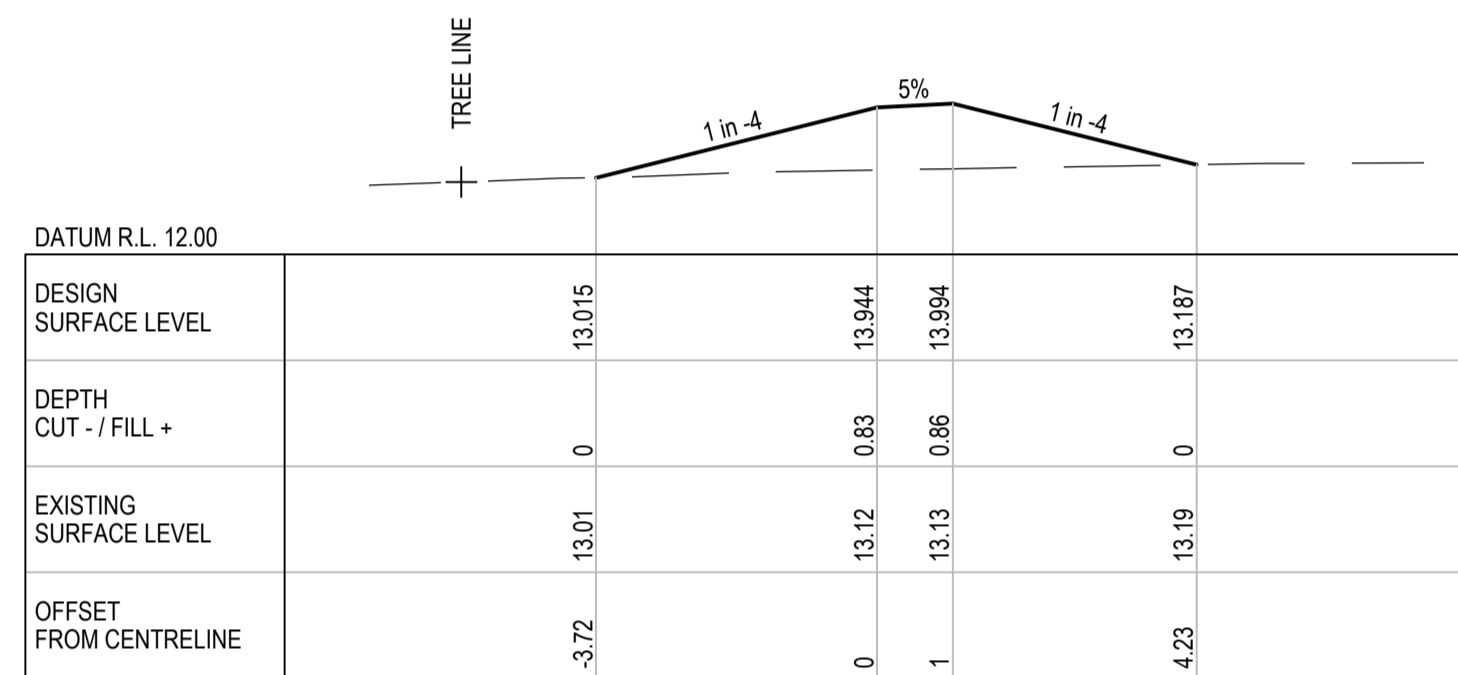
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Rev: **A**

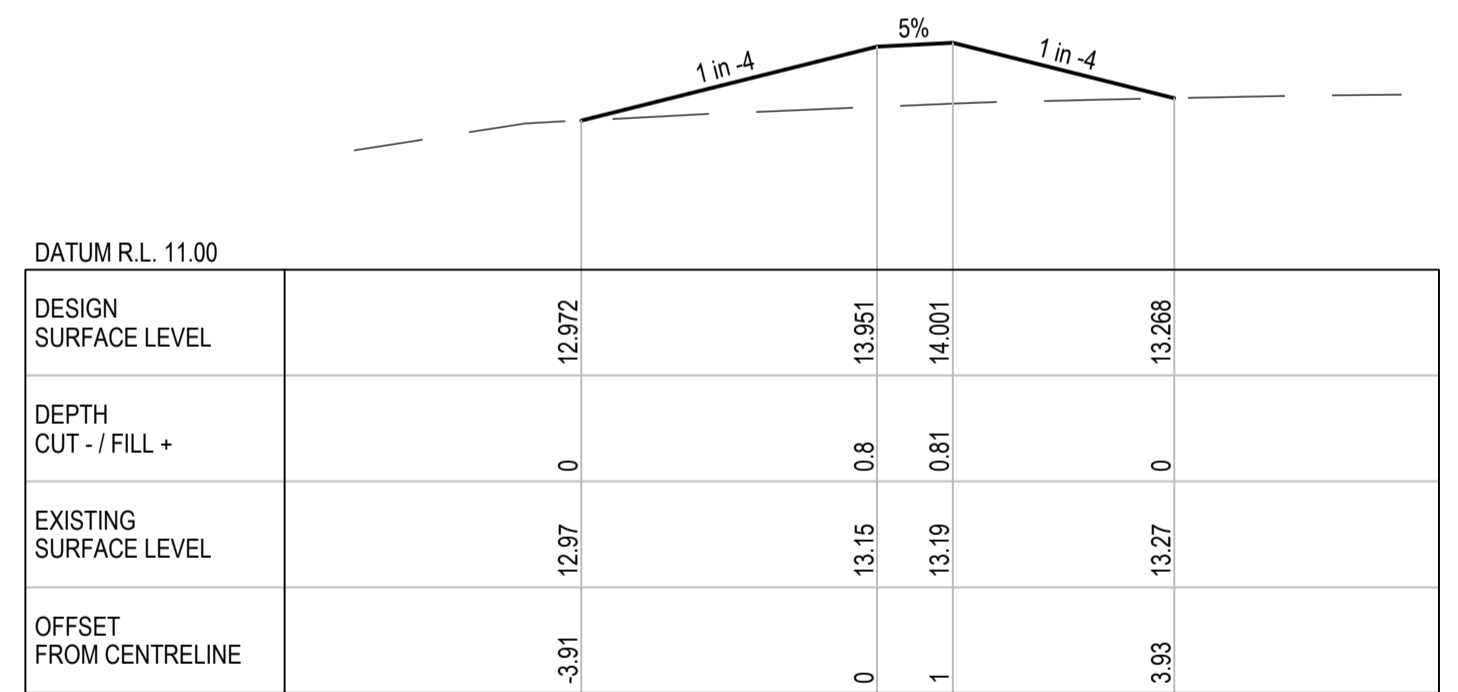
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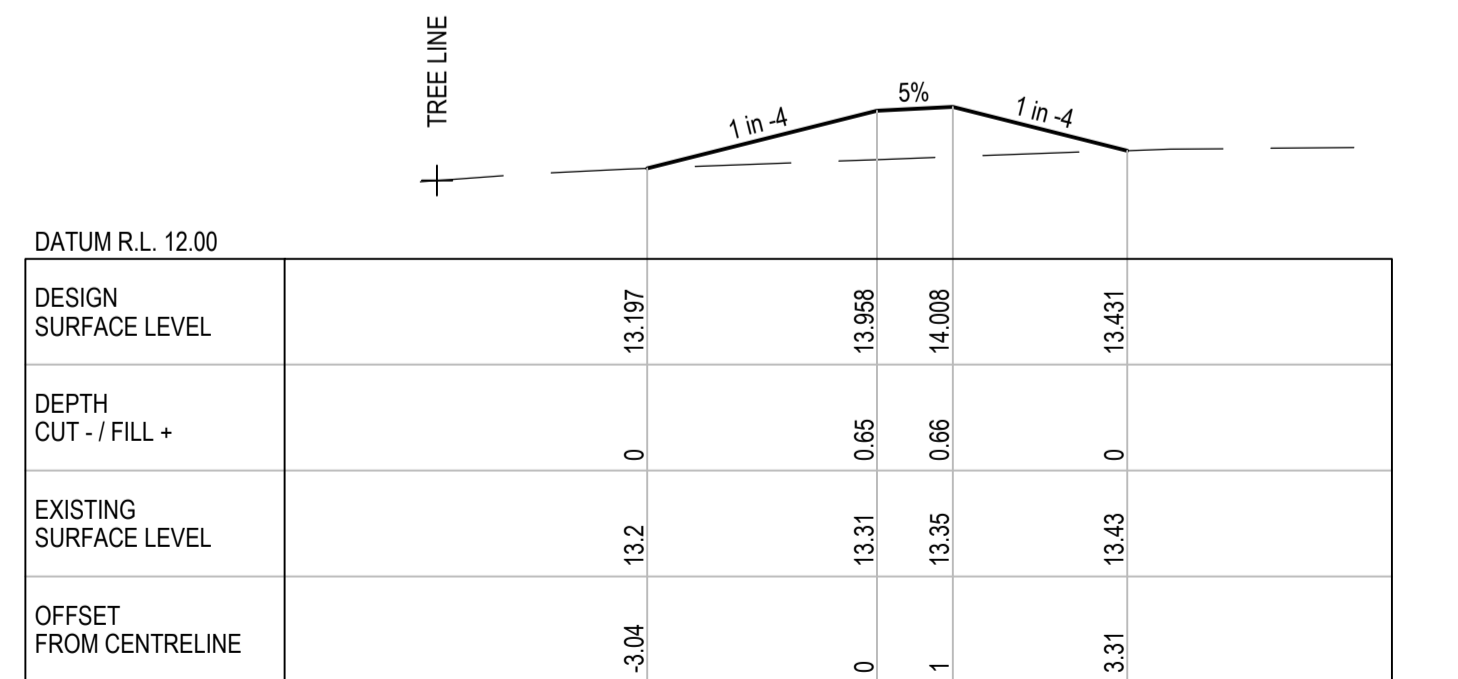
CH 275



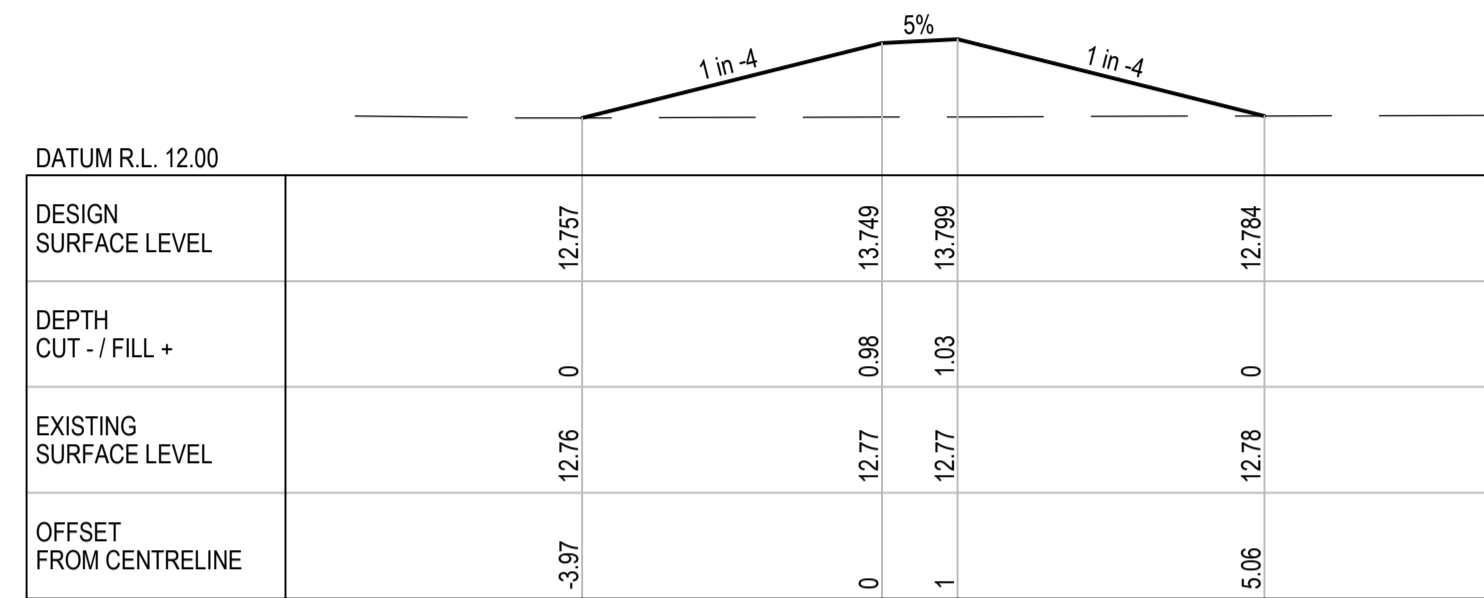
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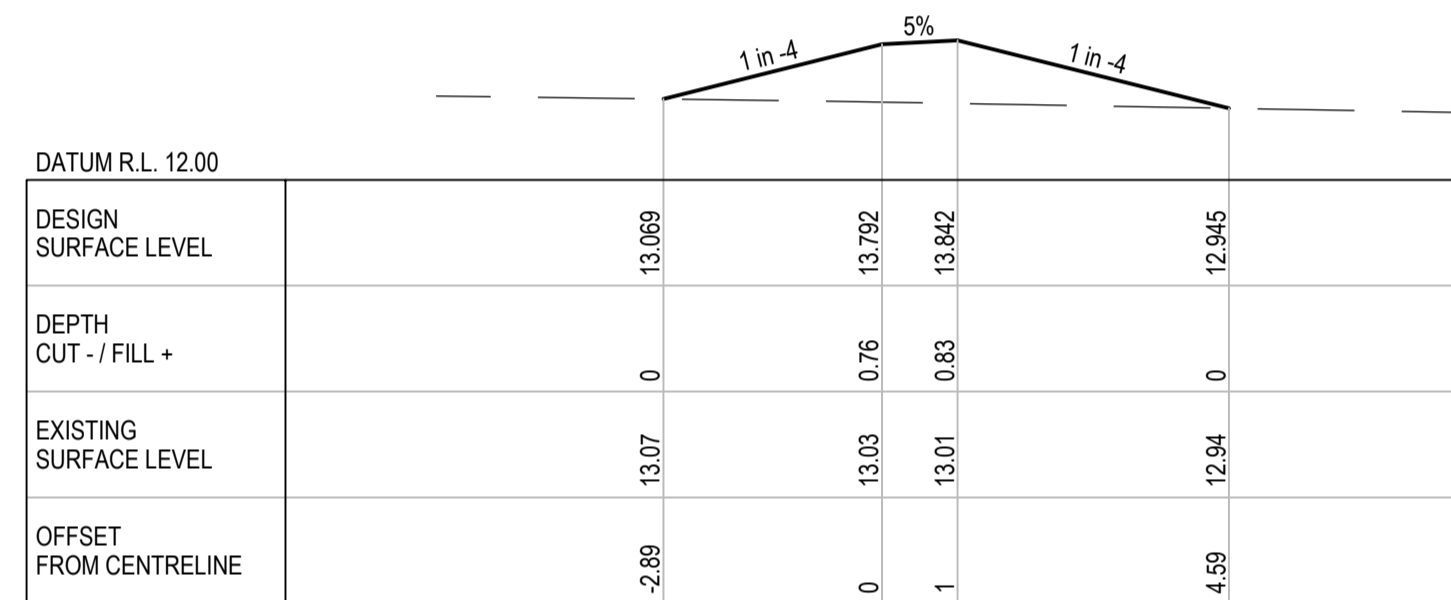
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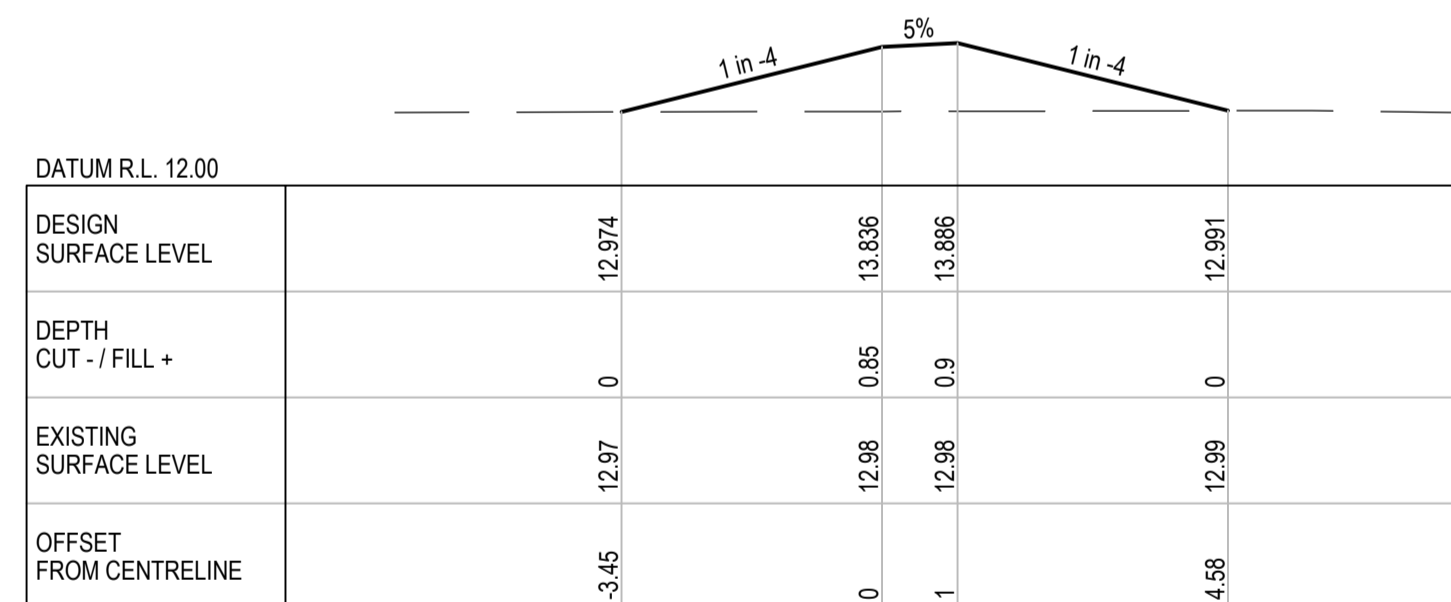
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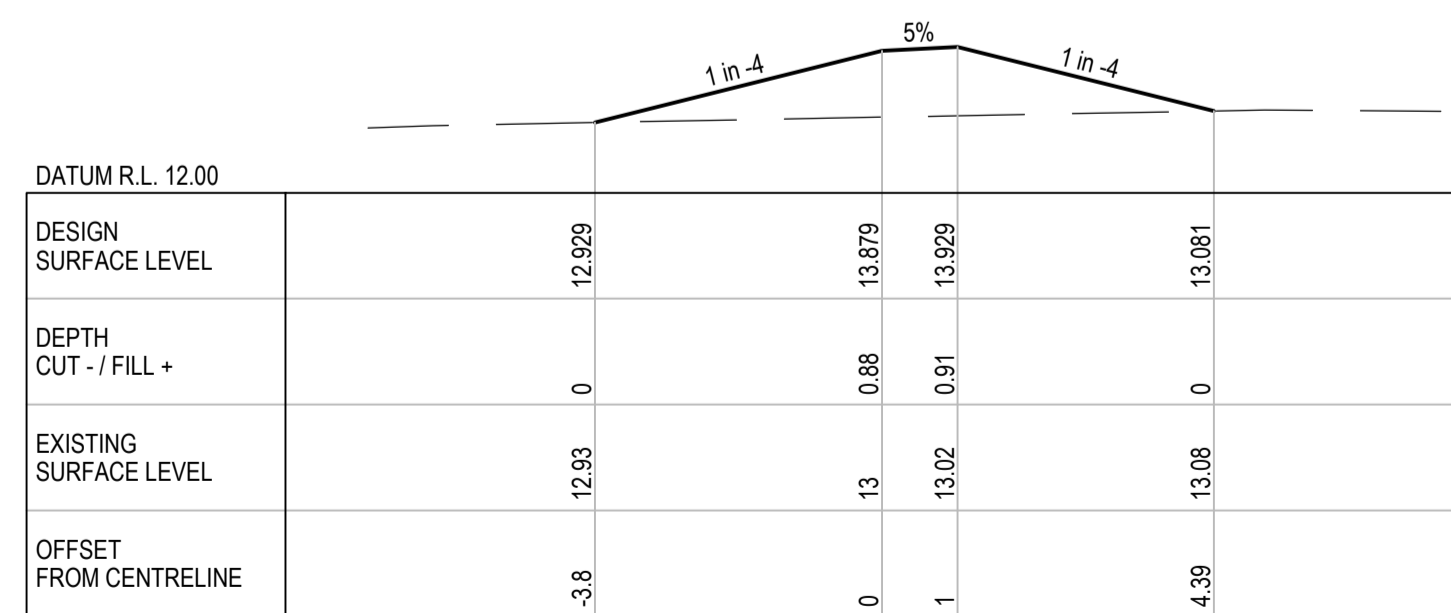
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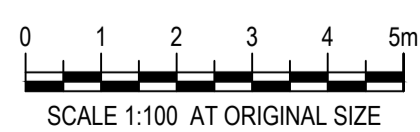
CH 350



CH 325



CH 300



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Designer J. TOWNSON

Drafting Check

Design Check

Approved (Project Director)

Date

Scale 1:100

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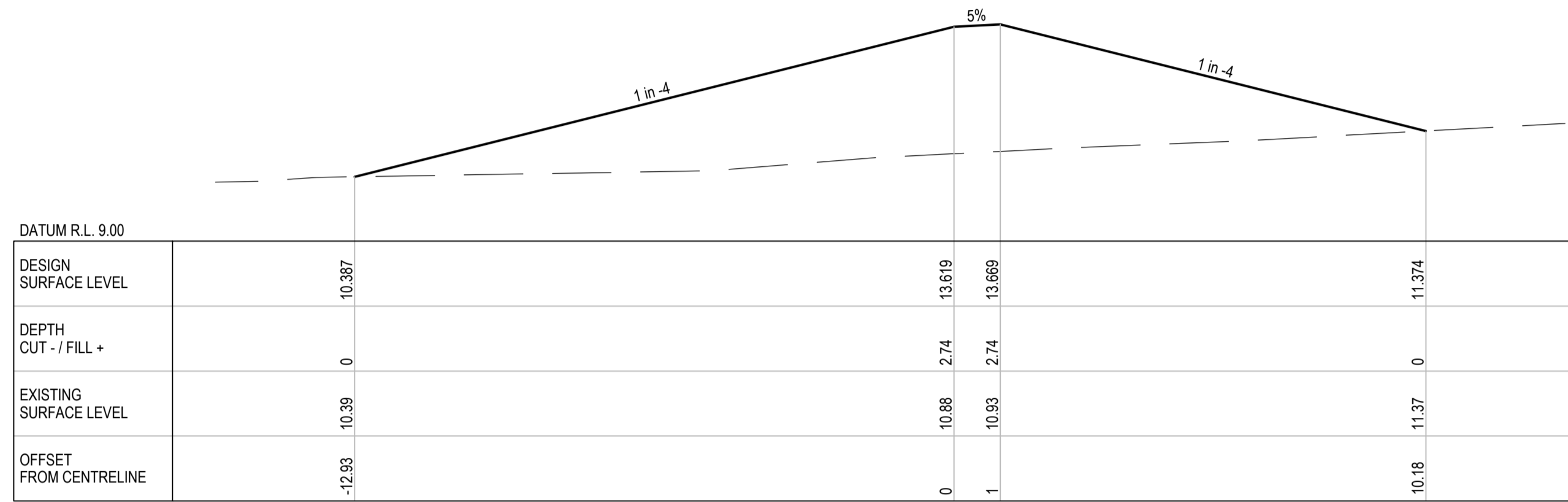
Client **DOUGLAS SHIRE COUNCIL**  
 Project **MARRS CREEK FLOOD LEVEE**  
 Title **ANNOTATED CROSS SECTIONS SHEET 2 OF 4**

Original Size **A1** Drawing No: **42-20085-C005**

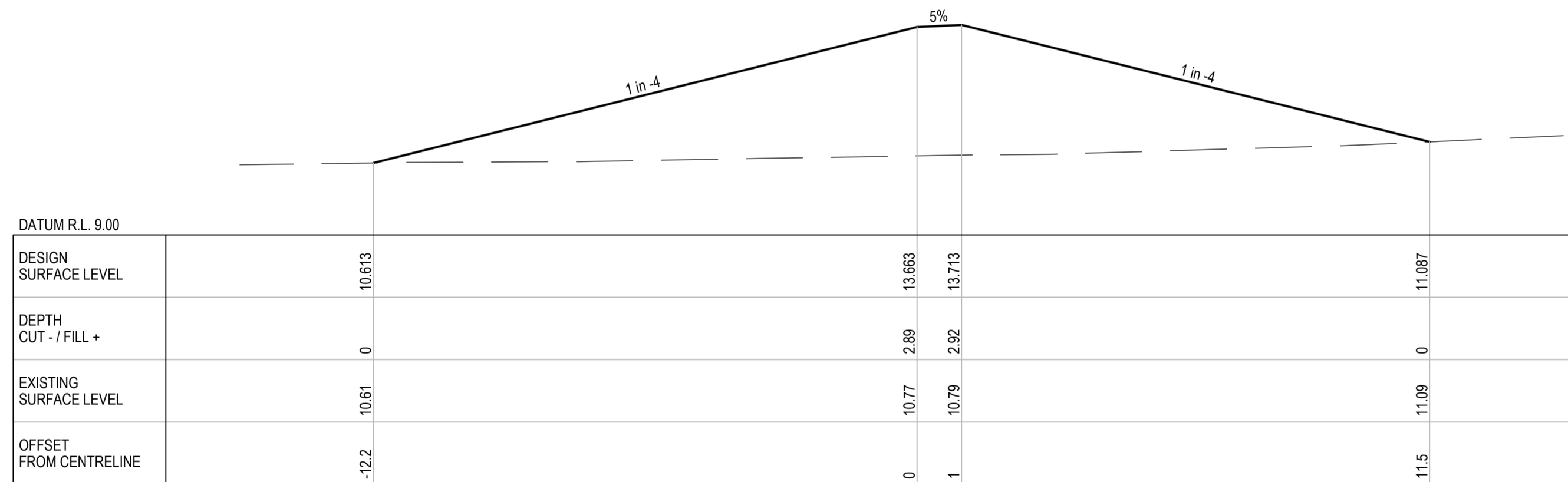
Rev: **A**

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A	PRELIMINARY ISSUE		JST	JAG*	JAG*	17.11.17

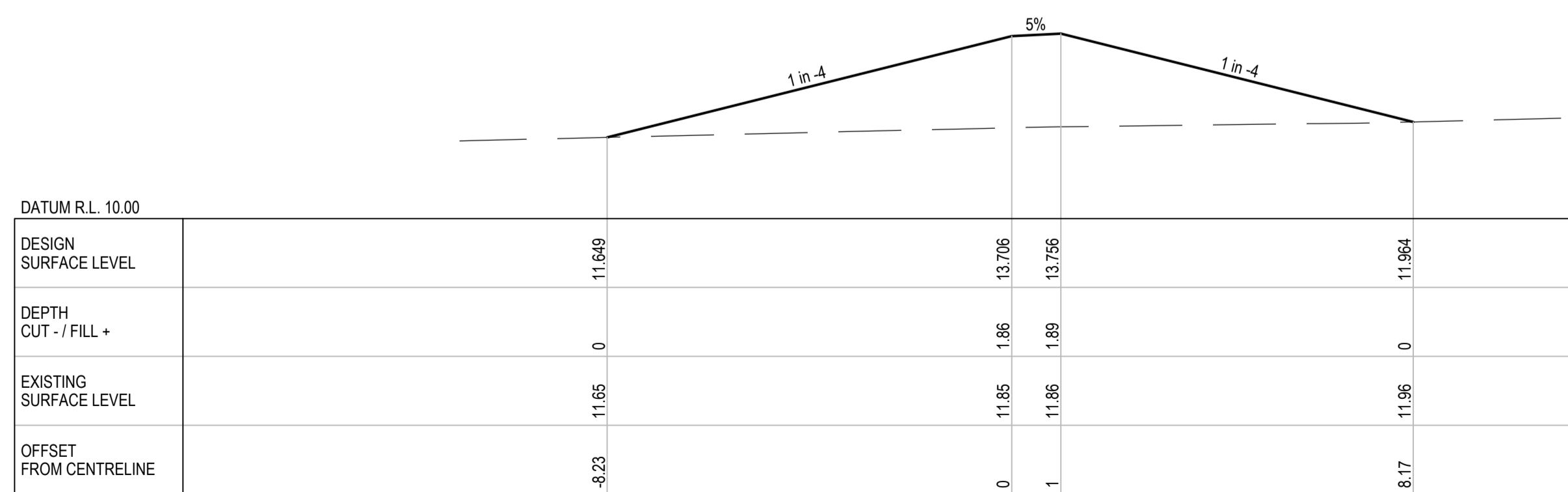
**PRELIMINARY**



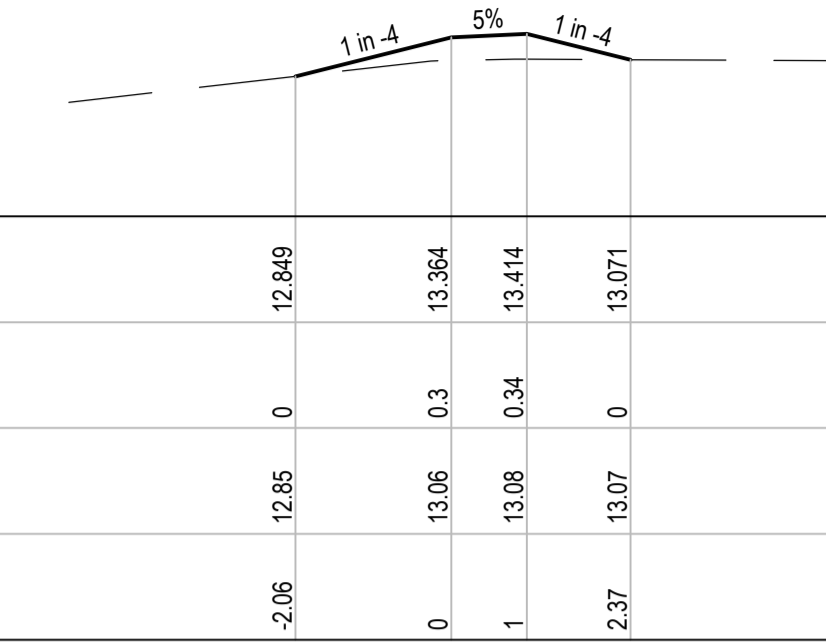
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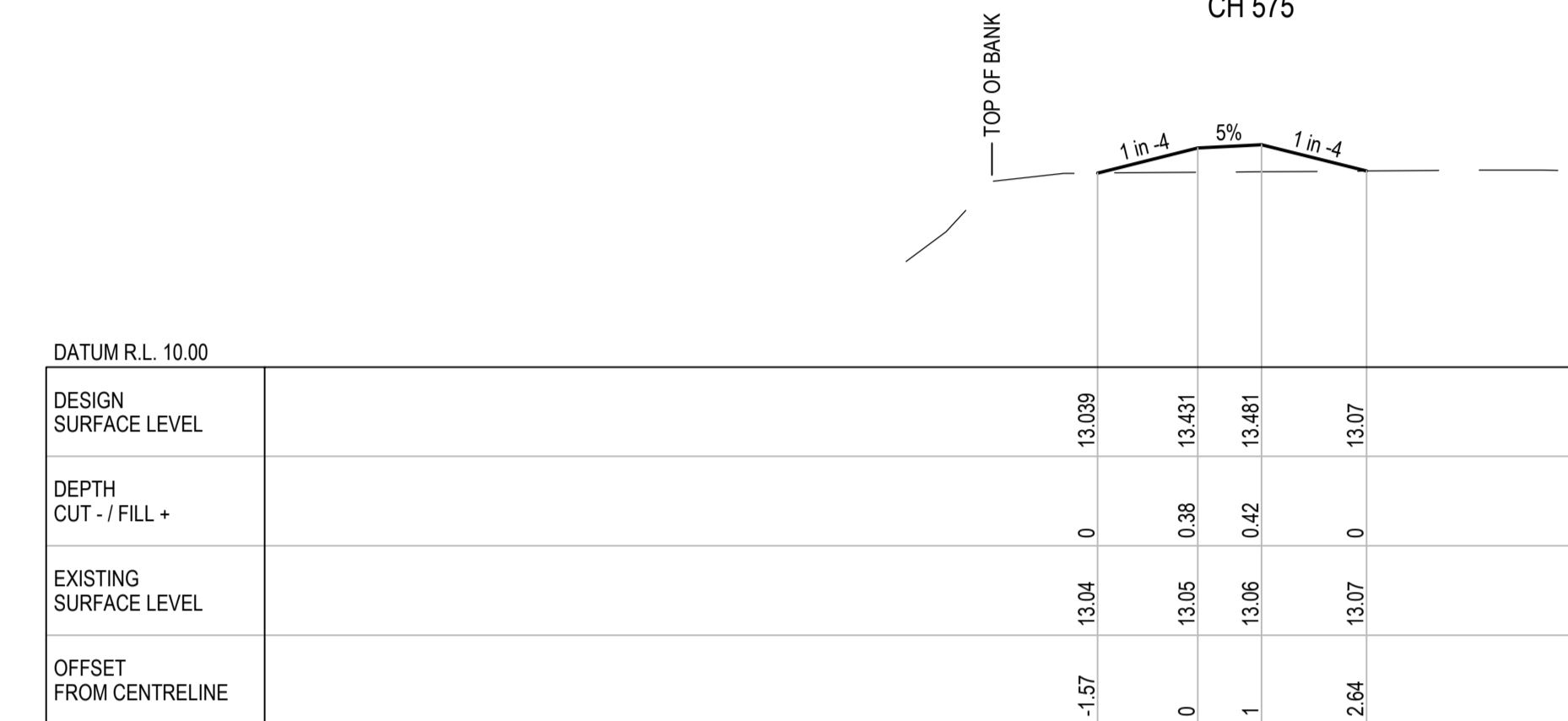
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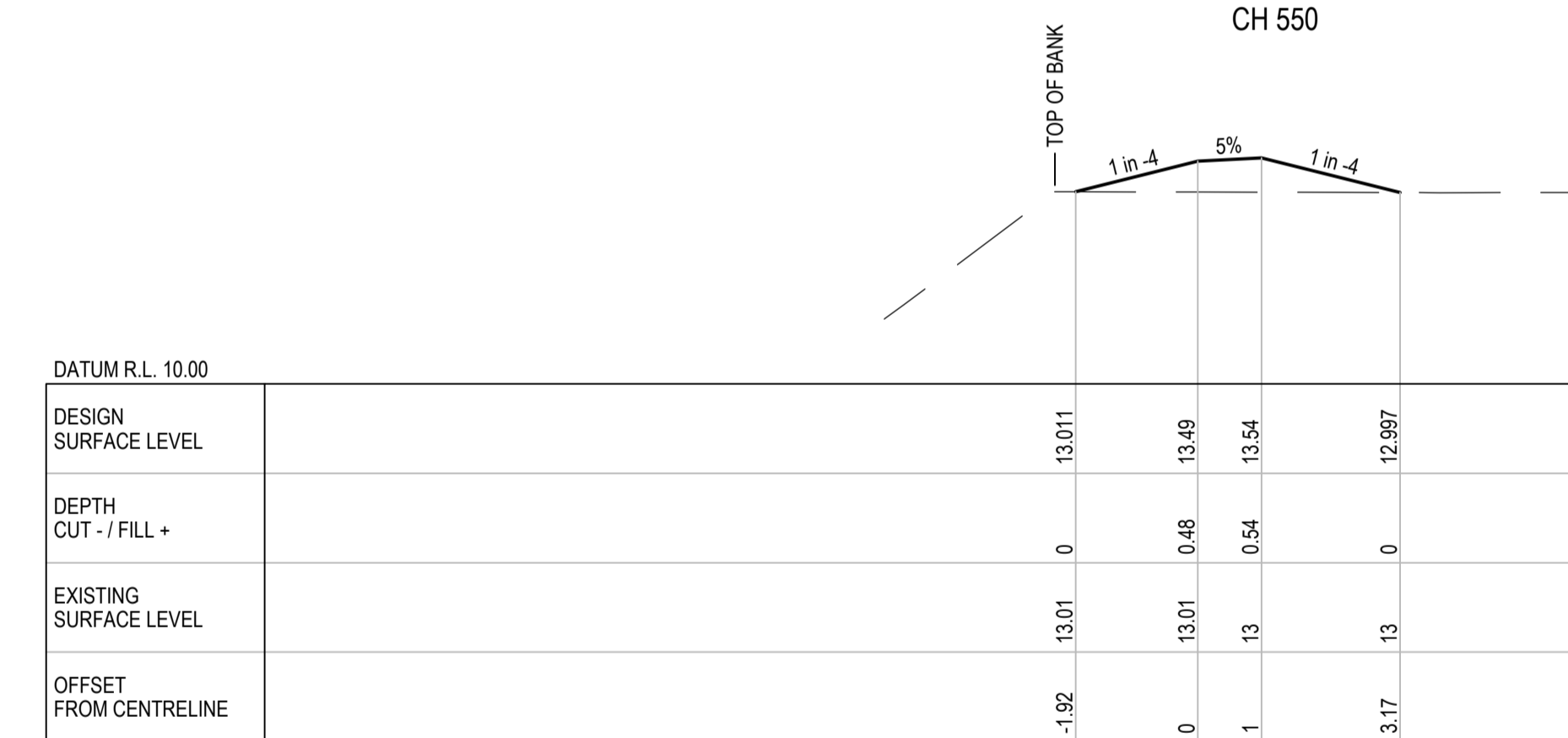
CH 400



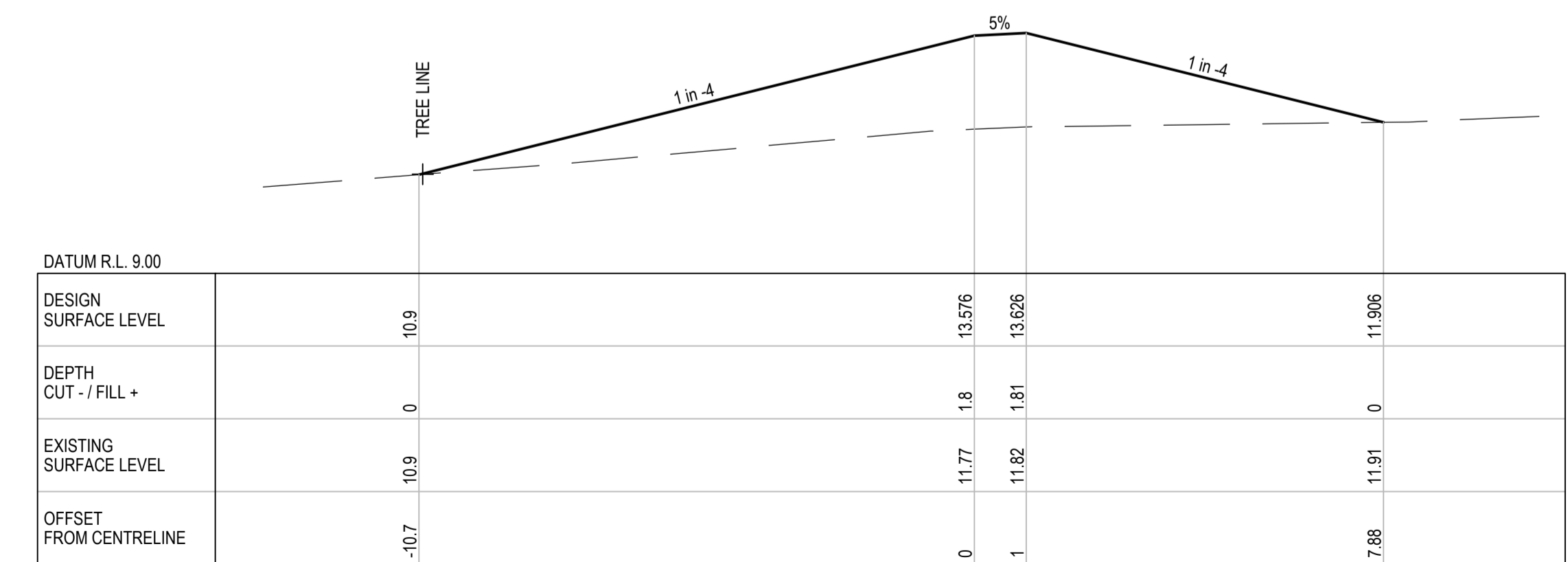
CH 575



CH 550



CH 525



CH 475

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A	PRELIMINARY ISSUE		JST	JAG*	JAG*	17.11.17



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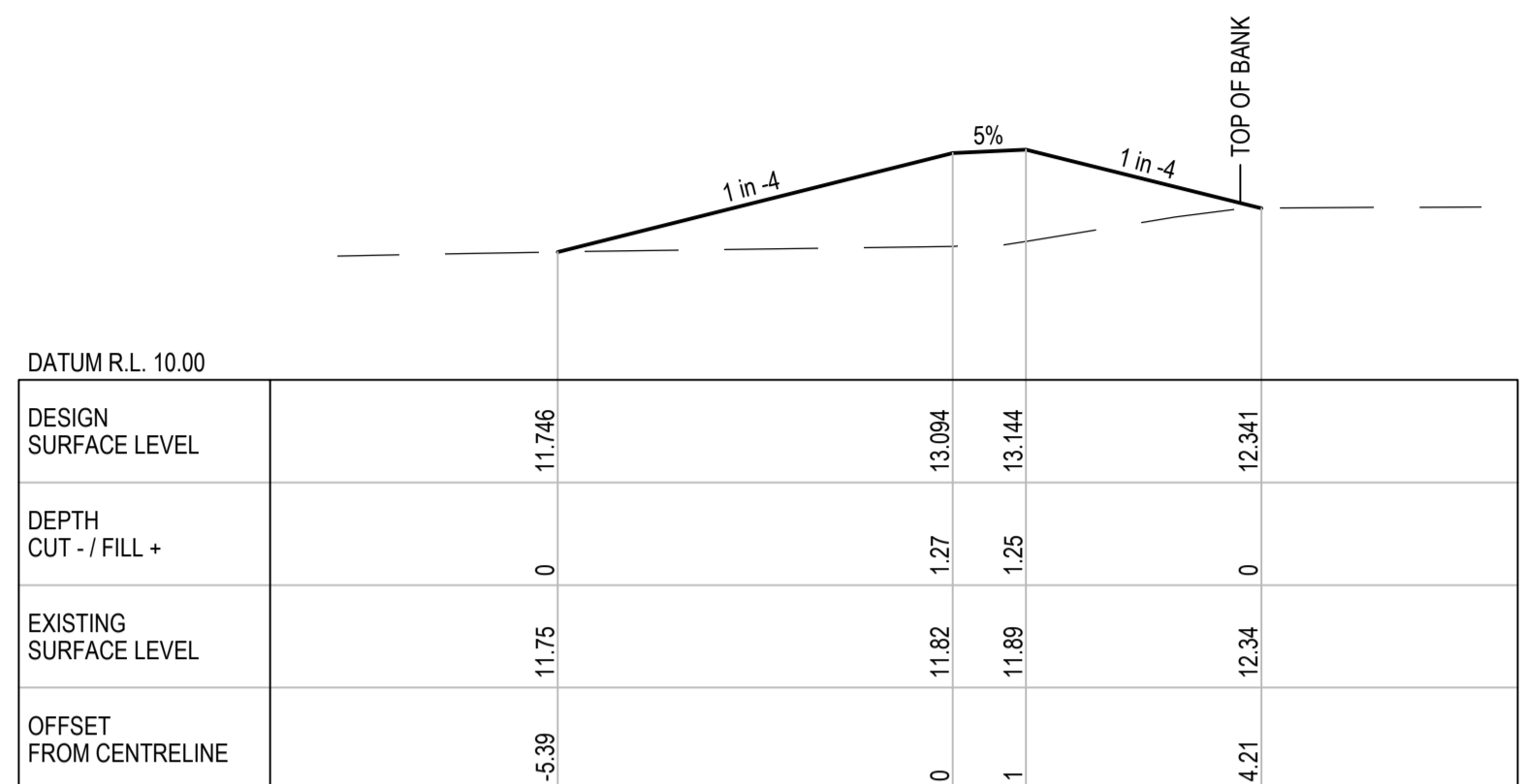
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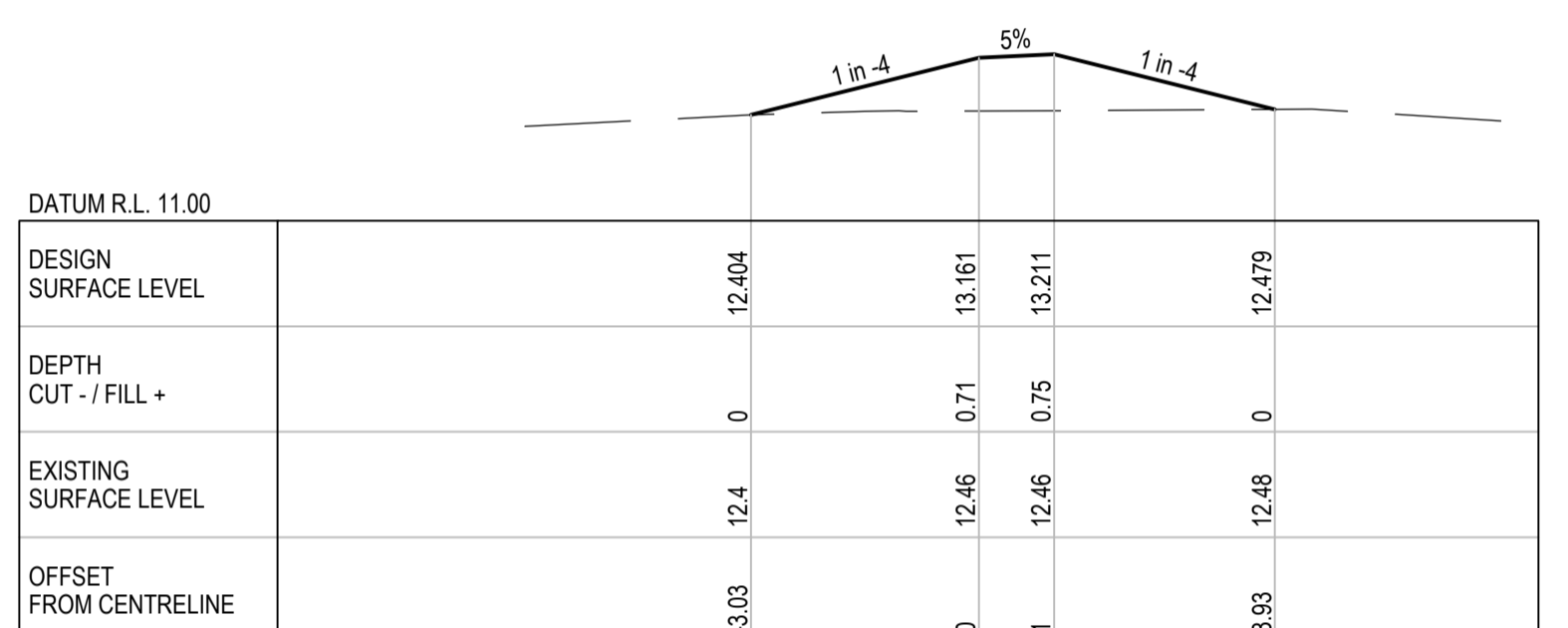
Client **DOUGLAS SHIRE COUNCIL**  
 Project **MARRS CREEK FLOOD LEVEE**  
 Title **ANNOTATED CROSS SECTIONS SHEET 3 OF 4**

Original Size **A1** Drawing No: **42-20085-C006**

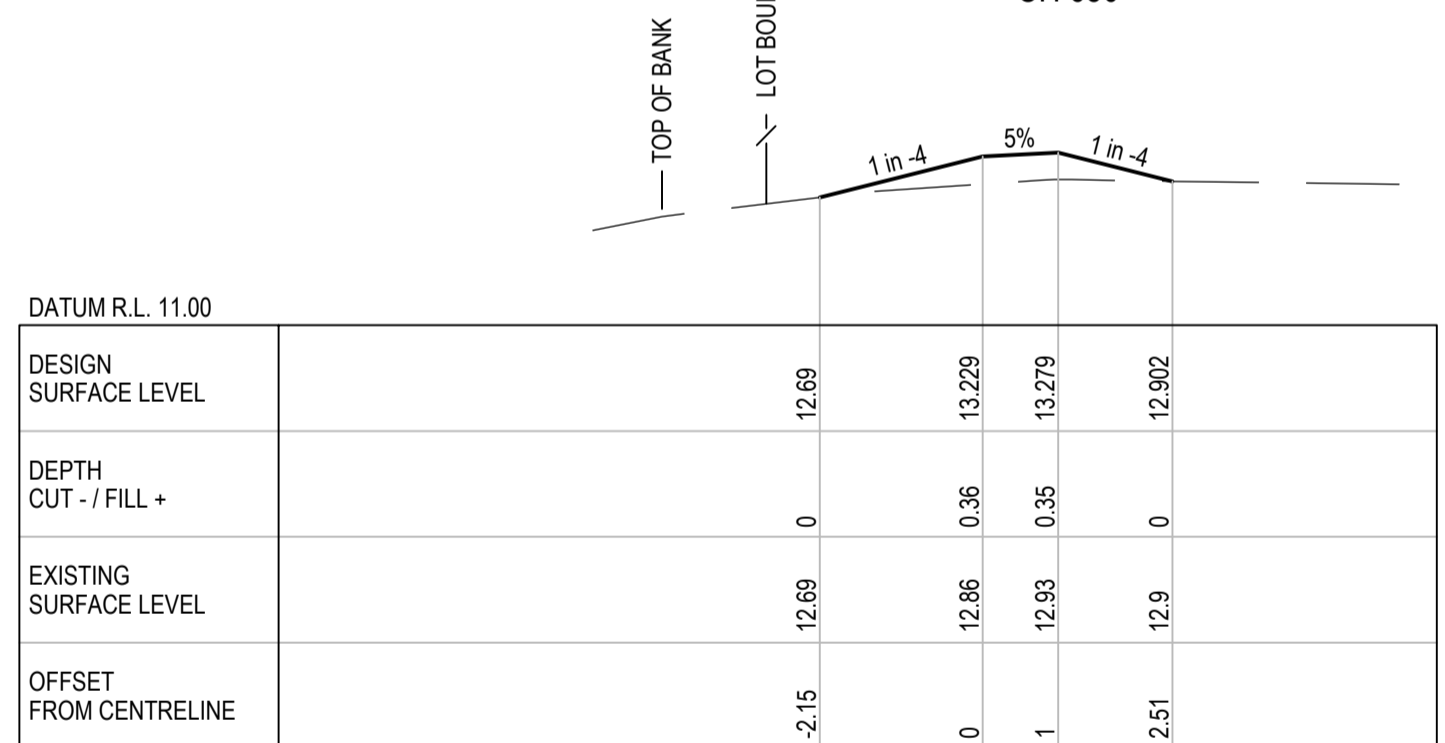
Rev: **A**



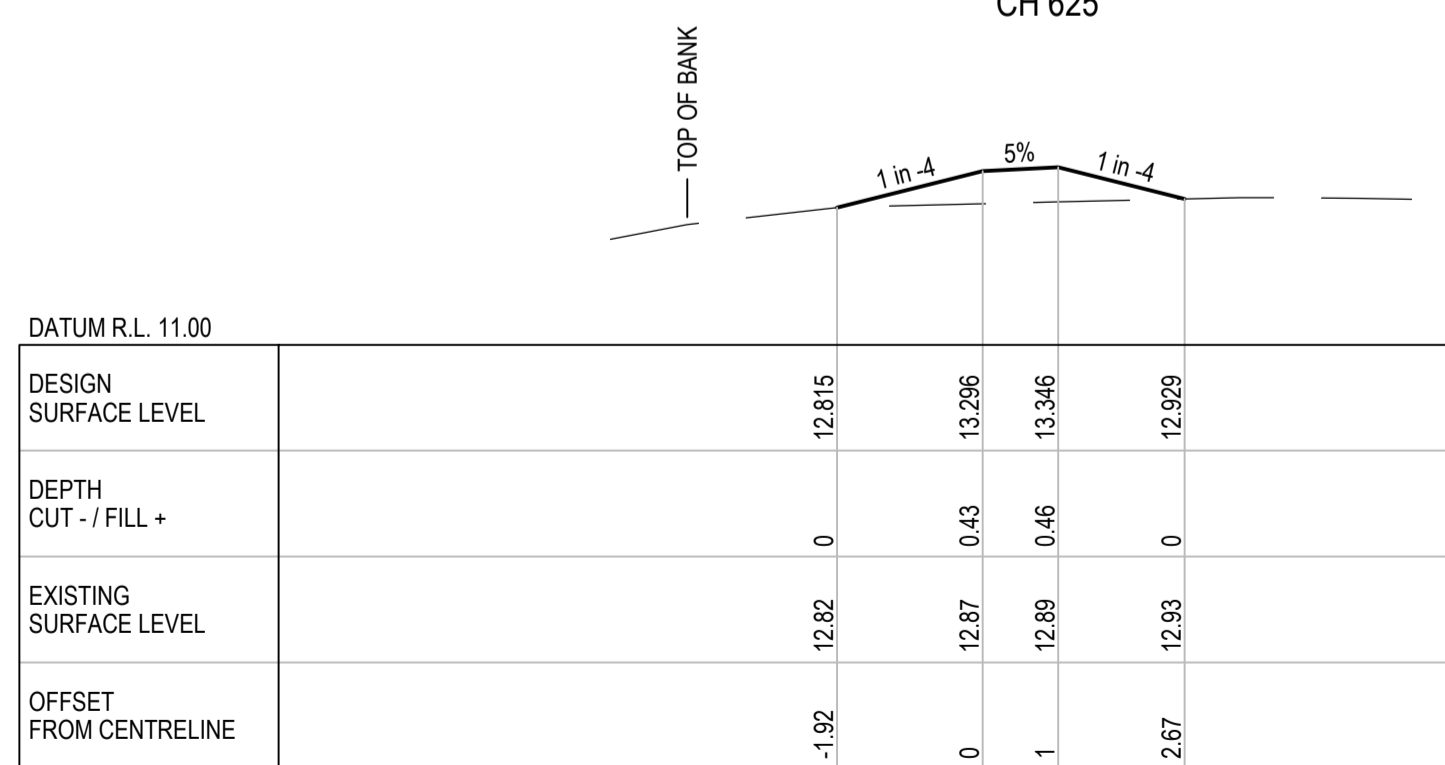
CH 675



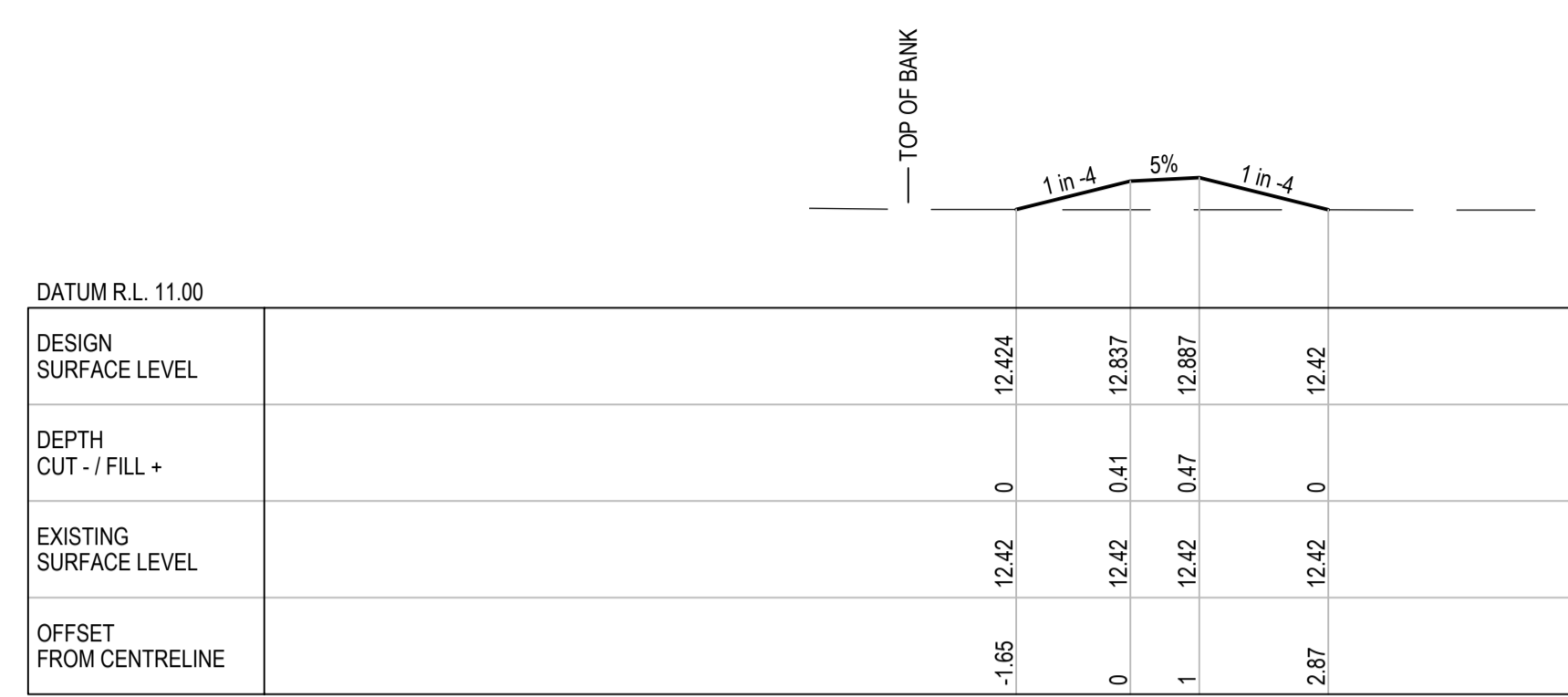
CH 650



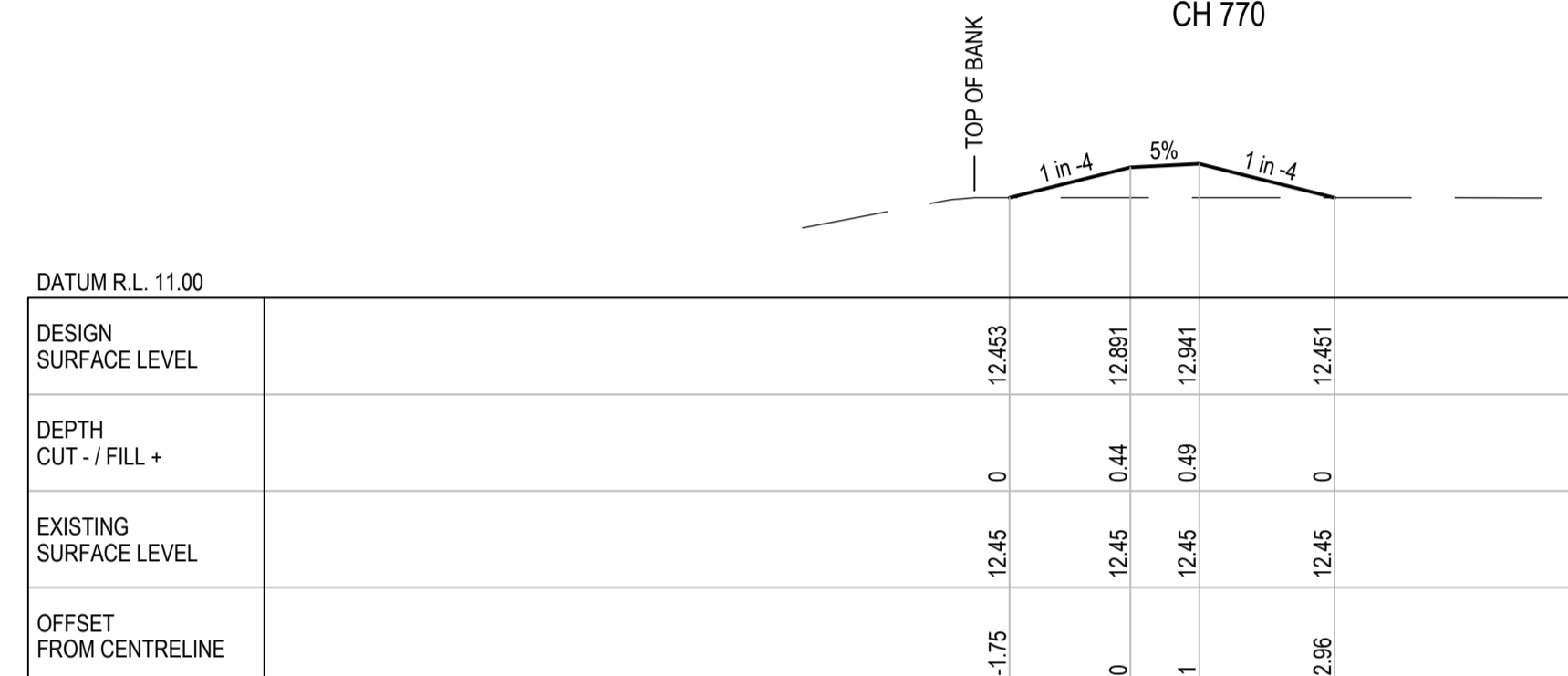
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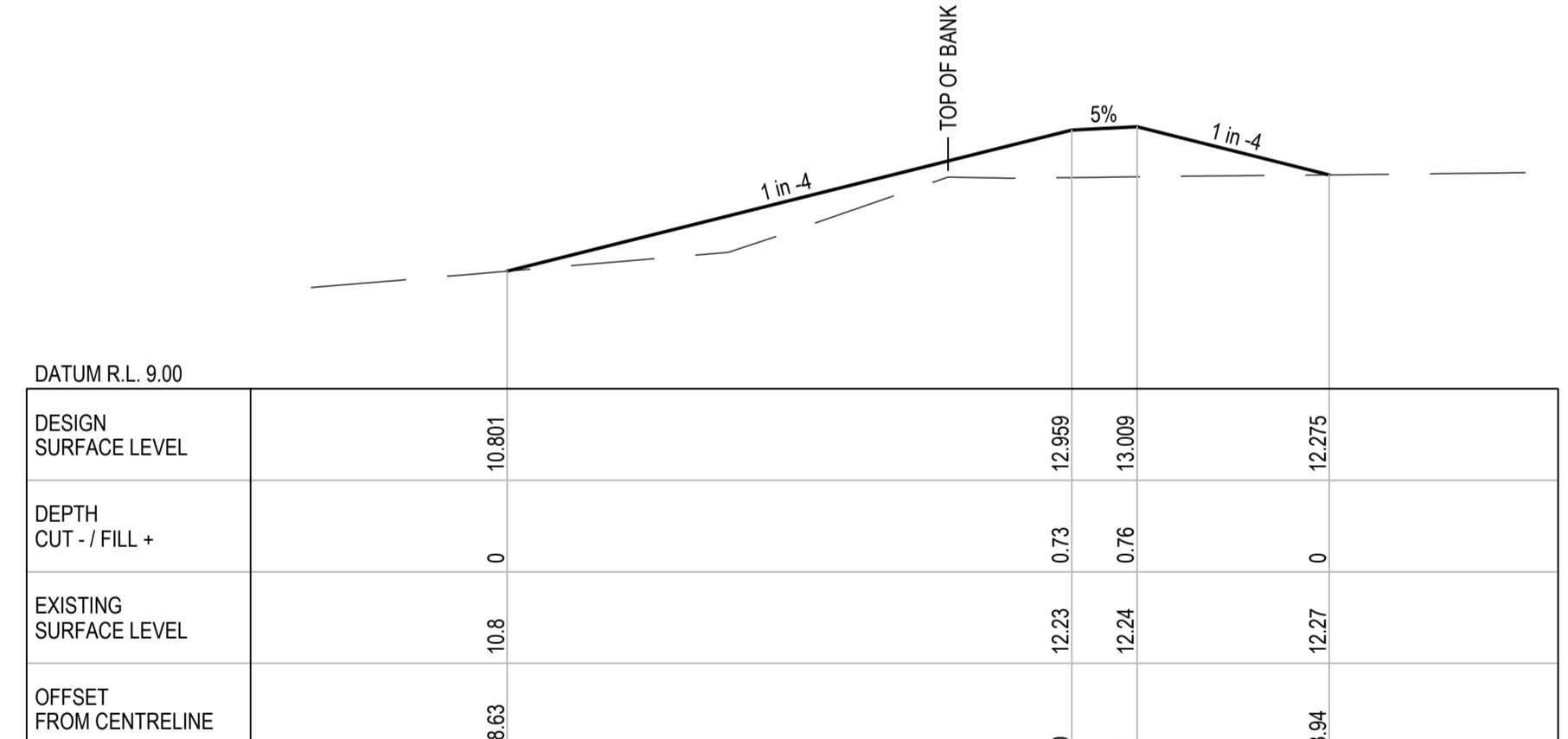
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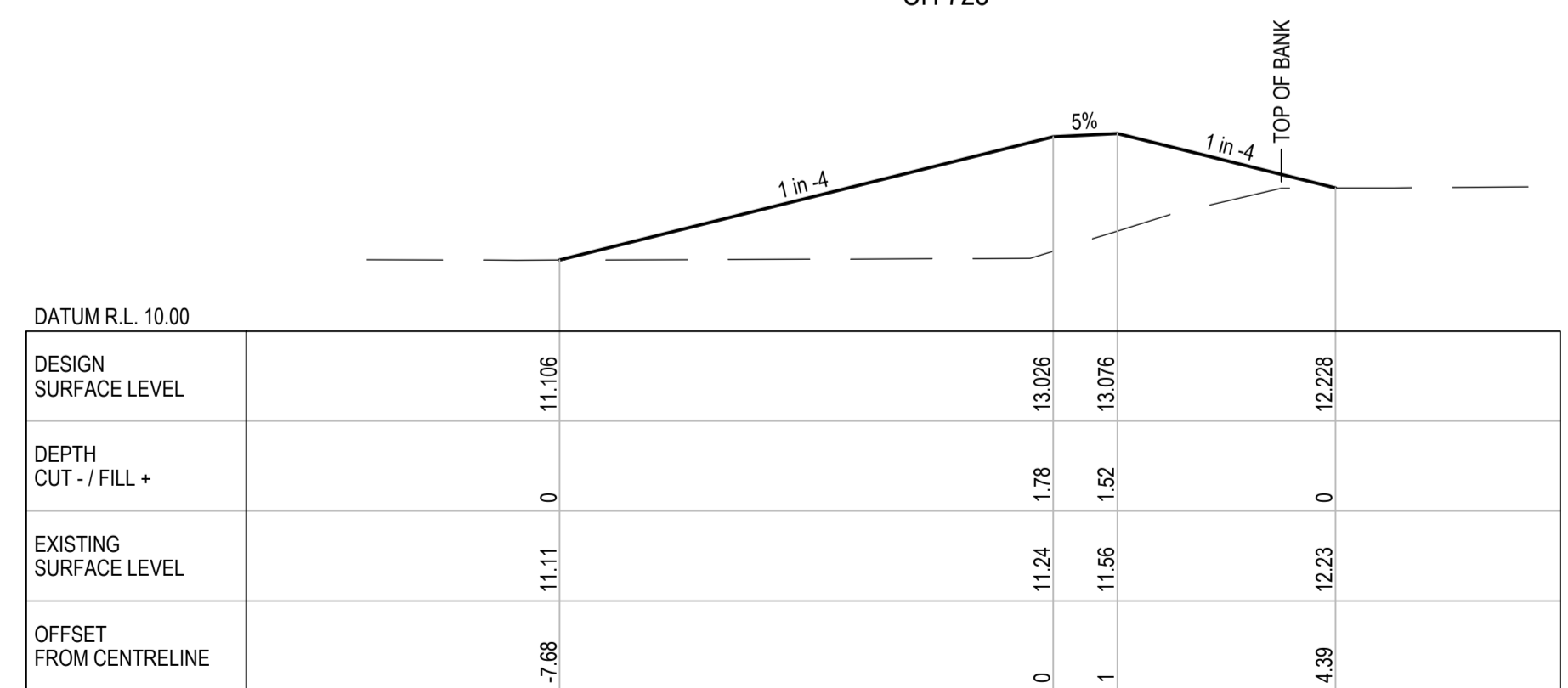
CH 770



CH 750



CH 725



CH 700



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Client	<b>DOUGLAS SHIRE COUNCIL</b>
Project	<b>MARRS CREEK FLOOD LEVEE</b>
Title	<b>ANNOTATED CROSS SECTIONS SHEET 4 OF 4</b>
Original Size	<b>A1</b>
Drawing No:	<b>42-20085-C007</b>
Rev:	<b>A</b>

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Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
0	A Haigh	J Greatorex	<i>J Greatorex*</i>	J Greatorex	<i>J Greatorex*</i>	25/01/2018

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