

Technical Memorandum

July 22, 2022

To	Tom Parsons, CCC	Contact No.	
Copy to	Andrew Watt	Email	andrew.malden@ghd.com
From	Andrew Malden	Project No.	12509119 Rev 1 (Status Code S4)
Project Name	Edgware Village Full Height Kerb Assessment		
Subject	Assessment Findings		

1. Introduction

The shops behind the south side kerb of Edgware Road between Sherborne Street and Colombo Street in Edgware, have a history of flooding. The existing kerb is a low height kerb and is not to current Christchurch City Council (CCC) design standards. CCC have indicated that the community have raised concerns that the current kerb does not have adequate surface water capacity. A drainage assessment was undertaken by CCC staff which highlighted that:

- The flooding is driven by St Albans Creek water level during flooding events preventing clear outfall from the network to the creek, which surcharges the existing gravity stormwater drainage system. This surcharging leaves nowhere for the surface runoff to drain to and in turn floods the area.
- Provided that the above point is addressed and that there is clear outfall to St Albans Creek for the piped flow, the existing kerb does have capacity to meet the stormwater design requirements.

The objective of this memo is to conduct a high level investigation into the feasibility and merits of construction of a full height kerb on the south side of Edgware Road between Sherborne Street and Colombo Street. CCC want to understand the constraints, benefits, risks and issues associated with the work to inform an options report to Council.

This investigation does not take into account the CCC Edgware Village Masterplan from December 2013 (<https://ccc.govt.nz/assets/Documents/The-Council/Plans-Strategies-Policies-Bylaws/Plans/suburban-plans/EdgwareVillageFinalMasterPlan.pdf>). Preparation of this masterplan has been paused at the request of the Community Board, but initial drafts indicated that the kerb may not be on the same alignment as the existing. This work is out of scope for the purpose of this investigation. Although it should be noted that to achieve the outcome of the masterplan, the existing road would likely have to be rebuilt.

2. Rooding Assessment

2.1 Existing Site

The current road speed through this section has recently been reduced to 30 km/h as part of the Downstream Effects Management Plan (DEMP) project.

The existing kerb on Edgeware Road between Sherborne Street and Colombo Street has a lower height than the current CCC standard detailed in CSS SD601 Part 6. The current standard is for a 130 mm high kerb, whereas the existing kerb through this section is only approximately 40 mm high.

The condition of the kerb is poor, with multiple large cracks along the entire length. The kerb is not planned for replacement in the near future. There have been recent upgrades to the kerb on either end, both on Sherborne Street and Colombo Street, as part of the DEMP and Major Cycle Route Program (MCR). The length of deficient kerb between these two sections is 94 m, which is the length of kerb replacement considered in this investigation.

The existing road profile has very flat crossfall to the north side (less than 2%) and is very steep to the south (up to 5.3%). The north side existing kerb fender levels are much higher compared to the existing kerb fender levels on the south side of the road by up to 288 mm. Refer to Appendix B for a full table of all the existing kerb fender and centreline heights and crossfalls.

A photograph of the south side of Edgeware Road between Sherborne Street and Colombo Street is shown in Figure 1.



Figure 1 South side of Edgeware Road between Sherborne Street and Colombo Street

2.2 Replacement with Full Height Kerb on Southern Side

If we replace the existing low height kerb with new CCC standard full height kerb, matching the existing kerb lip levels (with the back of kerb level higher than existing) as shown in Figure 2, we find that:

- There would be minimal carriageway works required along the shoulder
- This approach works for the first 35 m from the tie in point near Colombo Street to approximately the start of the Peter Timbs Butcher building.
- From this point to the end of the deficient kerb at Sherborne Street, the new path crossfall level ranges between 0.1% to 0.5% and would be flatter than allowed by the design standard. The CCC IDS Part 8.15.2 states a minimum of 1.2% and an optimum 2% is required. A maximum of 3% is generally used,

with anything over this agreed with CCC. An acceptable crossfall allows for the surface runoff of water into the kerb and channel and prevents water ponding and freezing over during winter, causing a slip hazard, while still providing a stable surface for pedestrians. The current existing crossfalls are at a nominal 3%.

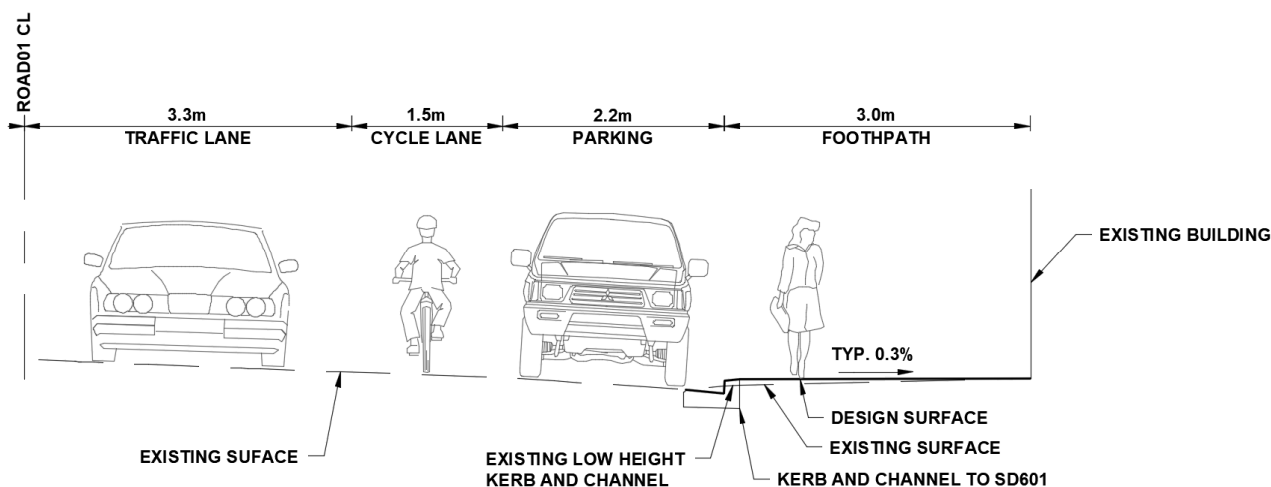


Figure 2 Edgware Road Typical section of the South side existing low-profile kerb replaced with full-height kerb at existing fender level

As this first scenario does not meet the design requirements, we looked at replacing the existing low height kerb with new CCC standard full height kerb, but this time matching the existing back of kerb levels, and we found that:

- Minimal work is required to the footpath, leaving the existing footpath at 3% crossfall
- The shoulder tie-in from the kerb lip to the existing road surface becomes too steep, in the range of 6.5% to 9.5%. The shoulder through this section is used for on-street parking, which CCC IDS Part 8.13.4 states should not exceed 6%. Anything steeper than 6% could cause high sided vehicles to lean too far and clash with the shop awnings, as well as making it dangerous for people getting into and out of their vehicles.
- The driveways become too steep and would be unusable, as the change in grade can cause vehicles to bottom out. It is generally accepted that a maximum of 12% change of grade is used when designing driveways.

As detailed above, neither of these approaches would be acceptable, and further work would be required to achieve an outcome that meets all accepted design criteria.

2.3 Proposed Full Height Kerb Design

Due to the deficiencies of replacing the existing low height kerb with full height kerb described in Section 2.2, the following work is required to mitigate these deficiencies and achieve construction of full-height kerb outside Edgware Village:

- Lower the existing road crown over a 102 m length by up to 130 mm
- Lower the kerbs on both the south and north side of Edgware Road
- Construct new footpaths on both sides of the road

This work is detailed in the provided sketches in Appendix A.

2.3.1 Edgware Road Cross Section

The proposed cross section has been kept the same as the existing cross section which consists of:

- 3 m footpaths each side
- 1.5 m on-road cycle lane both sides

- 2.2 m on-street parking on the south side
- Single nominal 3.2 m (varies) westbound traffic lane
- Single nominal 3.2 m (varies) eastbound traffic lane
- Single exclusive right turn lane at the Sherborne Street and Edgeware Road signalised intersection

The actual sections shown in Appendix A show footpath crossfalls ranging from 2% to 4%. With fine tuning of the design during a more detailed design process, consistent grades of 2% to 3% would be achievable.

2.3.2 Proposed Kerb and Road Longitudinal Grades

The proposed north side kerb and the south side kerb meet minimum longitudinal grade requirements of 1:500.

The existing stormwater system is intended to be used with this design. All sags are in the same locations, and require the existing sumps to be lowered, taking into consideration the cover requirements for any stormwater pipes which may be required to be lowered. The use of the existing stormwater system would be dependent on further work being carried out on flood mitigation to the existing gravity drainage network through here.

To tie the design into the existing surface, there will be an impact to the northbound lanes through the intersection of Edgeware Road and Sherborne Street. The lowered Edgeware Road crown will need to be tied 6 m into Sherborne Street, so work will impact the usage of this intersection.

2.3.3 Impacts and Risks of the Proposed Design

The impacts of this work are:

- Lowered road surface results in less cover to existing services. This may result in extensive service lowering, protection or relocations. Services which exist through this section which would be impacted include:
 - Stormwater
 - Water Supply
 - Sewer
 - Power
 - Fibre
 - Gas
 - 2x Public Telephone booths
 - Streetlighting
 - Various roadside amenities such as rubbish bins, planter boxes and street sign

Risks associated with the proposed works include:

- Unknown existing pavement condition which lowering of the road could lead to extensive pavement reconstruction
- If the existing DN825 stormwater pipe is too high and does not have adequate cover, this could lead to an expensive and time consuming stormwater network redesign
- Discovery of contaminates, in particular coal tar, which is prevalent throughout Christchurch and requires expensive dumping fees and impacts construction time
- Extensive excavation may reveal archaeological objects which can impact the construction programme
- Extensive traffic management would be required causing delays to the road network
- Disruptions to the local businesses on both side of Edgeware Road, causing possible temporary loss of business
- Service strikes causing disruptions to local businesses and lengthy repairs

- Discovery of historical tram tracks can add a significant cost to the overall project cost.

2.3.4 Benefits of the Proposed Design

The benefits from lowering the road crown on Edgeware Road and installing new kerb on both sides of the road are:

- Increasing the capacity of the major secondary drainage system. This is only beneficial if further flood mitigation works are conducted to prevent tail water from the St Albans Creek from overloading the gravity drainage network.
- Crossfall grades which meet current CCC design standards
- Retains current cross section so there is no loss of parking or traffic restrictions required

2.3.5 Disbenefits of the Proposed Design

The disbenefits from lowering the road crown on Edgeware Road and installing new kerb on both sides of the road are:

- Cost, particularly as the asset life may be short if future work is proposed for the Edgeware Village area
- Does not solve the current flooding issues without additional flood mitigation to St Albans Creek
- Inconsistent with the draft Masterplan goals (Noting that the draft Masterplan has been put on hold, as outlined in Section 1).

2.3.6 Construction Duration and Cost

It is estimated that the complete scope of works would take approximately two months to construct. The carriageway pavement and surfacing could be completed in two weeks if it is done as deep lift asphalt and is conducted at night. This has the additional benefit of being able to have the road opened during the day.

Based on Table 1 below, the estimated final cost for these works would be \$1,180,410.

These estimated rates are based on recent council projects and are inclusive of offsite and onsite overheads, traffic management, removal of existing material and all other associated works. The utilities are based off similar recent council projects for a full width reconstruction, the actual scope of these works is unknown due to lack of potholing data. For the purpose of this report, escalation is excluded from all costs.

Table 1 Estimated Project Costs

Civil Works				
Item	Unit	Quantity	Unit Cost	Total
Full height kerb (SD601)	m	200	\$150	\$30,000
Footpaths	m ²	683	\$120	\$81,960
Carriageway pavement and surfacing	m ²	1175	\$334	\$392,450
Utilities (All)	m	200	\$1000	\$200,000
Subtotal				\$704,410

Contingency 35%		\$247,000
Total		\$951,410
Professional Fees		
Scheme Design Phase 7%		\$67,000
Detailed Design Phase 7%		\$67,000
MSQA 10%		\$95,000
Subtotal		\$229,000
Overall Total		\$1,180,410

3. Summary

The following conclusions have been made from the investigation:

- Acceptable footpath and parking lane crossfall grades are not achievable with a direct replacement of the low height existing kerb on the southern side of Edgeware Road with a CCC standard full height kerb
- A full height kerb design will require the crown of Edgeware Road to be lowered to achieve minimum standard crossfall grades for all footpaths, parking, and vehicle lanes, which also results in lowering the north and south side kerbs
- Lowering of the road crown will require work to extend into the Sherborne Street and Edgeware Road intersection by approximately 6m to tie into existing surface levels
- The lowered road corridor will increase the major secondary drainage system/flow path capacity, however it will have an impact on the existing services
- Any drainage benefit of lowering Edgeware Road and installing CCC standard full-height kerb would be dependent on the water level in St Albans Creek not over-loading the existing gravity drainage network.

Regards

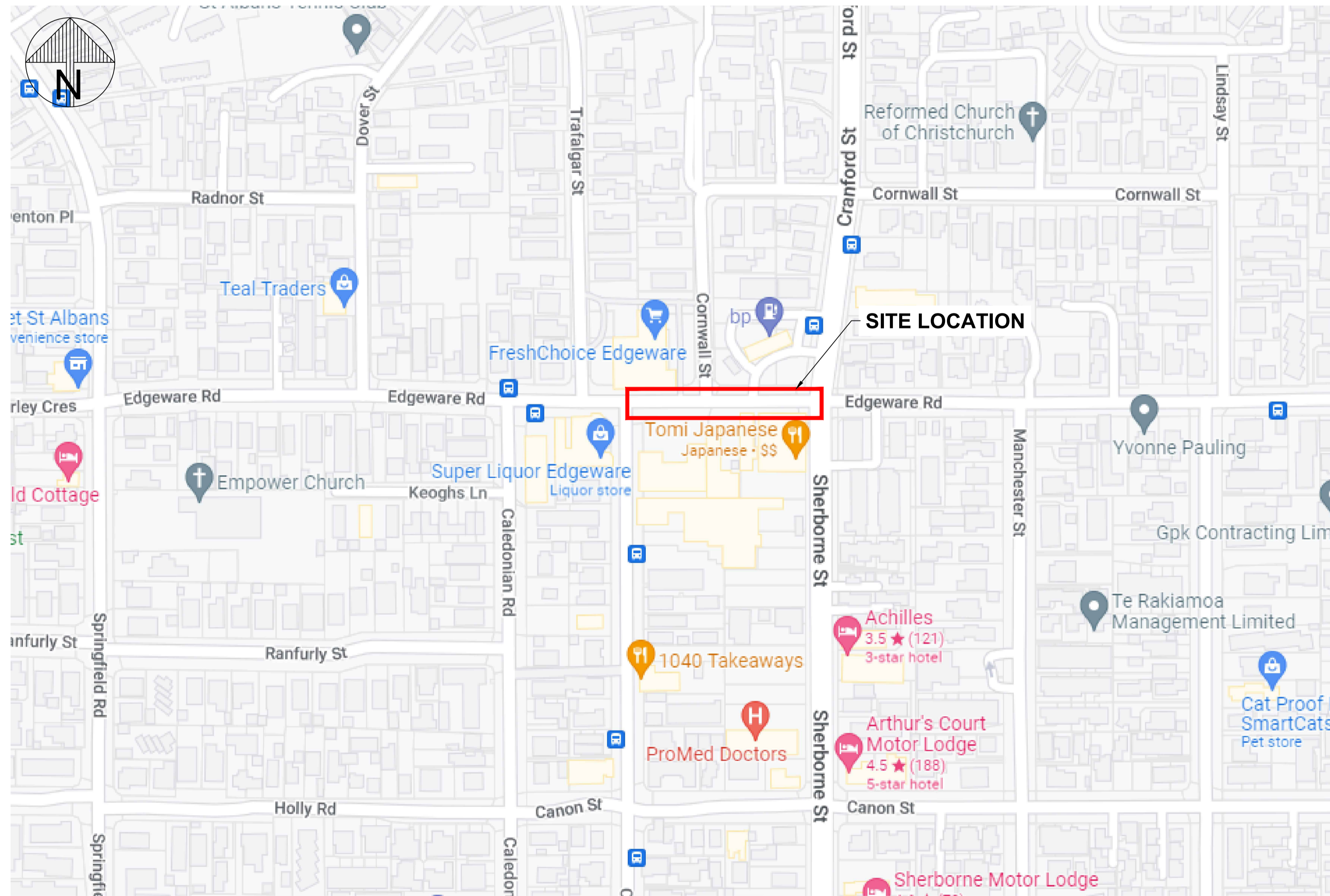


Andrew Malden
Design Technician Civil

This Technical Memorandum is provided as an interim output under our agreement with Christchurch City Council. It is provided to foster discussion in relation to technical matters associated with the project and should not be relied upon in any way.

Appendix A – Concept Sketches

EDGEWARE VILLAGE FULL HEIGHT KERB ASSESSMENT



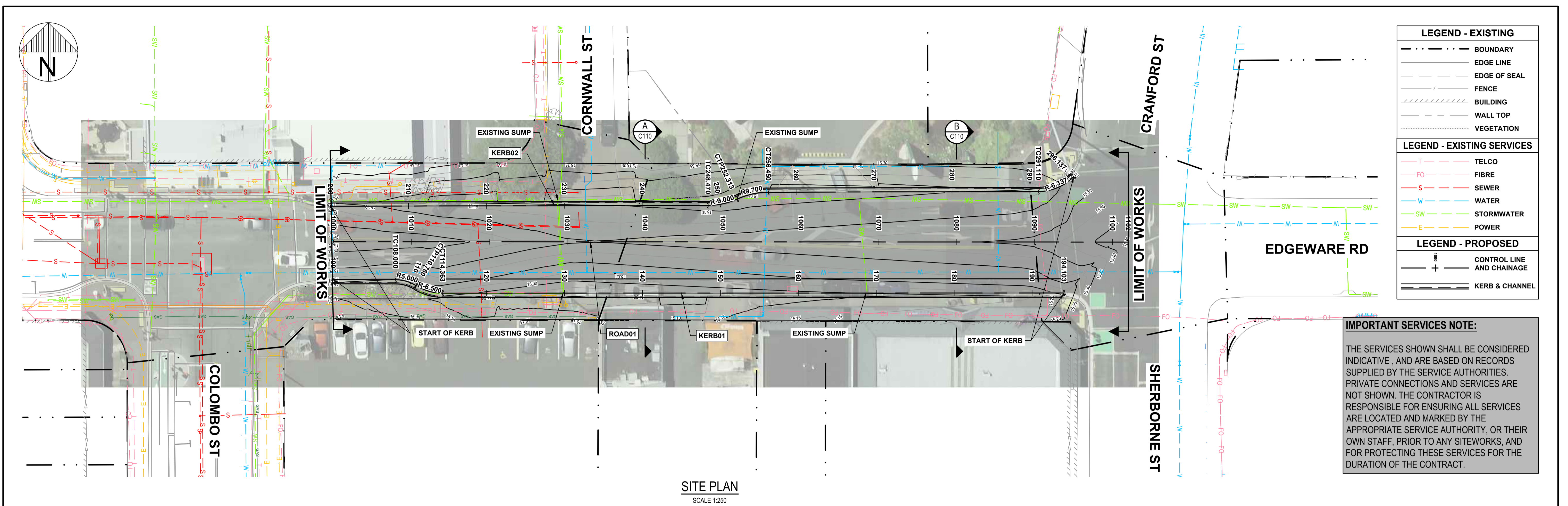
LOCATION PLAN
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SK100	PLAN AND LONGITUDINAL SECTION	A	
SK101	KERB LONGITUDINAL SECTIONS	A	
SK110	TYPICAL SECTIONS	A	
SK111	CROSS SECTIONS	A	

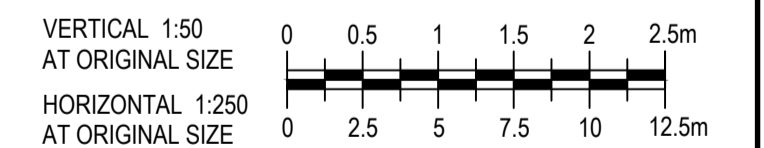
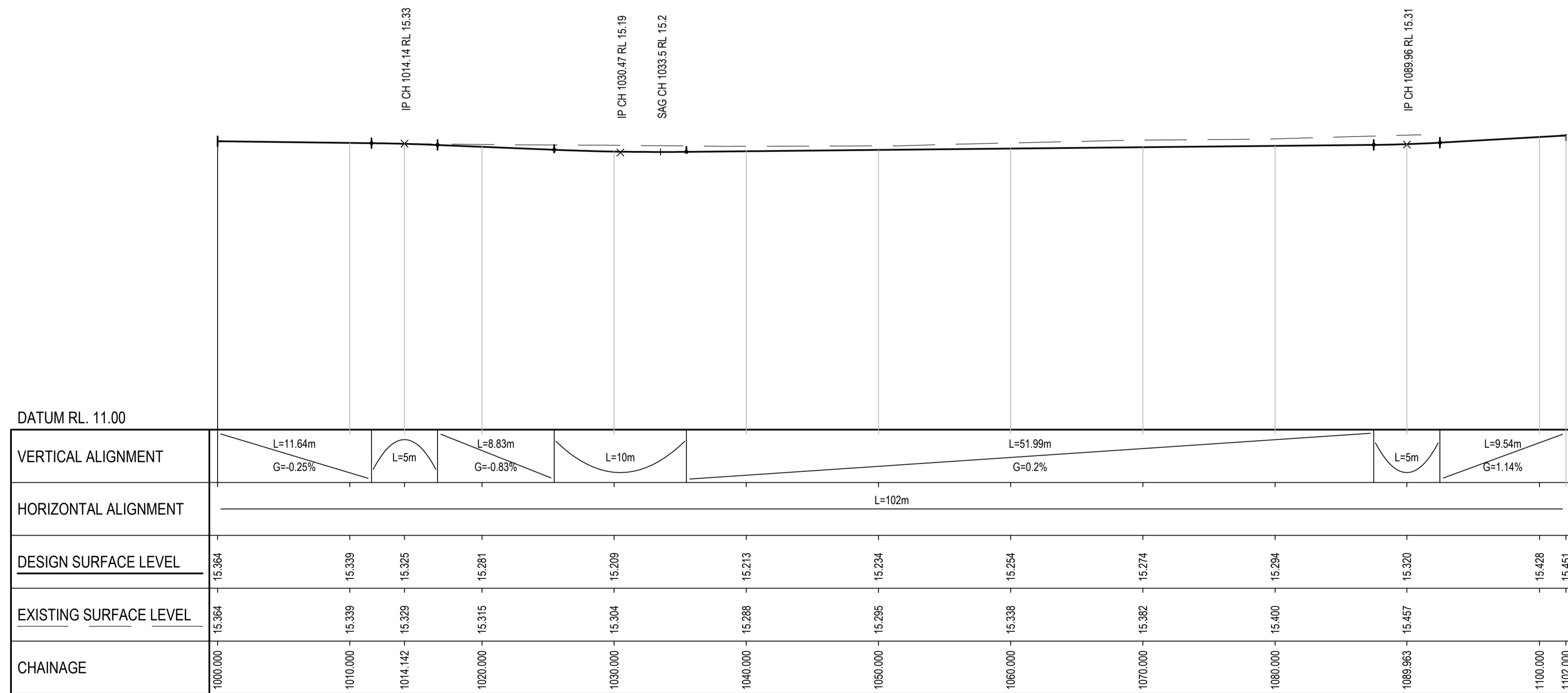
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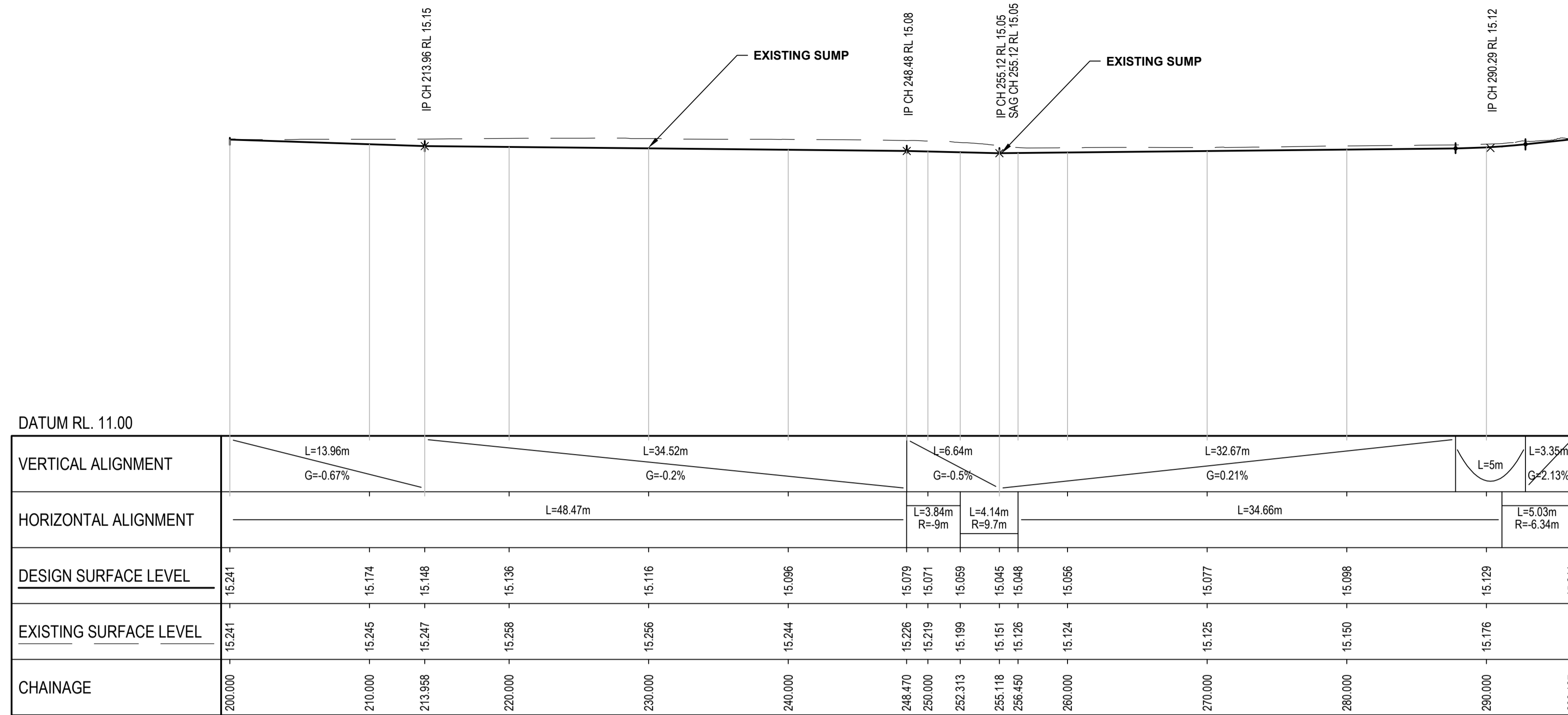
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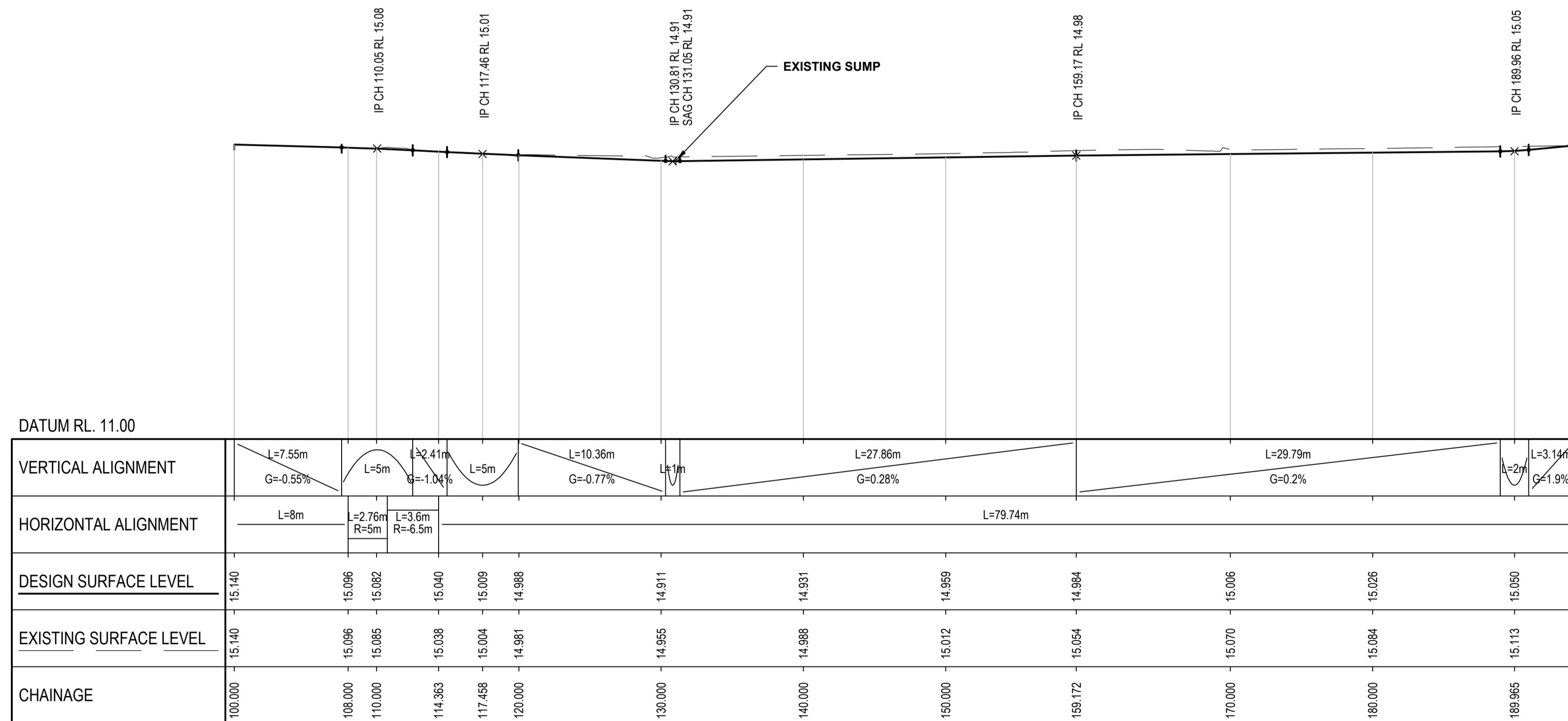
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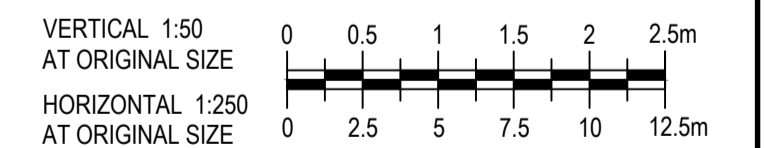
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LONGITUDINAL SECTION - KERB01
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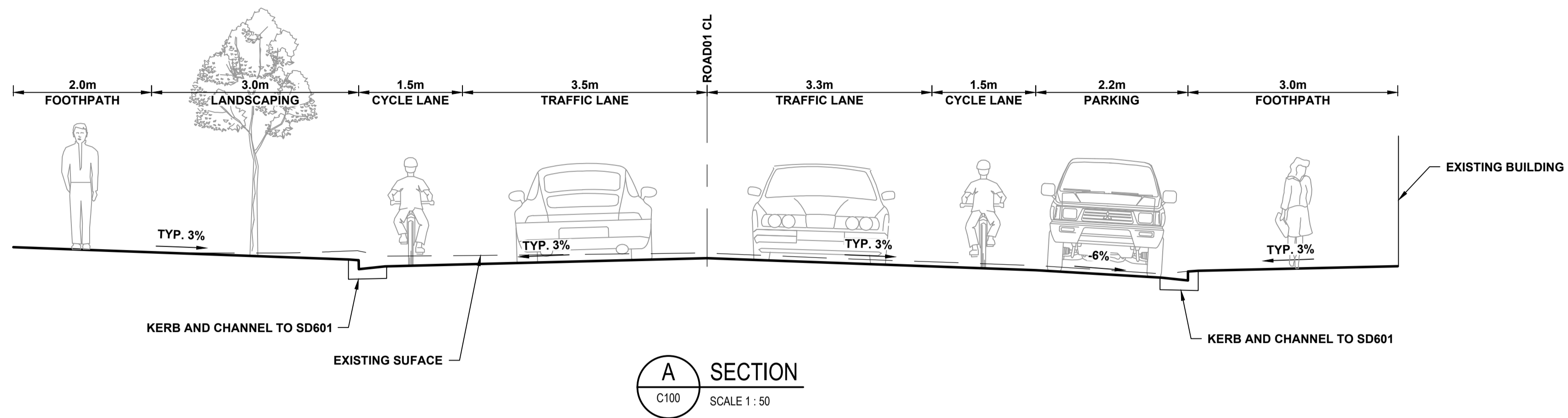
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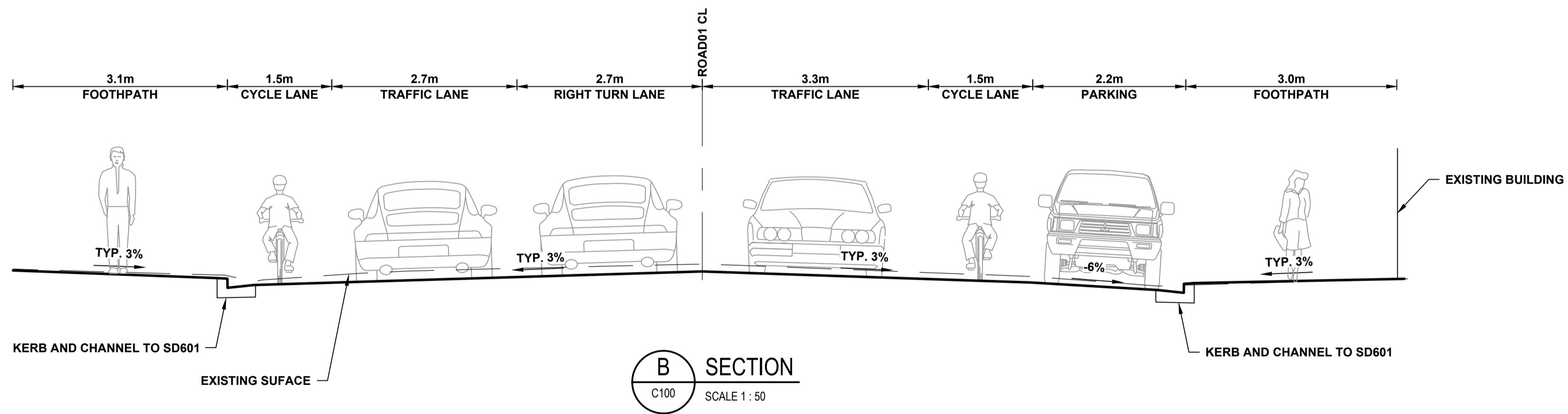
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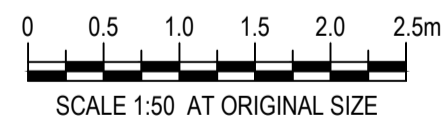
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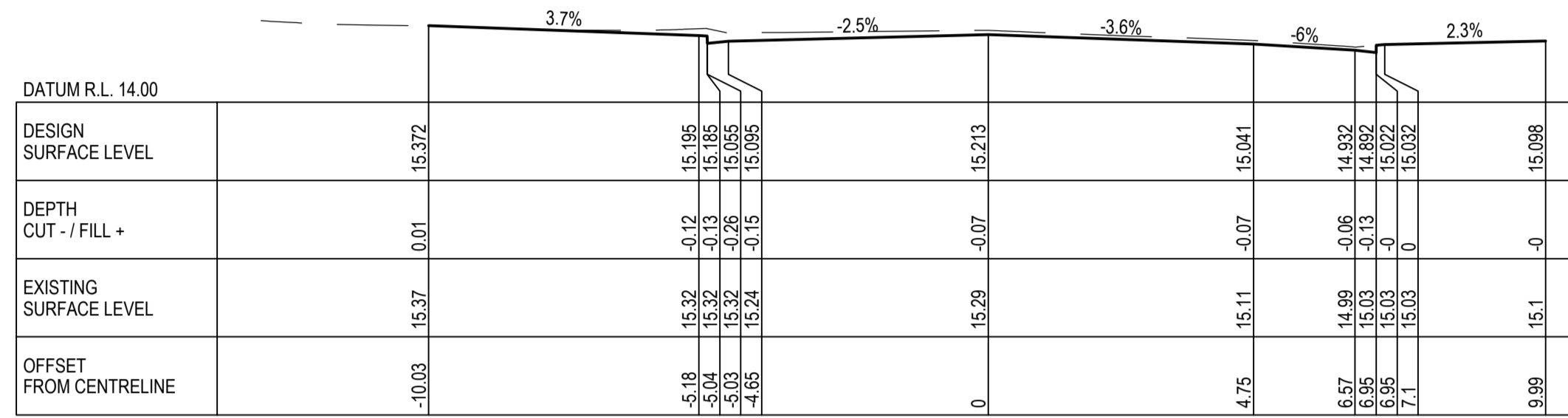
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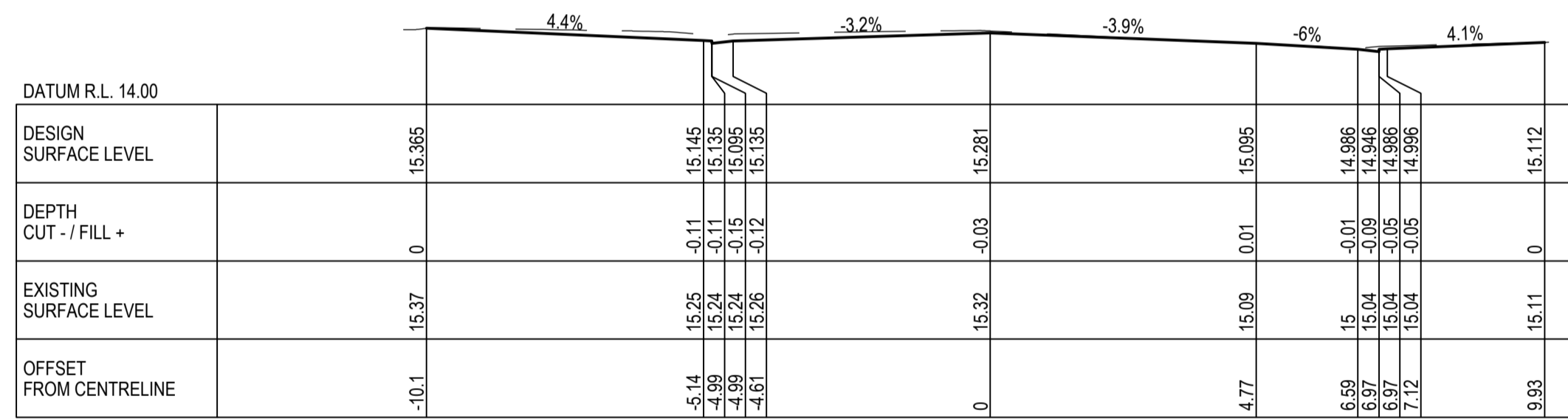
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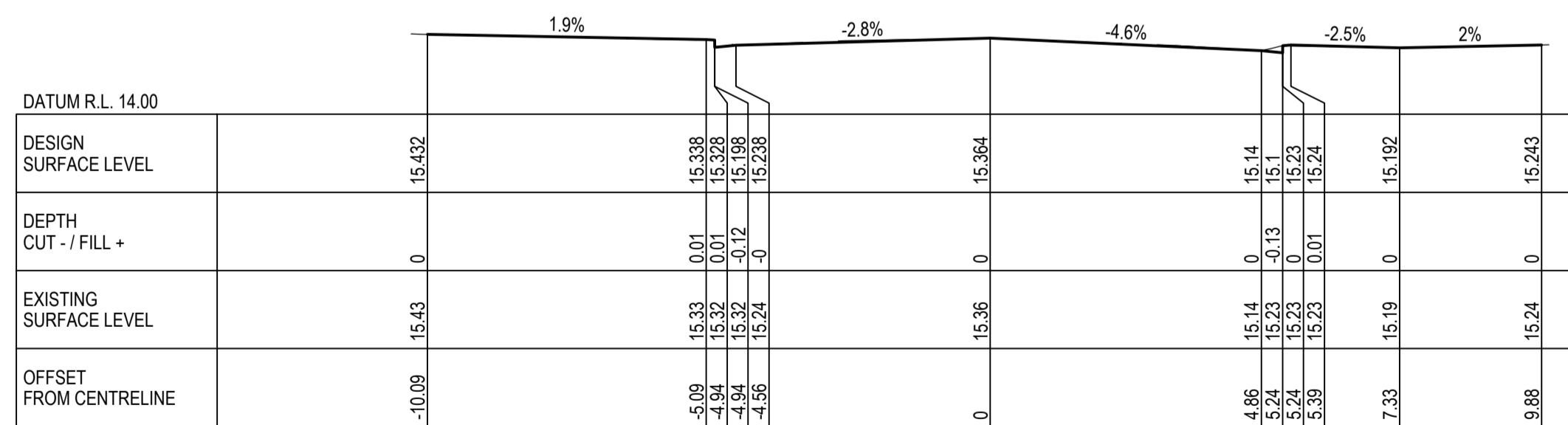
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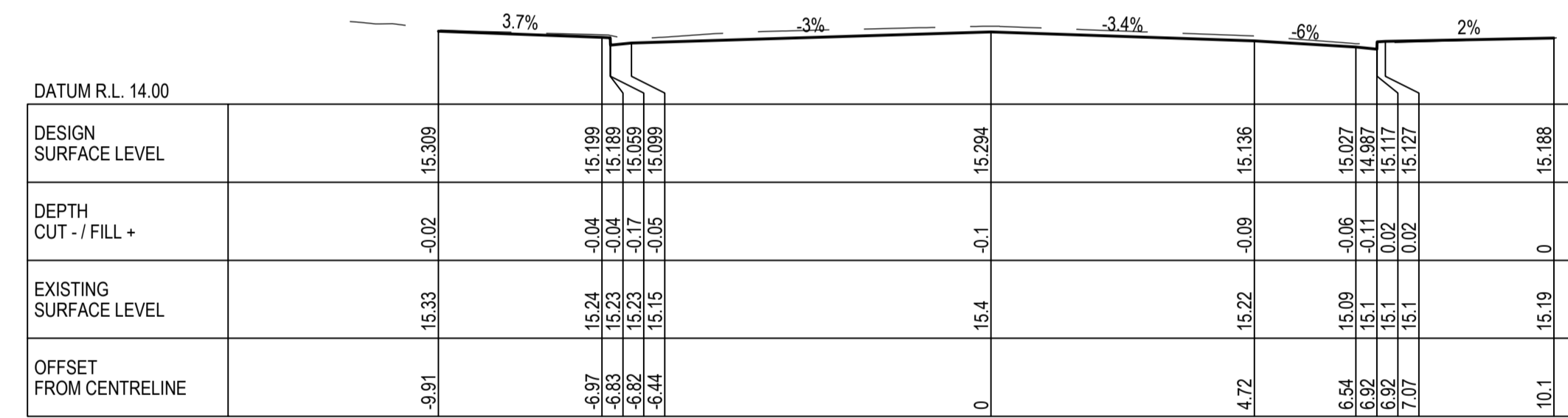
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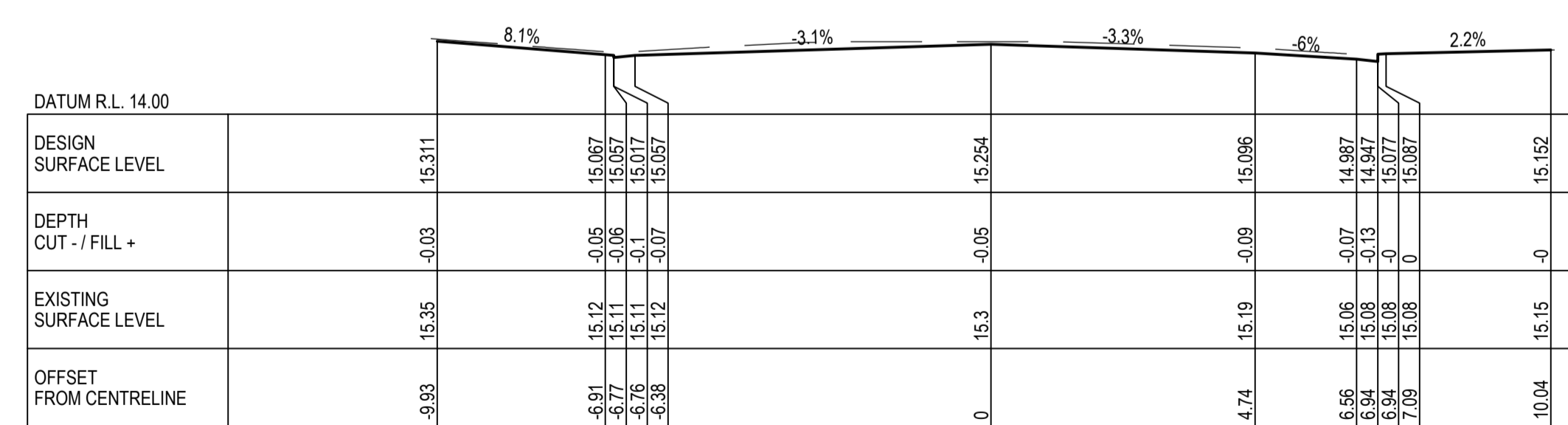
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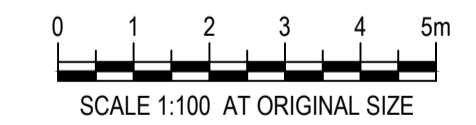
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RL	-	DES. REVIEW	G. DOUGHERTY	06.07.22
SURVEY	-	DRAWN	R. GERONIMO	06.07.22
SURVEY LB	-	DRW. CHECK	G. DOUGHERTY	06.07.22

APPROVED
FOR TENDER

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CONSULTANT DRAWING SHEET REF. **14-SK111**
CONSULTANT FILE REF. **12509119**

PROJECT TITLE
**EDGEWARE VILLAGE
FULL HEIGHT KERB ASSESSMENT**

DRAWING TITLE
CROSS SECTIONS

This Drawing must not be used for Construction unless signed as Approved

CONTRACT NUMBER	ORIGINAL SHEET SIZE	SCALES
CAD DRAWING FILE REF.	A1	1:100
CPG PROJECT FILE NUMBER	SHEET	
	5 OF 5	

ISSUE	AMENDMENTS	SIGNED	DATE
A	PRELIMINARY	DM*	06.07.22

Appendix B – Key Existing Levels Table

Table 2 Existing kerb heights and road crossfalls

LHS Ex. Kerb String Name	Design CL Ch. (m)	LHS Offset From Ex. CL (m)	LHS Ex. Kerb String Height (m)	LHS Ex. Xfall	Ex. CL Height (m)	RHS Ex. Kerb String Name	RHS Offset From Ex. CL (m)	RHS Ex. String Height (m)	RHS Ex. Xfall	Level Diff. LHS and RHS Kerb Fenders (mm)
Fender LHS	1000	-4.562	15.241	2.7%	15.364	Fender RHS	4.858	15.14	4.6%	101
Fender LHS	1001	-4.573	15.24	2.6%	15.361	Fender RHS	4.859	15.134	4.7%	106
Fender LHS	1002	-4.585	15.24	2.6%	15.359	Fender RHS	4.861	15.129	4.7%	111
Fender LHS	1003	-4.597	15.24	2.5%	15.356	Fender RHS	4.863	15.123	4.8%	117
Fender LHS	1004	-4.608	15.239	2.5%	15.354	Fender RHS	4.865	15.118	4.9%	121
Fender LHS	1005	-4.617	15.238	2.4%	15.351	Fender RHS	4.849	15.11	5.0%	128
Fender LHS	1006	-4.624	15.237	2.4%	15.349	Fender RHS	4.831	15.103	5.1%	134
Fender LHS	1007	-4.629	15.237	2.4%	15.346	Fender RHS	4.813	15.095	5.2%	142
Fender LHS	1008	-4.634	15.237	2.3%	15.344	Fender RHS	4.845	15.089	5.3%	148
Fender LHS	1009	-4.64	15.238	2.2%	15.341	Fender RHS	5.004	15.083	5.2%	155
Fender LHS	1010	-4.645	15.238	2.2%	15.339	Fender RHS	5.298	15.084	4.8%	154
Fender LHS	1011	-4.65	15.238	2.1%	15.336	Fender RHS	5.75	15.082	4.4%	156
Fender LHS	1012	-4.656	15.238	2.1%	15.334	Fender RHS	6.185	15.068	4.3%	170
Fender LHS	1013	-4.663	15.238	2.0%	15.332	Fender RHS	6.469	15.053	4.3%	185
Fender LHS	1014	-4.674	15.239	1.9%	15.329	Fender RHS	6.593	15.038	4.4%	201
Fender LHS	1015	-4.685	15.24	1.9%	15.327	Fender RHS	6.596	15.027	4.5%	213
Fender LHS	1016	-4.696	15.24	1.8%	15.325	Fender RHS	6.599	15.016	4.7%	224
Fender LHS	1017	-4.707	15.241	1.7%	15.322	Fender RHS	6.602	15.005	4.8%	236

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LHS Ex. Kerb String Name	Design CL Ch. (m)	LHS Offset From Ex. CL (m)	LHS Ex. Kerb String Height (m)	LHS Ex. Xfall	Ex. CL Height (m)	RHS Ex. Kerb String Name	RHS Offset From Ex. CL (m)	RHS Ex. String Height (m)	RHS Ex. Xfall	Level Diff. LHS and RHS Kerb Fenders (mm)
Fender LHS	1018	-4.718	15.242	1.7%	15.32	Fender RHS	6.605	14.994	4.9%	248
Fender LHS	1019	-4.729	15.242	1.6%	15.318	Fender RHS	6.609	14.983	5.1%	259
Fender LHS	1020	-4.74	15.243	1.5%	15.315	Fender RHS	6.585	14.998	4.8%	245
Fender LHS	1021	-4.692	15.247	1.4%	15.314	Fender RHS	6.582	14.995	4.8%	252
Fender LHS	1022	-4.689	15.248	1.4%	15.313	Fender RHS	6.578	14.992	4.9%	256
Fender LHS	1023	-4.687	15.25	1.3%	15.312	Fender RHS	6.575	14.989	4.9%	261
Fender LHS	1024	-4.684	15.251	1.3%	15.311	Fender RHS	6.571	14.986	4.9%	265
Fender LHS	1025	-4.682	15.252	1.2%	15.309	Fender RHS	6.568	14.983	5.0%	269
Fender LHS	1026	-4.679	15.254	1.2%	15.308	Fender RHS	6.564	14.98	5.0%	274
Fender LHS	1027	-4.676	15.255	1.1%	15.307	Fender RHS	6.561	14.977	5.0%	278
Fender LHS	1028	-4.675	15.256	1.1%	15.306	Fender RHS	6.557	14.974	5.1%	282
Fender LHS	1029	-4.676	15.255	1.1%	15.305	Fender RHS	6.239	15.002	4.9%	253
Fender LHS	1030	-4.676	15.255	1.0%	15.304	Fender RHS	6.178	14.996	5.0%	259
Fender LHS	1031	-4.668	15.252	1.1%	15.302	Fender RHS	6.603	14.964	5.1%	288
Fender LHS	1032	-4.657	15.248	1.1%	15.301	Fender RHS	6.602	14.967	5.1%	281
Fender LHS	1033	-4.651	15.246	1.1%	15.299	Fender RHS	6.6	14.97	5.0%	276
Fender LHS	1034	-4.649	15.246	1.1%	15.297	Fender RHS	6.598	14.972	4.9%	274
Fender LHS	1035	-4.651	15.246	1.1%	15.296	Fender RHS	6.597	14.975	4.9%	271
Fender LHS	1036	-4.658	15.245	1.1%	15.294	Fender RHS	6.595	14.977	4.8%	268
Fender LHS	1037	-4.666	15.245	1.0%	15.293	Fender RHS	6.594	14.98	4.7%	265

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LHS Ex. Kerb String Name	Design CL Ch. (m)	LHS Offset From Ex. CL (m)	LHS Ex. Kerb String Height (m)	LHS Ex. Xfall	Ex. CL Height (m)	RHS Ex. Kerb String Name	RHS Offset From Ex. CL (m)	RHS Ex. String Height (m)	RHS Ex. Xfall	Level Diff. LHS and RHS Kerb Fenders (mm)
Fender LHS	1038	-4.674	15.245	1.0%	15.291	Fender RHS	6.592	14.982	4.7%	263
Fender LHS	1039	-4.675	15.244	1.0%	15.289	Fender RHS	6.59	14.985	4.6%	259
Fender LHS	1040	-4.672	15.243	1.0%	15.288	Fender RHS	6.589	14.987	4.6%	256
Fender LHS	1041	-4.669	15.242	1.0%	15.289	Fender RHS	6.587	14.99	4.5%	252
Fender LHS	1042	-4.666	15.241	1.0%	15.289	Fender RHS	6.586	14.993	4.5%	248
Fender LHS	1043	-4.664	15.24	1.1%	15.29	Fender RHS	6.582	14.995	4.5%	245
Fender LHS	1044	-4.663	15.238	1.1%	15.291	Fender RHS	6.576	14.997	4.5%	241
Fender LHS	1045	-4.666	15.235	1.2%	15.291	Fender RHS	6.571	14.999	4.4%	236
Fender LHS	1046	-4.668	15.233	1.3%	15.292	Fender RHS	6.581	15.001	4.4%	232
Fender LHS	1047	-4.671	15.23	1.3%	15.293	Fender RHS	6.593	15.002	4.4%	228
Fender LHS	1048	-4.672	15.227	1.4%	15.293	Fender RHS	6.602	15.004	4.4%	223
Fender LHS	1049	-4.738	15.222	1.5%	15.294	Fender RHS	6.6	15.008	4.3%	214
Fender LHS	1050	-4.913	15.218	1.6%	15.295	Fender RHS	6.599	15.012	4.3%	206
Fender LHS	1051	-5.202	15.209	1.7%	15.299	Fender RHS	6.598	15.016	4.3%	193
Fender LHS	1052	-5.618	15.196	1.9%	15.303	Fender RHS	6.596	15.02	4.3%	176
Fender LHS	1053	-6.04	15.177	2.2%	15.308	Fender RHS	6.595	15.023	4.3%	154
Fender LHS	1054	-6.334	15.161	2.4%	15.312	Fender RHS	6.593	15.027	4.3%	134
Fender LHS	1055	-6.227	15.144	2.8%	15.317	Fender RHS	6.592	15.031	4.3%	113
Fender LHS	1056	-6.422	15.12	3.1%	15.321	Fender RHS	6.591	15.035	4.3%	85
Fender LHS	1057	-6.441	15.118	3.2%	15.325	Fender RHS	6.589	15.04	4.3%	78

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LHS Ex. Kerb String Name	Design CL Ch. (m)	LHS Offset From Ex. CL (m)	LHS Ex. Kerb String Height (m)	LHS Ex. Xfall	Ex. CL Height (m)	RHS Ex. Kerb String Name	RHS Offset From Ex. CL (m)	RHS Ex. String Height (m)	RHS Ex. Xfall	Level Diff. LHS and RHS Kerb Fenders (mm)
Fender LHS	1058	-6.444	15.119	3.3%	15.33	Fender RHS	6.587	15.045	4.3%	74
Fender LHS	1059	-6.448	15.12	3.3%	15.334	Fender RHS	6.585	15.05	4.3%	70
Fender LHS	1060	-6.452	15.121	3.4%	15.338	Fender RHS	6.583	15.055	4.3%	66
Fender LHS	1061	-6.456	15.122	3.4%	15.343	Fender RHS	6.581	15.06	4.3%	62
Fender LHS	1062	-6.46	15.123	3.5%	15.347	Fender RHS	6.58	15.065	4.3%	58
Fender LHS	1063	-6.462	15.124	3.5%	15.352	Fender RHS	6.583	15.067	4.3%	57
Fender LHS	1064	-6.456	15.124	3.6%	15.356	Fender RHS	6.588	15.069	4.4%	55
Fender LHS	1065	-6.451	15.124	3.7%	15.36	Fender RHS	6.583	15.067	4.5%	57
Fender LHS	1066	-6.445	15.124	3.7%	15.365	Fender RHS	6.572	15.061	4.6%	63
Fender LHS	1067	-6.44	15.124	3.8%	15.369	Fender RHS	6.561	15.056	4.8%	68
Fender LHS	1068	-6.434	15.124	3.9%	15.373	Fender RHS	6.258	15.088	4.6%	36
Fender LHS	1069	-6.429	15.124	4.0%	15.378	Fender RHS	6.269	15.095	4.5%	29
Fender LHS	1070	-6.424	15.125	4.0%	15.382	Fender RHS	6.585	15.061	4.9%	64
Fender LHS	1071	-6.426	15.127	4.0%	15.384	Fender RHS	6.583	15.063	4.9%	64
Fender LHS	1072	-6.429	15.13	4.0%	15.386	Fender RHS	6.581	15.065	4.9%	65
Fender LHS	1073	-6.431	15.133	4.0%	15.388	Fender RHS	6.579	15.068	4.9%	65
Fender LHS	1074	-6.433	15.136	3.9%	15.389	Fender RHS	6.577	15.07	4.9%	66
Fender LHS	1075	-6.435	15.139	3.9%	15.391	Fender RHS	6.575	15.072	4.9%	67
Fender LHS	1076	-6.438	15.141	3.9%	15.393	Fender RHS	6.573	15.074	4.9%	67
Fender LHS	1077	-6.44	15.144	3.9%	15.395	Fender RHS	6.571	15.077	4.8%	67

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LHS Ex. Kerb String Name	Design CL Ch. (m)	LHS Offset From Ex. CL (m)	LHS Ex. Kerb String Height (m)	LHS Ex. Xfall	Ex. CL Height (m)	RHS Ex. Kerb String Name	RHS Offset From Ex. CL (m)	RHS Ex. String Height (m)	RHS Ex. Xfall	Level Diff. LHS and RHS Kerb Fenders (mm)
Fender LHS	1078	-6.442	15.147	3.9%	15.397	Fender RHS	6.569	15.079	4.8%	68
Fender LHS	1079	-6.444	15.149	3.9%	15.399	Fender RHS	6.567	15.081	4.8%	68
Fender LHS	1080	-6.447	15.151	3.9%	15.4	Fender RHS	6.565	15.084	4.8%	67
Fender LHS	1081	-6.449	15.153	3.9%	15.406	Fender RHS	6.563	15.086	4.9%	67
Fender LHS	1082	-6.452	15.155	4.0%	15.412	Fender RHS	6.561	15.089	4.9%	66
Fender LHS	1083	-6.454	15.156	4.0%	15.417	Fender RHS	6.558	15.092	5.0%	64
Fender LHS	1084	-6.456	15.158	4.1%	15.423	Fender RHS	6.556	15.095	5.0%	63
Fender LHS	1085	-6.459	15.16	4.2%	15.429	Fender RHS	6.554	15.098	5.1%	62
Fender LHS	1086	-6.461	15.162	4.2%	15.434	Fender RHS	6.551	15.101	5.1%	61
Fender LHS	1087	-6.463	15.164	4.3%	15.44	Fender RHS	6.549	15.104	5.1%	60
Fender LHS	1088	-6.467	15.168	4.3%	15.446	Fender RHS	6.547	15.107	5.2%	61
Fender LHS	1089	-6.471	15.174	4.3%	15.451	Fender RHS	6.545	15.11	5.2%	64
Fender LHS	1090	-6.475	15.18	4.3%	15.457	Fender RHS	6.542	15.113	5.3%	67
Fender LHS	1091	-6.504	15.193	4.2%	15.463	Fender RHS	6.54	15.116	5.3%	77

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