



# **Waikare Gorge Replacement**

## **Contaminated Land Preliminary Site Investigation**

Waka Kotahi NZ Transport Agency

20 September 2021

**GHD Limited 626860**



27 Napier Street, GHD Centre Level 3

Freemans Bay, Auckland 1010, New Zealand

T +64 9 370 8000 | F +64 9 370 8001 | E [aklmail@ghd.com](mailto:aklmail@ghd.com) | [ghd.com](http://ghd.com)

<b>Printed date</b>	22/09/2021 17:27:00
<b>Last saved date</b>	22 September 2021
<b>File name</b>	G:\51\12545425\Tech\Contaminated Land\01 - Preliminary Site Investigation\Reporting\12545425_Waikare_Gorge_Replacement_PSI_Rev_0.docx
<b>Author</b>	Max van Stom
<b>Project manager</b>	Nick Barker
<b>Client name</b>	Waka Kotahi NZ Transport Agency
<b>Project name</b>	Waikare Gorge Design
<b>Document title</b>	Waikare Gorge Replacement   Contaminated Land Preliminary Site Investigation
<b>Revision version</b>	Rev 0
<b>Project number</b>	12545425

**Document status**

Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S4	0	Max van Stom	Adam Gray (SQEP)		Dave Palmer		22/09/2021

© GHD 2021

This document is and shall remain the property of GHD. The document may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.

# Executive summary

GHD Limited (GHD) was engaged by Waka Kotahi NZ Transport Agency (Waka Kotahi) to undertake a Preliminary Site Investigation (PSI) for the State Highway 2 (SH2) Waikare Gorge safety realignment project (the 'Project'). The Project, currently in a scoping and investigation phase, is part of a series of East Coast roading improvements aimed to make SH2 safer and less likely to suffer closures. As part of the Project, construction of an approximate 4.22-kilometre (km) section of roadway through rural village Putorino is proposed to provide a safer route of passage for road users. It is also part of a package of projects in the Tairāwhiti region that have been identified for enabling region-oriented economic growth.

During initial consultations with stakeholders and the community, two potential alignments were considered. They were named the 'Orange Alignment', and the 'White Alignment'. Waka Kotahi have indicated the White Alignment as the current preferred option; therefore, this PSI assessed potential contamination across the White Alignment (the 'Alignment') only.

The purpose of this PSI was to:

- Inform Waka Kotahi of the potential risks to human health from potential activities identified on the Ministry for the Environment (MfE) Hazardous Activities and Industries List (HAIL)<sup>1</sup> along and near the Alignment.
- Inform Waka Kotahi of any likely resource consent requirements under the:
  - Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS).
  - Hawke's Bay Regional Resource Management Plan<sup>2</sup> (HBRRMP).
  - Wairoa District Plan<sup>3</sup>.
  - Hastings District Plan<sup>4</sup>.
- Present the findings and recommendations to Waka Kotahi.

GHD has considered potential risks to human health and the environment in relation to construction of the proposed Alignment through soil disturbance activities. GHD has created arbitrary risk ratings to be considered when these works take place in the presence of HAIL activities. These risk ratings and their definitions are outlined below:

- **Low:** Current or historic HAIL activities are situated 200 metres (m) or further from the proposed Alignment and a complete contaminant transport pathway between potentially contaminated soils and the proposed Alignment has been considered unlikely to present a significant risk to the proposed works.
- **Low to medium:** Current or historic HAIL activities are situated within 200 m of the proposed Alignment. Due to the proximity and nature of HAIL activities there is a potential that contamination may be encountered during the proposed works. Further investigation should be considered.
- **Medium:** Current or historic HAIL activities are adjacent to the proposed Alignment. Due to the proximity and nature of HAIL activities there is a potential that contamination may be encountered during the proposed works. Further investigation should be considered.
- **High:** Current or historic HAIL activities are occurring or have occurred within the proposed Alignment. Further investigation should be undertaken.

This PSI has identified two HAIL activities that have occurred near the proposed Alignment. Each HAIL activity has been assigned a risk rating of low to medium. These activities occurred distances of approximately 5 m from proposed supplementary works (the full context and scope of which is unknown to GHD) and 75 m from the main

<sup>1</sup> Ministry for the Environment. 2011. *Hazardous Activities and Industries List (HAIL)*. Wellington, New Zealand: Ministry for the Environment.

<sup>2</sup> Hawke's Bay Regional Council. 2006. *Hawke's Bay Regional Resource Management Plan (Includes Regional Policy Statement) – Operative 28 August 2006 (Republished in part as at 14 August 2021)*.

<sup>3</sup> Wairoa District Council. 2005. *Wairoa District Council "Purihia kia mau nga taonga tuku iho mahia nga mahi i roto i te Kaunihera o Te Wairoa i roto i te mana o Kahungunu ki te Wairoa" (Prepared under the provisions of the Resource Management Act 1991) – Operative June 2005 (Plan Change 1B Operative November 2016)*.

<sup>4</sup> Hastings District Council. 2020. *Hastings District Plan (partially operative from 12 March 2020)*.

soil disturbance works associated with the highway realignment works. Therefore, a potential exists that soil and groundwater has been contaminated in these areas. Based on the available information assessed during this PSI, it is unclear if the migration of potential contamination from this property has been sufficient to present a risk to human health or the environment in the proposed work areas of the Alignment. As discussed in Section 4.4.3, further investigation in these areas and the consultation of a hydrogeologist should be considered before undertaking proposed Project works (refer **Appendix A**) in these areas.

As HAIL activities have been identified as having likely occurred adjacent to the proposed work areas of the Project, the NESCS may apply depending on the nature of the proposed earthworks in this area. Based on the potential scale of the proposed works, the Project may not meet the permitted activity thresholds (refer Section 4) within the NESCS, HBRRMP, Wairoa District Plan, and Hastings District Plan for soil disturbance and removal / disposal. If this is the case, a resource consent would be required under the NESCS, HBRRMP, Wairoa District Plan, and Hastings District Plan for the proposed Project works.

Where a resource consent is required, a DSI could be used to inform an application under the HBRRMP, Wairoa District Plan, and Hastings District Plan. In terms of the NESCS, a DSI could also be used to inform a controlled or restricted discretionary consent application. Alternatively, a discretionary consent under the NESCS could be sought without initially completing a DSI. In all instances, a Contaminated Land Management Plan (CLMP) including unexpected contamination discovery protocol would require generation to support the consent process.

The assumptions and conclusions described above, should be reviewed once the extent and volume of earthworks required for the Project have been confirmed.

Based on the PSI undertaken and the available information relating to proposed soil disturbance works associated with the Project, GHD make the following recommendations<sup>5</sup>.

- Based on the nature of planned works (soil disturbance) and identified potential contamination issues, it is expected that the identified potential adverse effects to Project workers and surrounding human / environmental receptors could be managed through the implementation of a CLMP.

The purpose of a CLMP is to provide a guide for site workers to manage potential contamination issues during works. These issues include protocols for the management of potentially impacted soils and the protection of human health and the environment in the event of accidental discovery of contaminants. The CLMP would also be used in any resource consent application process.

Where investigations prior to planned soil disturbance works are not undertaken, the CLMP should contain provisions regarding soil sampling being conducted during the proposed works to inform soil management controls and soil reuse / disposal requirements. The CLMP could be supported by the completion of a DSI, particularly in areas where HAIL activities have been identified in proximity to proposed Project works during this PSI.

- Further investigation (soil sampling) be undertaken where works are to be conducted in proximity of HAIL activities identified during this PSI.
- A hydrogeologist be consulted with regard to potential groundwater contamination arising from these HAIL activities. A hydrogeologist would also be able to provide guidance on dewatering and groundwater disposal requirements if required.

GHD further recommends investigation be undertaken generally across the Alignment to:

- Support any applications for resource consent.
- Characterise soil conditions and any contamination not identified in this PSI to assist in the development of a Project-specific CLMP.
- Inform options for soil disposal and/or reuse.
- Identify if groundwater is likely to be encountered during the works.
- Inform construction methodology.

Undertaking further investigations generally across the Alignment would assist in streamlining construction activities; providing clarity on management methods (e.g. soil disposal location) prior to the commencement of excavation.

---

<sup>5</sup> These recommendations should be reviewed once the extent and volume of earthworks required for the Project have been confirmed.



# Contents

<b>1.</b>	<b>Introduction</b>	<b>1</b>
1.1	Project background	1
1.2	Purpose of this PSI	1
1.2.1	Objectives of this PSI	1
1.3	Scope of works	2
1.3.1	Methodology	2
1.3.1.1	Suitably Qualified and Experienced Practitioner	2
1.4	Limitations	2
1.5	Assumptions	3
1.6	Third party reliance	3
<b>2.</b>	<b>Statutory context</b>	<b>4</b>
2.1	National regulations	4
2.1.1	NESCS	4
2.1.1.1	Applicability	4
2.2	Regional and district-based regulations	4
2.2.1	HBRRMP	4
2.2.2	Wairoa District Plan	5
2.2.3	Hastings District Plan	5
<b>3.</b>	<b>Site description</b>	<b>7</b>
3.1	Site identification and location	7
3.1.1	Existing land use and zoning	8
3.1.2	Proposed works	8
3.2	Environmental setting	9
3.2.1	Geology	9
3.2.2	Topography, hydrology, and hydrogeology	10
3.2.3	Built environment and underground infrastructure	11
<b>4.</b>	<b>PSI</b>	<b>12</b>
4.1	Site history	12
4.1.1	Historical aerial image review	12
4.1.2	Historical aerial review and land use summary	12
4.2	Council information	12
4.2.1	HBRC	12
4.2.1.1	HAIL information	12
4.2.1.2	Bore consents	13
4.2.1.3	Discharge consents	13
4.2.2	WDC	14
4.2.3	HDC	14
4.2.3.1	HAIL information	14
4.3	Miscellaneous information	14
4.4	Summary	14
4.4.1	Risk ratings	14
4.4.2	HAIL activities identified and risk ratings	15
4.4.3	Preliminary Conceptual Site Model	17
<b>5.</b>	<b>Conclusions and recommendations</b>	<b>18</b>

5.1	Summary of findings	18
5.2	Statutory implications and likely resource consent requirements	18
5.3	Recommendations	18
5.3.1	CLMP	18
5.3.2	Further investigation	19

## Table index

Table 1	Details for properties in the vicinity of the Alignment and within the proposed Alignment works	8
Table 2	Geological descriptions	10
Table 3	Risk ratings and their definitions	15
Table 4	Identified HAIL activities and their risk ratings	15
Table 5	Preliminary CSM	17

## Figure index

Figure 1	Approximate Alignment location	7
Figure 2	Alignment geology	9
Figure 3	Topography and hydrology of the area surrounding the Alignment	11
Figure 4	Locations of known wells	13
Figure 5	Locations of HAIL activities	16

## Appendices

Appendix A	Alignment concept design drawings
Appendix B	Historical aerial image review
Appendix C	Council provided information

## Attachments

**No table of contents entries found.**

# 1. Introduction

## 1.1 Project background

GHD Limited (GHD) has been engaged by Waka Kotahi NZ Transport Agency (Waka Kotahi) to undertake a Preliminary Site Investigation (PSI) for the State Highway 2 (SH2) Waikare Gorge safety realignment project (the 'Project'). The Project, currently in a scoping and investigation phase, is part of a series of East Coast roading improvements aimed to make SH2 safer and less likely to suffer closures. As part of the Project, construction of an approximate 4.22-kilometre (km) section of roadway through rural village Putorino is proposed to provide a safer route of passage for road users. It is also part of a package of projects in the Tairāwhiti region that have been identified for enabling region-oriented economic growth.

During initial consultations with stakeholders and the community, two potential alignments were considered. They were named the 'Orange Alignment', and the 'White Alignment'. Waka Kotahi have indicated the White Alignment as the current preferred option; therefore, this PSI shall assess potential contamination across the White Alignment (the 'Alignment') only. Concept design drawings for the Alignment are provided in **Appendix A**.

As part of the Project, the Alignment will be constructed over multiple rural properties and fall under the jurisdiction of Hawke's Bay Regional Council (HBRC) and two district councils, namely, Wairoa District Council (WDC) and Hastings District Council (HDC). The jurisdictions of WDC and HDC are separated by the Waikari River, which intersects with the Alignment at approximately the halfway point. In terms of the Alignment, WDC jurisdiction is situated north of the Waikari River, and HDC south.

## 1.2 Purpose of this PSI

The purpose of this PSI is to:

- Inform Waka Kotahi of the potential risks to human health from potential activities identified on the Ministry for the Environment (MfE) Hazardous Activities and Industries List (HAIL)<sup>6</sup> along and near the Alignment.
- Inform Waka Kotahi of any likely resource consent requirements associated with soil disturbance and disposal works during the Project, under the:
  - Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS).
  - Hawke's Bay Regional Resource Management Plan<sup>7</sup> (HBRRMP).
  - Wairoa District Plan<sup>8</sup>.
  - Hastings District Plan<sup>9</sup>.
- Present the findings and recommendations of the assessment to Waka Kotahi.

### 1.2.1 Objectives of this PSI

Drawn from the purpose (refer Section 1.2), the objectives of this PSI are to:

- Compile readily available current and historic information.
- Identify potential HAIL sites along and near the Alignment.
- Assess the likelihood of contamination present along the Alignment and its vicinity associated with the identified HAIL sites (if any).
- Provide Waka Kotahi with information necessary to support any future consenting requirements relating to the NESCS, HBRRMP, Wairoa District Plan, and Hastings District Plan.

<sup>6</sup> Ministry for the Environment. 2011. *Hazardous Activities and Industries List (HAIL)*. Wellington, New Zealand: Ministry for the Environment.

<sup>7</sup> Hawke's Bay Regional Council. 2006. *Hawke's Bay Regional Resource Management Plan (Includes Regional Policy Statement) – Operative 28 August 2006 (Republished in part as at 14 August 2021)*.

<sup>8</sup> Wairoa District Council. 2005. *Wairoa District Council "Purihia kia mau nga taonga tuku iho mahia nga mahi i roto i te Kaunihera o Te Wairoa i roto i te mana o Kahungunu ki te Wairoa" (Prepared under the provisions of the Resource Management Act 1991) – Operative June 2005 (Plan Change 1B Operative November 2016)*.

<sup>9</sup> Hastings District Council. 2020. *Hastings District Plan (partially operative from 12 March 2020)*.

## 1.3 Scope of works

In order to achieve the objectives of this PSI (refer Section 1.2.1), the following scope of works were undertaken:

- A review of the existing land use and environment surrounding the Alignment.
- A review of the geology, topography, hydrology, and hydrogeology along the Alignment.
- A review of readily available historical aerial imagery to identify historical land uses and potential HAIL sites.
- A review of information provided by HBRC, WDC, and HDC (if any).
- Assessment of the primary contaminants of concern.
- Identification of potential pathways and sensitive receptors.
- Assessment of the risks to human health and the environment.
- Preparation of this report for Waka Kotahi presenting the findings and recommendations.

### 1.3.1 Methodology

This PSI has been prepared in general accordance with current editions of the following national documents:

- **NESCS:** Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.
- **NESCS Users' Guide:** Ministry for the Environment. 2012. *Users' Guide: National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health*. Wellington: Ministry for the Environment.
- **CLMG No 1:** Ministry for the Environment. 2021. *Contaminated land management guidelines No 1: Reporting on contaminated sites in New Zealand (Revised 2021)*. Wellington: Ministry for the Environment.
- **CLMG No 5:** Ministry for the Environment. 2021. *Contaminated land management guidelines No 5: Site investigation and analysis of soils (Revised 2021)*. Wellington: Ministry for the Environment.

#### 1.3.1.1 Suitably Qualified and Experienced Practitioner

Adam Gray, a reviewer and signatory of this PSI, meets the guidelines of a Suitably Qualified and Experienced Practitioner (SQEP) as outlined in the NESCS Users' Guide. The NESCS Users' Guide provides an interpretive description of the NESCS as to the expertise of a SQEP.

Adam is a technical director for the contamination assessment and remediation service line at GHD in New Zealand. Adam has over 15 years' experience in the assessment, remediation, and management of contaminated land in both New Zealand and Australia. Adam's full curriculum vitae (CV) is available upon request.

## 1.4 Limitations

*This report has been prepared by GHD for Waka Kotahi NZ Transport Agency and may only be used and relied on by Waka Kotahi NZ Transport Agency for the purpose agreed between GHD and Waka Kotahi NZ Transport Agency as set out in Section 1.2 of this report.*

*GHD otherwise disclaims responsibility to any person other than Waka Kotahi NZ Transport Agency 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 (refer Section 1.5 of 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 Waka Kotahi NZ Transport Agency 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.*

*The opinions, conclusions, and any recommendations in this report are based on information obtained from, and testing undertaken at or in connection with, specific sample points. Site conditions at other parts of the site may be different from the site conditions found at the specific sample points.*

*Investigations undertaken in respect of this report are constrained by the particular site conditions, such as the location of buildings, services, and vegetation. As a result, not all relevant site features and conditions may have been identified in this report.*

*Site conditions (including the presence of hazardous substances and/or site contamination) may change after the date of this report. GHD does not accept responsibility arising from, or in connection with, any change to the site conditions. GHD is also not responsible for updating this report if the site conditions change.*

## **1.5 Assumptions**

The PSI methodology was developed with consideration given to the following assumptions:

- Information obtained from Waka Kotahi and third parties (including governing bodies) is complete and accurate.
- The observations made during the PSI are representative of the activities that have occurred or are occurring along or near the Alignment.
- The observed and inferred site conditions are representative of the actual site conditions and those not directly assessed.
- This report is based on the Alignment at the time of writing. If the proposed alignment route changes, then reassessment should be undertaken.
- At the time of writing, the construction methodologies including proposed soil disturbance and disposal volumes are yet to be confirmed. A review of this report and likely resource consent requirements should be undertaken once the extent and volume of earthworks required for the Project has been confirmed.

## **1.6 Third party reliance**

This report is the property of GHD, unauthorised use is prohibited. It is intended for the use of Waka Kotahi only. It has been prepared in accordance with the Terms of Engagement for this commission and based on specific instructions and information provided by Waka Kotahi for exclusive use by Waka Kotahi for its particular purpose.

The contents and conclusions of this report may therefore be inappropriate for any other party in the context of that party's particular purposes and circumstances. Any other party should obtain its own independent information or advice and no responsibility is accepted nor duty of care assumed by GHD to any other party who may use or rely on all or any part of the content of this report.

## 2. Statutory context

### 2.1 National regulations

#### 2.1.1 NESCS

The NESCS is a nationally consistent set of planning controls and soil contaminant values. The NESCS regulates certain activities on contaminated land and provides human health risk-based standards for management of these activities; however, the NESCS does not include criteria for environmental risk assessment.

The NESCS applies to 'pieces of land' on which any HAIL activity is 'more likely than not' to have occurred. Furthermore, it applies to soil disturbance activities where the following permitted activity thresholds are exceeded:

- Soil disturbance greater than 25 metres cubed (m<sup>3</sup>) per 500 metres squared (m<sup>2</sup>) on the piece of land associated with the HAIL.
- Soil removal greater than 5 m<sup>3</sup> per 25 m<sup>2</sup> for the piece of land associated with the HAIL.

These permitted activity thresholds including other triggers are detailed in Regulation 8(3) of the NESCS. The NESCS also regulates the following:

- Site investigation and reporting.
- Soil sampling for contamination assessment.
- Removal of underground fuel storage systems.
- Contamination investigations and health risk assessments when subdividing land and/or changing land use.

##### 2.1.1.1 Applicability

If a HAIL activity is identified as having more likely than not occurred, the NESCS is considered applicable. If the scale of soil disturbance and/or removal exceeds the permitted activity thresholds detailed above, the requirement for resource consent under the NESCS is triggered.

The volume of soil disturbance and/or removal during Project construction (while currently unknown) is anticipated above the permitted activity criteria under Regulation 8(3) of the NESCS. If these thresholds amongst others are not met, then resource consent will be required. A resource consent application should include a Detailed Site Investigation (DSI) to assess whether the construction works fall under a controlled or restricted discretionary activity consent. However, the NESCS would no longer apply if the DSI demonstrates that the contaminants of concern in, or on, the piece of land where the Alignment is proposed are at or below background concentrations. The applicability of the NESCS based on the PSI findings is further discussed in Section 5.2 of this report.

Under the NESCS, a DSI is considered a permitted activity; therefore, a DSI does not trigger the requirements for resource consent.

### 2.2 Regional and district-based regulations

Councils are required to manage both the use of land containing elevated levels of contaminants and the discharge of contaminants from land containing elevated levels of contaminants. Therefore, councils may impose controls in addition to the NESCS for environmental protection.

#### 2.2.1 HBRRMP

The HBRRMP includes the following policy associated with contaminated land, detailed in Section 5.2.1: Table 5. Environmental Guidelines – Land (5. Soil contamination):

- *The discharge of contaminants into the soil, including hazardous substances, pathogens and diseases, should be at a level that will not cause acute or chronic toxic effects on humans or other non-target species, or have the potential to reduce long-term land use potential.*

The following rule associated with soil disturbance is detailed in Section 6.3.3 Vegetation Clearance and Soil Disturbance Activities:

**Rule 7: Vegetation clearance and soil disturbance**

– **Permitted:**

- a. All cleared vegetation, disturbed soil or debris shall be deposited or contained to reasonably prevent the transportation or deposition of disturbed matter into any water body.
- b. Vegetation clearance or soil disturbance shall not give rise to any significant change in the colour or clarity of any adjacent water body, after reasonable mixing.
- c. No vegetation clearance shall occur within 5 metres of any permanently flowing river, or any other river with a bed width in excess of 2 metres, or any other lake or wetland, except that this condition shall not apply to:
  - i. ~~the clearance of plantation forestry established prior to the date of this Plan becoming operative;~~<sup>10</sup>
  - ii. the areas identified in Schedule X to this Plan.
- d. Deposition of soil or soil particles across a property boundary shall not be objectionable or offensive, cause property damage or exceed 10 kg/m<sup>2</sup>.
- e. Where the clearance of vegetation or the disturbance of soil increases the risk of soil loss the land shall be:
  - i. re-vegetated as soon as practicable after completion of the activity, but in any event no later than 18 months with species providing equivalent or better land stabilisation; or
  - ii. retained in a manner which inhibits soil loss.

– **Restricted discretionary (Matters for Discretion):**

- a. The conditions, standards or terms which the activity cannot comply with, and the related environmental effects.
- b. Monitoring and reporting requirements.
- c. Duration of consent.
- d. Review of consent conditions.

## 2.2.2 Wairoa District Plan

As discussed in Section 1.1, the Alignment falls under WDC jurisdiction on the northern side of the Waikari River. Under the Wairoa District Plan, this land is situated in the 'Rural Zone'.

The Wairoa District Plan outlines criteria for permitted and discretionary activities in the Rural Zone. Any activity unable to comply with the standards and conditions for permitted activities are considered discretionary and require resource consent.

Permitted activity standards pertaining to soil disturbance are detailed in Section 6.8.18: Earthworks:

- *Earthworks activities shall meet the following standards:*
- *Maximum volume over 12 months per site of 250 m<sup>3</sup>.*
  - *Maximum face height of 1.5 metres (m).*
  - *Maximum area of work per site of 400 m<sup>2</sup>.*
  - *Proximity to water body measured from the bank edge at bank full height no closer than 20 m.*

## 2.2.3 Hastings District Plan

As discussed in Section 1.1, the Alignment falls under HDC jurisdiction on the southern side of the Waikari River. Under the Hastings District Plan, this land is situated in the 'Rural Zone'. The Hastings District Plan outlines criteria pertaining to earthworks in Section 27.1: Earthworks, Mineral, Aggregate and Hydrocarbon Extraction:

- **Rule EM3:** *The removal offsite of less than 25 m<sup>3</sup> of topsoil, sand, gravel, metal and earth in the Plains Production Zone and less than 100 m<sup>3</sup> of topsoil, sand, gravel, metal and earth per site per year from sites in all other zones is classified as a Permitted Activity.*

---

<sup>10</sup> Strikethrough copied as per the HBRMP.

- **Rule EM10:** *The removal offsite of more than 100 m<sup>3</sup> of earth (including topsoil) per site per year from sites in any Zone (excluding Plans Production Zone) is classified as a Discretionary Activity.*
- *The total volume of earthworks<sup>11</sup> allowed as a Permitted Activity in the Rural Zone is 2000 m<sup>3</sup> per hectare (ha) of site.*
- *Where vegetation clearance occurs (except where it is associated with the operation, maintenance or upgrading of lawfully established roads, tracks, and drainage channels), disturbed areas shall be re-pastured or revegetated as soon as practicable within 18 months of the activity ceasing.*
- *Earthworks shall not be undertaken on land with a slope of greater than 45° degrees above horizontal.*
- *No earthworks shall have a cut/fill face of overall vertical extent greater than 5 metres in the Rural Zone.*
- *No excavations shall be greater than 1 metre vertical extent of cut/fill face where the top of the excavation is within 10 metres of buildings or surcharge points.*
- *No significant change is to occur to existing flood overflow paths.*
- *Except when associated with fill faces on rural farm tracks, any fill of over 100 m<sup>3</sup> in volume, or 0.5 metres total depth, shall only be permitted if a site plan is provided to Hastings District Council showing the location and extent of the fill.*

---

<sup>11</sup> Soil disturbance activities.



### 3. Site description

#### 3.1 Site identification and location

Project construction is proposed to take place in Putorino, Hawke’s Bay, New Zealand. Putorino is a small farming settlement located on SH2, approximately 60 km north of Napier, situated between Tutira and Kotemaori. The Alignment transects both several Putorino properties, and the Waikari River (the changeover point of Council jurisdiction). An approximate location (shown in pink) for the 4.22 km Alignment is presented in **Figure 1** below.

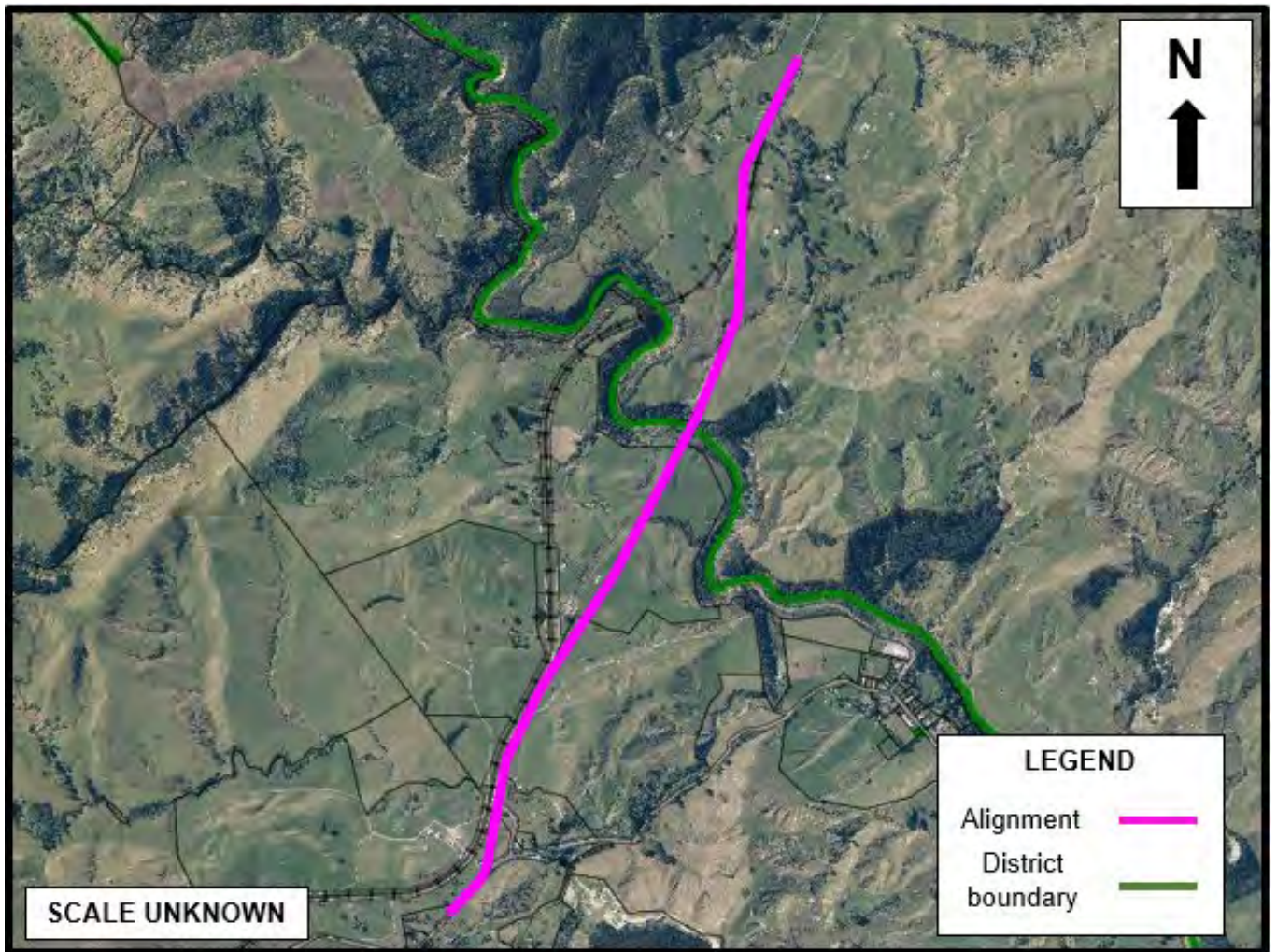


Figure 1 Approximate Alignment location <sup>12</sup>

<sup>12</sup> Sourced from HDC online mapping services.

**Table 1** below presents details for properties in the vicinity of the Alignment and within the proposed Alignment works (refer to the concept design drawings in **Appendix A**).

*Table 1 Details for properties in the vicinity of the Alignment and within the proposed Alignment works<sup>13</sup>*

District authority	Address	Legal description	Certificate of Title	Area (ha)	Zone name
WDC	5500 SH2, Putorino, Hawke's Bay	PART LOT 1 DP 13713	HB4/1448	98.42	Rural Zone
WDC	5517 SH2, Putorino, Hawke's Bay and 5556 SH2, Putorino, Hawke's Bay	PART LOT 1 DP 13541	HG3/1433	227.82	Rural Zone
HDC	151 Putorino Station Road, Putorino, Hawke's Bay	LOT 1 DP 25330 SEC 22 SO 1621	M2/901, V4/130	199.70	Rural Zone
HDC	5100 SH2, Putorino, Hawke's Bay	LOT 1 DP 9366 LOT 1 DP 21170 LOT 1 DP 23044 LOTS 1 2 DP 24159 LOT 3 DP 25330 LOT 1 DP 26609 SEC 23 SO 1621 SEC 33 PT SEC 34 SO 2516 SEC 41 SO 6201 SEC 51 PT SEC 37 BLK II MOEANGIANGI SD - PUTORINO GOLF CLUB - LAKE HILL STUD -	J1/419, P2/890, C4/1271	326.33	Rural Zone
HDC	5224 SH2, Putorino, Hawke's Bay	LOT 1 DP 23291 BLK VI MOEANGIANGI SD-SUBJ TO & INT IN R/W	P4/388	24.16	Rural Zone

### 3.1.1 Existing land use and zoning

Existing land use surrounding the alignment was assessed using mapping services provided by WDC and HDC. As discussed in Section 2.2, the Alignment is situated within the Rural Zone as per the Wairoa District Plan and Hastings District Plan. Both plans generally define the Rural Zone as being dominated by agricultural, forestry, and farming related activities.

The land-use surrounding the Alignment is predominantly farming oriented. The land is mostly pastoral with some farm related buildings and sparse residential occupancies.

### 3.1.2 Proposed works

This Section details a brief summary of the works proposed for construction of the Alignment (refer **Appendix A** for concept design drawings).

As discussed in Section 1.1, the constructed Alignment will consist of a 4.22 km two-lane section of roadway, with northern tie in works situated between 5500 SH2 and 5517/5556 SH2, and southern tie in works situated between 5100 SH2 and 5224 SH2. As part of the proposed works, the following key items are to be constructed (not including the roadway itself):

- Accessways to the Alignment for multiple properties at the east sweeping bend near the northern tie in works.
- Five stormwater structures that transect the Alignment.
- Two stock underpasses, one north, and one south of the Waikari River.
- Two paddock access tracks north of the Waikari River.
- A bridge that crosses over the existing railway line north of the Waikari River with two large retaining walls, one each on opposite sides of the bridge.
- A bridge that spans the Waikari River.
- A hospitality development south of the Waikari River.
- A Waka Kotahi “Type D” accessway that connects the Alignment to Putorino Station Road immediately south of the hospitality development.

<sup>13</sup> Sourced from WDC and HDC online mapping services.



The following works are to be undertaken on existing key items:

- The realignment of three farm tracks south of the Waikari River.
- The realignment of a stormwater drain, south of the Waikari River and east of the Alignment, to tie in with a new stormwater structure.
- The extension of an existing stormwater structure south of the Waikari River.

At the time of writing, the construction methodologies including proposed soil disturbance and disposal volumes are yet to be confirmed; however, as per the concept design drawings (refer **Appendix A**), the majority of earthworks are proposed as cut and fill, weighted approximately 50% each.

## 3.2 Environmental setting

### 3.2.1 Geology

A section of the published geological map of the Hawke's Bay area<sup>14</sup> presented in **Figure 2** indicates that the sub-surface geology underlying the Alignment is part of the Mangaheia Group. **Table 2** details the geological descriptions derived from published geological map of the Hawke's Bay area.

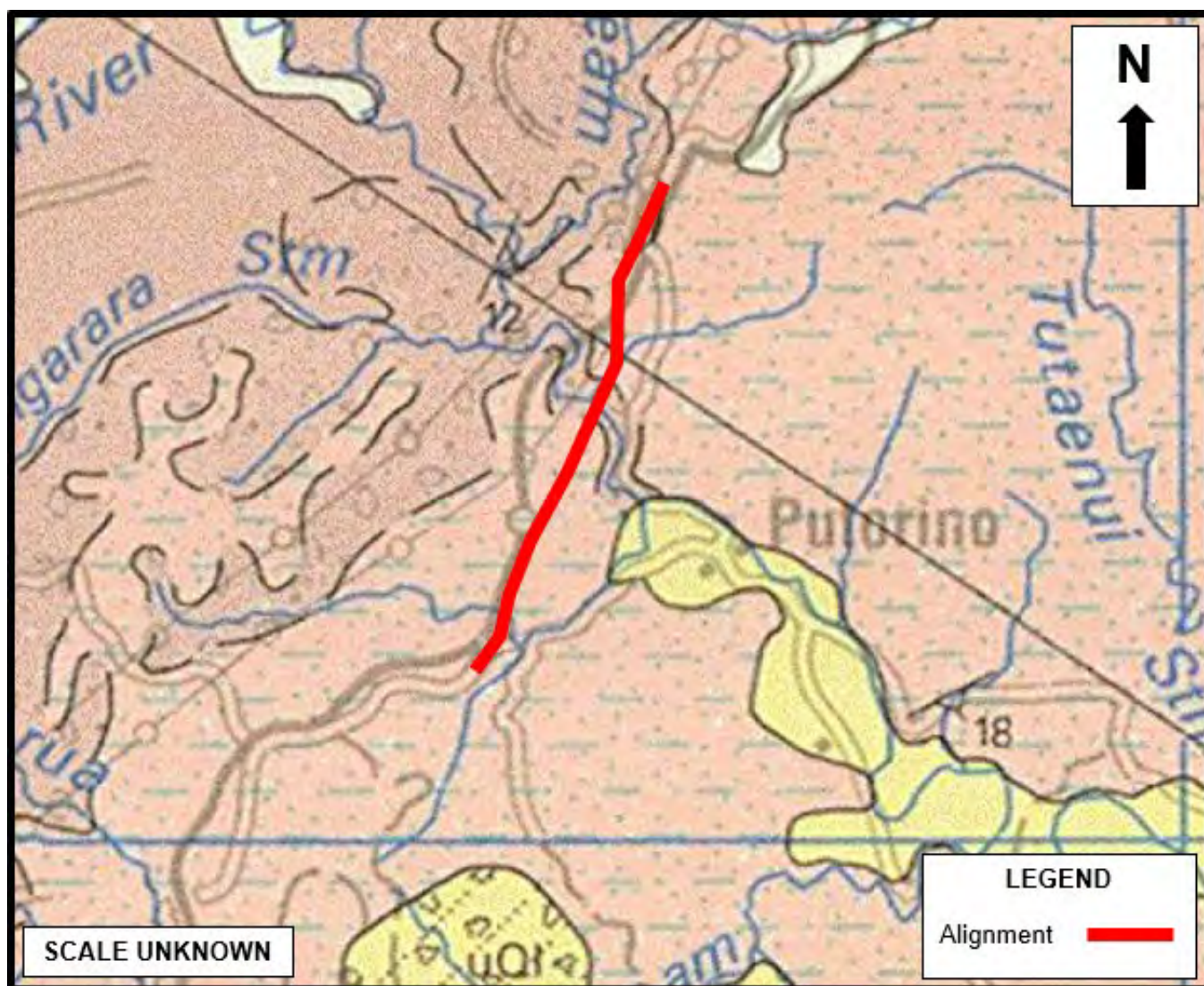





Figure 2 Alignment geology

<sup>14</sup> Lee, J.M.; Bland, K.J.; Townsend, D.B.; Kamp, P.J.J. (compilers) 2011: Geology of the Hawke's Bay area. Institute of Geological & Nuclear Sciences 1:250 000 geological map 8. 1 sheet + 93 p. Lower Hutt, New Zealand. GNS Science.

Table 2 Geological descriptions

Map graphic	Geological unit	Geological description
	Mangaheia Group	Massive, locally fossiliferous mudstone, alternating sandstone and mudstone; tephra beds common.
	Mangaheia Group (Matahorua Formation)	Alternating sandstone, mudstone and conglomerate.
	Mangaheia Group	Siltstone, sandstone and minor shell-beds.

### 3.2.2 Topography, hydrology, and hydrogeology

The topography and hydrology of the area surrounding the Alignment is presented in **Figure 3**. The Alignment is situated in a minor valley on slightly undulating ground where changes in gradient are often gentle. Rolling hills, between 200 to 300 m above sea level (masl) are present on either side (east and west) of the Alignment. At the northern tie in works where the Alignment commences, the ground is situated approximately 160 masl. From these tie in works, the ground gently slopes to 100 masl at the northern bank of the Waikari River. This ground elevation continues along the Alignment from the southern bank of the Waikari River and generally remains unchanged until the conclusion of the Alignment at the southern tie in works. The conclusion of the Alignment has a ground elevation of approximately 110 masl.

As shown in **Figure 3**, the main waterbodies within 500 m of the Alignment are the Waikari River, flowing northwest to southeast, the Pohatanui Stream, flowing south to north, and other tributaries that flow toward the Waikari River. Localised groundwater is anticipated to mimic the topography of the area and flow toward the Waikari River. A bore search was requested of HBRC by GHD as part of a contamination enquiry for the area surrounding the Alignment (refer Section 4.2.1.2). The enquiry identified three bores on properties in the vicinity of the Alignment, two of these being within approximately 200 m of the Alignment, one active, and the other presumed redundant. Refer to Section 4.2.1.2 for further information on these bores. There are no other known sensitive groundwater abstractions within the vicinity of the Alignment.



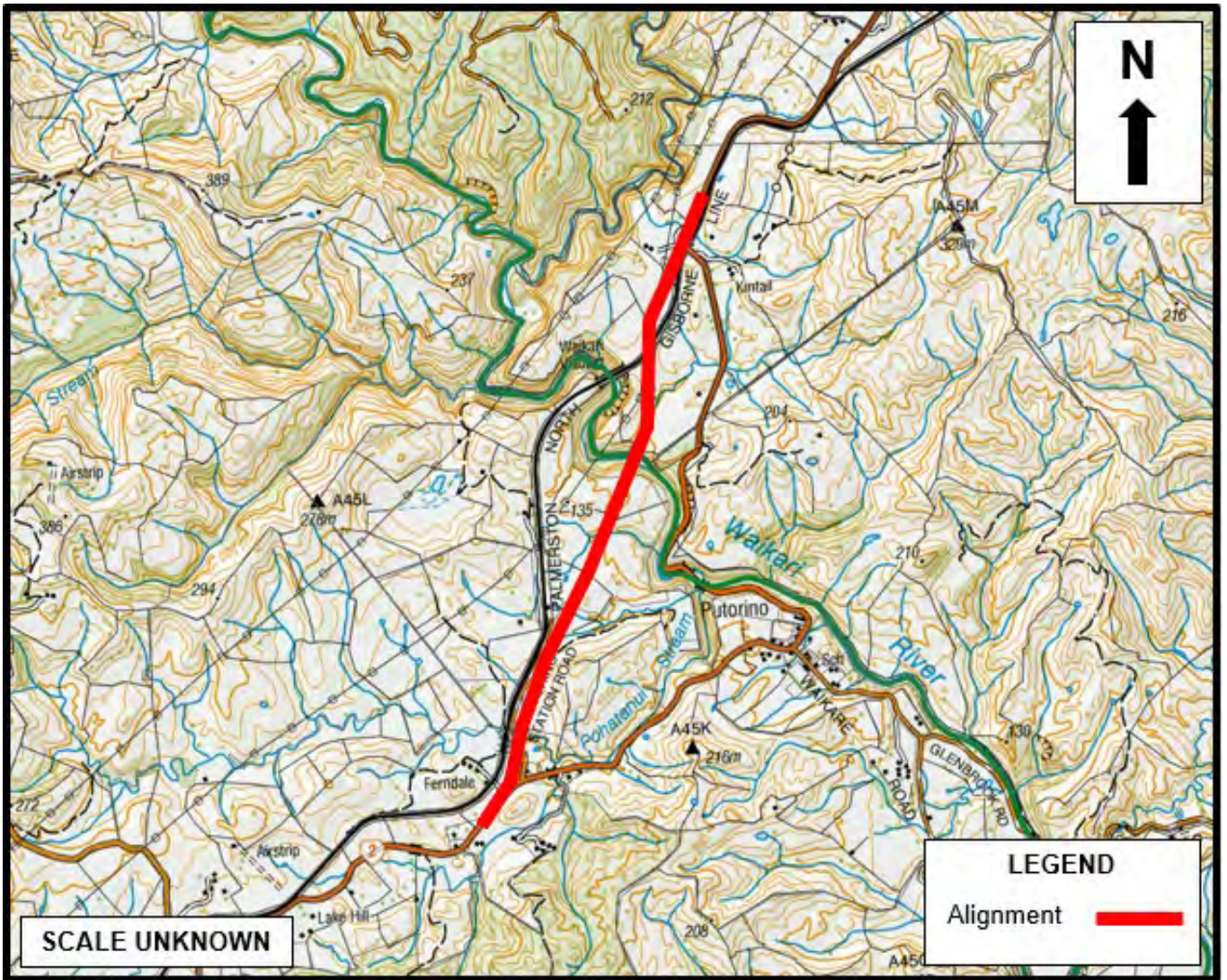


Figure 3 Topography and hydrology of the area surrounding the Alignment<sup>15</sup>

### 3.2.3 Built environment and underground infrastructure

Due to the rural location of the Alignment, there is little to no built environment. The only indications of built environment come in the form of sparse farming related buildings and residential occupancies in the general area. Mapping services provided by HBRC, WDC, and HDC were used to ascertain the presence or absence of asbestos containing underground infrastructure in the area surrounding the Alignment. Upon review, there was no indication of any public underground infrastructure in this area.

<sup>15</sup> Sourced from WDC online mapping services.

## 4. PSI

### 4.1 Site history

This Section of the PSI assesses current and historic HAIL activities (if any) that are more likely than not to have occurred within or adjacent to the Alignment, based on historical aerial imagery.

#### 4.1.1 Historical aerial image review

The assessments in this review were based on historical aerial imagery sourced from Retrolens Historical Aerial Imagery Resource (Retrolens)<sup>16</sup>, and Land Information New Zealand (LINZ)<sup>17</sup>. These sources provided images for select years from 1945 through to 2020 with a reasonable degree of clarity. The historical aerial image review (discussed in greater detail) is provided in **Appendix B**. Section 4.1.2 below details a summary of the historical aerial image review.

#### 4.1.2 Historical aerial review and land use summary

As part of the historical aerial review, it was noted that land use along the proposed Alignment and the area that surrounds it has been predominantly associated with rural activities from 1945 through to current times. It is evident that farming has consisted most of these rural-based activities in the general area.

From 1945 the land that surrounds the Alignment has remained largely undeveloped. The small volume of development in the area was noted as sparse residential occupancies and farming related buildings. From 1945 there has generally been a slow and steady increase in farming related activities in the area, for example: through the erection of milking sheds and other farming related buildings.

As a result of the historical aerial image review, no potential HAIL activities were identified as having more likely than not occurred on land in the vicinity of the Alignment

## 4.2 Council information

This Section discusses relevant site contamination information received and/or retrieved from HBRC, WDC, and HDC. All information received and/or retrieved from these councils are compiled together and provided in **Appendix C**.

### 4.2.1 HBRC

GHD requested available site contamination information in the form of an enquiry with the HBRC contaminated land team. Site contamination information (including relevant resource consents) for all properties and land parcels listed in **Table 1** was requested as part of this enquiry. The key findings of this enquiry are summarised in the following Sections.

#### 4.2.1.1 HAIL information

HBRC records indicate that land parcel Part Section 37 Block II, Section 51 Block II Moeangiangi, at 5257 SH2 (5100 SH2 in **Table 1**) has been subject to the following HAIL activity:

- **HAIL Category F4: Motor vehicle workshops.**

This land parcel is situated east of the Alignment, approximately 75 m from the assumed extent of soil disturbance works (refer Section 4.4.2), and approximately 5 m from supplementary works (the full context and scope of which is unknown to GHD) titled 'reform to create property access' (refer to the concept design drawings in **Appendix A**).

HBRC records in relation to this land parcel indicate that a motor vehicle workshop was located at this site from 1981 to 2002 which included two fuel storage tanks. The tanks were noted as removed in 2002, each being 4545

---

<sup>16</sup> [www.retrolens.co.nz](http://www.retrolens.co.nz)

<sup>17</sup> [www.data.linz.govt.nz](http://www.data.linz.govt.nz)



litres (L) in volume. HBRC were unable to confirm the contents of these tanks and their storage conditions (above or below ground) or provide any reports confirming investigations or sampling undertaken.

#### 4.2.1.2 Bore consents

HBRC provided the following information on bore resource consents within the area of enquiry:

- Water Take Consent (AUTH-108259-01) to take water from Well No. 2054 (0.1 m diameter) to irrigate golf course greens. This consent was held for land parcel Part Section 34 SO 2516 of 5100 SH2 (refer **Table 1**) and expired in 2008. A HBRC bore log for this well indicates it was drilled in 1986, with a total depth of 85.34 m below ground level (mbgl), and a screen situated between 42.6 and 60.9 mbgl. The location of this expired well (presumed redundant) is depicted in **Figure 4** below.
- Bore Permit (AUTH-114593-01) to drill a 0.1 m diameter bore (Well No. 5337) for domestic/stock water purposes. This consent is held for land parcel Lot 1 DP 25330 at 151 Putorino Station Road (refer **Table 1**). A HBRC bore log for this well indicates it was drilled in 2005 with a total depth of 68 mbgl, and a screen situated from 44 to 68 mbgl. The location of this active well is depicted in **Figure 4** below.
- Bore Permit (AUTH-113877-01) to drill a 0.05 m diameter bore (Well No. 5129) for monitoring purposes. This consent is held for land parcel Part Lot 1 DP 13541 at 5556 SH2 (refer **Table 1**). As this bore was likely drilled for exploratory monitoring purposes, there was no bore log or locality information available.

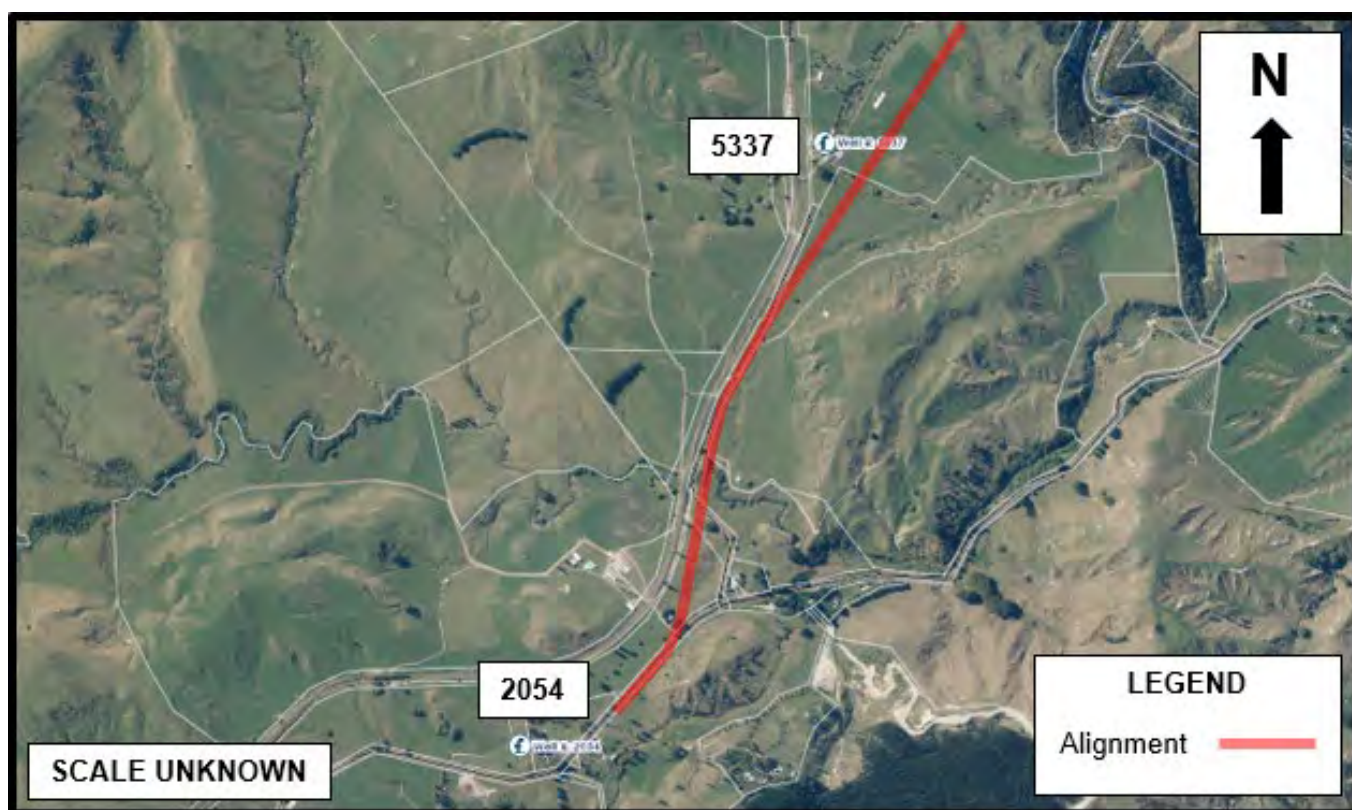


Figure 4 Locations of known wells<sup>18</sup>

#### 4.2.1.3 Discharge consents

The information provided by HBRC indicates that there are two active discharge consents within the area of enquiry. One each is held by two separate land parcels under the same address of 5100 SH2 (refer **Table 1**), both of which are in the vicinity of the Alignment. HBRC records revealed that both consents relate to the discharge of dairy farm effluent onto land. As these discharge consents do not indicate the presence of any HAIL activities, these files were not reviewed.

<sup>18</sup> Image sourced from HBRC online mapping services.

## 4.2.2 WDC

GHD requested available site contamination information in the form of an enquiry with WDC. Site contamination information (including relevant resource consents) for all properties and land parcels under WDC jurisdiction (north of the Wakari River) listed in **Table 1** was requested as part of this enquiry. In response, WDC were unable to prepare a report similar to that of the HBRC contaminated land team (refer Section 4.2.1); however, did provide some documentation.

The documentation provided by WDC revealed nothing of note. It did not contain any HAIL information or contamination relevant resource consents for the enquired properties or of those nearby.

## 4.2.3 HDC

GHD requested available site contamination information in the form of an enquiry with HDC. Site contamination information (including relevant resource consents) for all properties and land parcels under HDC jurisdiction (south of the Wakari River) listed in **Table 1** was requested as part of this enquiry. In response, HDC were unable to prepare a report similar to that of the HBRC contaminated land team (refer Section 4.2.1); however, did allow GHD access to their online property file access server<sup>19</sup>. During the course of this PSI, GHD accessed this server to search for property files pertaining to land in the vicinity of the Alignment. As a result of this search, GHD discovered one relevant document pertinent to the PSI which is detailed in following Section 4.2.3.1.

### 4.2.3.1 HAIL information

The document retrieved was a tank removal checklist (property file reference: 50174#0005) dated the 18<sup>th</sup> of July 2002 which GHD linked to the tanks referred to in the HBRC site contamination enquiry report (refer Section 4.2.1.1). These tanks were removed from Part Section 37 Block II, Section 51 Block II Moeangiangi, at 5257 SH2 (5100 SH2 in **Table 1**). This land parcel is situated east of the Alignment, approximately 75 m from the assumed extent of soil disturbance works (refer Section 4.4.2), and approximately 5 m from supplementary works (the full context and scope of which is unknown to GHD) titled 'reform to create property access' (refer to the concept design drawings in **Appendix A**).

The document indicated the following:

- **HAIL Category A17: Storage tanks or drums for fuel, chemicals or liquid waste**, has occurred at this property.
- Both tanks were stored underground; one tank contained diesel, and the other petrol.
- Generally, no contamination was noted upon removal; however, a slight hole in bottom of the diesel tank had led to some discharge, and therefore approximately 2 m<sup>3</sup> of soil was subsequently removed as result.
- A soil sample was collected; however, the suite of analysis or results of any testing were not provided in the document.

## 4.3 Miscellaneous information

During feasibility walkovers of the Alignment, WSP New Zealand Limited (WSP) noted two silage pits near the southern tie in works, where the Alignment is situated immediately adjacent the railway line. WSP informed GHD of these silage pits before works under this PSI commenced. GHD noted what appeared to be silage areas from 2003 onwards in the historical aerial image review (refer **Appendix B**). These silage areas were confirmed to be the pits WSP had noted during feasibility walkovers. As silage-based activities don't fall under the HAIL, these silage pits are not discussed further in this PSI.

## 4.4 Summary

### 4.4.1 Risk ratings

GHD has considered potential risks to human health and the environment in relation to construction of the proposed Alignment through soil disturbance activities. GHD has created arbitrary risk ratings to be considered

---

<sup>19</sup> [www.propertyfiles.hdc.govt.nz](http://www.propertyfiles.hdc.govt.nz)



when these works take place in the presence of HAIL activities. These risk ratings and their definitions are outlined in **Table 3**.

**Table 3** Risk ratings and their definitions

Risk rating	Definition
Low	Current or historic HAIL activities are situated 200 m or further from the proposed Alignment and a complete contaminant transport pathway between potentially contaminated soils and the proposed Alignment has been considered unlikely to present a significant risk to the proposed works.
Low to medium	Current or historic HAIL activities are situated within 200 m of the proposed Alignment. Due to the proximity and nature of HAIL activities there is a potential that contamination may be encountered during the proposed works. Further investigation should be considered.
Medium	Current or historic HAIL activities are adjacent to the proposed Alignment. Due to the proximity and nature of HAIL activities there is a potential that contamination may be encountered during the proposed works. Further investigation should be considered.
High	Current or historic HAIL activities are occurring or have occurred within the proposed Alignment. Further investigation should be undertaken.

## 4.4.2 HAIL activities identified and risk ratings

The following HAIL activities listed in **Table 4** have been identified within the vicinity of the Alignment. Each HAIL activity has been assigned a risk rating (refer Section 4.4.1). These risk ratings are based on HAIL activity proximity to the Alignment and the perceived potential for HAIL activities to impact soils in the proposed soil disturbance work areas.

**Table 4** Identified HAIL activities and their risk ratings

HAIL Category	Site specific potential contaminants of concern	Source of info.	Rationale	Address	Approx. distance to Alignment works (refer Appendix A)	Location ref. (refer Figure 5)	Risk rating
A17	Total petroleum hydrocarbons (TPH), polycyclic aromatic hydrocarbons (PAH), BTEX <sup>20</sup> , various solvents, heavy metals.	HDC	Tank removal checklist identified for this property during a search of the HDC online property file access server.	5100 SH2 (or 4 Putorino Station Road), Putorino, Hawke's Bay, New Zealand	– 5 m to supplementary works titled 'reform to create property access' <sup>21</sup> .	1	Low to medium
F4		HBRC	HBRC records indicate that this property had a motor vehicle workshop operating on it between the years of 1981 and 2002.		– 75 m to the assumed extent of soil disturbance works.		

The locations of HAIL activities identified in **Table 4** above are presented in **Figure 5** below.

<sup>20</sup> Benzene, Toluene, Ethylbenzene, and Xylene.

<sup>21</sup> The full context and scope of these works are unknown to GHD.

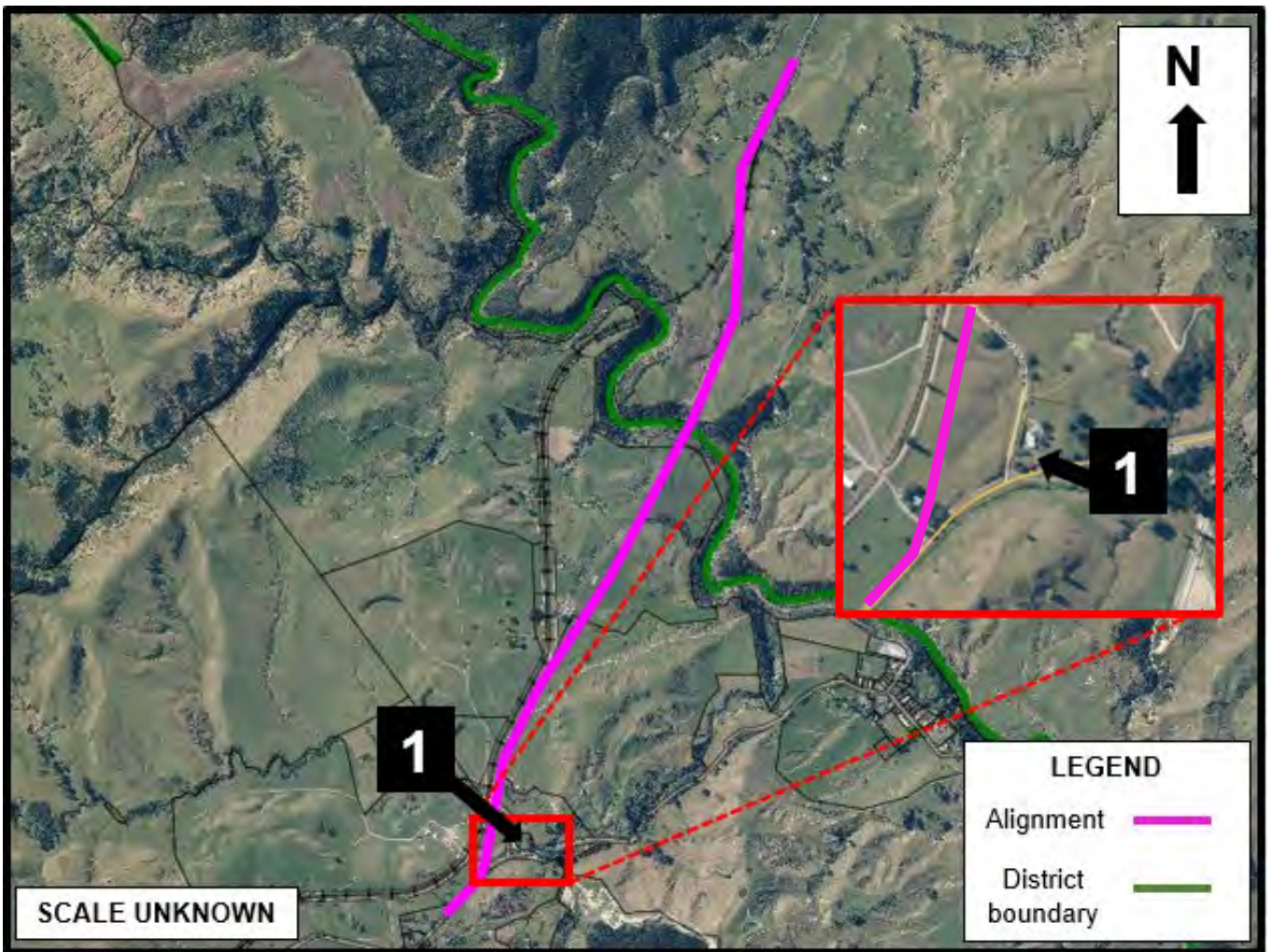


Figure 5 Locations of HAIL activities

### 4.4.3 Preliminary Conceptual Site Model

A Conceptual Site Model (CSM) is used to communicate information about a site where contamination may pose a risk to human health and/or the environment. Based on the concept designs drawings provided in **Appendix A**, supplementary works (the full context and scope of which is unknown to GHD) and soil disturbance works are proposed approximately 5 m and 75 m respectively from a HAIL Category A17 / F4 site situated at 5100 SH2 (or 4 Putorino Station Road). The CSM presented in **Table 5** provides details of this source of contamination near the Alignment, the pathways these contaminants could travel through, and the potential receptors they could affect.

Table 5 Preliminary CSM

Location	Primary sources	Exposure pathways	Sensitive receptors	Status
5100 SH2 (or 4 Putorino Station Road), Putorino, Hawke's Bay, New Zealand (see <b>Table 4</b> and <b>Figure 5</b> )	Hydrocarbons, solvents, heavy metals	Dermal contact, ingestion, inhalation	Alignment Project workers, surrounding residents, members of public	<ul style="list-style-type: none"> <li>– <b>Supplementary works 5 m from identified HAIL site:</b> Pathways to receptors likely complete due to proximity; however, the full context and scope of these works is currently unknown to GHD. This status may be reconsidered once further and pertinent information is received and reviewed.</li> </ul>
		Sediment laden contaminated runoff	Wakari River and Pohatanui Stream	<ul style="list-style-type: none"> <li>– <b>Soil disturbance works 75 m from identified HAIL site:</b> Pathways to receptors likely incomplete due to proximity. Further investigation (sampling) should be considered prior to the undertaking of Alignment works to further refine this status.</li> </ul> <p>Soil sampling may be undertaken to inform disposal requirements during the works.</p> <p>To manage potential contamination risks during the proposed works, a Project-specific Contaminated Land Management Plan (CLMP) should be prepared.</p>
		Direct contact with or ingestion of groundwater	Alignment Project workers if groundwater encountered during works, end users of Well No. 5337 (stock)	Where dewatering is planned, further investigation by a hydrogeologist (groundwater sampling) should be considered prior to the commencement of Alignment works in the vicinity of the known HAIL site, as the HAIL Categories are known to cause groundwater contamination. Groundwater sampling may be carried out to inform dewatering disposal requirements during the works.

## 5. Conclusions and recommendations

### 5.1 Summary of findings

This PSI has identified two HAIL activities that have occurred near the proposed Alignment. Each HAIL activity has been assigned a risk rating of low to medium. These risk ratings are based on HAIL activity proximity to the Alignment and the perceived potential for said HAIL activity to impact soils in the proposed soil disturbance work areas.

These activities identified by the PSI were of HAIL Categories A17 and F4, both having occurred between 1981 and 2002 at 5100 SH2 (or 4 Putorino Station Road), Putorino, Hawke's Bay, New Zealand. These activities occurred distances of approximately 5 m from proposed supplementary works (the full context and scope of which is unknown to GHD) and 75 m from the main soil disturbance works. Therefore, a potential exists that soil and groundwater has been contaminated in these areas. Based on the available information assessed during this PSI, it is unclear if the migration of potential contamination from this property has been sufficient to present a risk to human health or the environment in the proposed work areas of the Alignment. As discussed in Section 4.4.3, further investigation in these areas and the consultation of a hydrogeologist should be considered before undertaking proposed Project works (refer **Appendix A**) in these areas.

### 5.2 Statutory implications and likely resource consent requirements

As HAIL activities have been identified as having likely occurred adjacent to the proposed work areas of the Project, the NESCS may apply depending on the scope and nature of soil disturbance works in this area. Based on the potential scale of the proposed works, the Project may not meet the permitted activity thresholds (refer Section 4) within the NESCS, HBRRMP, Wairoa District Plan, and Hastings District Plan for soil disturbance and removal / disposal. If this is the case, a resource consent would be required under the NESCS, HBRRMP, Wairoa District Plan, and Hastings District Plan for the proposed Project works.

Where a resource consent is required, a DSI could be used to inform an application under the HBRRMP, Wairoa District Plan, and Hastings District Plan. In terms of the NESCS, a DSI could also be used to inform a controlled or restricted discretionary consent application. Alternatively, a discretionary consent under the NESCS could be sought without initially completing a DSI. In all instances, a CLMP including unexpected contamination discovery protocol would require generation to support the consent process.

The assumptions and conclusions described above, should be reviewed once the extent and volume of earthworks required for the Project have been confirmed.

### 5.3 Recommendations

Based on the PSI undertaken and the available information relating to proposed soil disturbance works associated with the Project, GHD make the following recommendations<sup>22</sup>.

#### 5.3.1 CLMP

Based on the nature of planned works (soil disturbance) and identified potential contamination issues, it is expected that the identified potential adverse effects to Project workers and surrounding human / environmental receptors could be managed through the implementation of a CLMP.

The purpose of a CLMP is to provide a guide for site workers to manage potential contamination issues during works. These issues include protocols for the management of potentially impacted soils and the protection of human health and the environment in the event of accidental discovery of contaminants. The CLMP would also be used in any resource consent application process.

---

<sup>22</sup> These recommendations should be reviewed once the extent and volume of earthworks required for the Project have been confirmed.

Where investigations prior to planned soil disturbance works are not undertaken, the CLMP should contain provisions regarding soil sampling being conducted during the proposed works to inform soil management controls and soil reuse / disposal requirements. The CLMP could be supported by the completion of a DSI, particularly in areas where HAIL activities have been identified in proximity to proposed Project works during this PSI.

## 5.3.2 Further investigation

GHD recommends further investigation (soil sampling) be undertaken where works are to be conducted in proximity of HAIL activities identified during this PSI. GHD also recommends a hydrogeologist be consulted with regard to potential groundwater contamination arising from these HAIL activities. A hydrogeologist would also be able to provide guidance on dewatering and groundwater disposal requirements if required.

GHD further recommends investigation be undertaken generally across the Alignment to:

- Support any applications for resource consent.
- Characterise soil conditions and any contamination not identified in this PSI to assist in the development of a Project-specific CLMP.
- Inform options for soil disposal and/or reuse.
- Identify if groundwater is likely to be encountered during the works.
- Inform construction methodology.

Undertaking further investigations generally across the Alignment would assist in streamlining construction activities; providing clarity on management methods (e.g. soil disposal location) prior to the commencement of excavation.

# Appendices

# **Appendix A**

**Alignment concept design drawings**



---

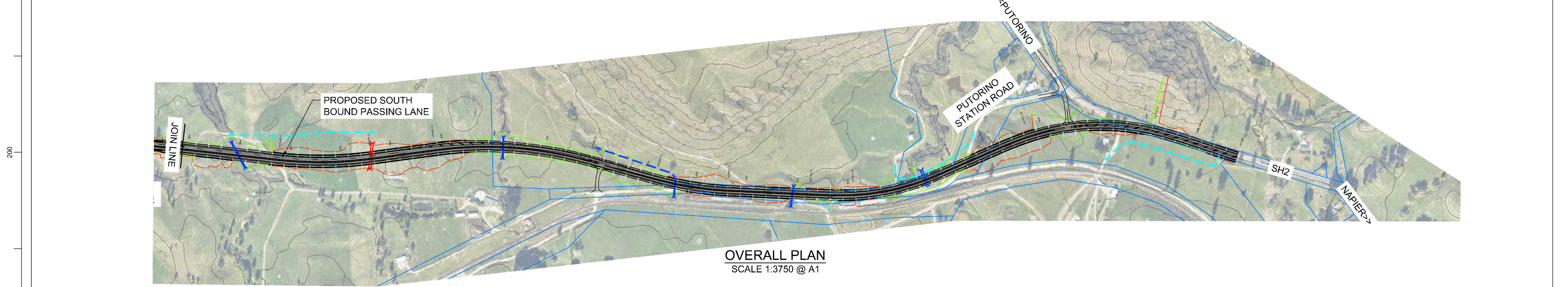
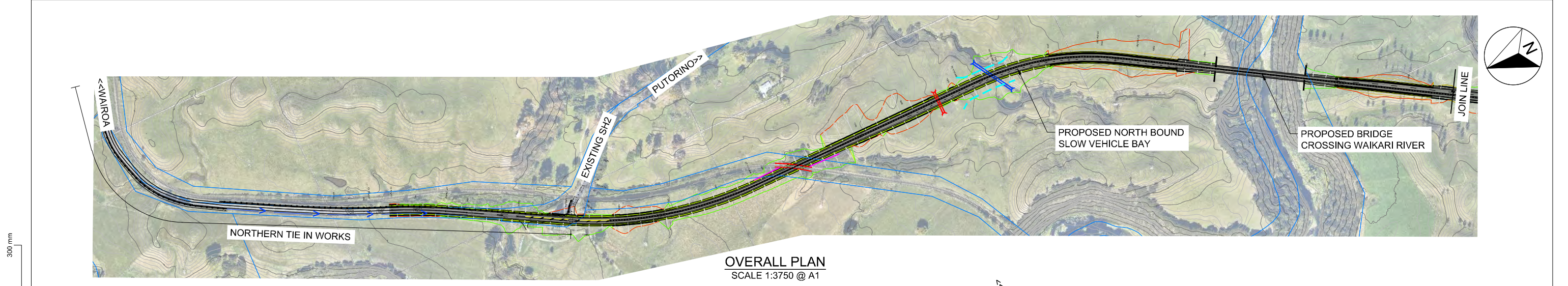
**WAKA KOTAHI NZ TRANSPORT AGENCY  
WAIKARE GORGE  
REALIGNMENT**

---

**CONCEPT DESIGN**

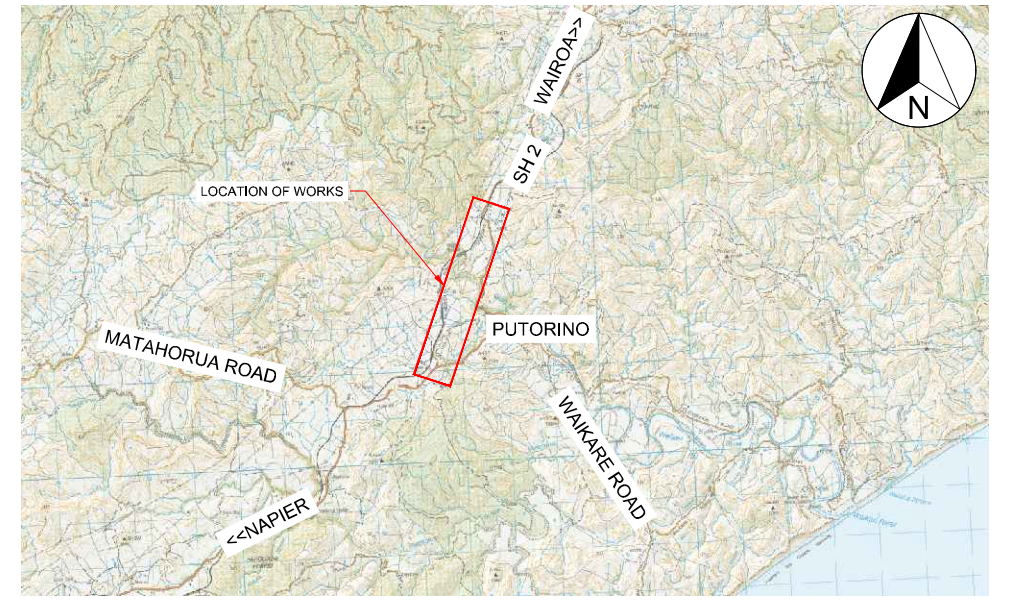
Project No: 2-S5416.01  
Date: 2021-07-28





**SHEET INDEX**

- 0001 - OVERALL PLAN, LOCALITY AND SHEET INDEX
- 0002 - 0009 PLAN AND LONGSECTIONS
- C120 - C129 PAVEMENT AND TYPICAL SECTIONS
- C150 - C195 CONSTRUCTION CROSS SECTIONS



REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100

Private Bag 6019  
Napier 4142  
New Zealand

**TRANSPORT**

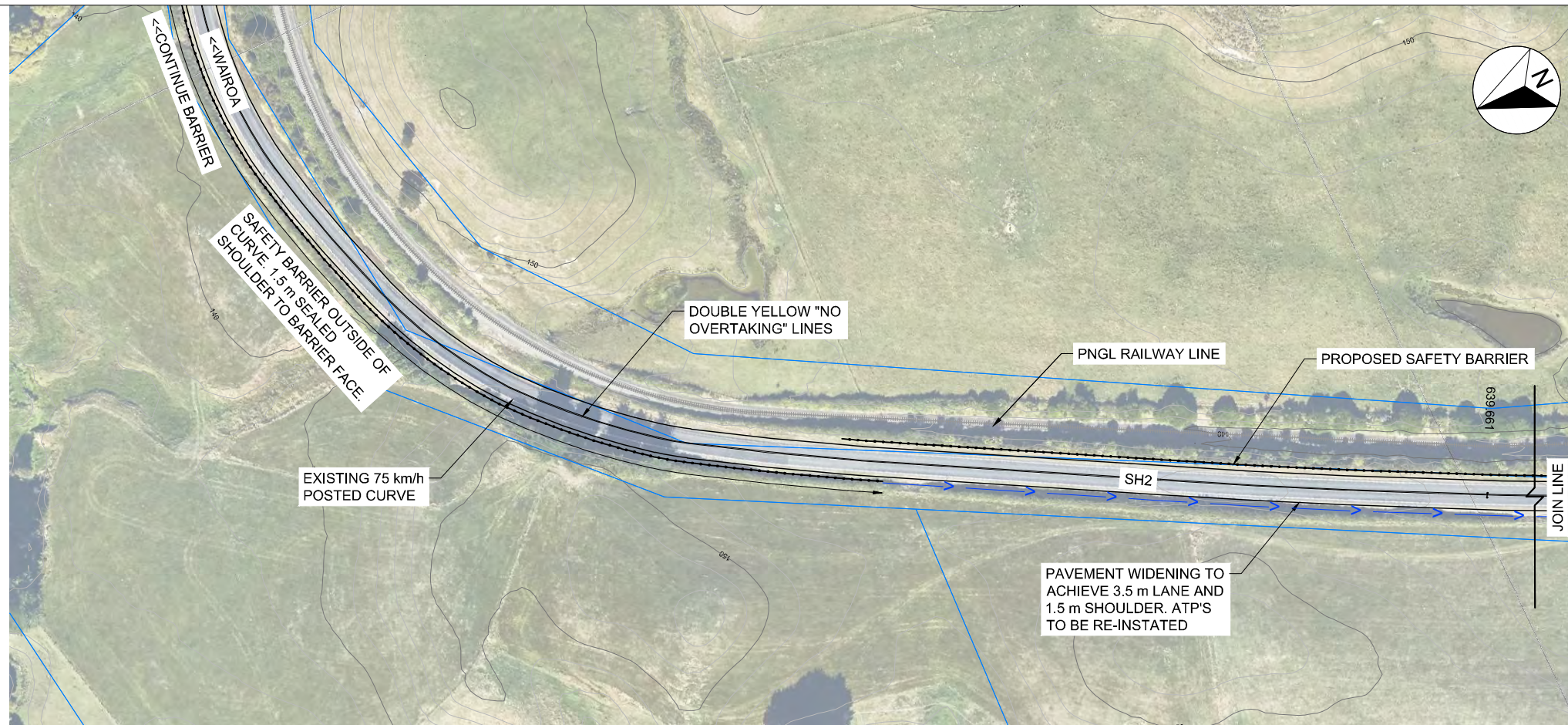
SCALES		ORIGINAL SIZE
AS SHOWN		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
J. TAYLOR	J. TAYLOR	-

**CONCEPT DESIGN**

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT			
TITLE			
OVERALL PLAN, LOCALITY AND SHEET INDEX			
WSP PROJECT NO.	PRE-DIC-SUB-OPT-DOC-NUM	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0001	A



300 mm  
200  
100  
50  
0 10 mm



**GENERAL ARRANGEMENT**  
SCALE 1:1000 @ A1

**LEGEND**

- PROPOSED EDGE OF SEAL
- PROPOSED CUT BATTER
- PROPOSED FILL BATTER
- EXISTING BOUNDARY
- █ PROPOSED PAVEMENT CONSTRUCTION
- █ PROPOSED GRASSED BERM AREA
- PROPOSED BARRIER

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

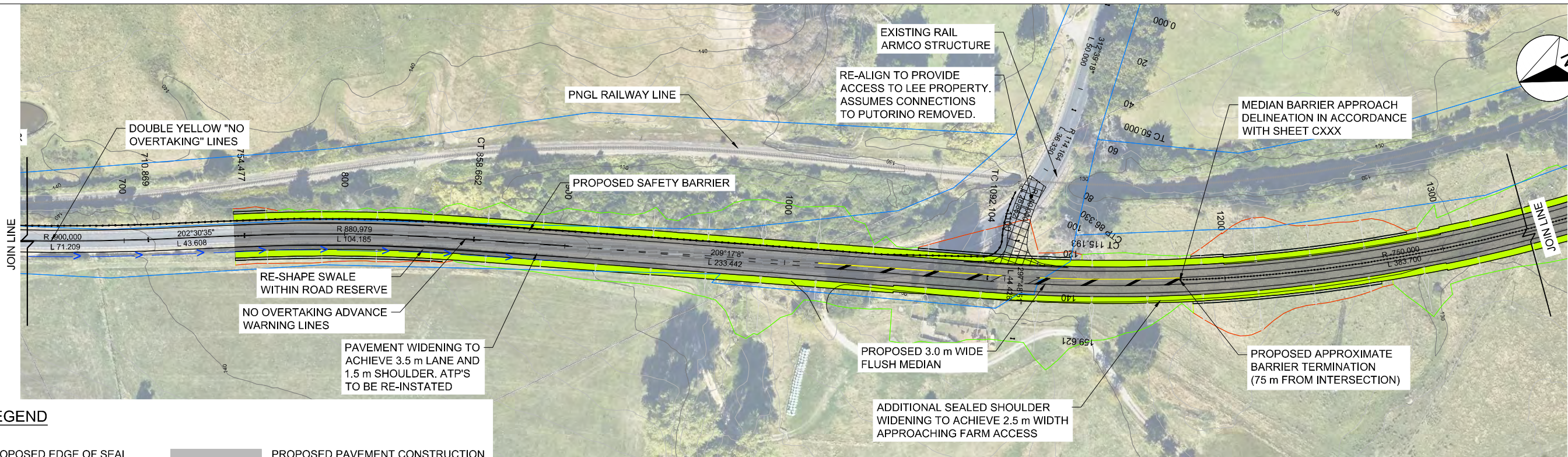
**TRANSPORT**

SCALES		ORIGINAL SIZE
1:1000 [A1], 1:2000 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
J. TAYLOR	J. TAYLOR	-

**CONCEPT DESIGN**

PROJECT			
WAKA KOTAHİ NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
GENERAL ARRANGEMENT			
PLAN AND LONGSECTION SHEET 1 OF 8			
WSP PROJECT NO.	PRE-DIC-SUB-OPT-DOC-NUM	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0002	A



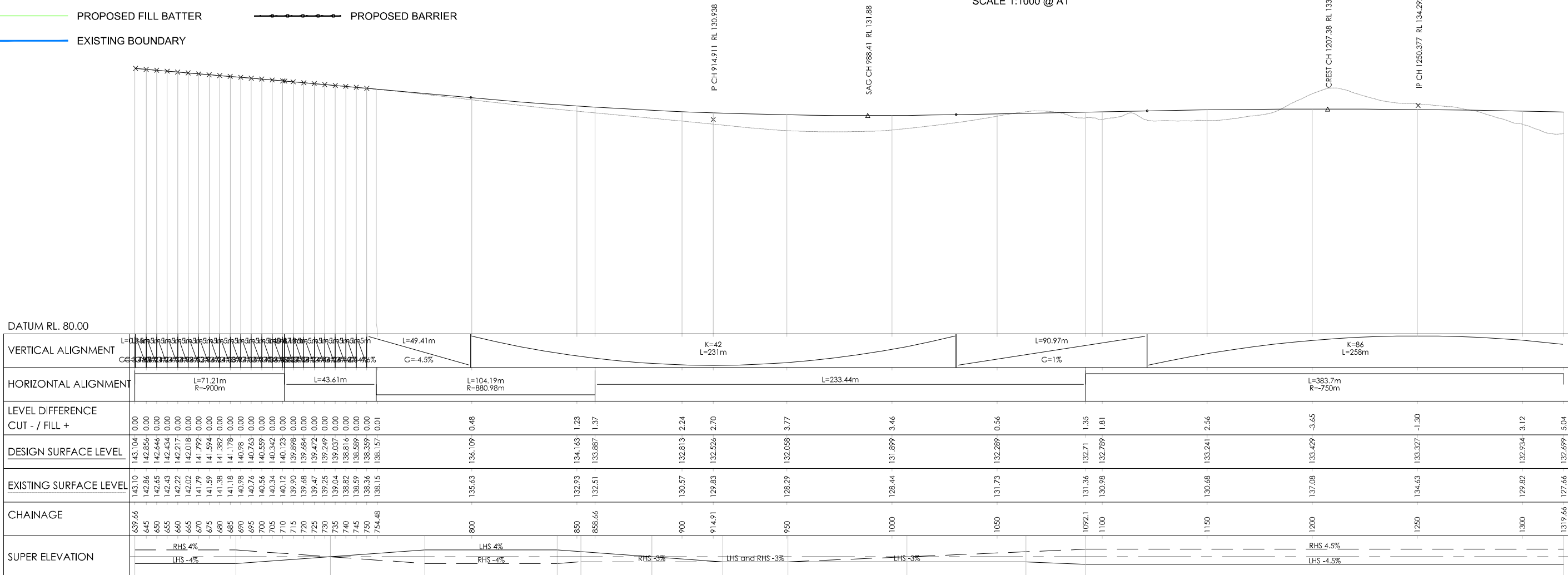


**LEGEND**

- PROPOSED EDGE OF SEAL
- PROPOSED CUT BATTER
- PROPOSED FILL BATTER
- EXISTING BOUNDARY
- PROPOSED PAVEMENT CONSTRUCTION
- PROPOSED GRASSED BERM AREA
- PROPOSED BARRIER

**GENERAL ARRANGEMENT**  
SCALE 1:1000 @ A1

300 mm  
200  
100  
50  
0 10 mm



REVISION	AMENDMENT	APPROVED	DATE

**WAKA KOTAHI**  
NZ TRANSPORT  
AGENCY

**WSP**  
Napier Office  
+64 6 833 5100

Private Bag 6019  
Napier 4142  
New Zealand

**TRANSPORT**

SCALES		ORIGINAL SIZE
1:1000 [A1], 1:2000 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
J. TAYLOR	J. TAYLOR	-

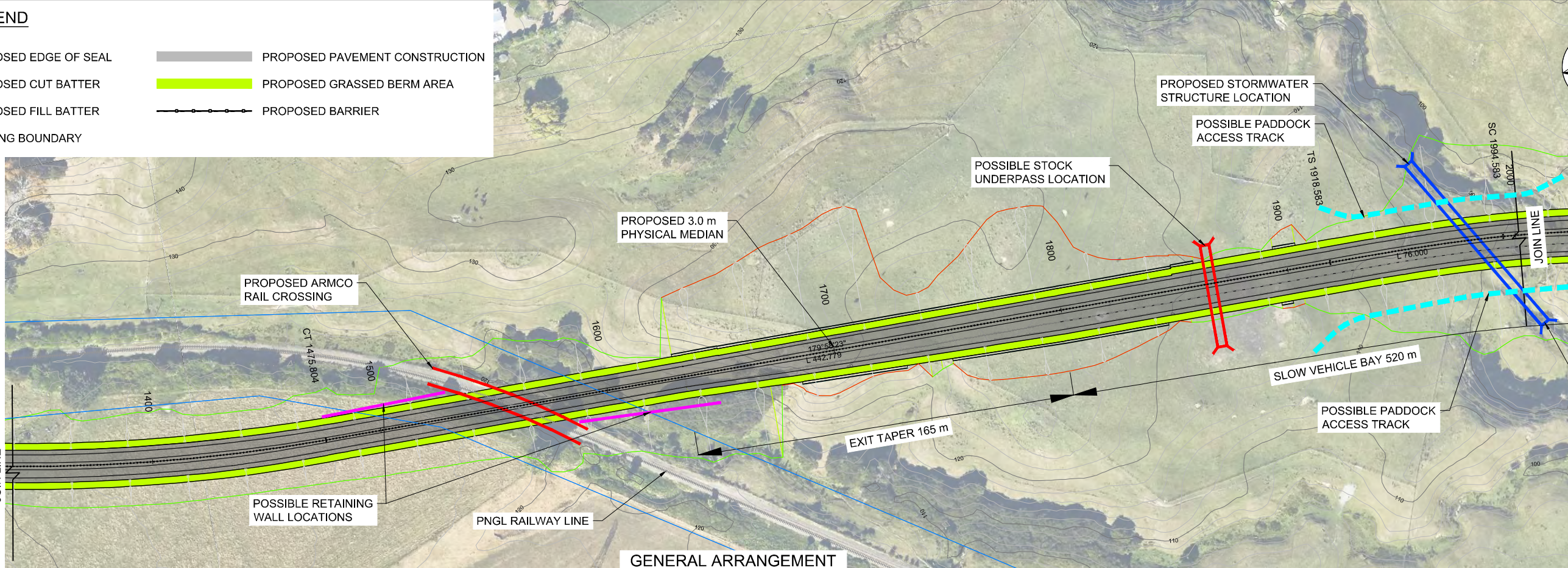
**CONCEPT DESIGN**

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
GENERAL ARRANGEMENT			
PLAN AND LONGSECTION SHEET 2 OF 8			
WSP PROJECT NO.	PRE-DIC-SUB-OPT-DOC-NUM	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0003	A



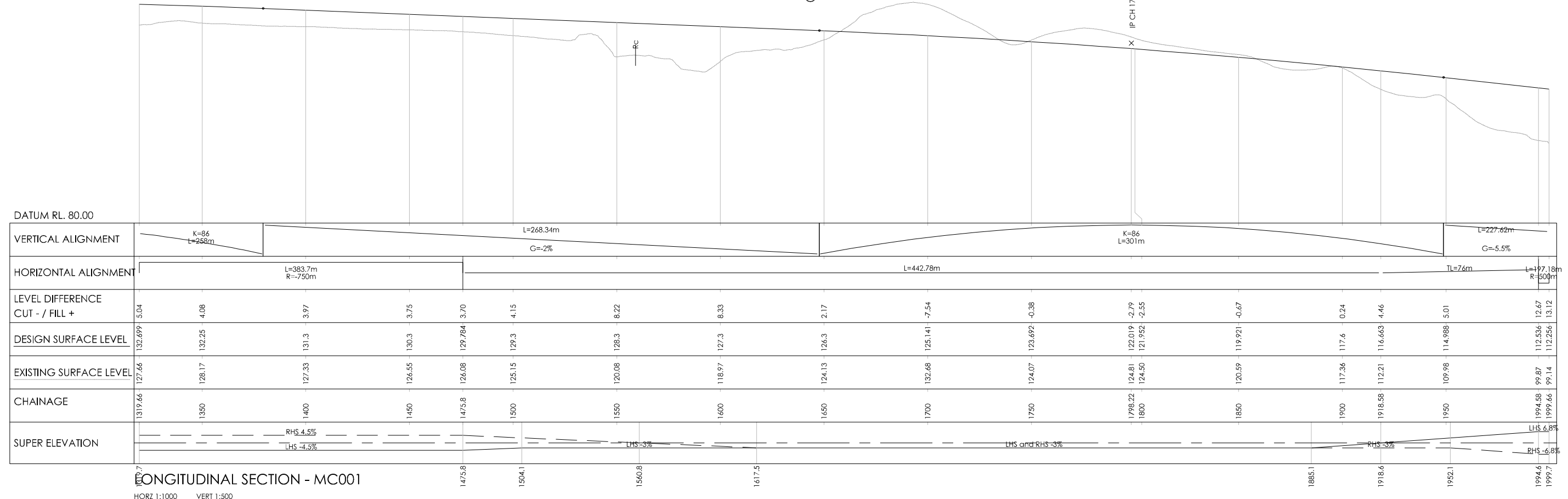
**LEGEND**

- PROPOSED EDGE OF SEAL
- PROPOSED CUT BATTER
- PROPOSED FILL BATTER
- EXISTING BOUNDARY
- PROPOSED PAVEMENT CONSTRUCTION
- PROPOSED GRASSED BERM AREA
- PROPOSED BARRIER



**GENERAL ARRANGEMENT**  
SCALE 1:1000 @ A1

300 mm  
200  
100  
0 10 mm



**LONGITUDINAL SECTION - MC001**  
HORZ 1:1000 VERT 1:500

REVISION	AMENDMENT	APPROVED	DATE



**WSP**  
Napier Office  
+64 6 833 5100

Private Bag 6019  
Napier 4142  
New Zealand

**0004**

SCALES		ORIGINAL SIZE
1:1000 [A1], 1:2000 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
J. TAYLOR	J. TAYLOR	-

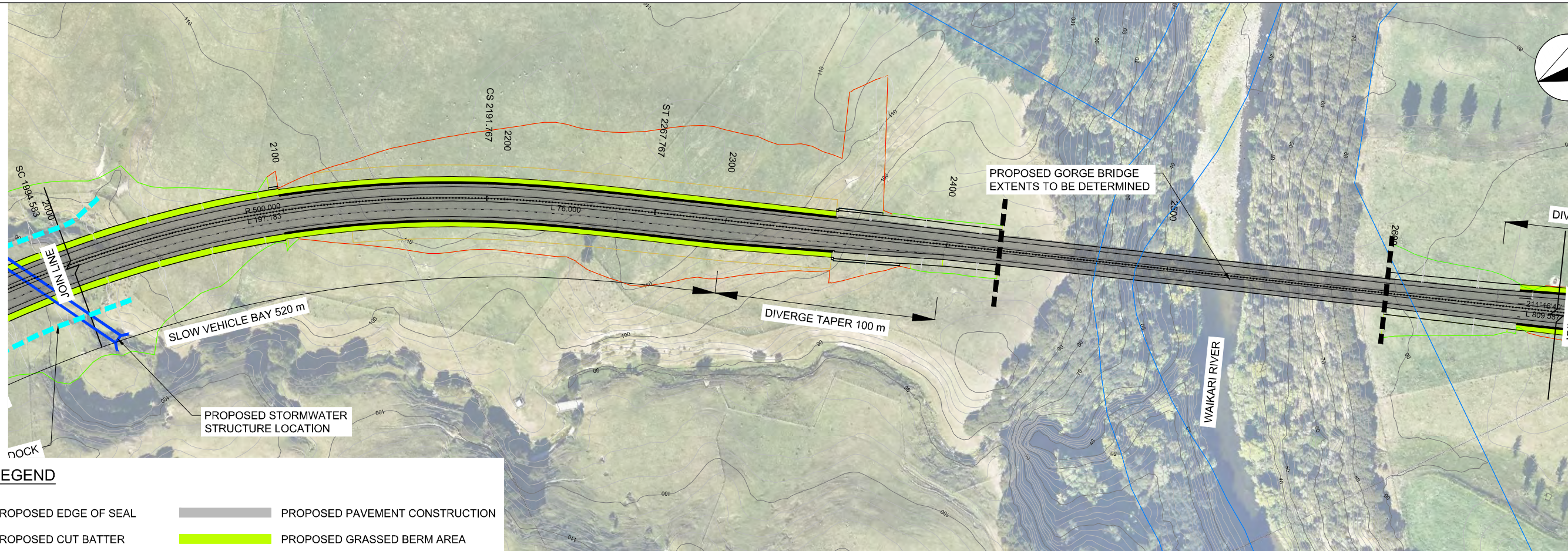
**CONCEPT DESIGN**

PROJECT  
**WAKA KOTAHI NZ TRANSPORT AGENCY**  
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE  
REALIGNMENT

TITLE  
**GENERAL ARRANGEMENT**  
PLAN AND LONGSECTION SHEET 3 OF 8

WSP PROJECT NO. 2-S5416.01	PRE-DIC-SUB-OPT-DOC-NUM WGR-DES-GEM-00-DRG	SHEET NO. 0004	REVISION A
-------------------------------	---	-------------------	---------------



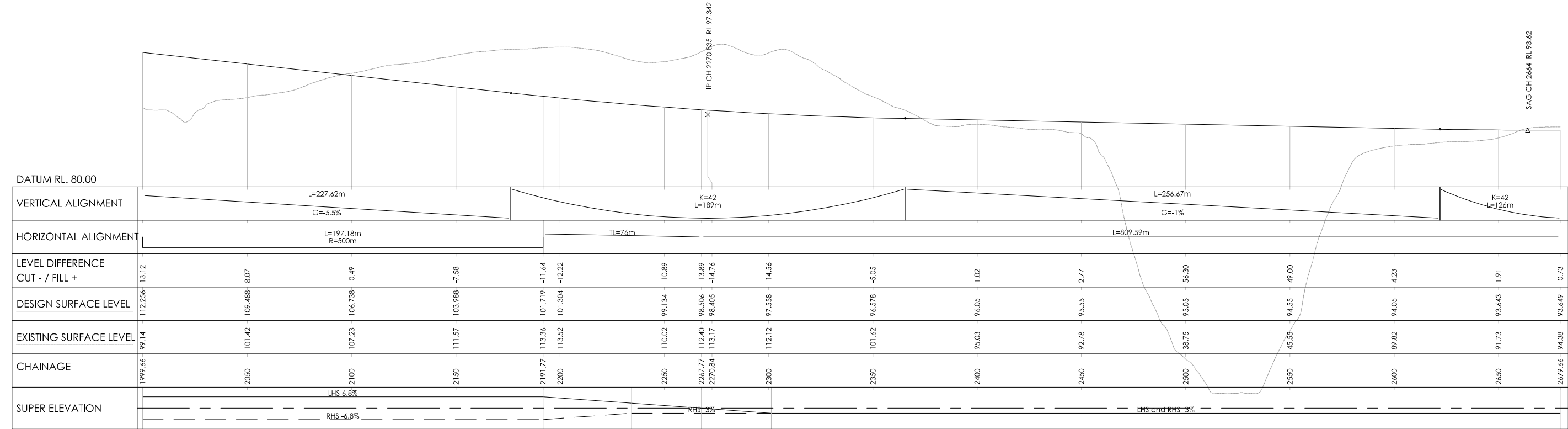


**LEGEND**

- PROPOSED EDGE OF SEAL
- PROPOSED CUT BATTER
- PROPOSED FILL BATTER
- EXISTING BOUNDARY
- PROPOSED PAVEMENT CONSTRUCTION
- PROPOSED GRASSED BERM AREA
- PROPOSED BARRIER

**GENERAL ARRANGEMENT**  
SCALE 1:1000 @ A1

300 mm  
200  
100  
50  
0 10 mm



	1999.66	2050	2100	2150	2191.77	2200	2250	2267.77	2270.84	2300	2350	2400	2450	2500	2550	2600	2650	2679.66	
DATUM RL. 80.00																			
VERTICAL ALIGNMENT	L=227.62m G=-5.5%			K=42 L=189m			L=256.67m G=-1%			K=42 L=126m									
HORIZONTAL ALIGNMENT	L=197.18m R=500m			L=76m			L=809.59m												
LEVEL DIFFERENCE CUT - / FILL +	13.12	-8.07	-0.49	-7.58	-11.64	-12.22	-10.89	-13.89	-14.76	-14.56	-5.05	1.02	2.77	56.30	49.00	4.23	1.91	-0.73	
DESIGN SURFACE LEVEL	112.256	109.488	106.738	103.988	101.719	101.304	99.134	96.506	96.405	97.558	96.578	96.05	95.55	95.05	94.55	94.05	93.643	93.649	
EXISTING SURFACE LEVEL	99.14	101.42	107.23	111.57	113.36	113.52	110.02	112.40	113.17	112.12	101.62	95.03	92.78	38.75	45.55	89.82	91.73	94.38	
CHAINAGE	1999.66	2050	2100	2150	2191.77	2200	2250	2267.77	2270.84	2300	2350	2400	2450	2500	2550	2600	2650	2679.66	
SUPER ELEVATION	LHS 6.8% RHS -6.8%			LHS 6.8% RHS -3%			RHS -3%			LHS and RHS -3%									

**LONGITUDINAL SECTION - MC001**  
HORZ 1:1000 VERT 1:500

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

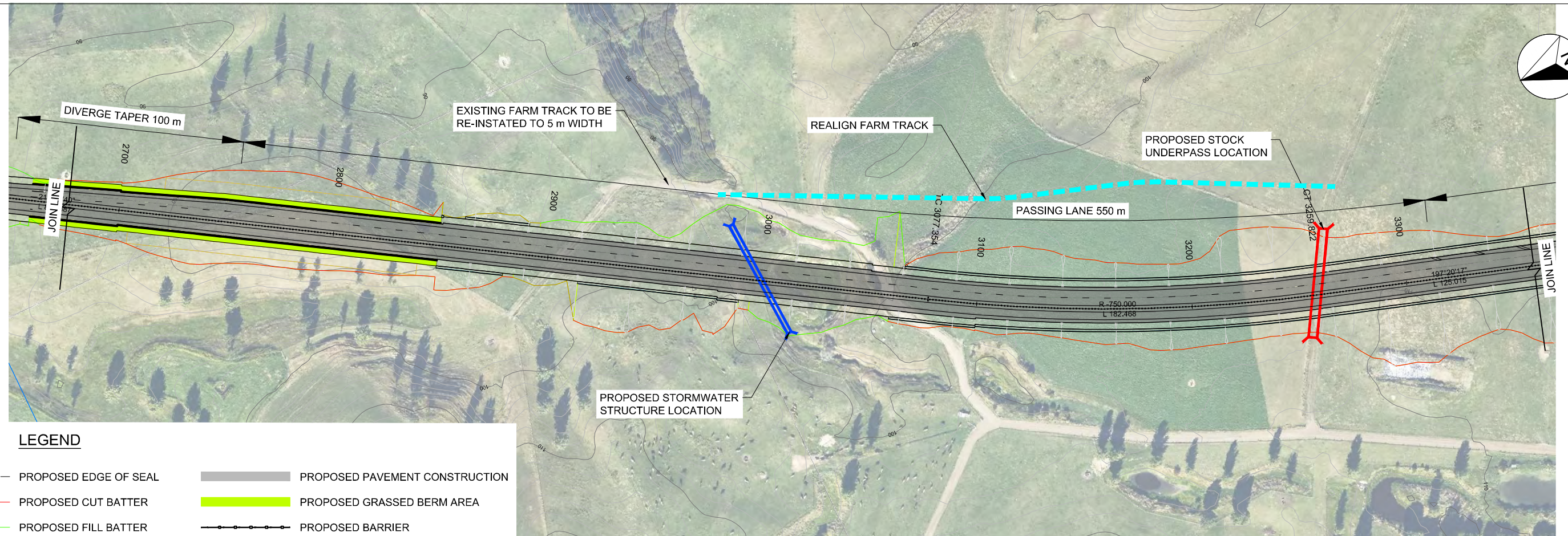
**TRANSPORT**

SCALES		ORIGINAL SIZE
1:1000 [A1], 1:2000 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
J. TAYLOR	J. TAYLOR	-

**CONCEPT DESIGN**

PROJECT		
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT		
TITLE		
GENERAL ARRANGEMENT PLAN AND LONGSECTION SHEET 4 OF 8		
WSP PROJECT NO. 2-S5416.01	PRE-DIS-SUB-OPT-DOC-NUM WGR-DES-GEM-00-DRG	SHEET NO. 0005
		REVISION A



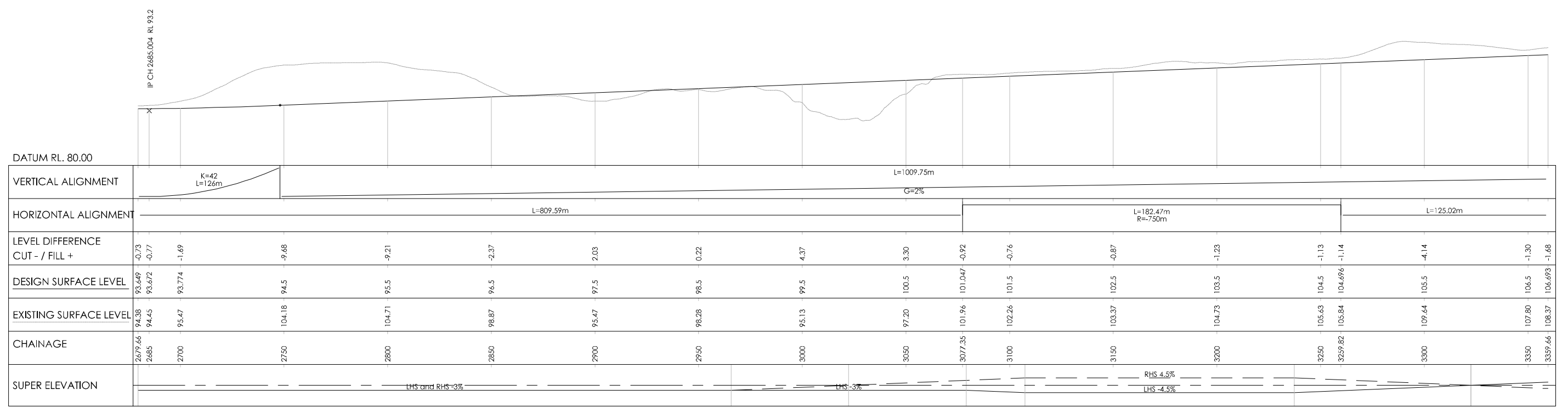


**LEGEND**

- PROPOSED EDGE OF SEAL
- PROPOSED CUT BATTER
- PROPOSED FILL BATTER
- EXISTING BOUNDARY
- █ PROPOSED PAVEMENT CONSTRUCTION
- █ PROPOSED GRASSED BERM AREA
- PROPOSED BARRIER

**GENERAL ARRANGEMENT**  
SCALE 1:1000 @ A1

0 10 mm  
50  
100  
200  
300 mm



**LONGITUDINAL SECTION - MC001**  
HORZ 1:1000 VERT 1:500

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100

Private Bag 6019  
Napier 4142  
New Zealand

**TRANSPORT**

SCALES  
1:1000 [A1], 1:2000 [A3] ORIGINAL SIZE **A1**

DRAWN P. BIRSE	DESIGNED A. LEWIS	APPROVED -
DRAWING VERIFIED J. TAYLOR	DESIGN VERIFIED J. TAYLOR	APPROVED DATE -

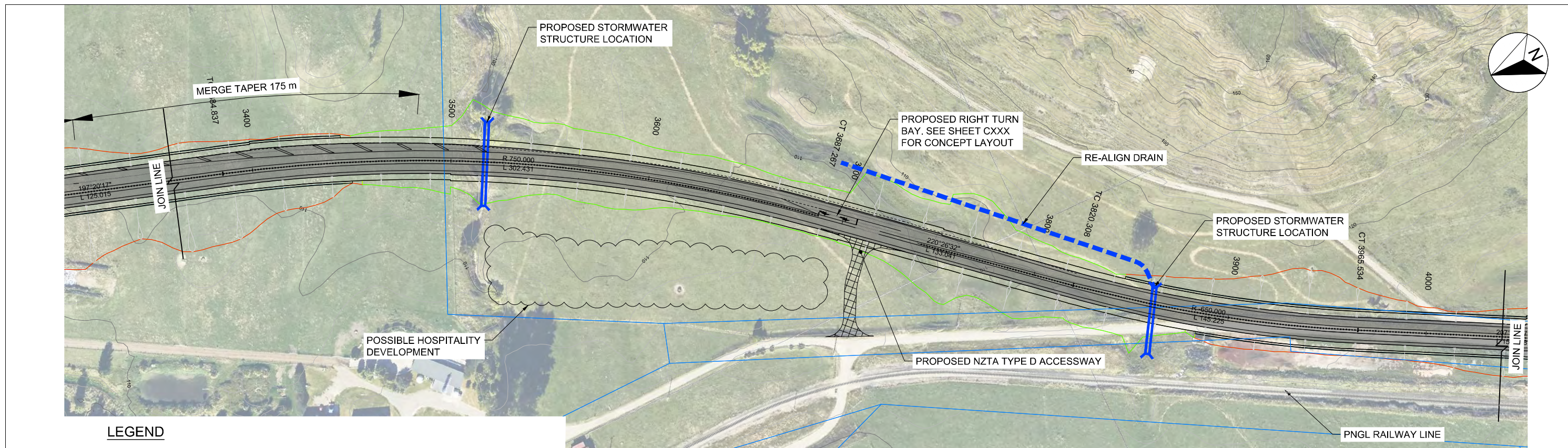
**CONCEPT DESIGN**

PROJECT  
**WAKA KOTAHI NZ TRANSPORT AGENCY  
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE  
REALIGNMENT**

TITLE  
**GENERAL ARRANGEMENT  
PLAN AND LONGSECTION SHEET 5 OF 8**

WSP PROJECT NO. 2-S5416.01	PRE-DIC-SUB-OPT-DOC-NUM WGR-DES-GEM-00-DRG	SHEET NO. 0006	REVISION A
-------------------------------	---	-------------------	---------------



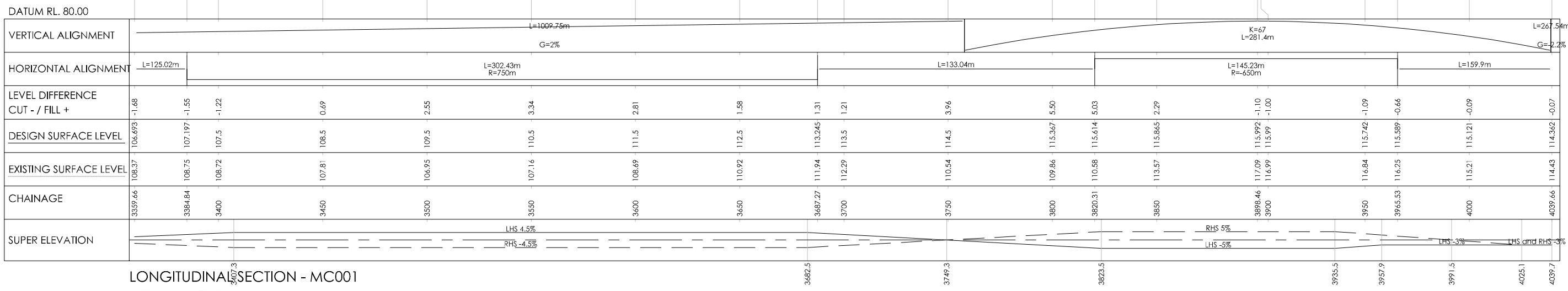


**LEGEND**

- PROPOSED EDGE OF SEAL
- PROPOSED CUT BATTER
- PROPOSED FILL BATTER
- EXISTING BOUNDARY
- PROPOSED PAVEMENT CONSTRUCTION
- PROPOSED GRASSED BERM AREA
- PROPOSED BARRIER

**GENERAL ARRANGEMENT**  
SCALE 1:1000 @ A1

300 mm  
200  
100  
0 10 mm



DATUM RL. 80.00	
VERTICAL ALIGNMENT	L=1009.75m G=2%
HORIZONTAL ALIGNMENT	L=125.02m, L=302.43m R=750m, L=133.04m, L=145.23m R=650m, L=159.9m
LEVEL DIFFERENCE CUT - / FILL +	-1.48, -1.55, -1.22, -0.69, 2.55, -3.34, -2.81, 1.58, 1.31, 1.21, 3.96, 5.50, 5.03, 2.29, -1.10, -1.00, -1.09, -0.66, -0.09, -0.07
DESIGN SURFACE LEVEL	106.693, 107.197, 107.5, 108.5, 109.5, 110.5, 111.5, 112.5, 113.5, 114.5, 115.367, 115.614, 115.865, 115.992, 115.999, 115.742, 115.589, 115.121, 114.362
EXISTING SURFACE LEVEL	108.37, 108.75, 108.72, 107.81, 106.95, 107.16, 108.69, 110.92, 111.94, 112.29, 110.54, 109.86, 110.58, 113.57, 117.09, 116.84, 116.25, 115.21, 114.43
CHAINAGE	3359.66, 3384.84, 3400, 3450, 3500, 3550, 3600, 3650, 3687.27, 3700, 3750, 3800, 3820.31, 3850, 3898.46, 3900, 3950, 3965.53, 4000, 4039.66
SUPER ELEVATION	LHS 4.5%, RHS -4.5%, RHS 5%, LHS -5%, LHS and RHS 3%

**LONGITUDINAL SECTION - MC001**  
HORZ 1:1000 VERT 1:500

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

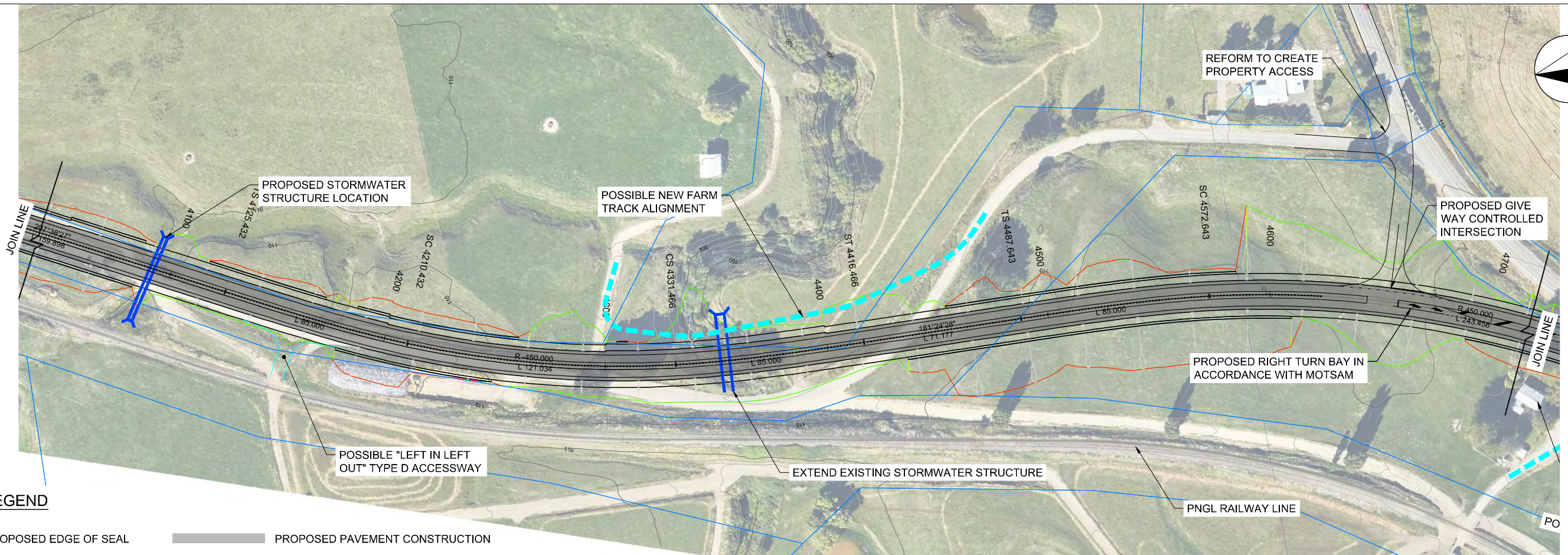
**TRANSPORT**

SCALES		ORIGINAL SIZE
1:1000 [A1], 1:2000 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
J. TAYLOR	J. TAYLOR	-

**CONCEPT DESIGN**

PROJECT		SHEET NO.		REVISION
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT		0007	0007	A
TITLE		SHEET NO.		REVISION
GENERAL ARRANGEMENT PLAN AND LONGSECTION SHEET 6 OF 8		0007	0007	A
WSP PROJECT NO.	PRE-DIC-SUB-OPT-DOC-NUM	SHEET NO.		REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0007	0007	A





**LEGEND**

- PROPOSED EDGE OF SEAL
- PROPOSED CUT BATTER
- PROPOSED FILL BATTER
- EXISTING BOUNDARY
- PROPOSED PAVEMENT CONSTRUCTION
- PROPOSED GRASSED BERM AREA
- PROPOSED BARRIER

**GENERAL ARRANGEMENT**  
SCALE 1:1000 @ A1

300 mm  
200  
100  
0 10 mm



REVISION	AMENDMENT	APPROVED	DATE

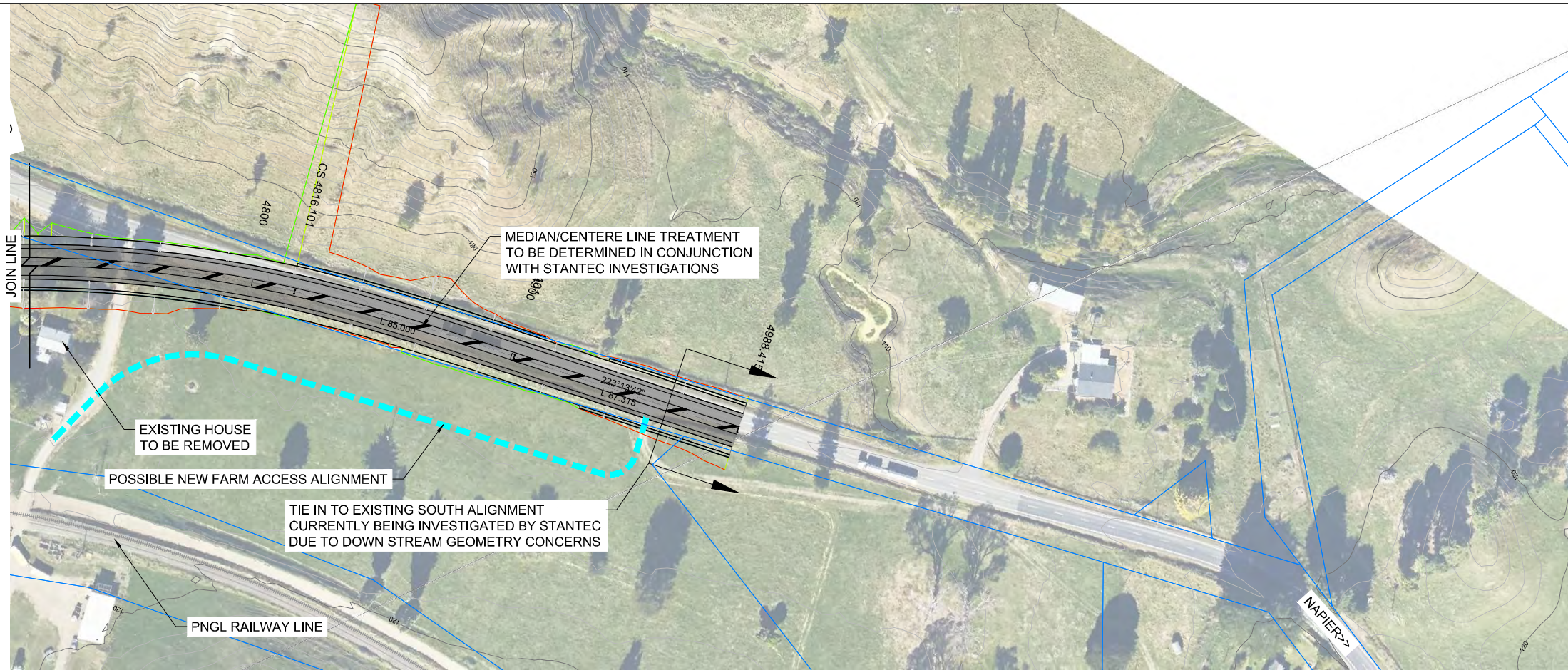
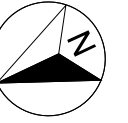


**WSP**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

SCALES	DESIGNED	APPROVED	ORIGINAL SIZE
1:1000 [A1], 1:2000 [A3]	A. LEWIS	-	A1
DRAWN	DESIGNED	APPROVED	
P. BIRSE	A. LEWIS	-	
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE	
J. TAYLOR	J. TAYLOR	-	

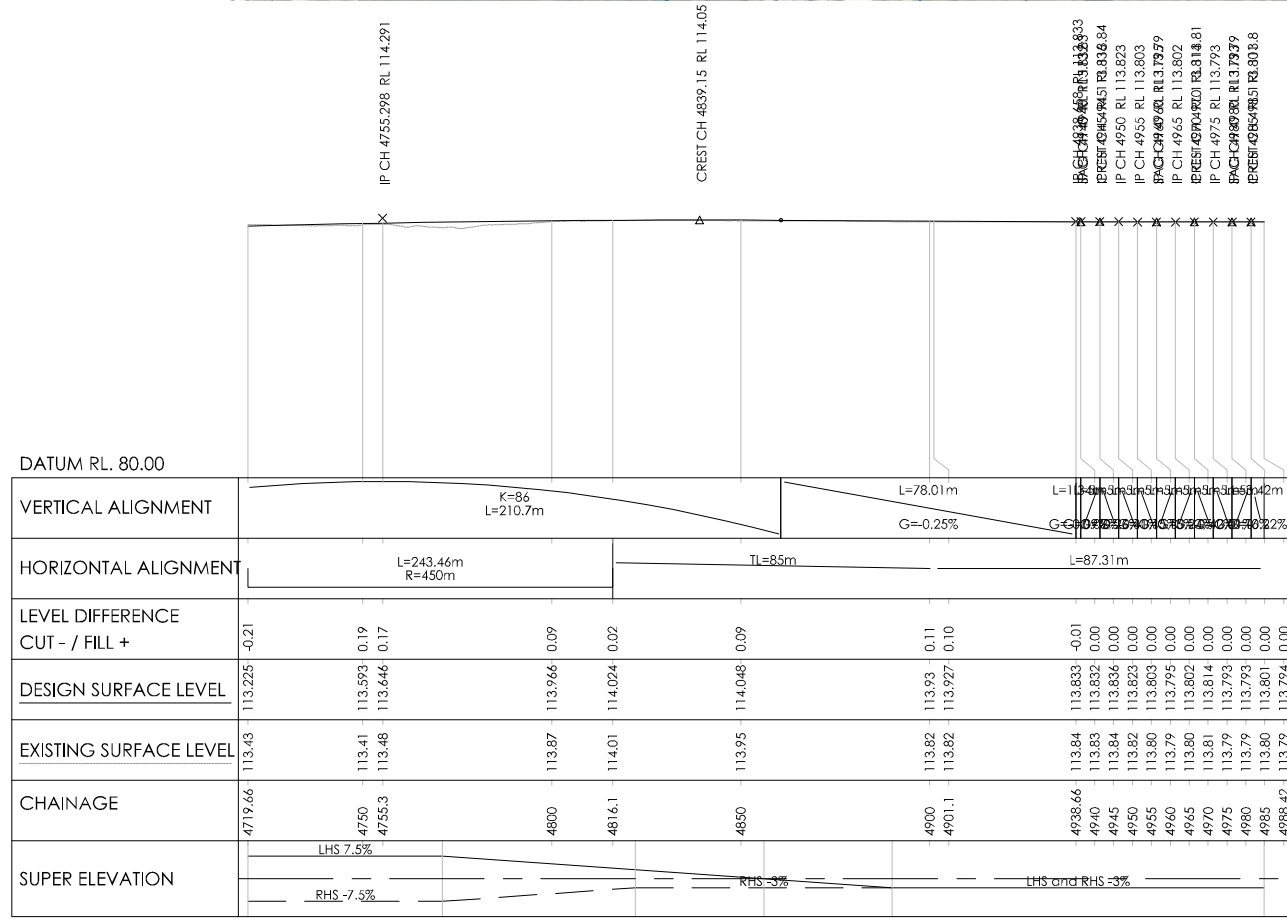
PROJECT  
WAKA KOTAHI NZ TRANSPORT AGENCY  
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE  
REALIGNMENT  
TITLE  
GENERAL ARRANGEMENT  
PLAN AND LONGSECTION SHEET 7 OF 8  
WSP PROJECT NO. 2-S5416.01  
PRE-DIC-SUB-OPT-DOC-NUM WGR-DES-GEM-00-DRG  
SHEET NO. 0008  
REVISION A





**GENERAL ARRANGEMENT**  
SCALE 1:1000 @ A1

300 mm  
200  
100  
0 10 mm



**LEGEND**

- PROPOSED EDGE OF SEAL
- PROPOSED CUT BATTER
- PROPOSED FILL BATTER
- EXISTING BOUNDARY
- PROPOSED PAVEMENT CONSTRUCTION
- PROPOSED GRASSED BERM AREA
- PROPOSED BARRIER

REVISION	AMENDMENT	APPROVED	DATE



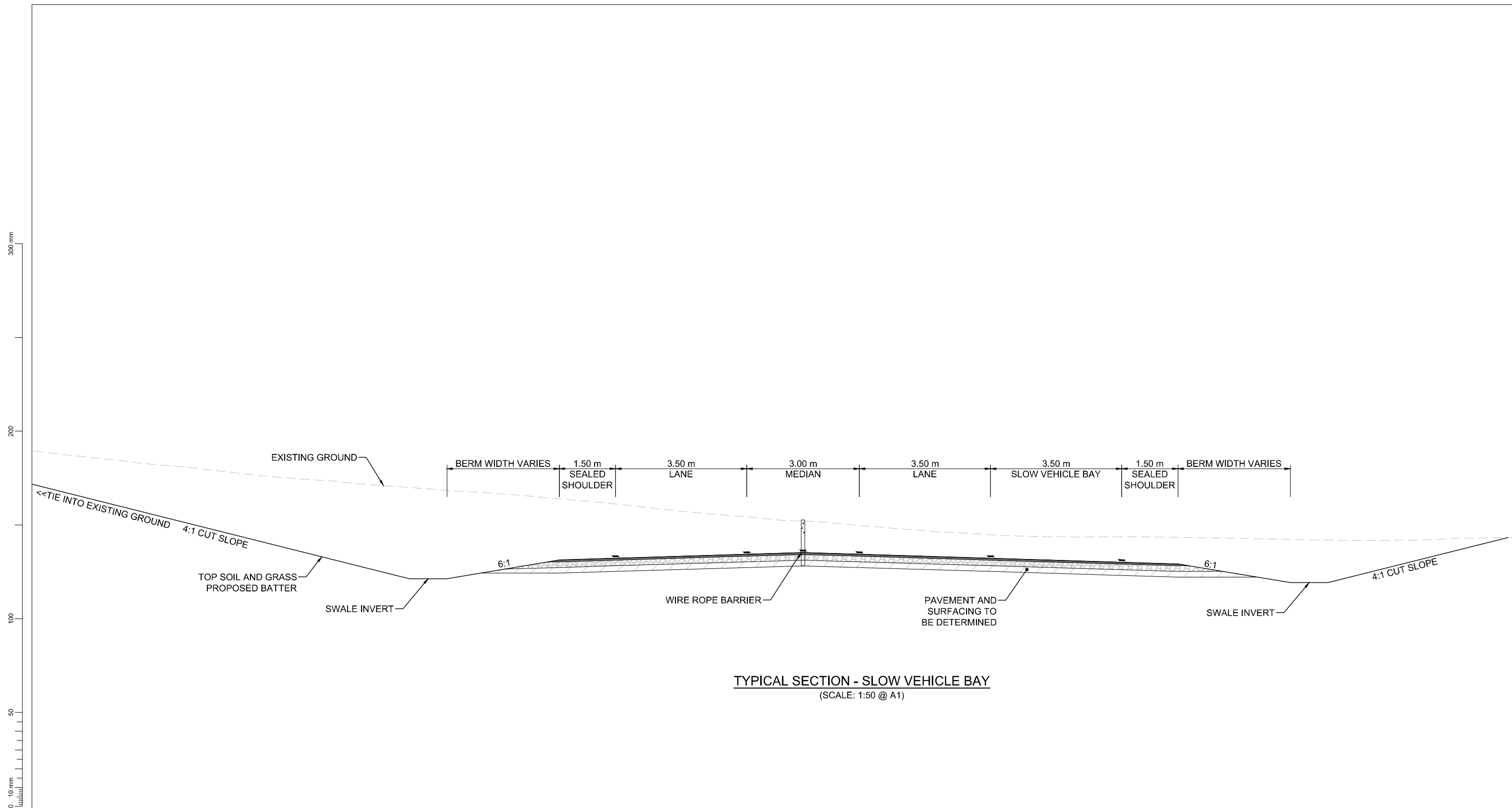
Private Bag 6019  
Napier 4142  
New Zealand

**TRANSPORT**

SCALES	DESIGNED	APPROVED	ORIGINAL SIZE
1:1000 [A1], 1:2000 [A3]	A. LEWIS	-	A1
DRAWN	DESIGNED	APPROVED	
P. BIRSE	A. LEWIS	-	
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE	
J. TAYLOR	J. TAYLOR	-	

**CONCEPT DESIGN**

PROJECT		SHEET NO.		REVISION	
WAKA KOTAHİ NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT		0009		A	
TITLE		SHEET NO.		REVISION	
GENERAL ARRANGEMENT PLAN AND LONGSECTION SHEET 8 OF 8		0009		A	
WSP PROJECT NO.	PRE-DIC-SUB-OPT-DOC-NUM	SHEET NO.	REVISION		
2-S5416.01	WGR-DES-GEM-00-DRG	0009	A		



**TYPICAL SECTION - SLOW VEHICLE BAY**  
(SCALE: 1:50 @ A1)

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

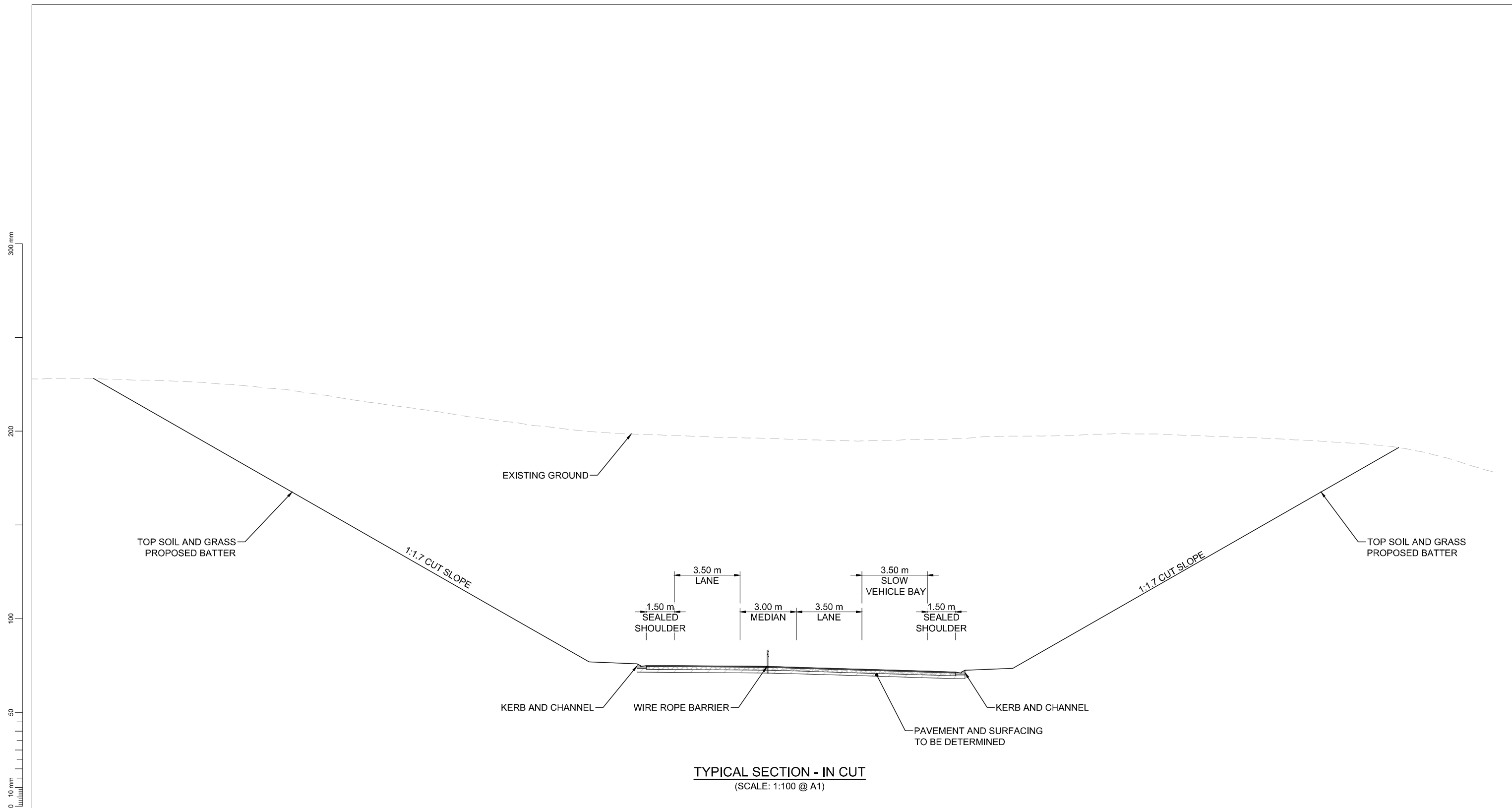
**TRANSPORT**

SCALES	ORIGINAL SIZE	
1:50 [A1], 1:100 [A3]	A1	
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

**FOR INFORMATION**

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT			
TITLE			
TYPICAL SECTIONS SHEET 1 OF 3			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0120	A





REVISION	AMENDMENT	APPROVED	DATE



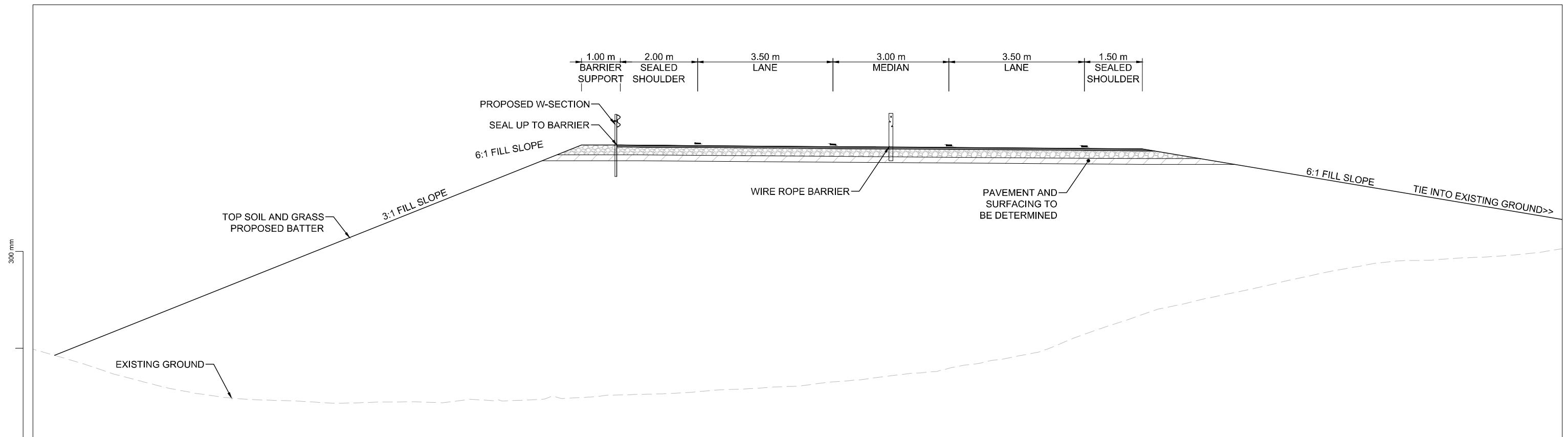
**wsp**  
 Napier Office  
 +64 6 833 5100  
 Private Bag 6019  
 Napier 4142  
 New Zealand

TRANSPORT

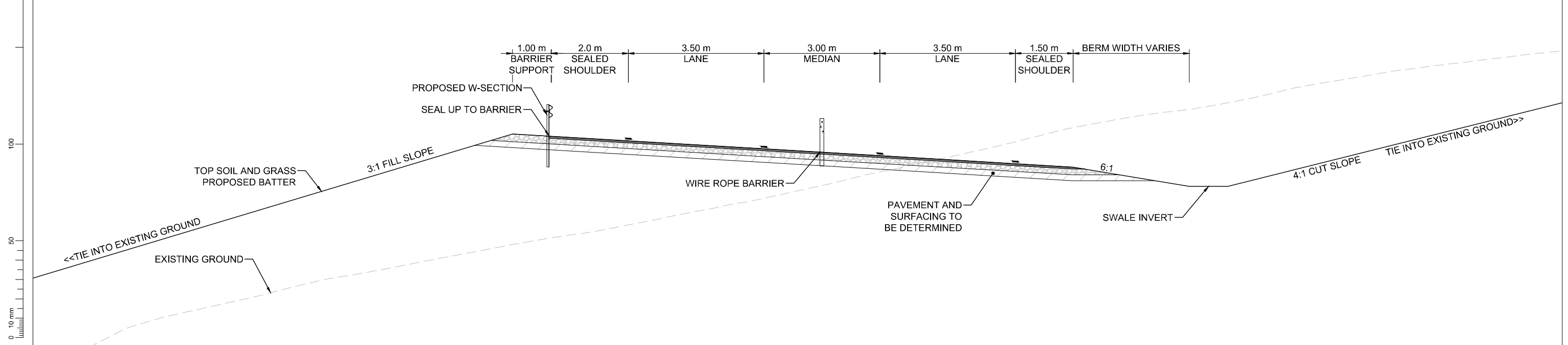
SCALES		ORIGINAL SIZE
1:100 [A1], 1:200 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT			
TITLE			
TYPICAL SECTIONS SHEET 2 OF 3			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0121	A



**TYPICAL SECTION - IN FILL WITH BARRIER**  
(SCALE: 1:50 @ A1)



**TYPICAL SECTION - IN CUT AND FILL**  
(SCALE: 1:50 @ A1)

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

TRANSPORT

SCALES	ORIGINAL SIZE
1:50 [A1], 1:100 [A3]	A1
DRAWN	DESIGNED
P. BIRSE	A. LEWIS
DRAWING VERIFIED	DESIGN VERIFIED
A. LEWIS	J. TAYLOR
APPROVED	APPROVED DATE
-	-

FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
TYPICAL SECTIONS			
SHEET 3 OF 3			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0122	A

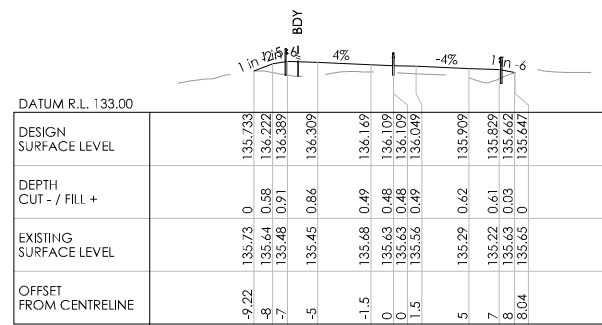
300 mm

200

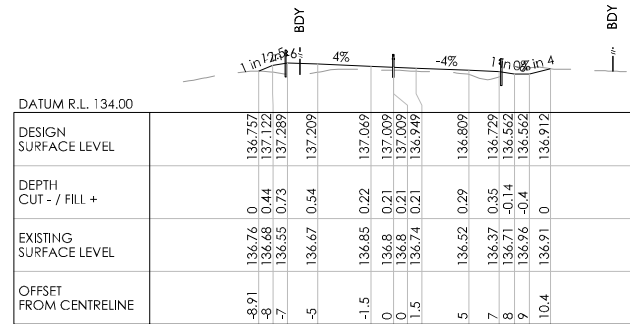
100

50

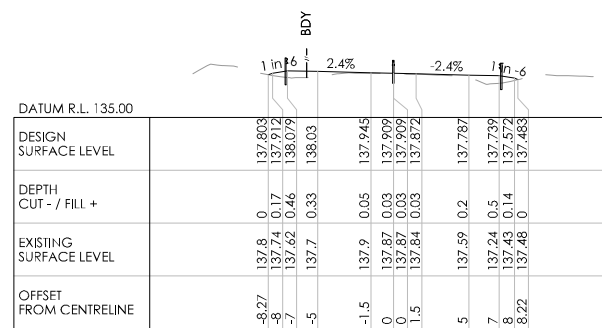
0 10 mm



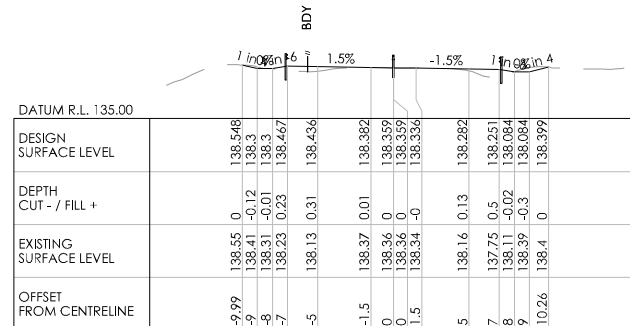
CH 800



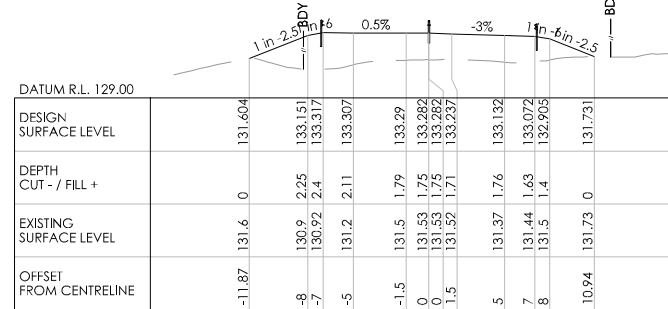
CH 780



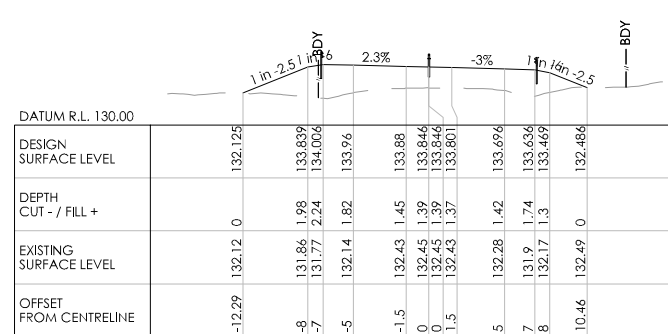
CH 760



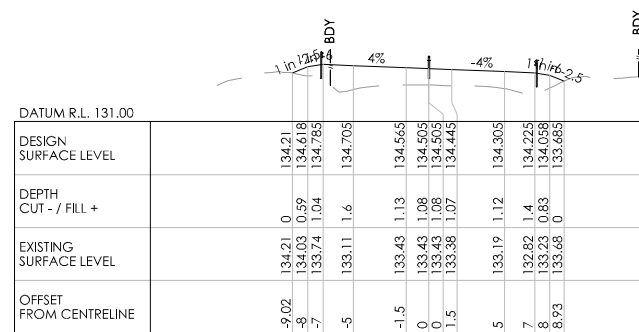
CH 750



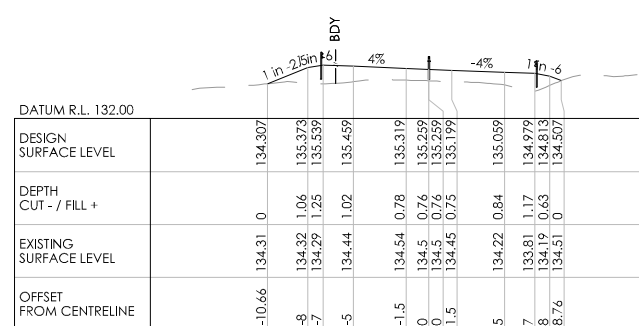
CH 880



CH 860



CH 840



CH 820

REVISION	AMENDMENT	APPROVED	DATE



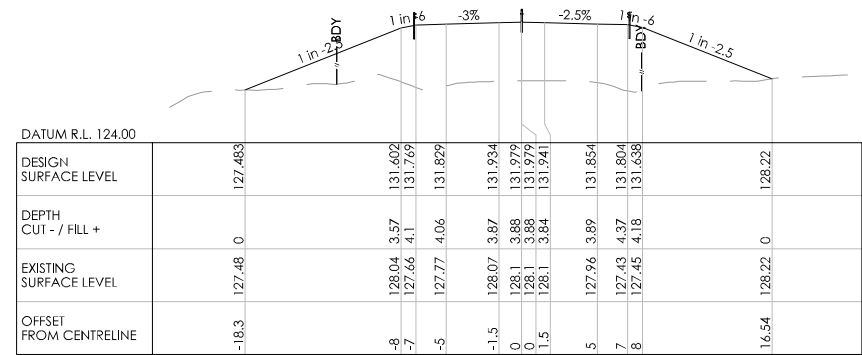
**wsp**  
 Napier Office  
 +64 6 833 5100  
 Private Bag 6019  
 Napier 4142  
 New Zealand

TRANSPORT

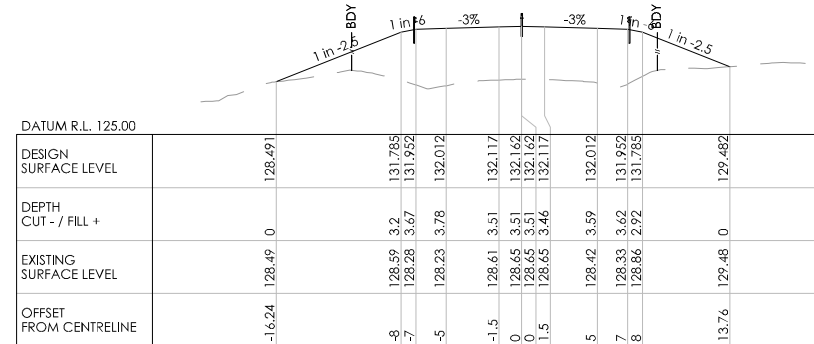
SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

FOR INFORMATION

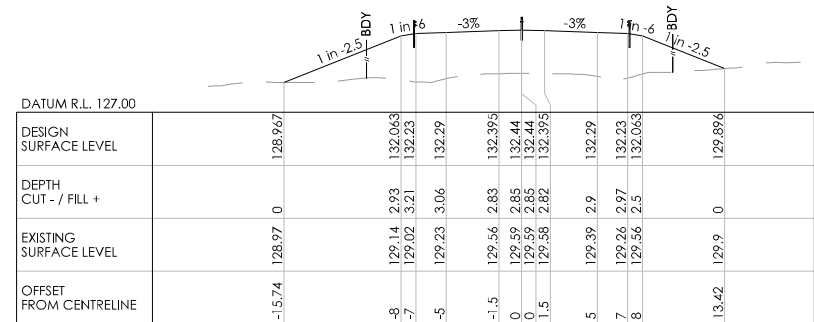
PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT			
TITLE			
CROSS SECTIONS SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0150	A



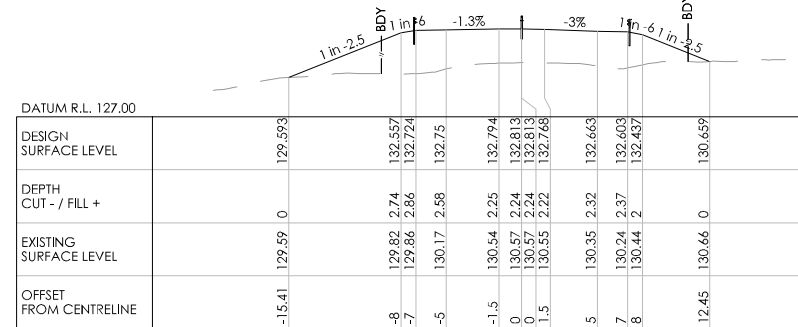
CH 960



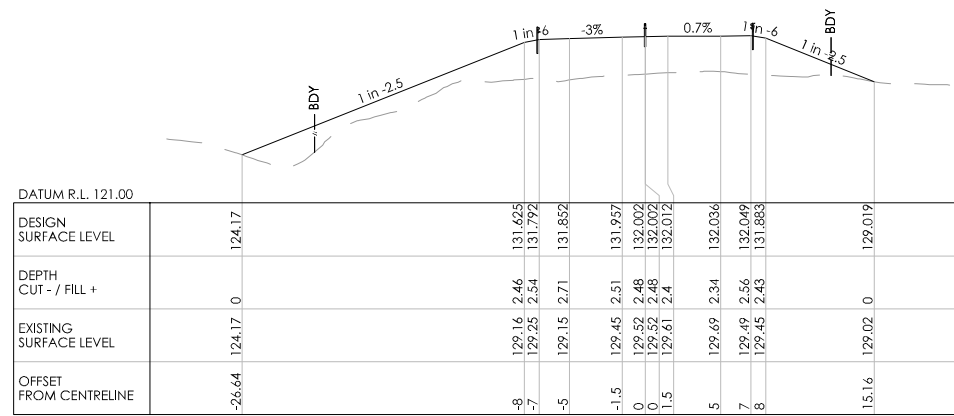
CH 940



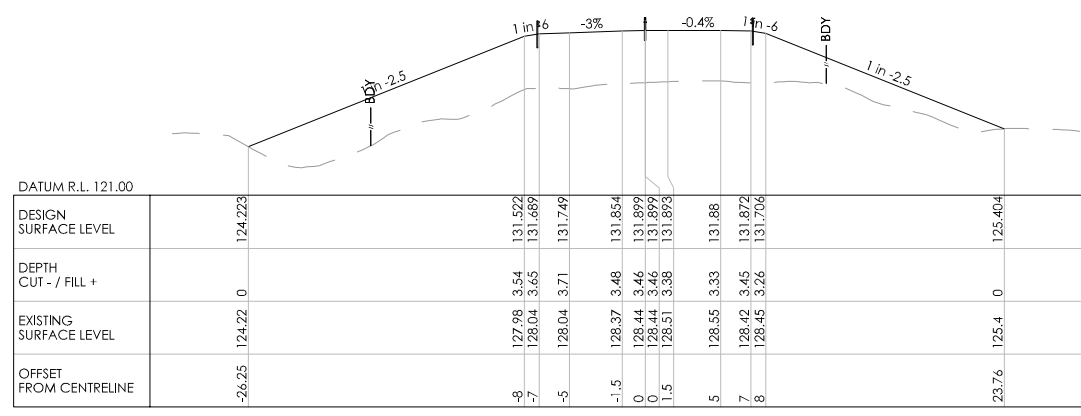
CH 920



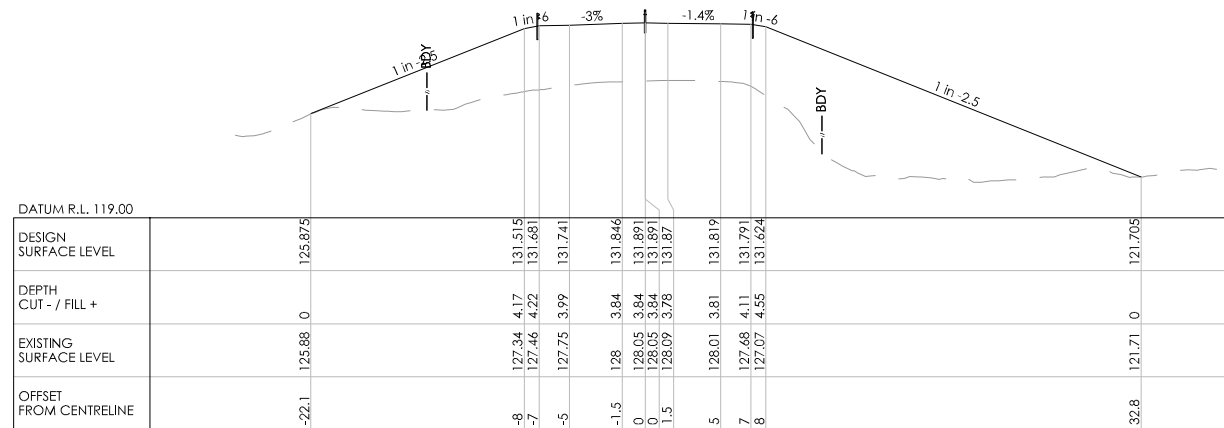
CH 900



CH 1020



CH 1000



CH 980

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
 Napier Office  
 +64 6 833 5100  
 Private Bag 6019  
 Napier 4142  
 New Zealand

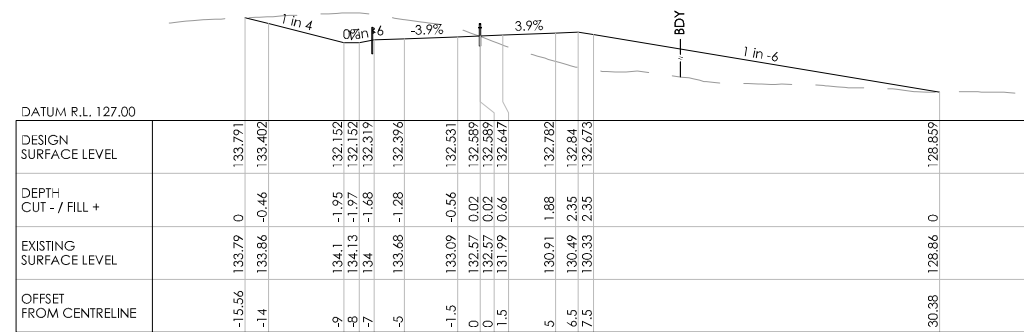
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

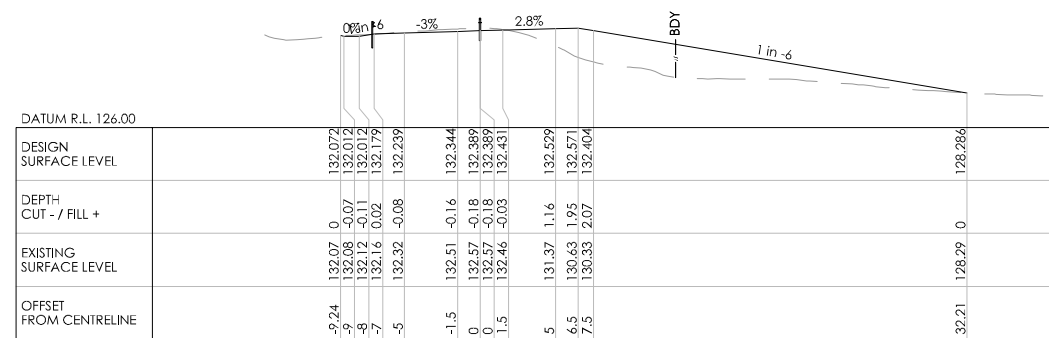
FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0151	A

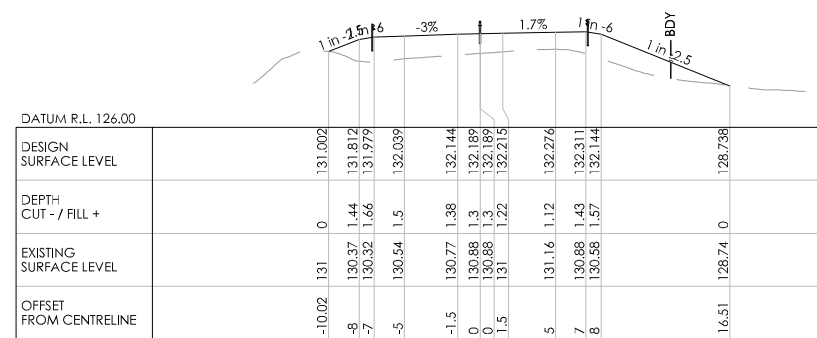
300 mm  
200  
100  
50  
0 10 mm



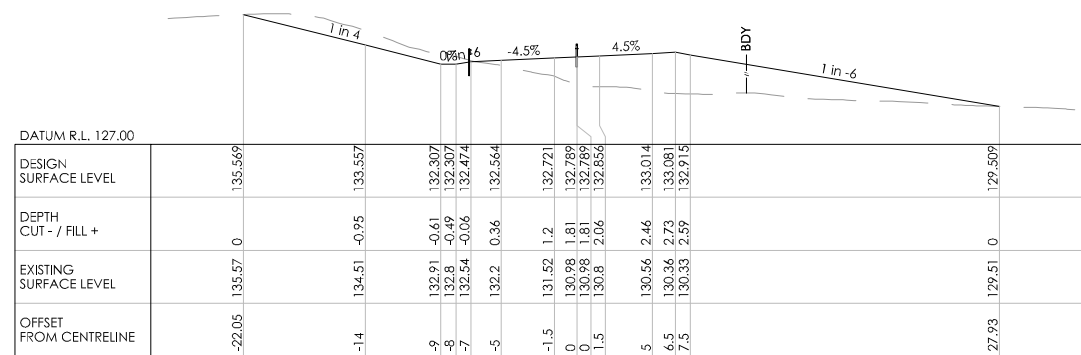
CH 1080



CH 1060



CH 1040



CH 1100

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

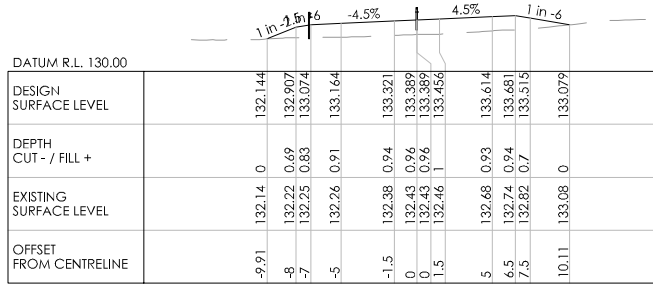
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

FOR INFORMATION

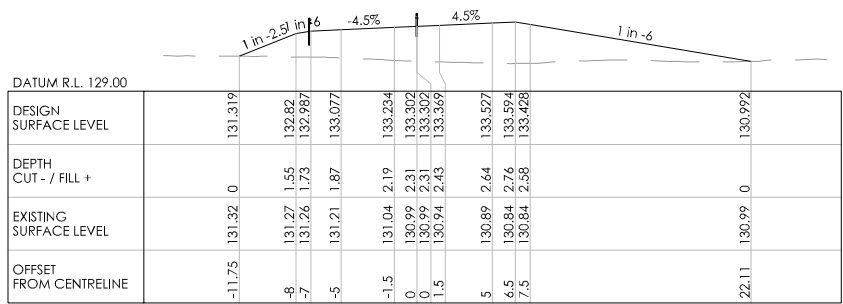
PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT			
TITLE			
CROSS SECTIONS SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0152	A

300 mm  
200  
100  
50  
0 10 mm



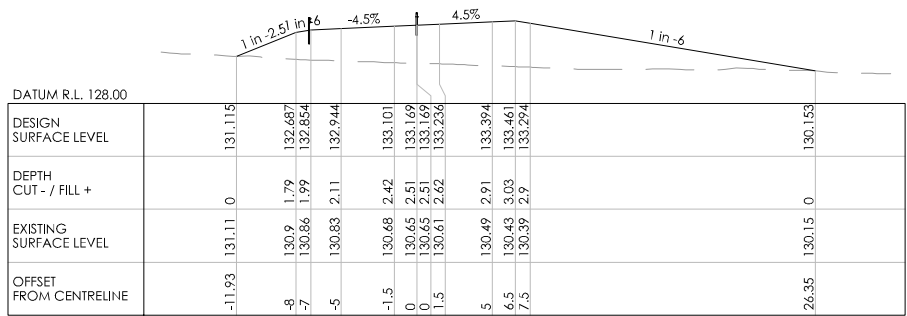
DATUM R.L. 130.00	
DESIGN SURFACE LEVEL	132.144
DEPTH CUT - / FILL +	0
EXISTING SURFACE LEVEL	132.22 0.69 132.25 0.83 132.26 0.91
OFFSET FROM CENTRELINE	-9.91 -8 -7 -5 -1.5 0 0 1.5 5 6.5 7.5 10.11

CH 1180



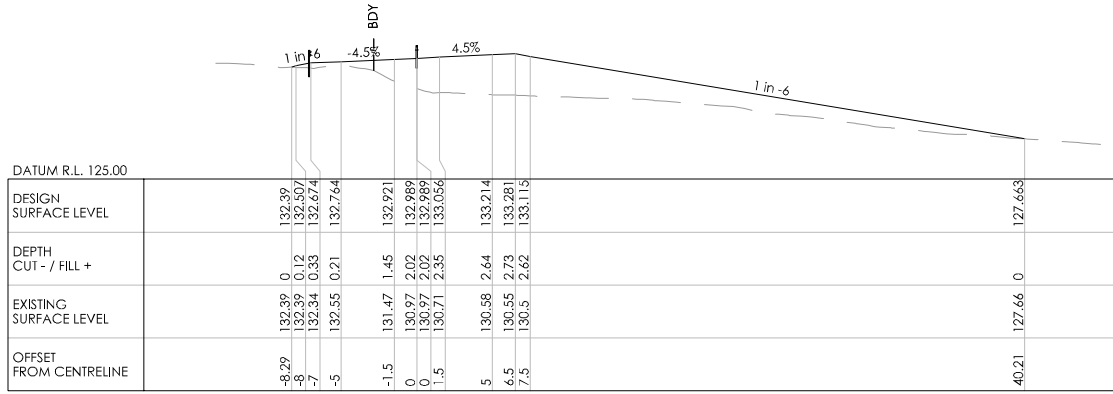
DATUM R.L. 129.00	
DESIGN SURFACE LEVEL	131.319
DEPTH CUT - / FILL +	0
EXISTING SURFACE LEVEL	131.27 1.55 131.26 1.73 131.21 1.87
OFFSET FROM CENTRELINE	-11.75 -8 -7 -5 -1.5 0 0 1.5 5 6.5 7.5 22.11

CH 1160



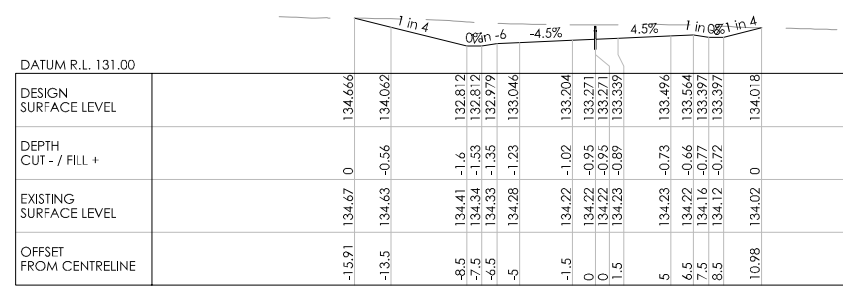
DATUM R.L. 128.00	
DESIGN SURFACE LEVEL	131.115
DEPTH CUT - / FILL +	0
EXISTING SURFACE LEVEL	130.9 1.79 130.86 1.99 130.83 2.11
OFFSET FROM CENTRELINE	-11.93 -8 -7 -5 -1.5 0 0 1.5 5 6.5 7.5 26.35

CH 1140



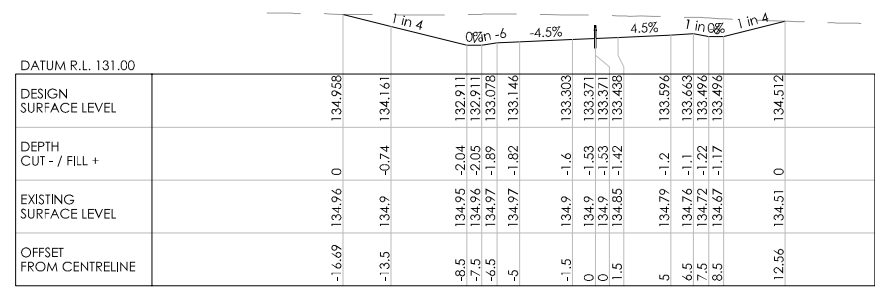
DATUM R.L. 125.00	
DESIGN SURFACE LEVEL	132.89
DEPTH CUT - / FILL +	0
EXISTING SURFACE LEVEL	132.89 0 132.84 0.33 132.85 0.21
OFFSET FROM CENTRELINE	-8.29 -7 -5 -1.5 0 0 1.5 5 6.5 7.5 40.21

CH 1120



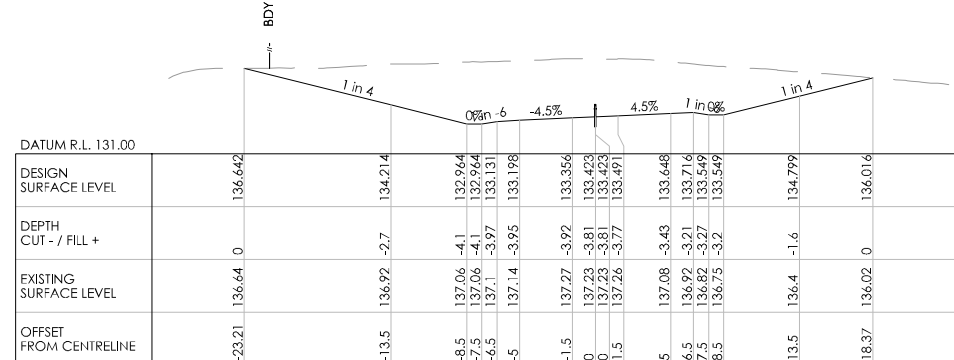
DATUM R.L. 131.00	
DESIGN SURFACE LEVEL	134.666
DEPTH CUT - / FILL +	0
EXISTING SURFACE LEVEL	134.67 0 134.63 -0.56 134.41 -1.6 134.34 -1.53 134.33 -1.35
OFFSET FROM CENTRELINE	-15.91 -13.5 -8.5 -7.5 -6.5 -5 -1.5 0 0 1.5 5 6.5 7.5 10.98

CH 1260



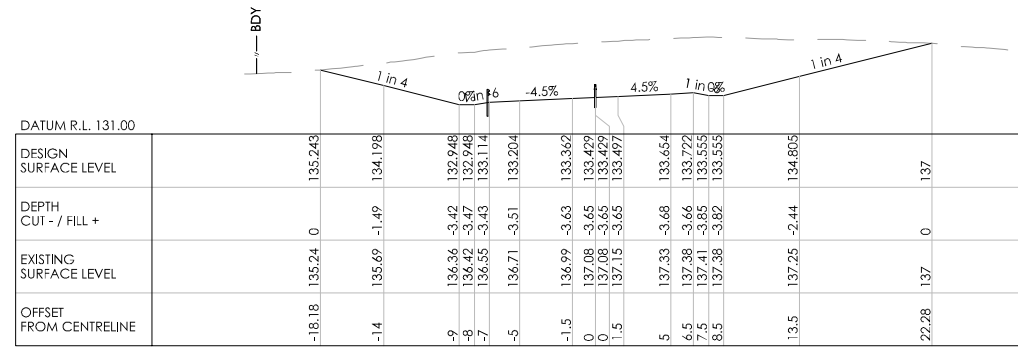
DATUM R.L. 131.00	
DESIGN SURFACE LEVEL	134.958
DEPTH CUT - / FILL +	0
EXISTING SURFACE LEVEL	134.96 0 134.9 -0.74 134.95 -2.04 134.96 -2.05 134.97 -1.89
OFFSET FROM CENTRELINE	-16.69 -13.5 -8.5 -7.5 -6.5 -5 -1.5 0 0 1.5 5 6.5 7.5 12.56

CH 1240



DATUM R.L. 131.00	
DESIGN SURFACE LEVEL	136.642
DEPTH CUT - / FILL +	0
EXISTING SURFACE LEVEL	136.64 0 136.92 -2.7 137.06 -4.1 137.06 -4.1 137.14 -3.95
OFFSET FROM CENTRELINE	-23.21 -13.5 -8.5 -7.5 -6.5 -5 -1.5 0 0 1.5 5 6.5 7.5 18.37

CH 1220



DATUM R.L. 131.00	
DESIGN SURFACE LEVEL	135.243
DEPTH CUT - / FILL +	0
EXISTING SURFACE LEVEL	135.24 0 135.69 -1.49 136.36 -3.42 136.42 -3.47 136.55 -3.43
OFFSET FROM CENTRELINE	-18.18 -14 -9 -8 -7 -5 -1.5 0 0 1.5 5 6.5 7.5 22.28

CH 1200

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

TRANSPORT

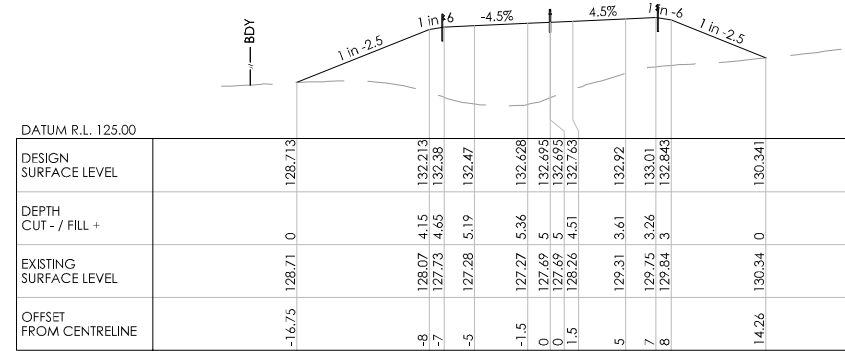
SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

FOR INFORMATION

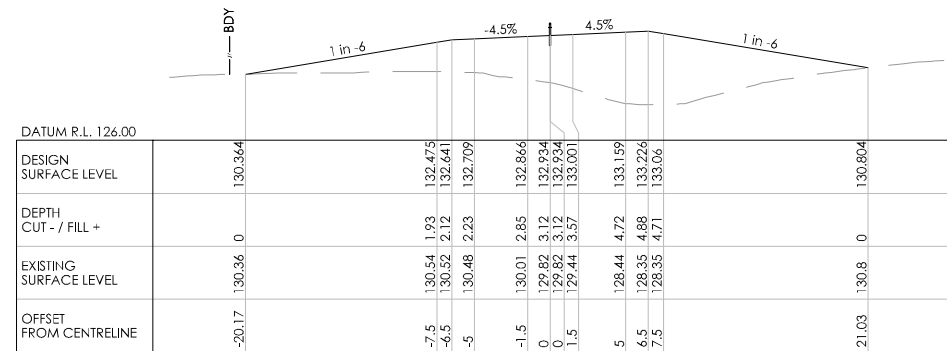
PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT			
TITLE			
CROSS SECTIONS SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0153	A



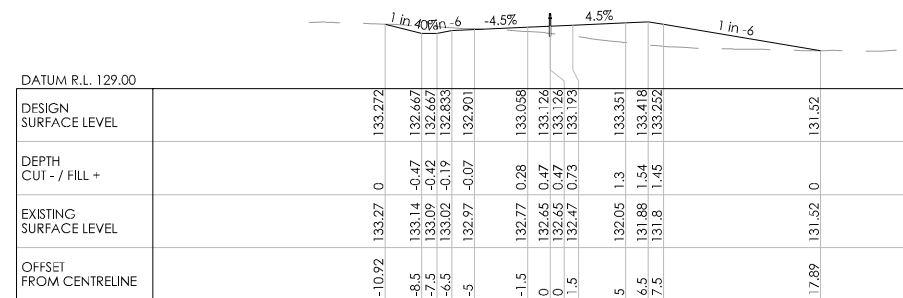
300 mm  
200  
100  
0 10 mm



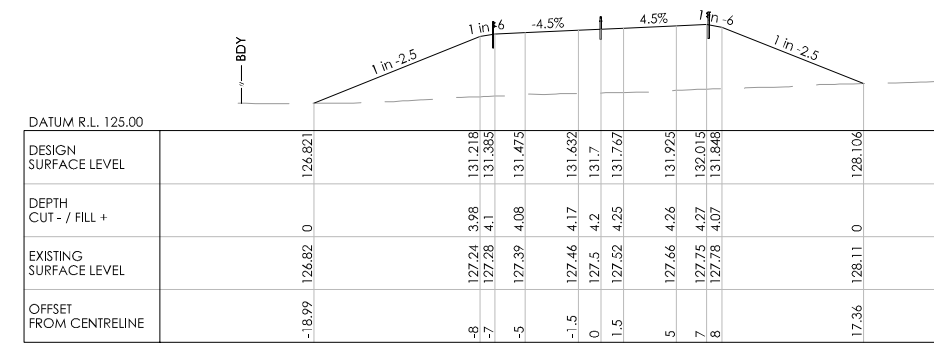
CH 1320



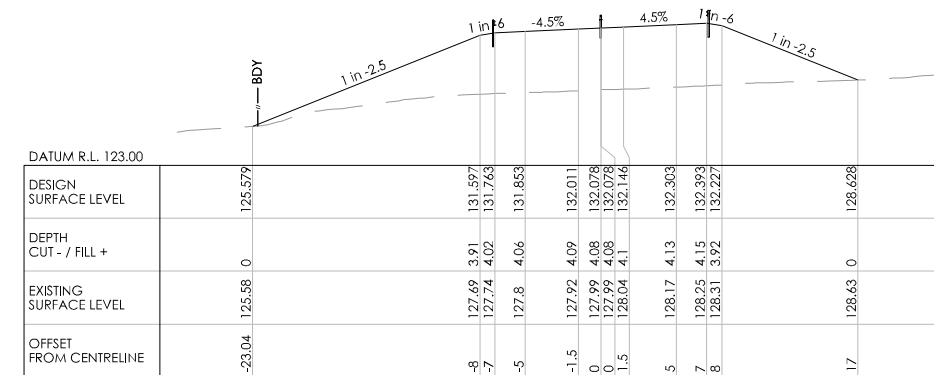
CH 1300



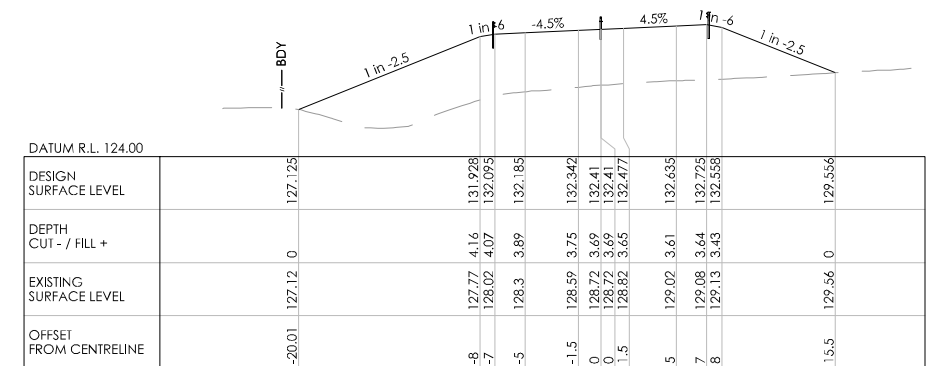
CH 1280



CH 1380



CH 1360



CH 1340

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

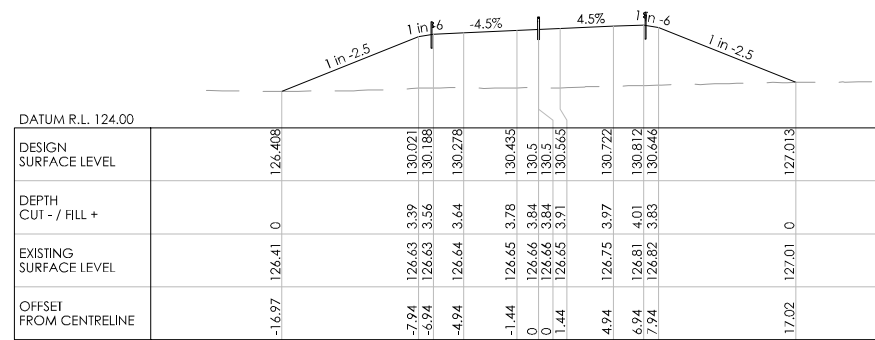
TRANSPORT

SCALES	DESIGNED	APPROVED	ORIGINAL SIZE
1:250 [A1], 1:500 [A3]	A. LEWIS	-	A1
DRAWN	P. BIRSE	J. TAYLOR	
DRAWING VERIFIED	A. LEWIS	-	
DESIGN VERIFIED	J. TAYLOR	-	
APPROVED DATE	-	-	

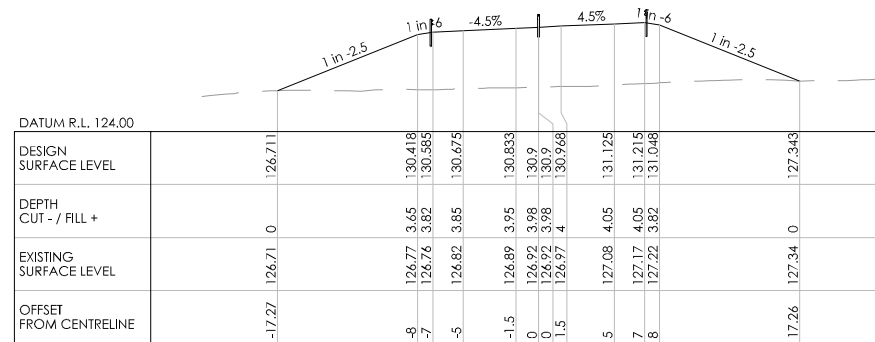
FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0154	A

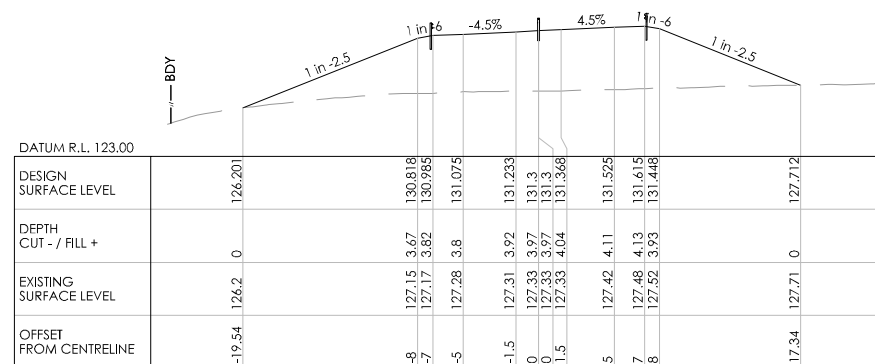
300 mm  
200  
100  
50  
0 10 mm



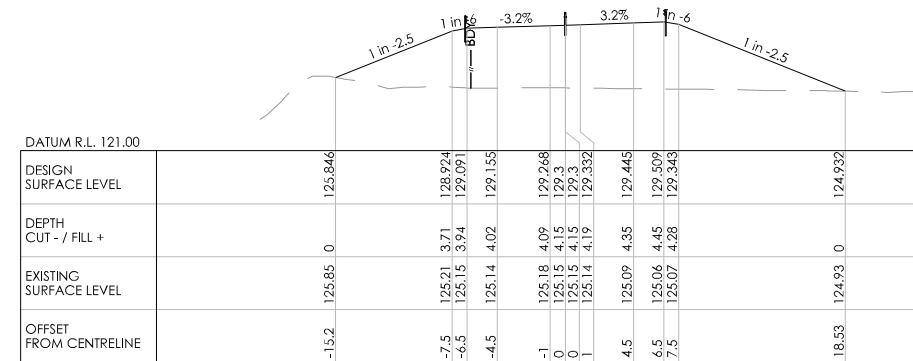
CH 1440



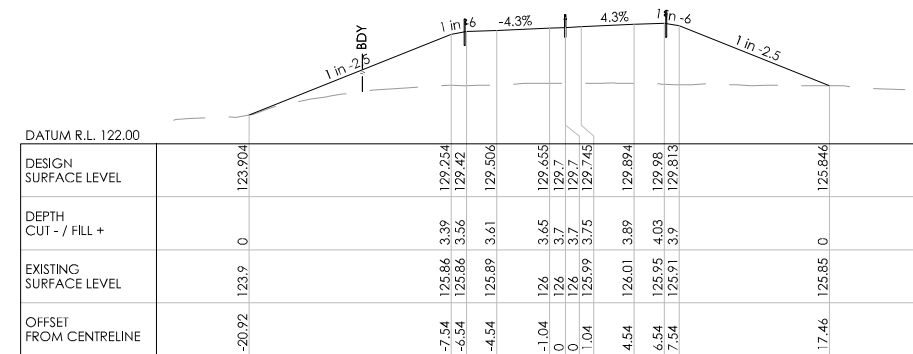
CH 1420



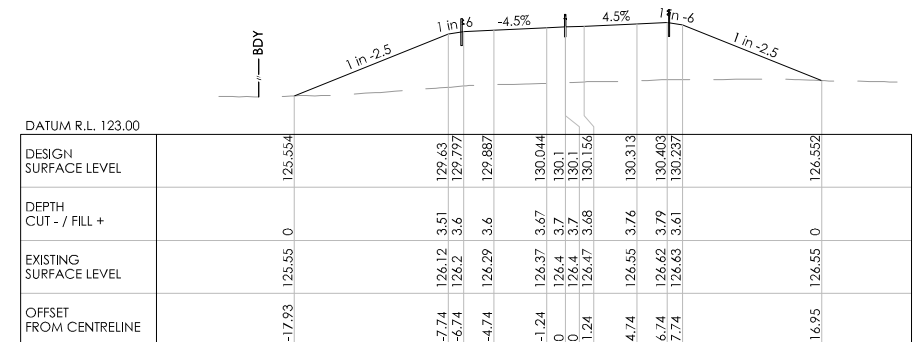
CH 1400



CH 1500



CH 1480



CH 1460

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

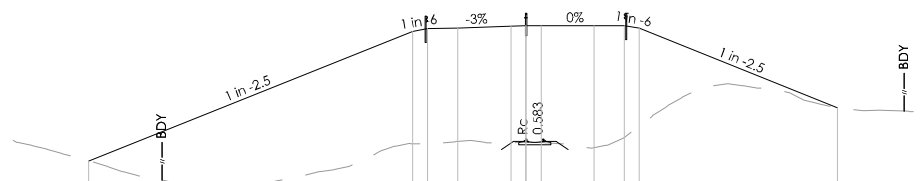
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0155	A

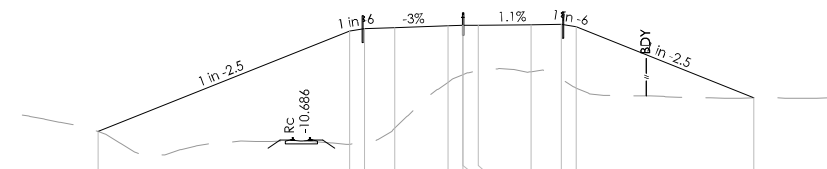
300 mm  
200  
100  
50  
0 10 mm



DATUM R.L. 116.00

DESIGN SURFACE LEVEL	DEPTH CUT - / FILL +	EXISTING SURFACE LEVEL	OFFSET FROM CENTRELINE
119.173		119.17	-28.91
127.738	7.43	120.31	-7.5
127.905	7.61	120.3	-6.5
127.945	7.5	120.46	-4.5
128.07	7.7	120.37	-1
128.1	7.7	120.4	0
128.1	7.7	120.4	0
128.1	7.7	120.37	1
128.102	8.06	120.04	4.5
128.103	7.98	120.72	6.5
127.738	6.47	121.46	7.5
122.695	0	122.69	20.6

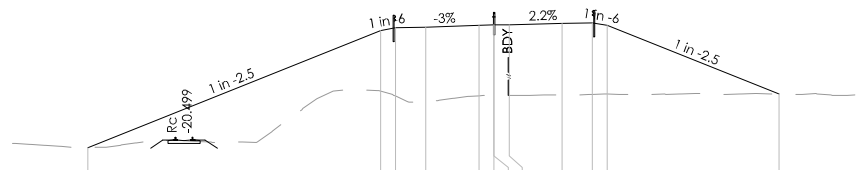
CH 1560



DATUM R.L. 118.00

DESIGN SURFACE LEVEL	DEPTH CUT - / FILL +	EXISTING SURFACE LEVEL	OFFSET FROM CENTRELINE
121.485		121.49	-24.13
128.138	7.49	120.65	-7.5
128.305	7.52	120.78	-6.5
128.365	6.66	121.71	-4.5
128.47	3.73	124.74	-1
128.5	3.25	125.25	0
128.5	3.25	125.25	0
128.511	3.01	125.3	1
128.55	3.11	125.44	4.5
128.572	3.63	124.94	6.5
128.403	4.03	124.37	7.3
123.712	0	123.71	19.23

CH 1540



DATUM R.L. 119.00

DESIGN SURFACE LEVEL	DEPTH CUT - / FILL +	EXISTING SURFACE LEVEL	OFFSET FROM CENTRELINE
120.8		120.8	-26.85
128.538	4.02	124.52	-7.5
128.705	4.51	124.2	-6.5
128.765	5	123.76	-4.5
128.87	4.65	124.22	-1
128.9	4.64	124.26	0
128.9	4.64	124.26	0
128.922	4.68	124.26	1
128.997	4.71	124.29	4.5
129.04	4.73	124.31	6.5
128.874	4.55	124.33	7.5
124.327	0	124.33	18.87

CH 1520

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

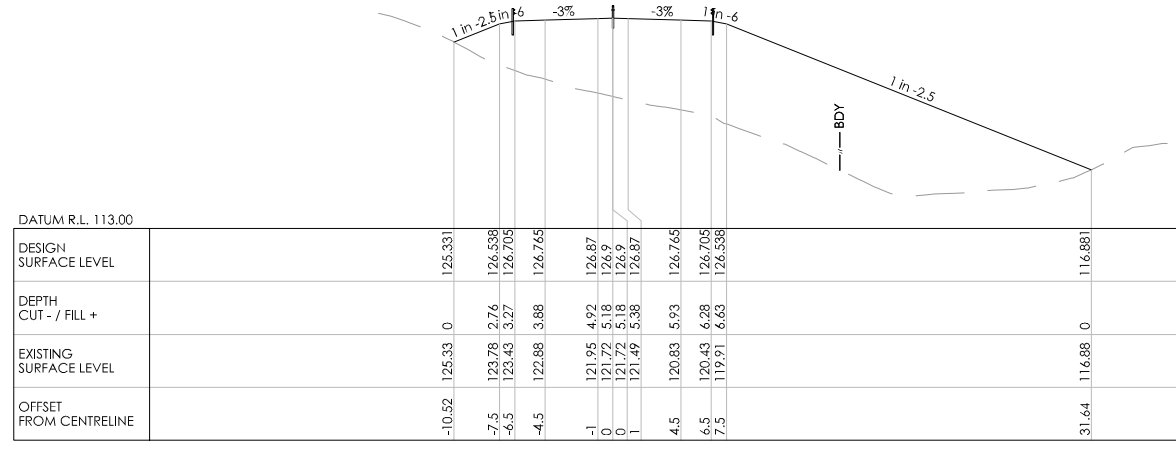
TRANSPORT

SCALES	ORIGINAL SIZE
1:250 [A1], 1:500 [A3]	A1
DRAWN	DESIGNED
P. BIRSE	A. LEWIS
APPROVED	-
DRAWING VERIFIED	DESIGN VERIFIED
A. LEWIS	J. TAYLOR
APPROVED DATE	-

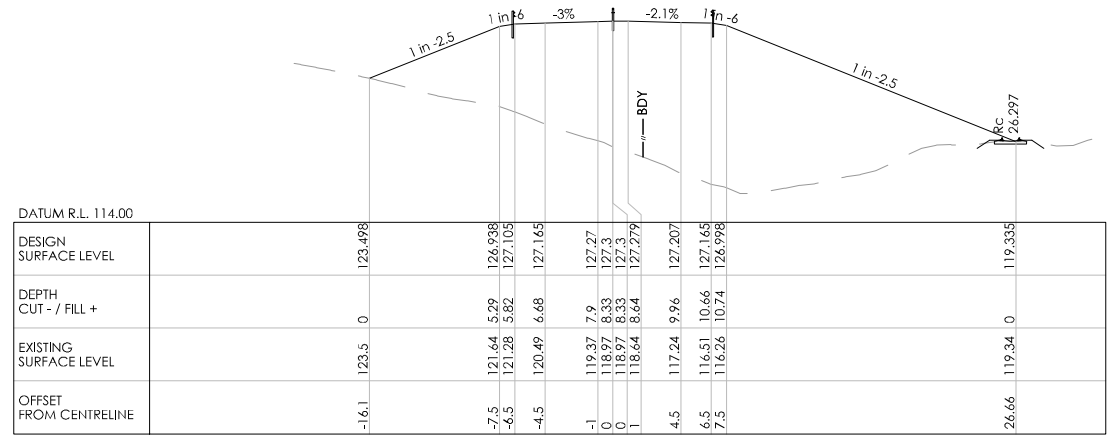
FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT			
TITLE			
CROSS SECTIONS SHEETS 1 TO 43			
WSP PROJECT NO. 2-S5416.01	PROJ-ORIG-VOL-LOC-TYPE WGR-DES-GEM-00-DRG	SHEET NO. 0156	REVISION A

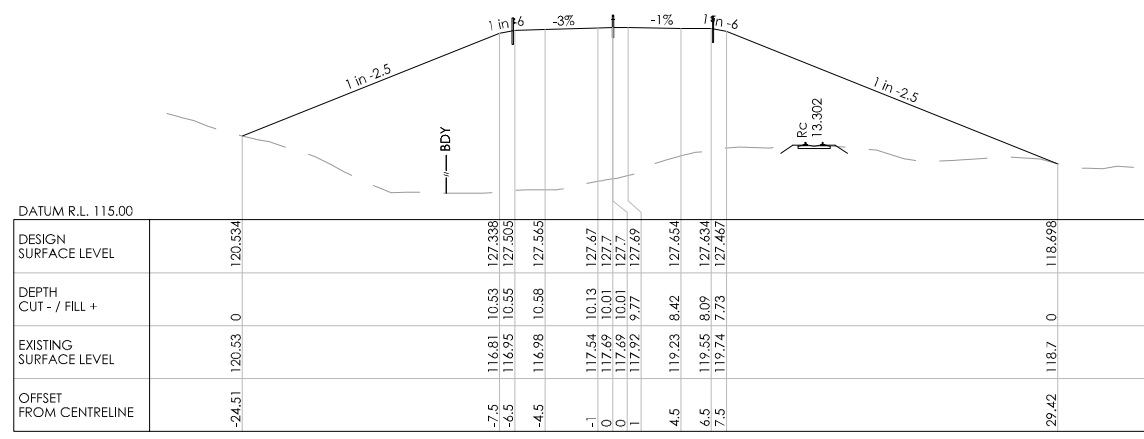
300 mm  
200  
100  
0 10 mm



CH 1620



CH 1600



CH 1580

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

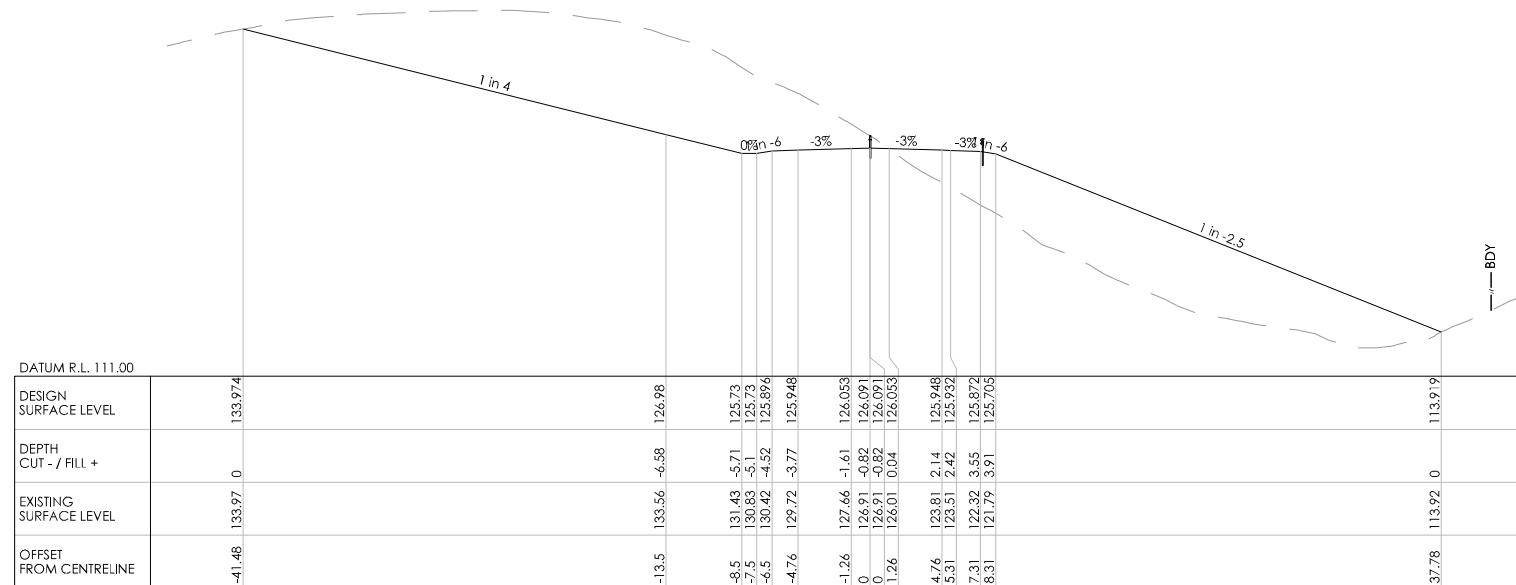
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

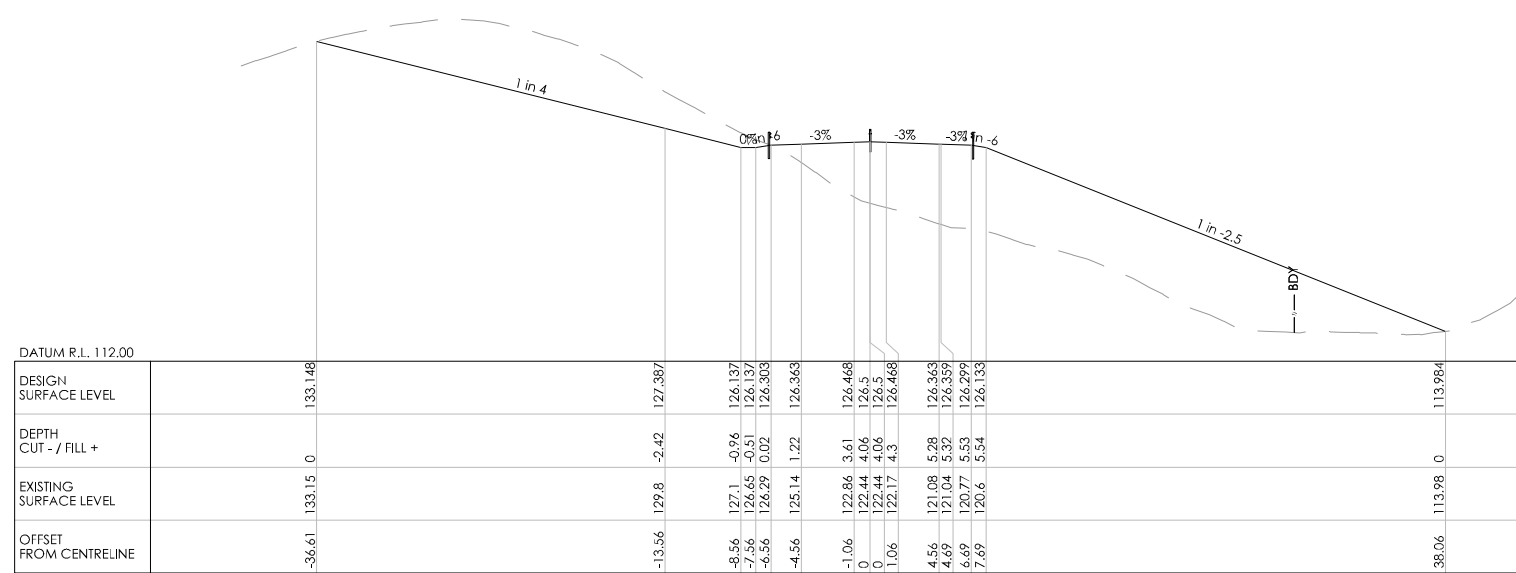
FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0157	A

300 mm  
200  
100  
50  
0 10 mm



CH 1660



CH 1640

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

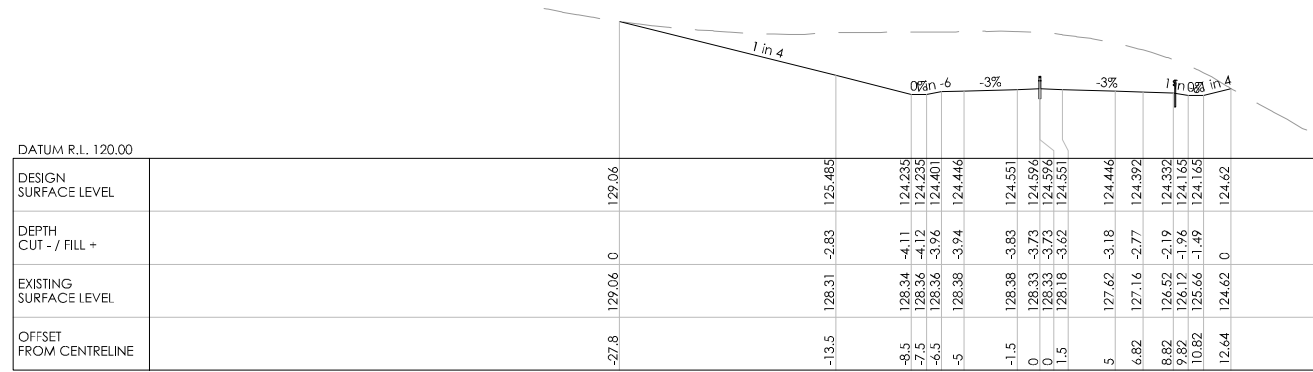
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

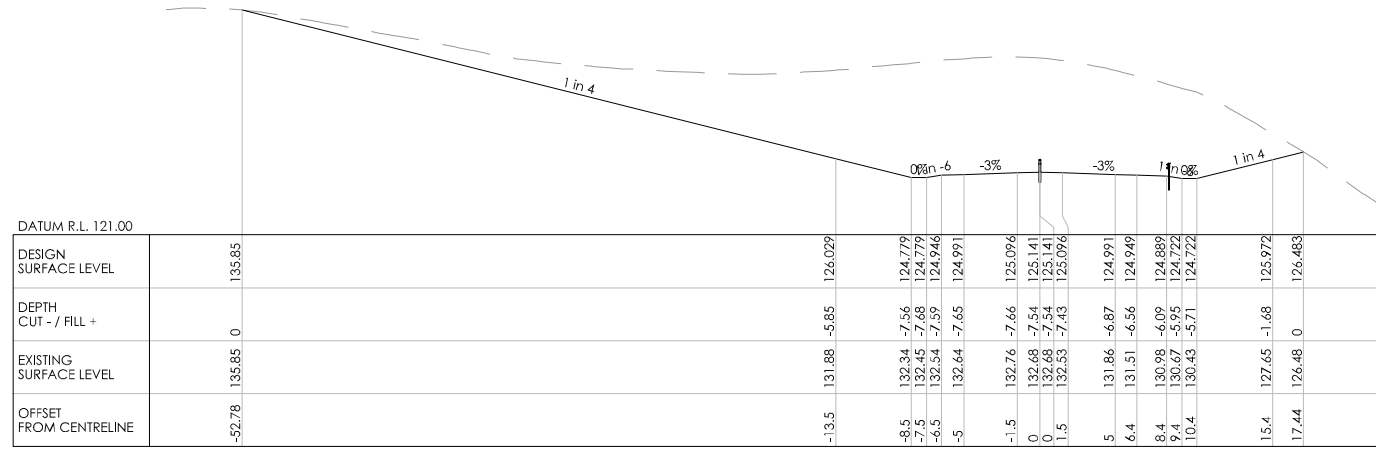
**FOR INFORMATION**

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT			
TITLE			
CROSS SECTIONS SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0158	A

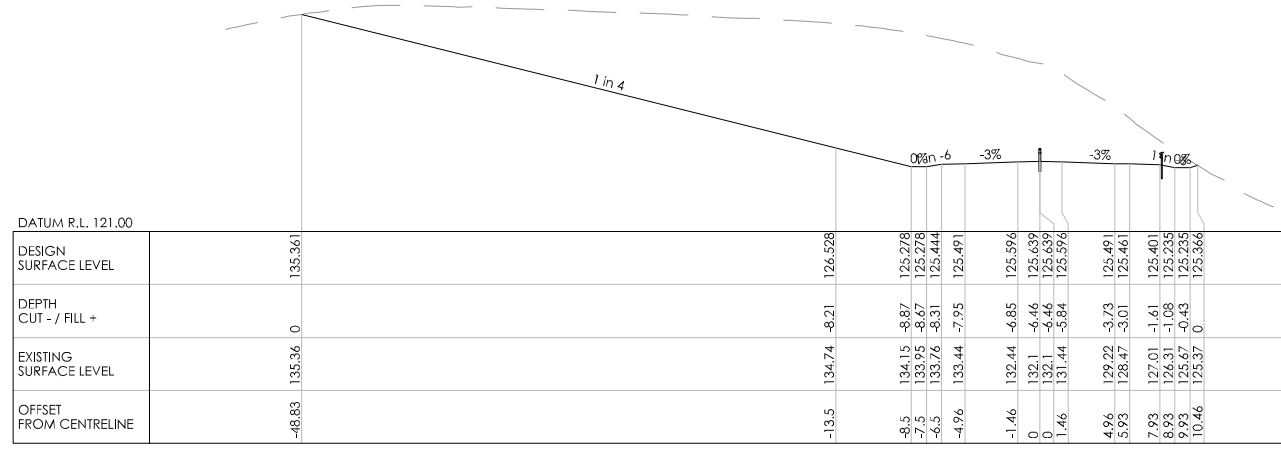
300 mm  
200  
100  
50  
0 10 mm



CH 1720



CH 1700



CH 1680

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

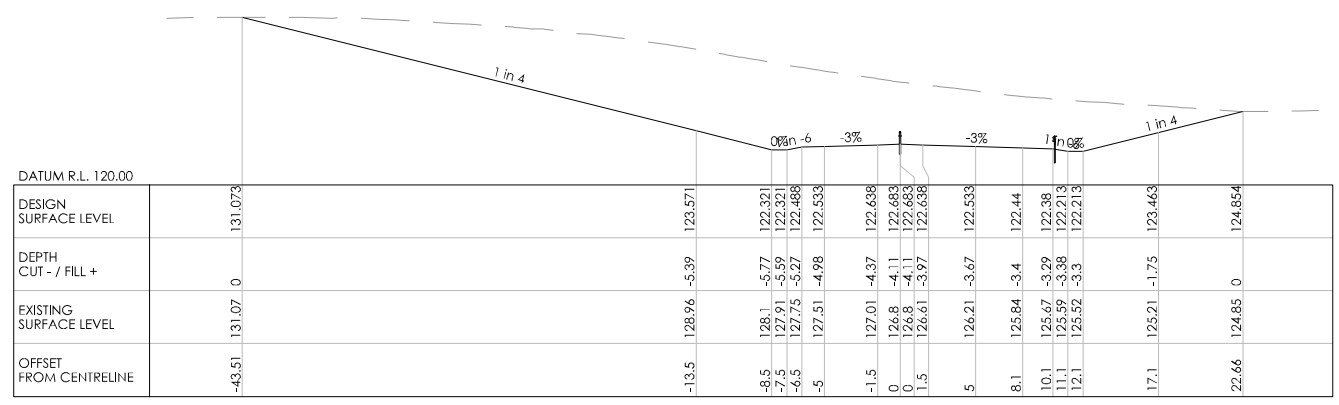
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

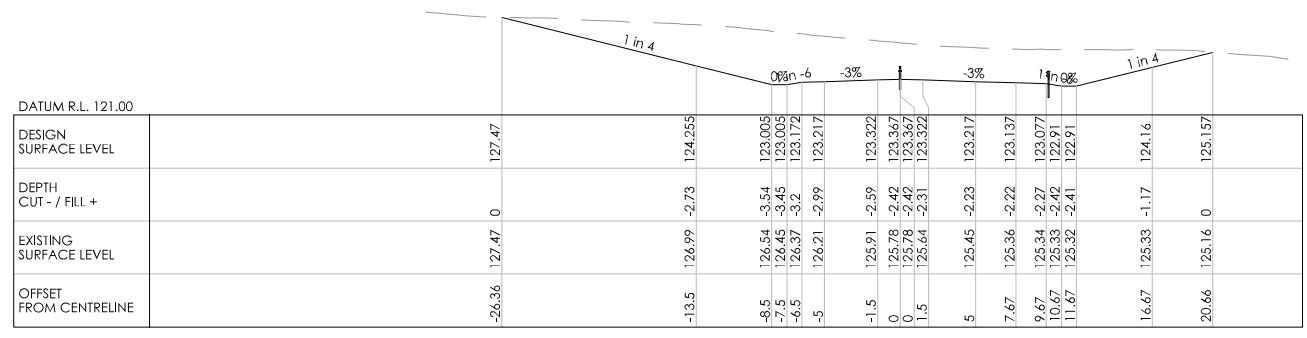
FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0159	A

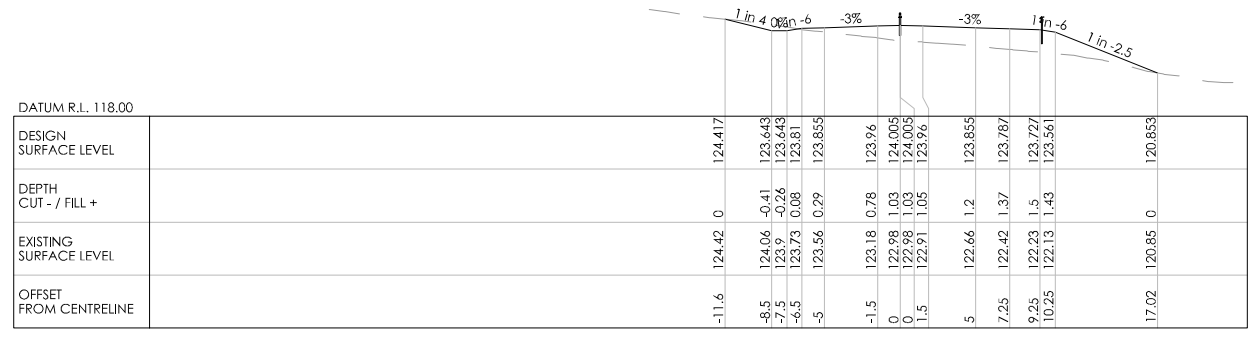
300 mm  
200  
100  
0 10 mm



CH 1780



CH 1760



CH 1740

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

TRANSPORT

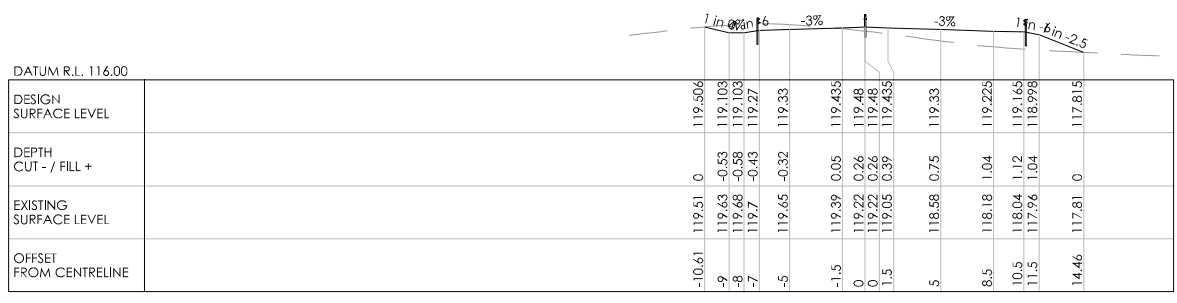
SCALES	ORIGINAL SIZE
1:250 [A1], 1:500 [A3]	A1
DRAWN	DESIGNED
P. BIRSE	A. LEWIS
DRAWING VERIFIED	DESIGN VERIFIED
A. LEWIS	J. TAYLOR
APPROVED	APPROVED DATE
-	-

FOR INFORMATION

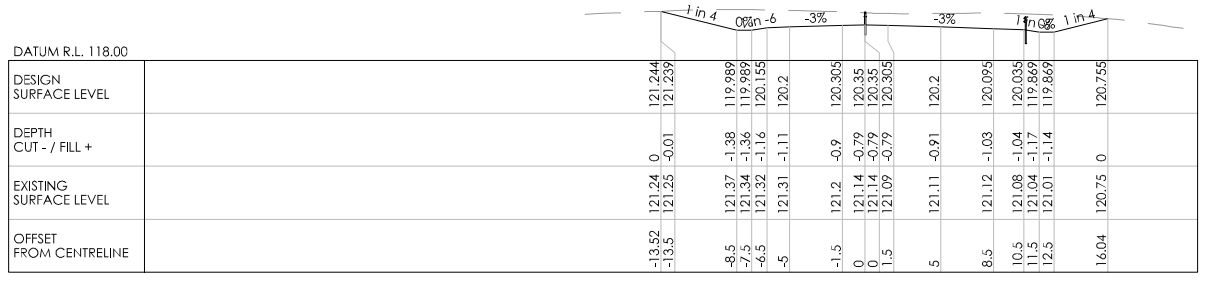
PROJECT		TITLE	
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT		CROSS SECTIONS SHEETS 1 TO 43	
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0160	A



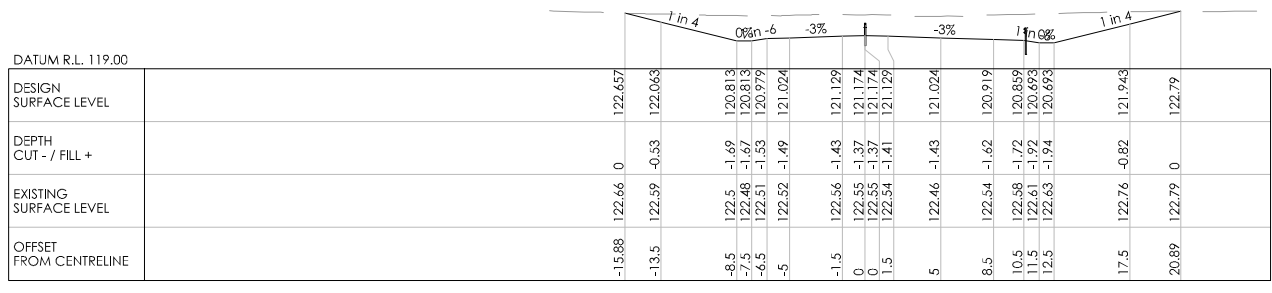
300 mm  
200  
100  
50  
0 10 mm



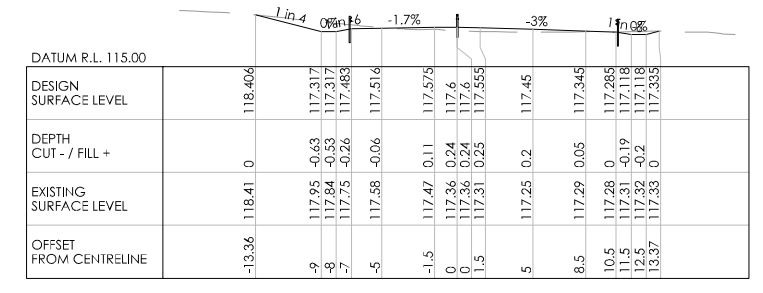
CH 1860



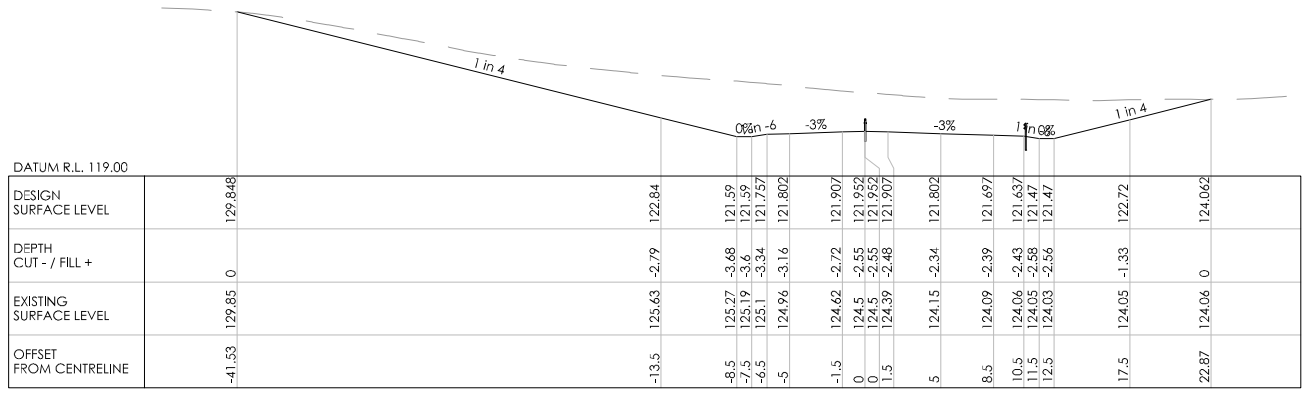
CH 1840



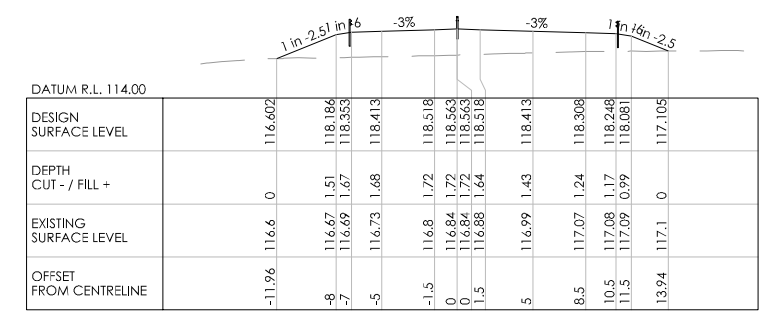
CH 1820



CH 1900



CH 1800



CH 1880

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
Private Bag 6019  
Napier 4142  
New Zealand

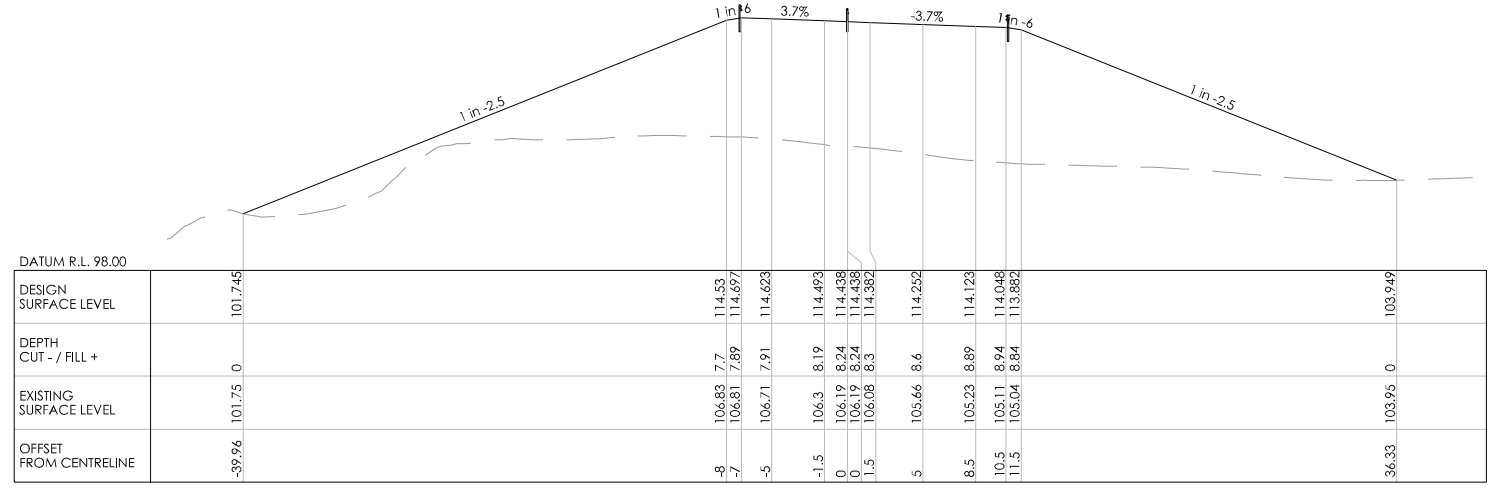
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

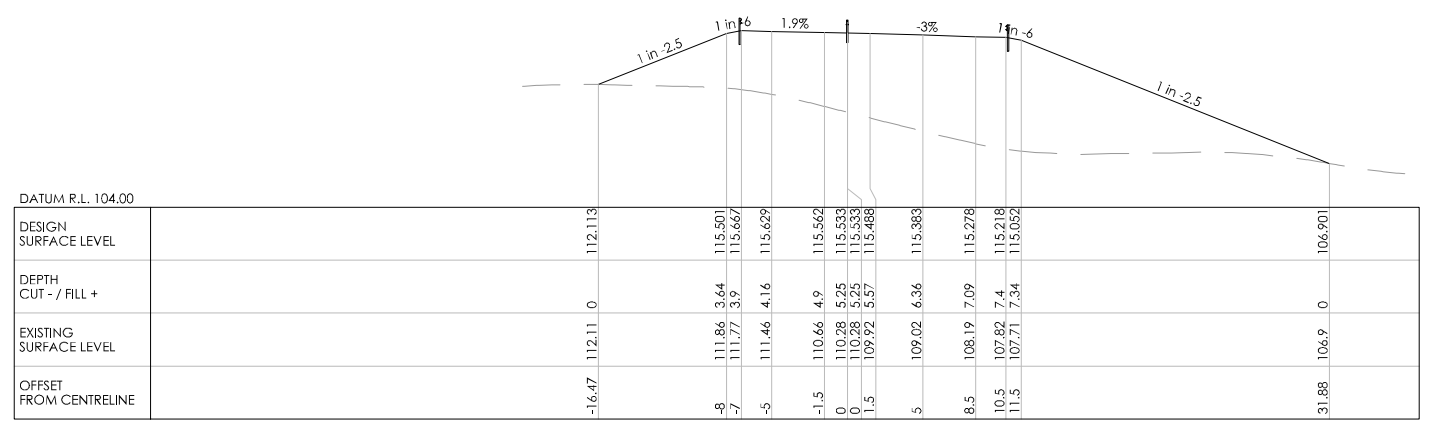
FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0161	A

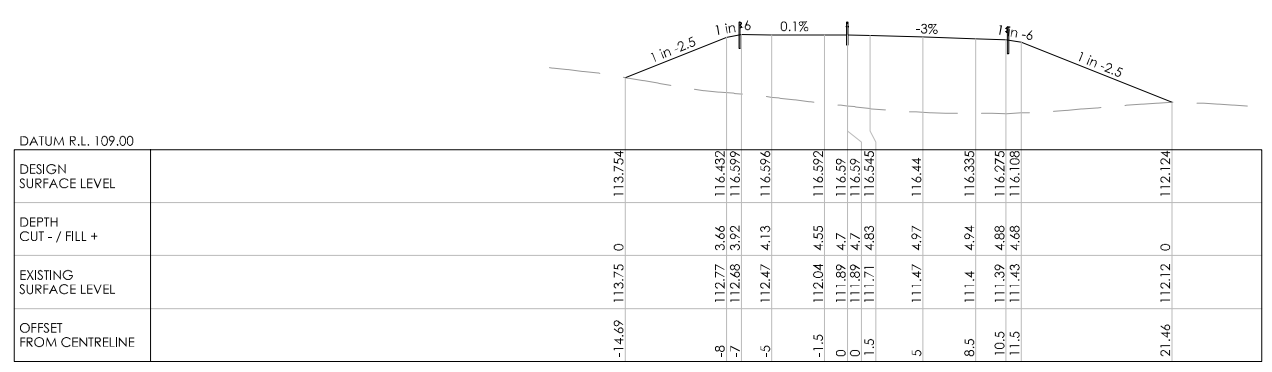
300 mm  
200  
100  
0 10 mm  
1000



CH 1960



CH 1940



CH 1920

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

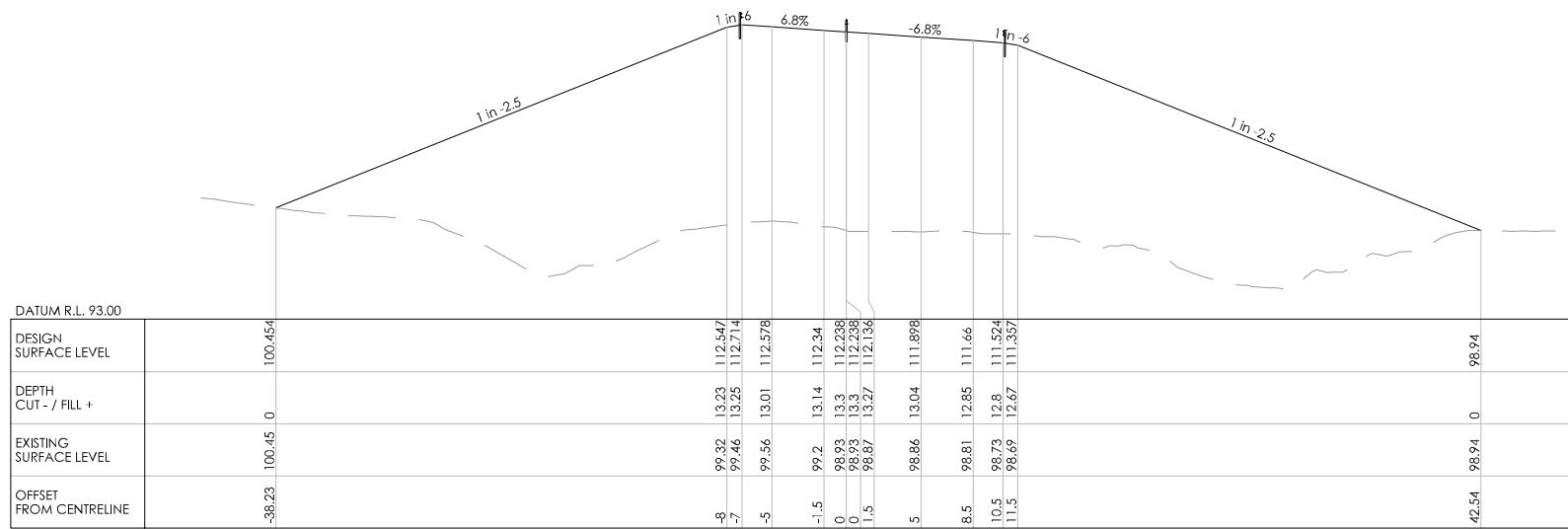
**TRANSPORT**

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

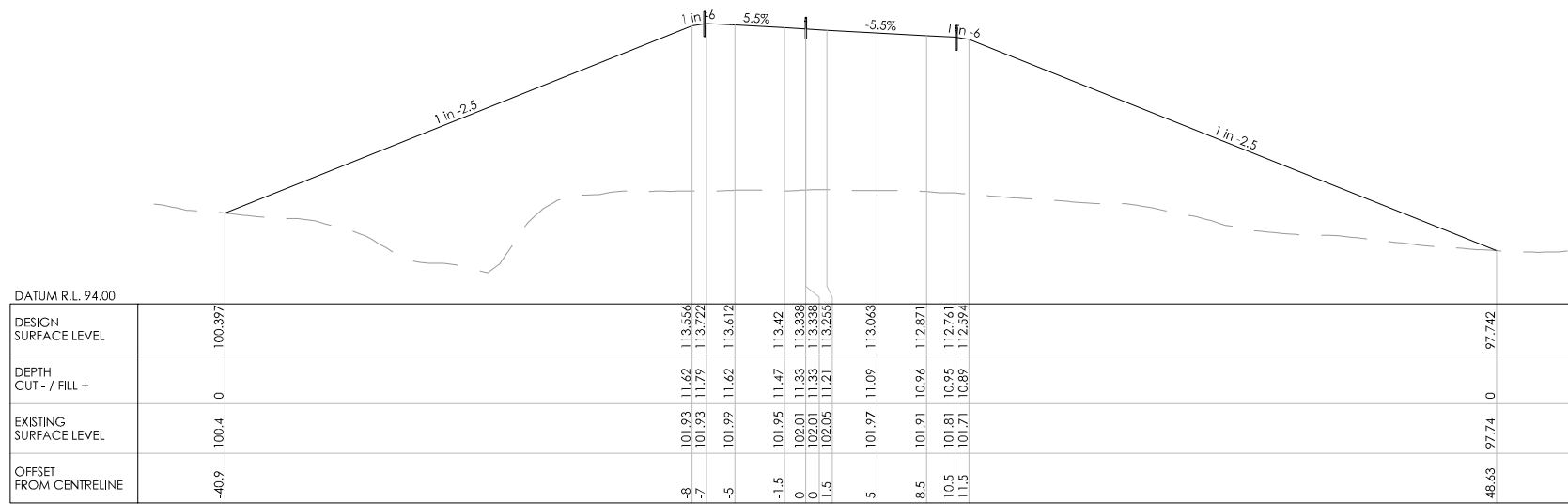
**FOR INFORMATION**

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT			
TITLE			
CROSS SECTIONS SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0162	A

300 mm  
200  
100  
50  
0 10 mm



CH 2000



CH 1980

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

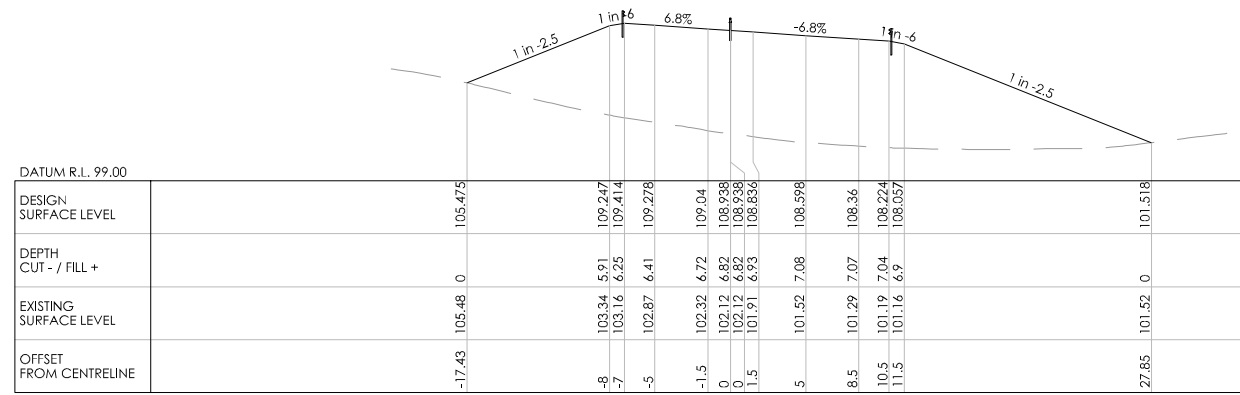
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

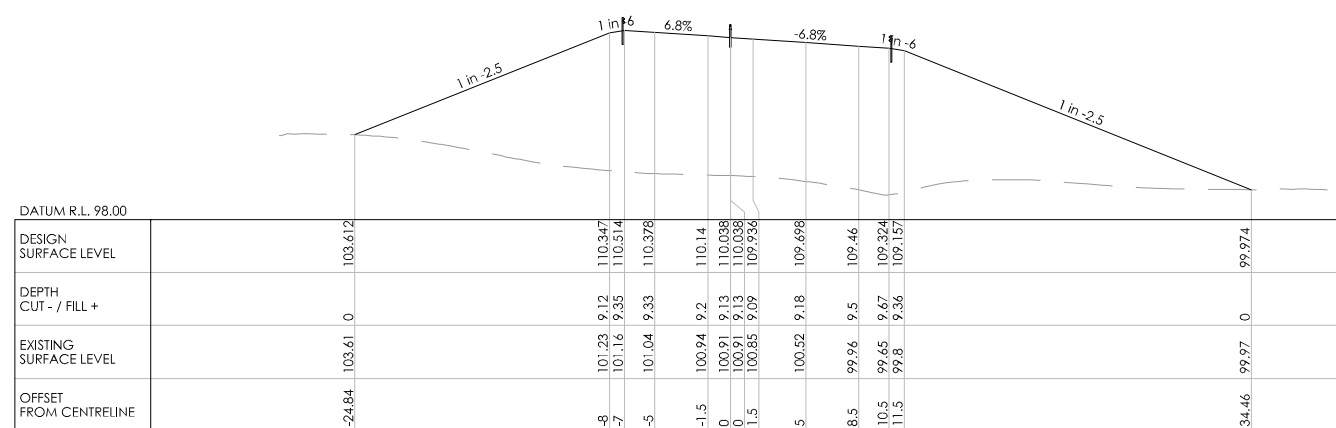
FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0163	A

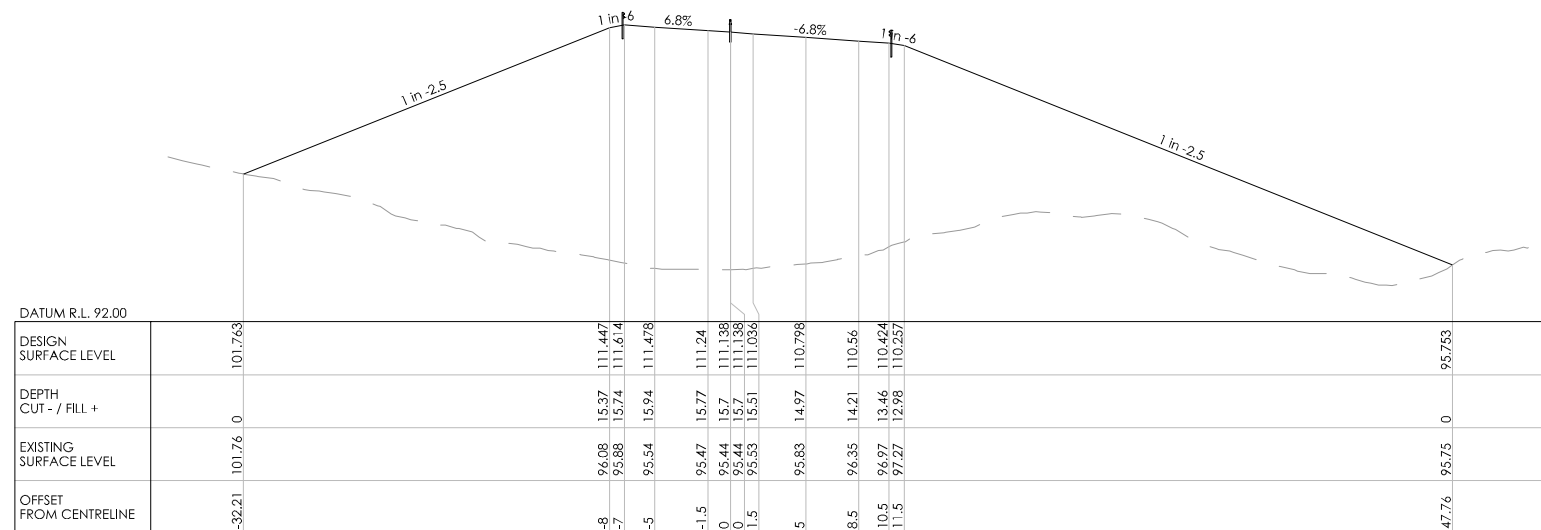
300 mm  
200  
100  
50  
0 10 mm



CH 2060



CH 2040



CH 2020

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

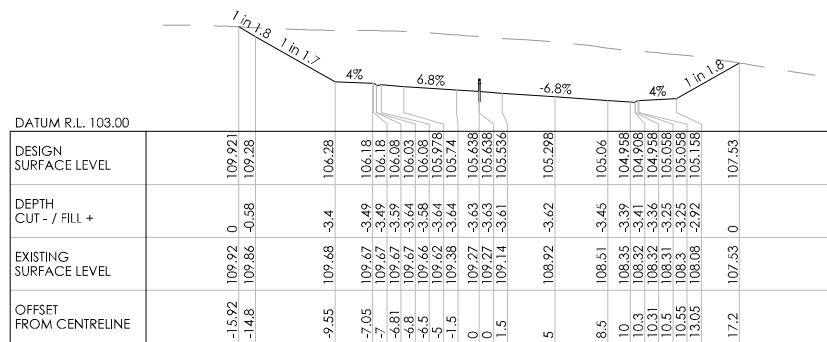
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

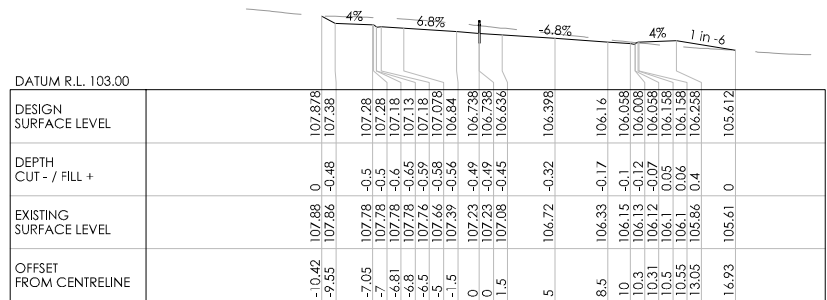
FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0164	A

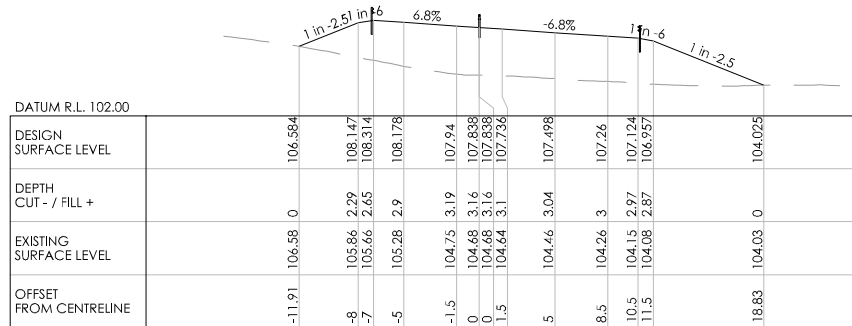
0 10 mm 50 100 200 300 mm



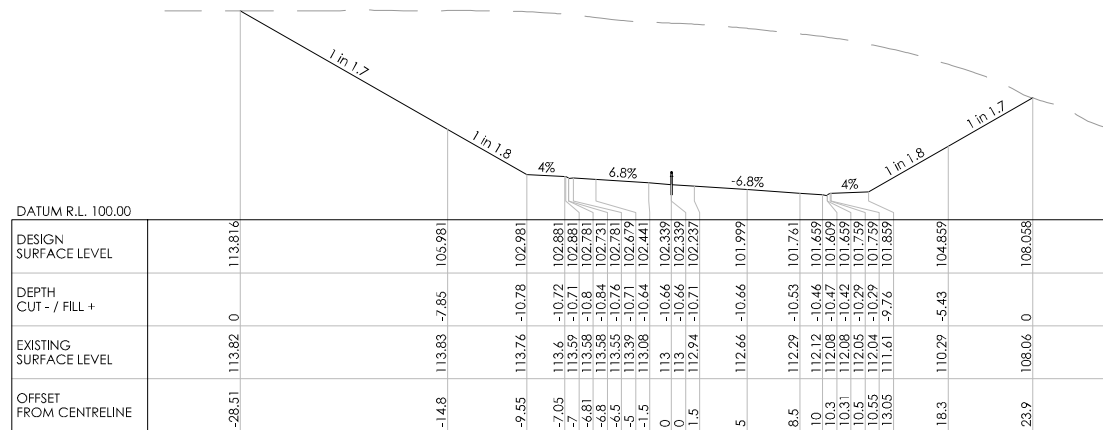
CH 2120



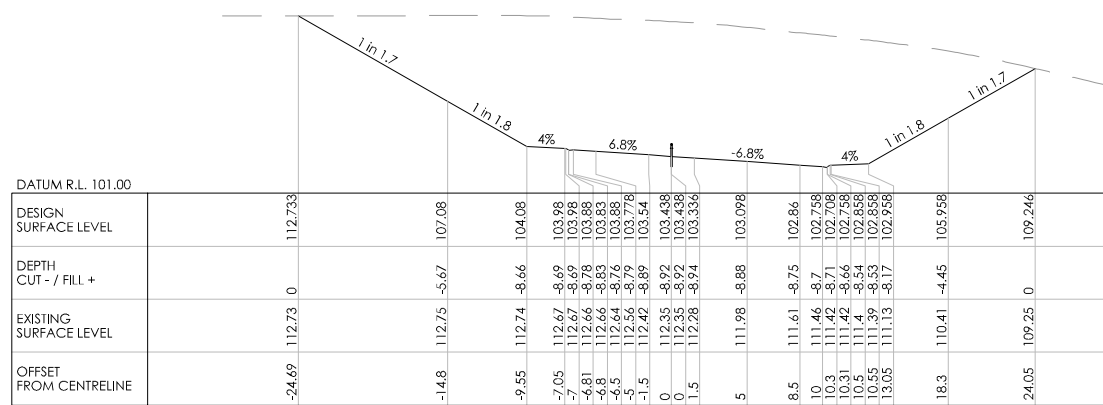
CH 2100



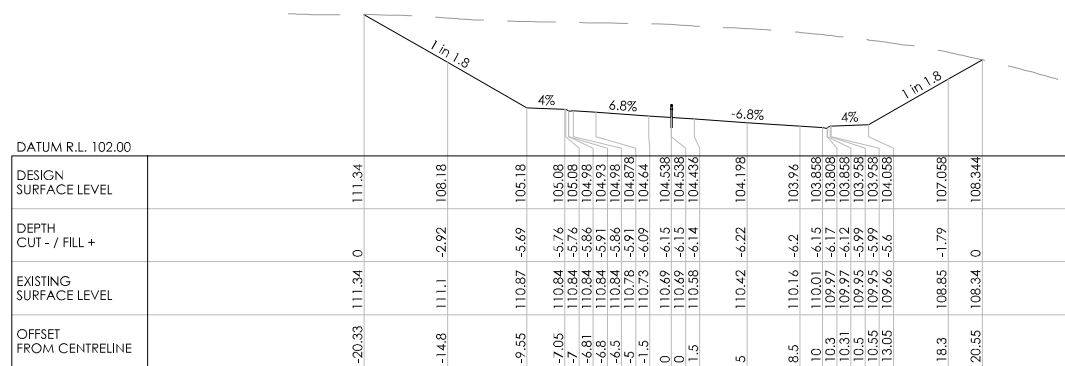
CH 2080



CH 2180



CH 2160



CH 2140

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

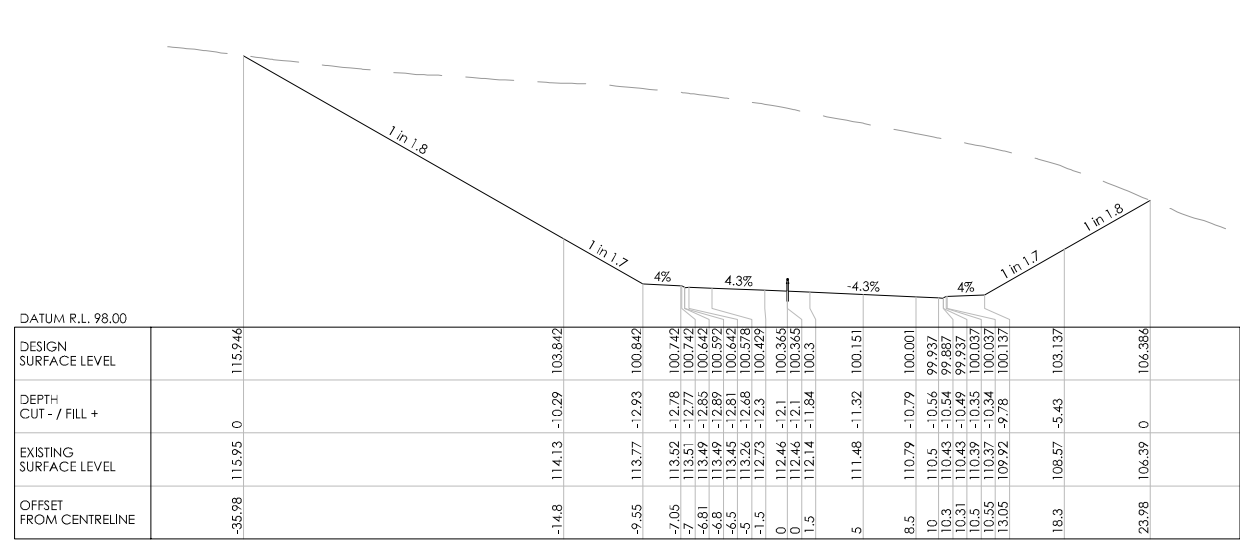
TRANSPORT

SCALES	DESIGNED	APPROVED	ORIGINAL SIZE
1:250 [A1], 1:500 [A3]	A. LEWIS	-	A1
DRAWN	DESIGNED	APPROVED	
P. BIRSE	A. LEWIS	-	
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE	
A. LEWIS	J. TAYLOR	-	

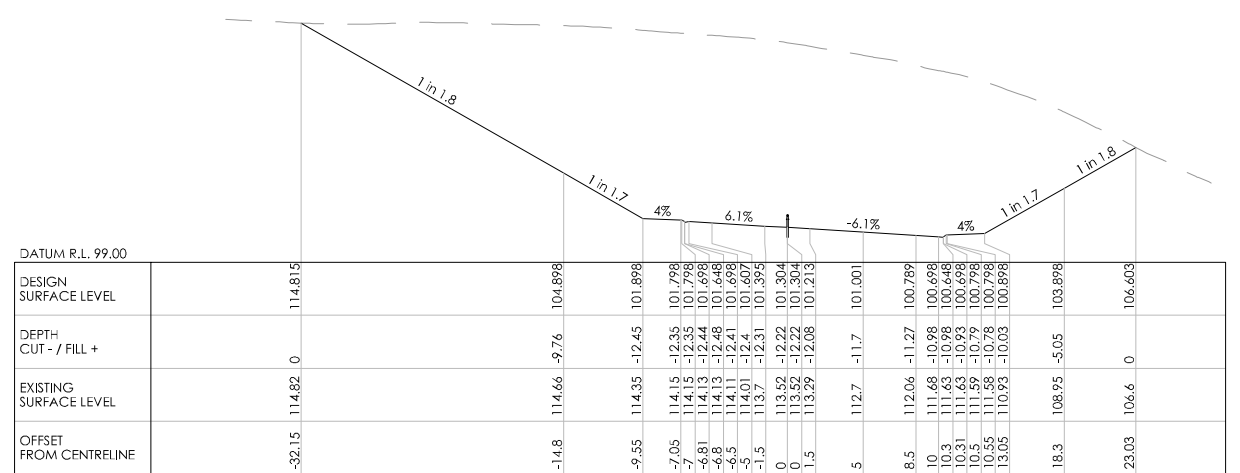
FOR INFORMATION

PROJECT	SHEET NO.	REVISION
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT	0165	A
TITLE	CROSS SECTIONS SHEETS 1 TO 43	
WSP PROJECT NO. 2-S5416.01	PROJ-ORIG-VOL-LOC-TYPE WGR-DES-GEM-00-DRG	

300 mm  
200  
100  
50  
0 10 mm



CH 2220



CH 2200

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

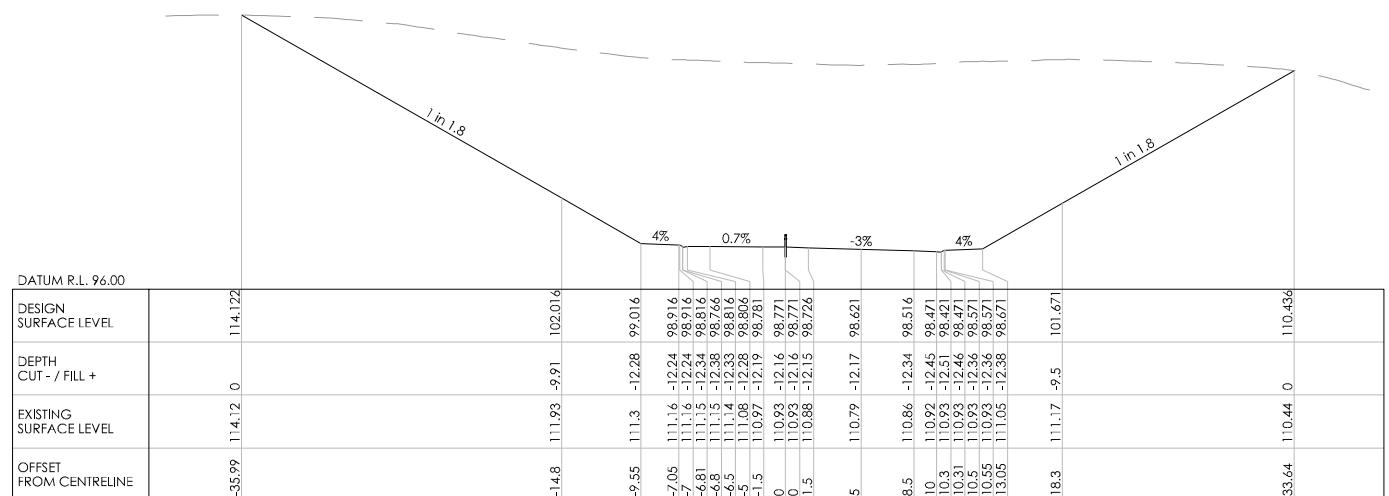
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

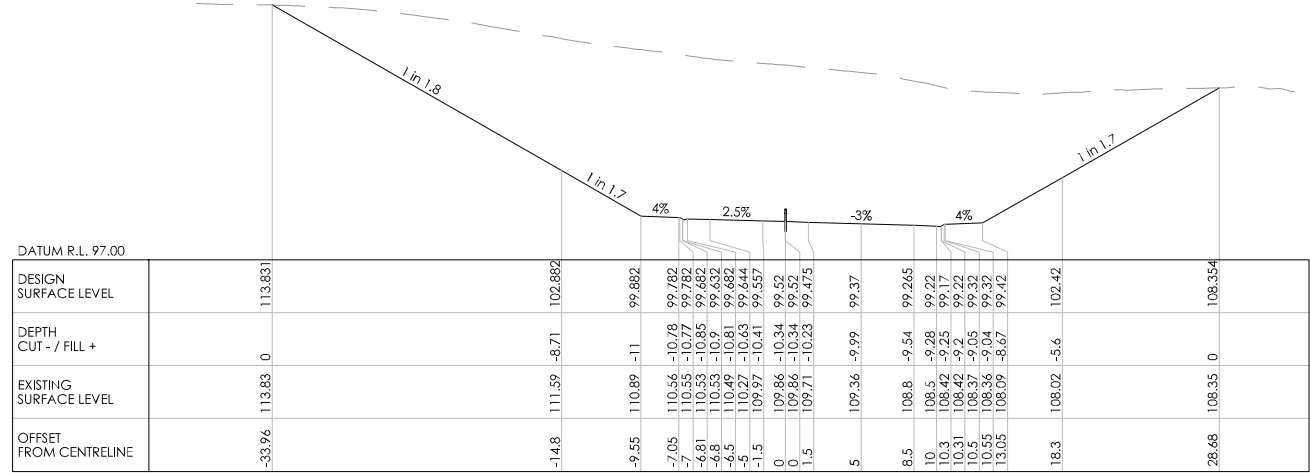
**FOR INFORMATION**

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0166	A

300 mm  
200  
100  
50  
0 10 mm



CH 2260



CH 2240

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

TRANSPORT

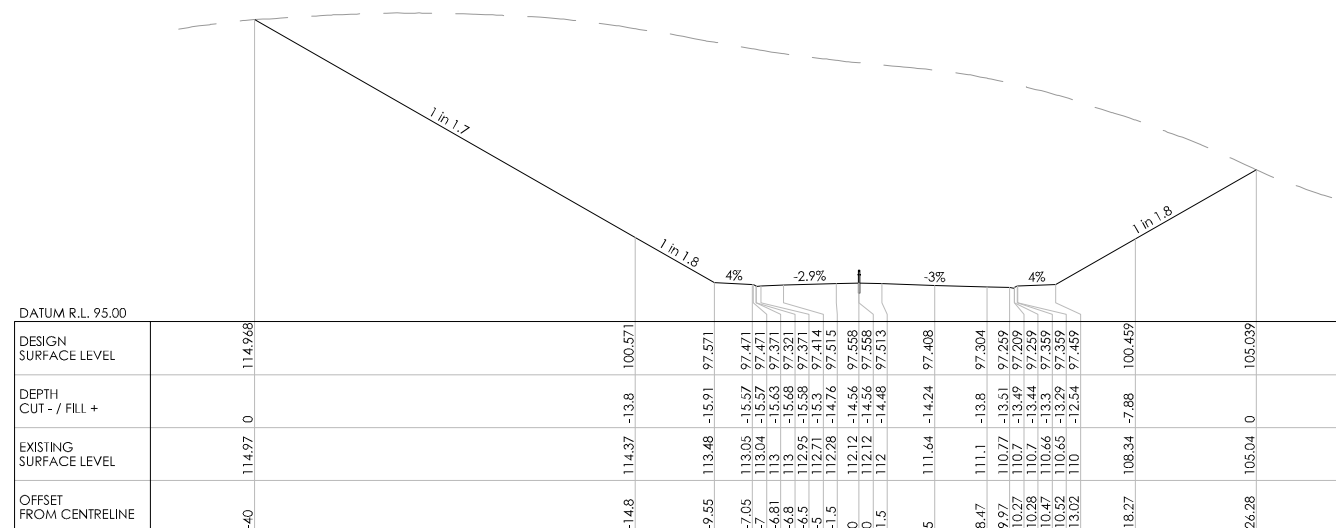
SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

FOR INFORMATION

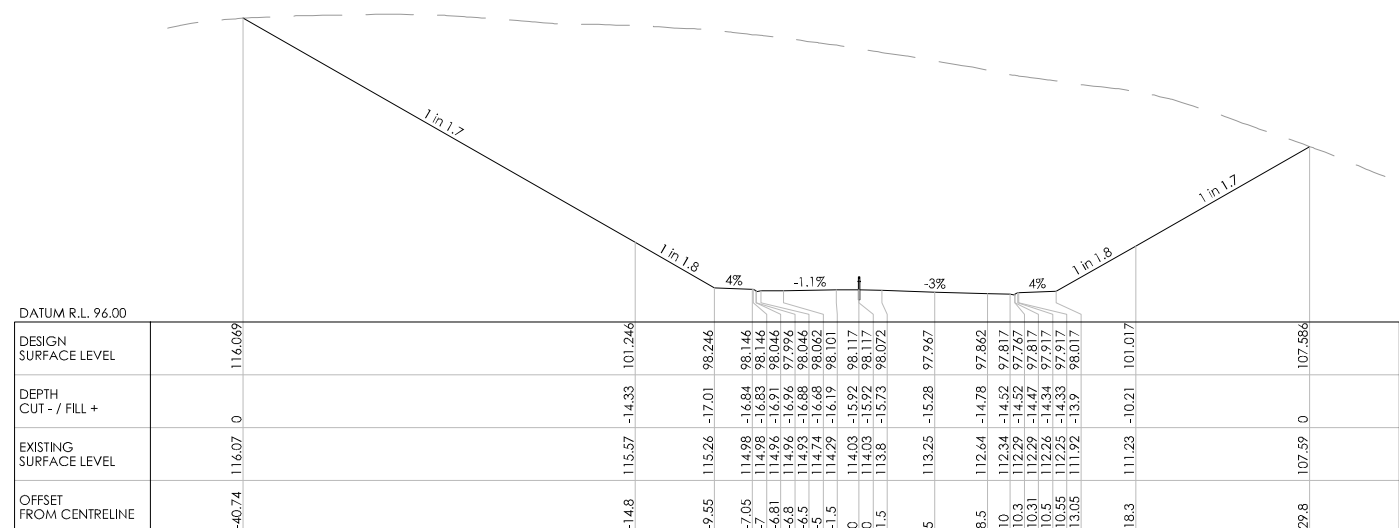
PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0167	A



300 mm  
200  
100  
50  
0 10 mm  
1mm



CH 2300



CH 2280

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0168	A



300 mm  
200  
100  
50  
0 10 mm  
millimetre

DATUM R.L. 92.00											
DESIGN SURFACE LEVEL											
DEPTH CUT - / FILL +											
EXISTING SURFACE LEVEL											
OFFSET FROM CENTRELINE											

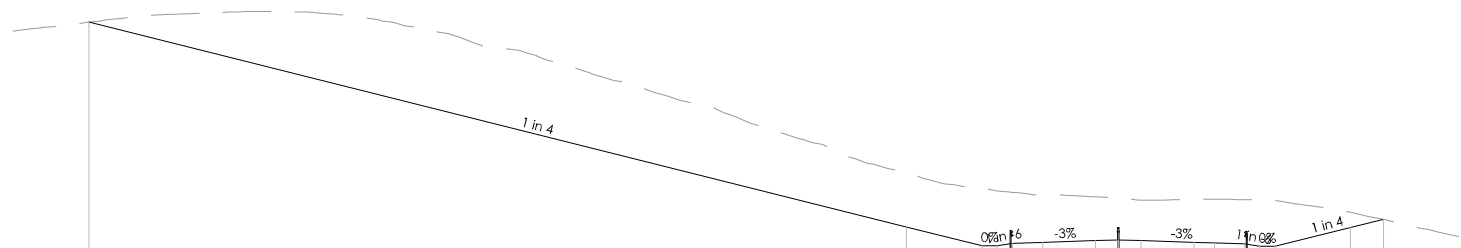
CH 2400

DATUM R.L. 93.00											
DESIGN SURFACE LEVEL											
DEPTH CUT - / FILL +											
EXISTING SURFACE LEVEL											
OFFSET FROM CENTRELINE											

CH 2380

DATUM R.L. 94.00											
DESIGN SURFACE LEVEL											
DEPTH CUT - / FILL +											
EXISTING SURFACE LEVEL											
OFFSET FROM CENTRELINE											

CH 2360



REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

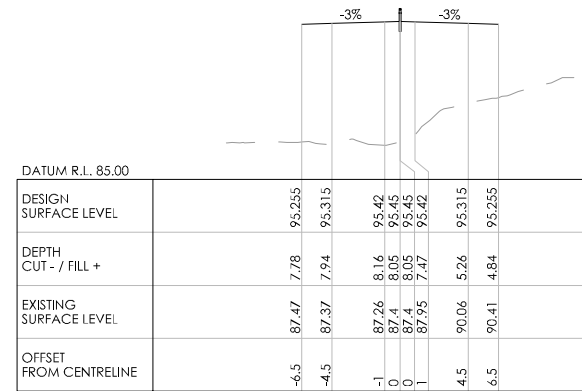
**TRANSPORT**

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

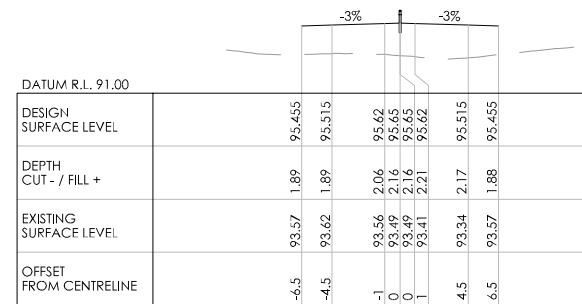
**FOR INFORMATION**

PROJECT		
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT		
TITLE		
CROSS SECTIONS SHEETS 1 TO 43		
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.
2-S5416.01	WGR-DES-GEM-00-DRG	0170
		REVISION
		A

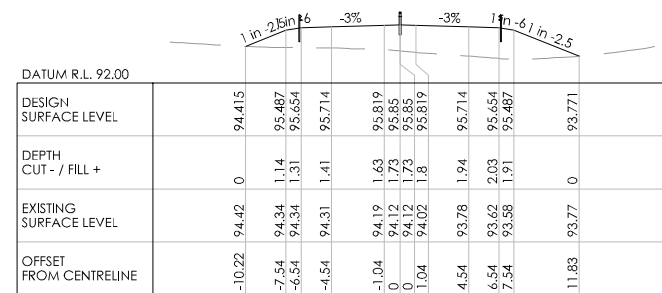
300 mm  
200  
100  
50  
0 10 mm



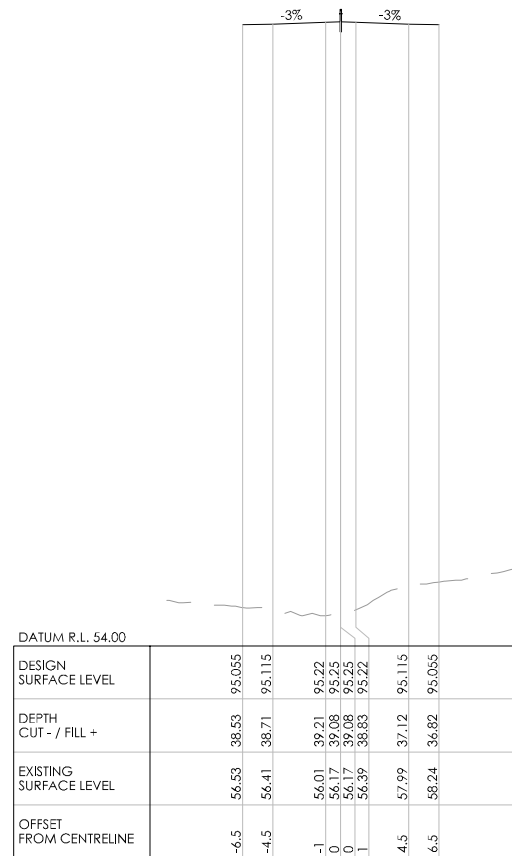
CH 2460



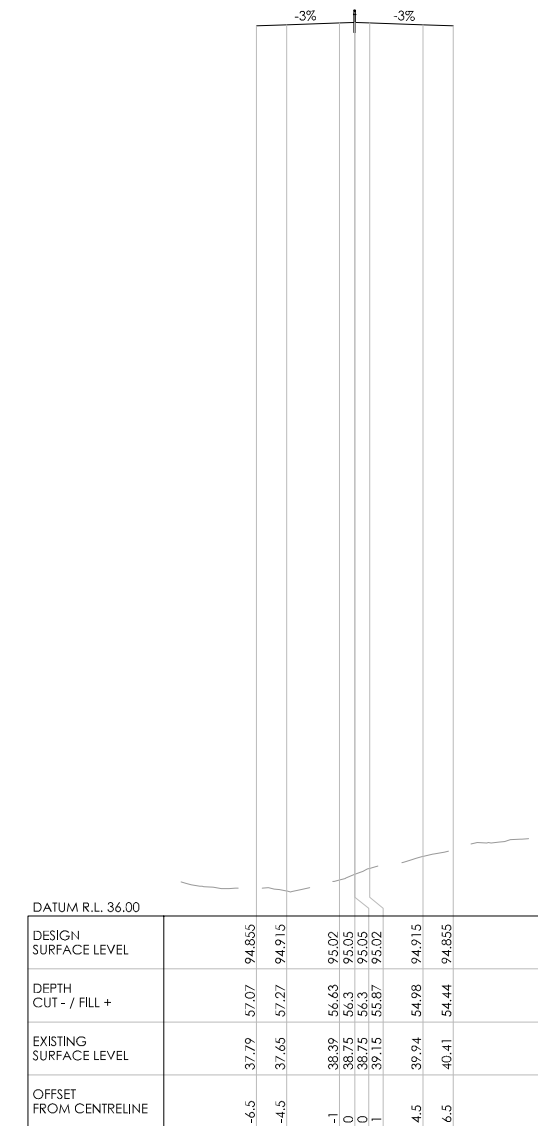
CH 2440



CH 2420



CH 2480



CH 2500

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

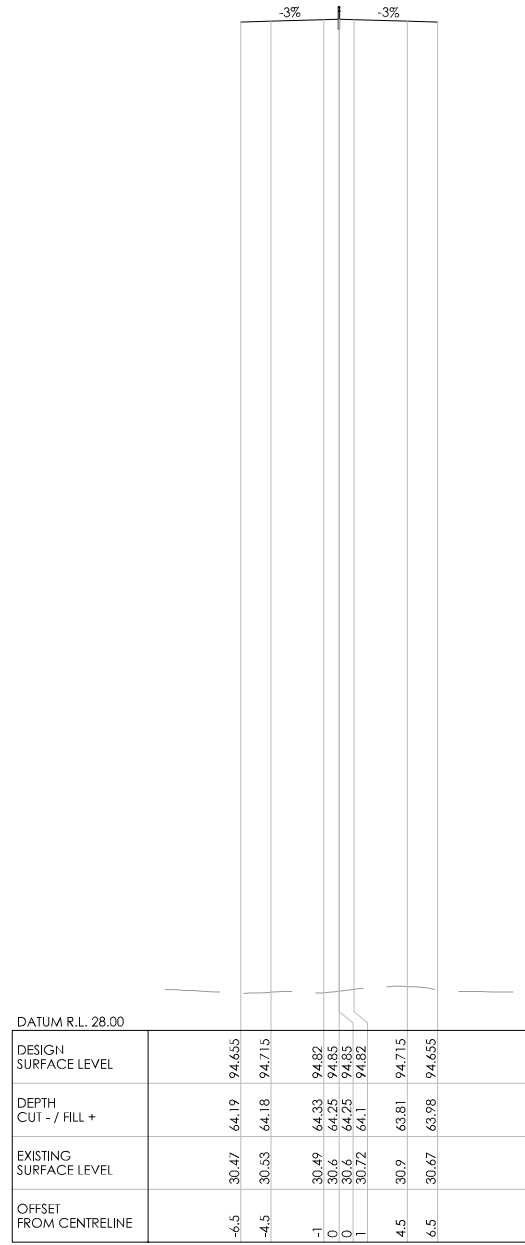
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

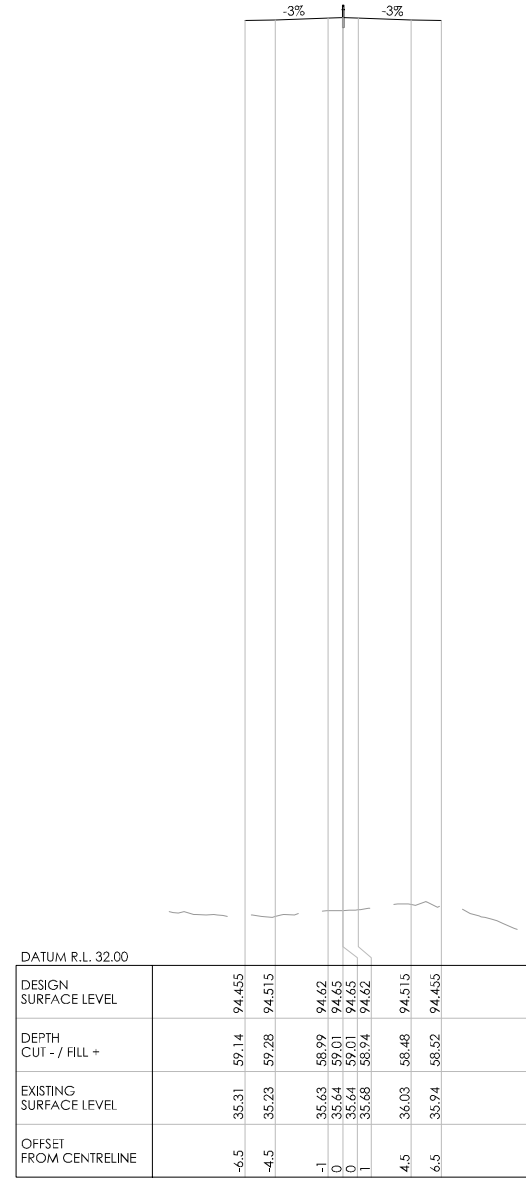
FOR INFORMATION

PROJECT		
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT		
TITLE		
CROSS SECTIONS SHEETS 1 TO 43		
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.
2-S5416.01	WGR-DES-GEM-00-DRG	0171
REVISION		
A		

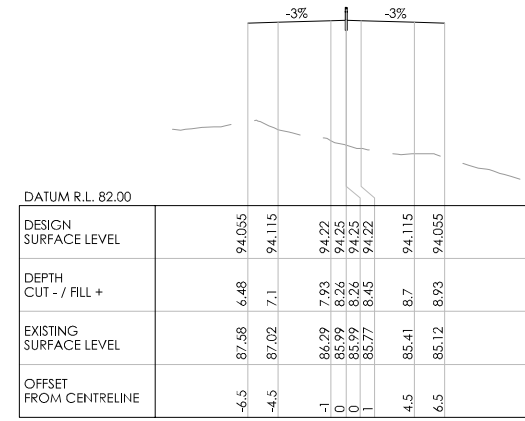
300 mm  
200  
100  
50  
0 10 mm



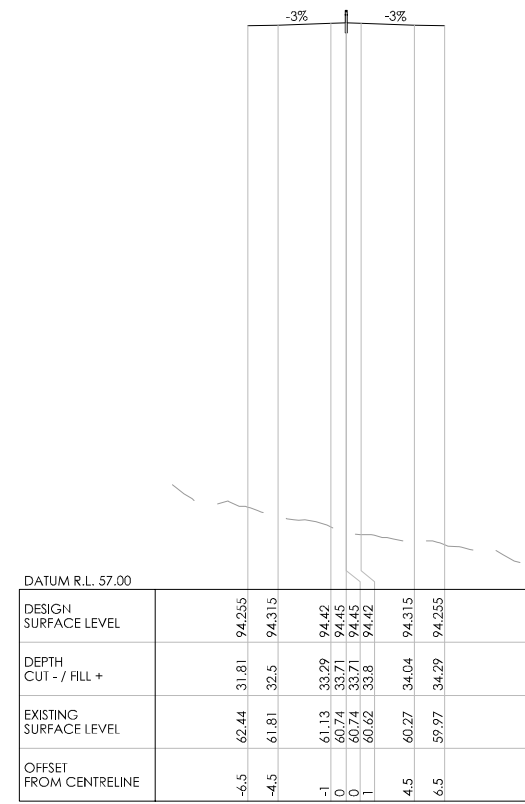
CH 2520



CH 2540



CH 2580



CH 2560

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT			
TITLE			
CROSS SECTIONS SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0172	A



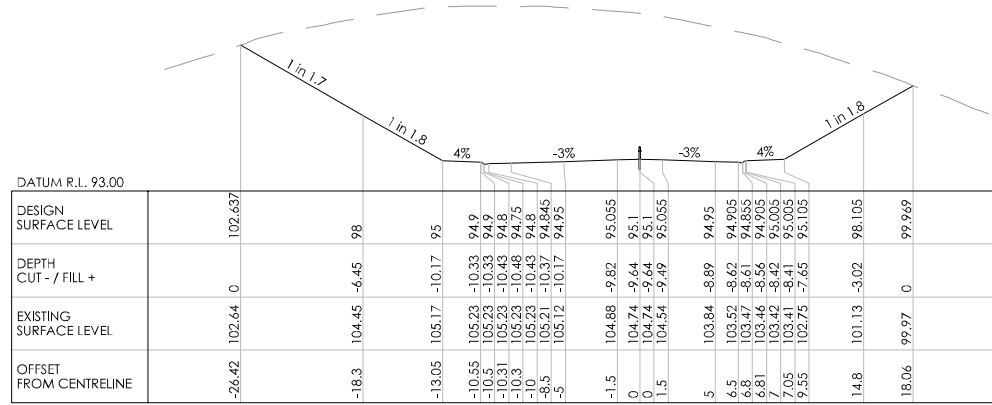
300 mm

200

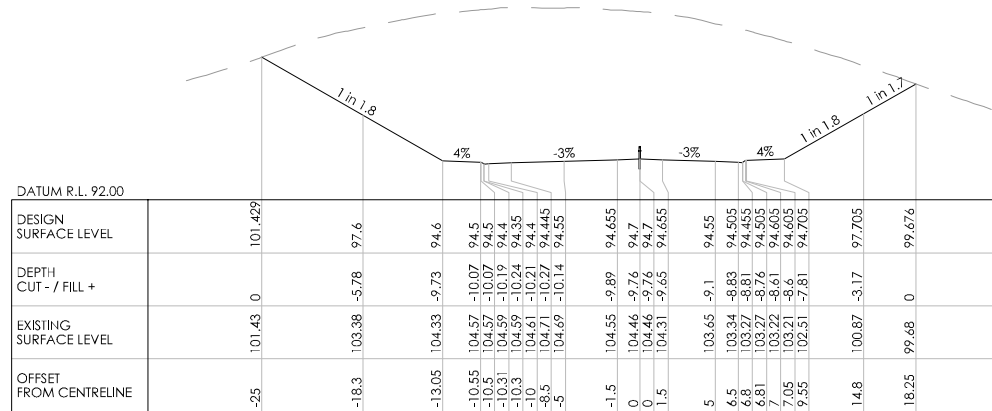
100

50

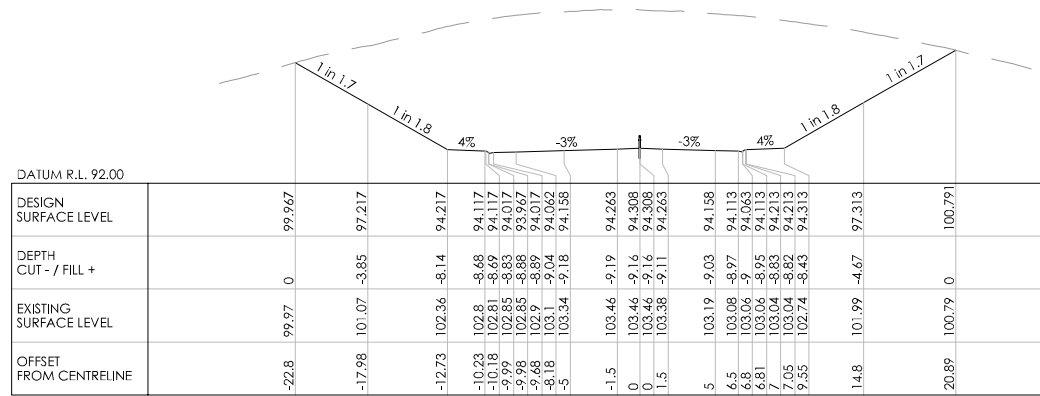
0 10 mm



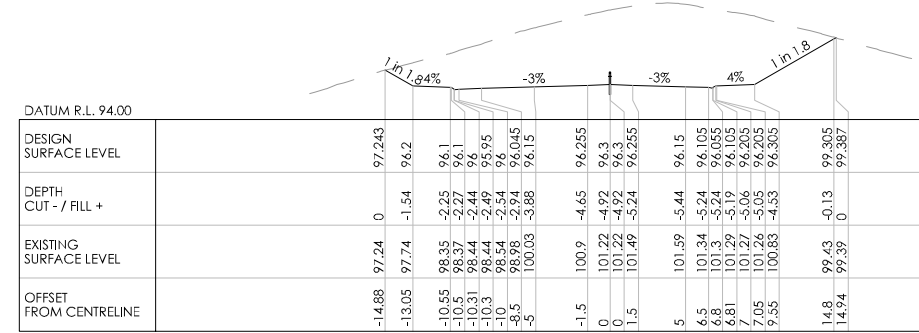
CH 2780



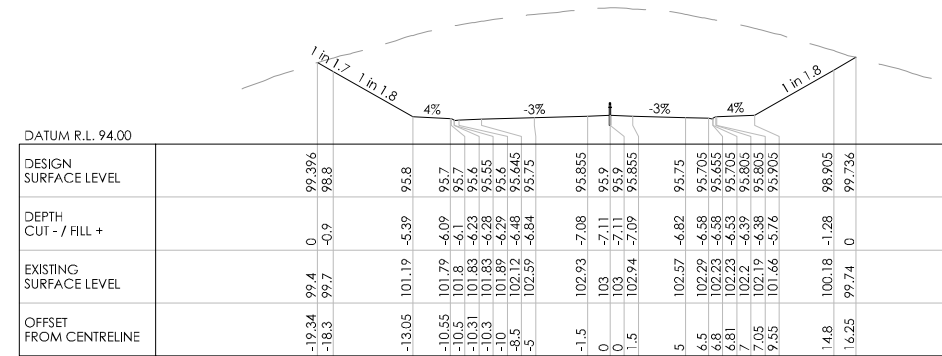
CH 2760



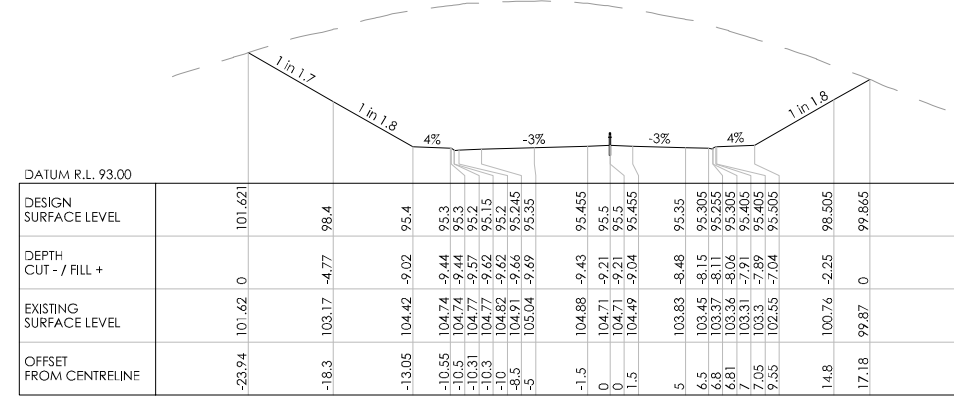
CH 2740



CH 2840



CH 2820



CH 2800

REVISION	AMENDMENT	APPROVED	DATE



Private Bag 6019  
Napier 4142  
New Zealand

TRANSPORT

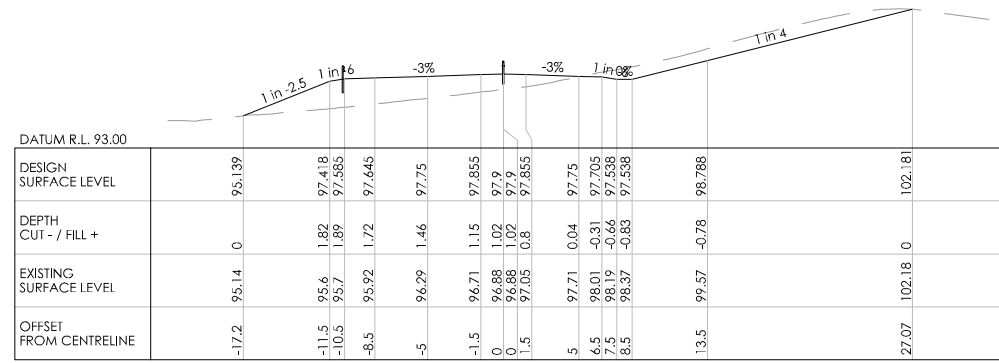
SCALES		ORIGINAL SIZE
1:250 [A1]	1:500 [A3]	A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

FOR INFORMATION

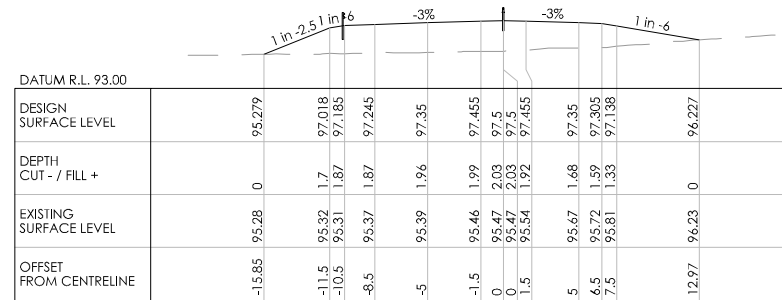
PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0174	A



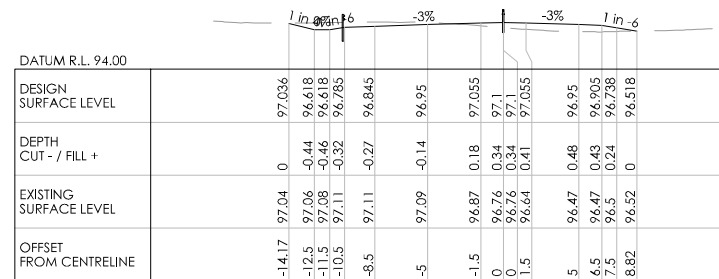
300 mm  
200  
100  
50  
0 10 mm



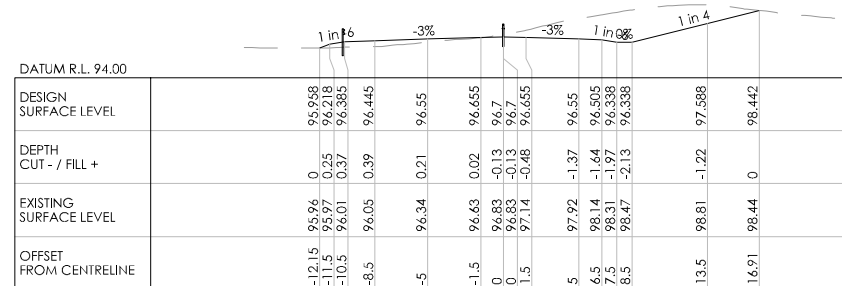
CH 2920



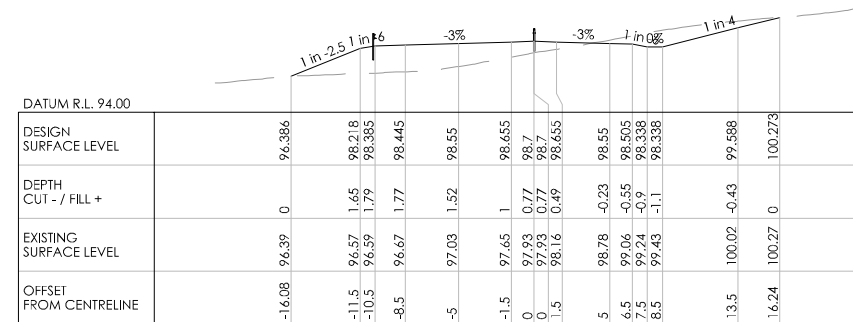
CH 2900



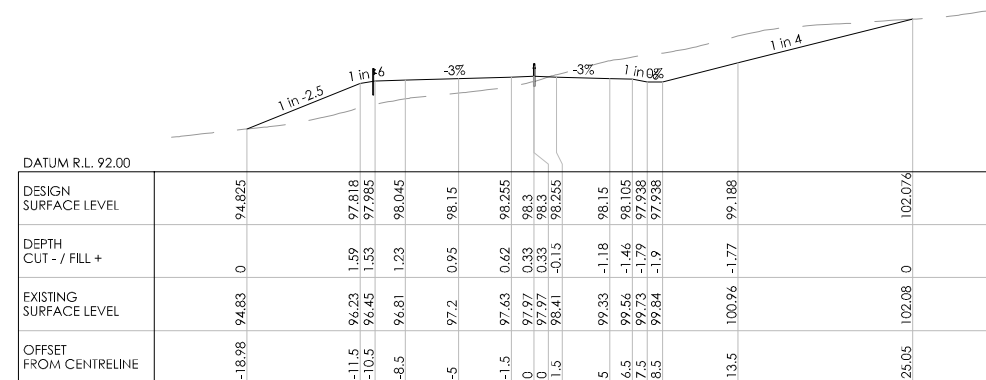
CH 2880



CH 2860



CH 2960



CH 2940

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

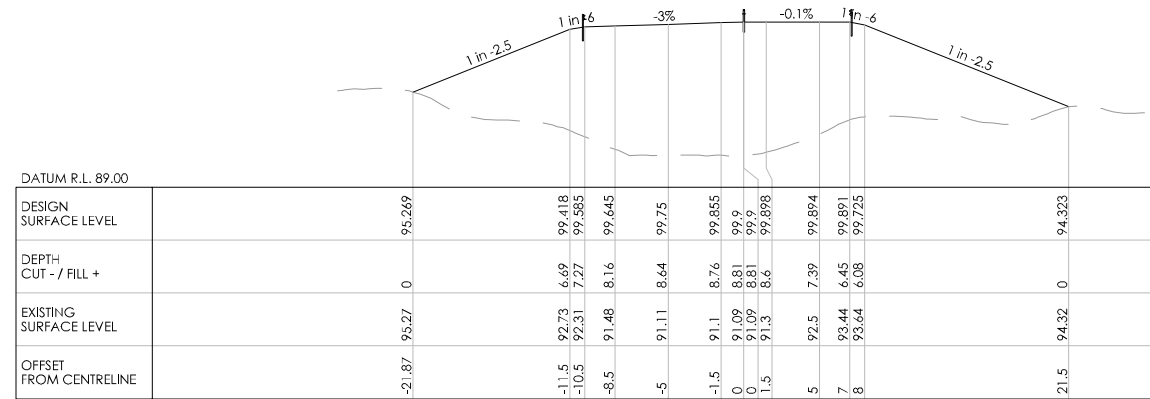
FOR INFORMATION

PROJECT  
WAKA KOTAHI NZ TRANSPORT AGENCY  
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE  
REALIGNMENT

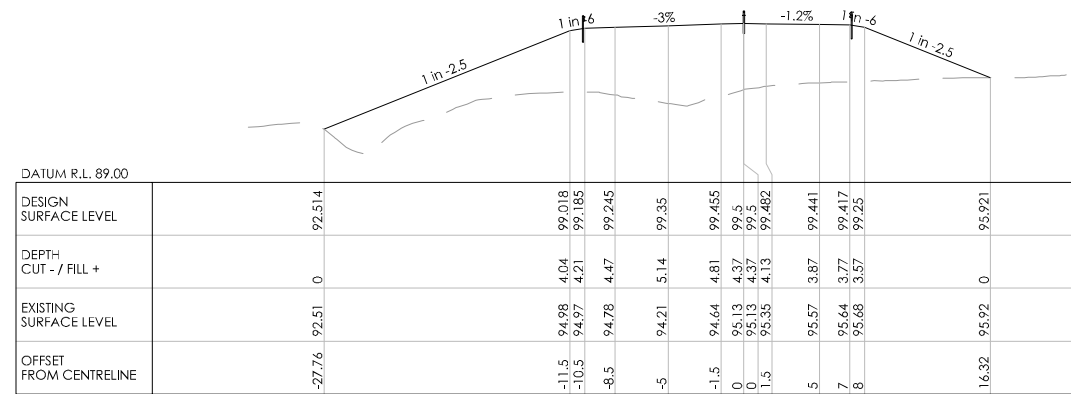
TITLE  
CROSS SECTIONS  
SHEETS 1 TO 43

WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0175	A

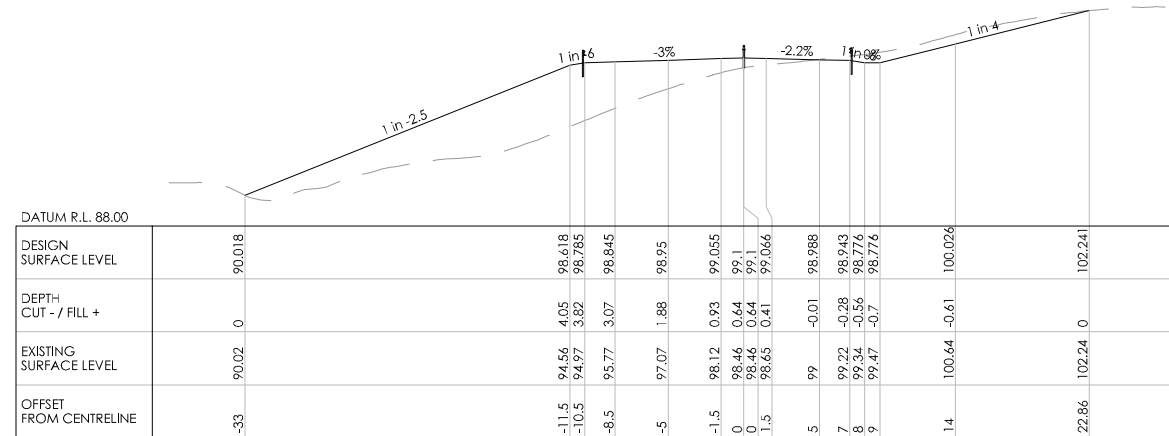
300 mm  
200  
100  
50  
0 10 mm



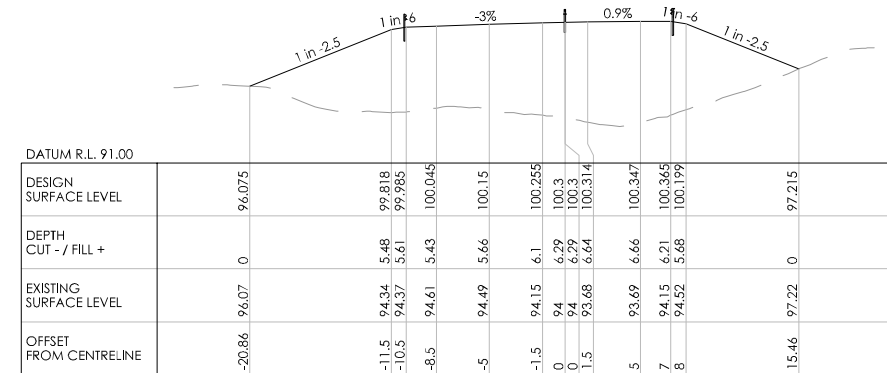
CH 3020



CH 3000



CH 2980



CH 3040

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100

Private Bag 6019  
Napier 4142  
New Zealand

TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0176	A

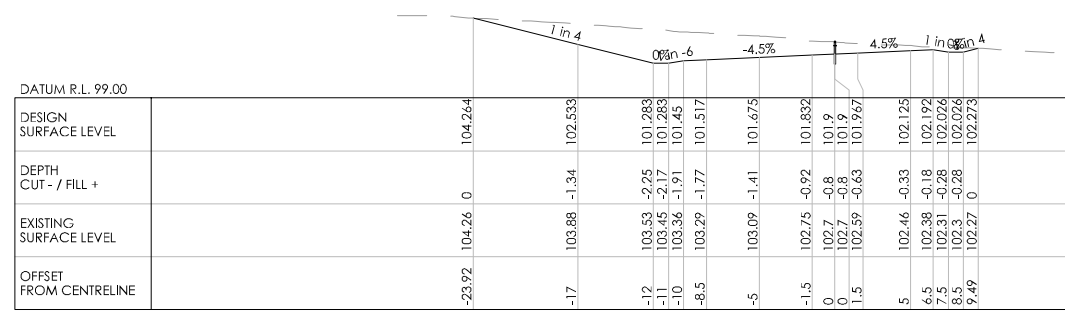
300 mm

200

100

50

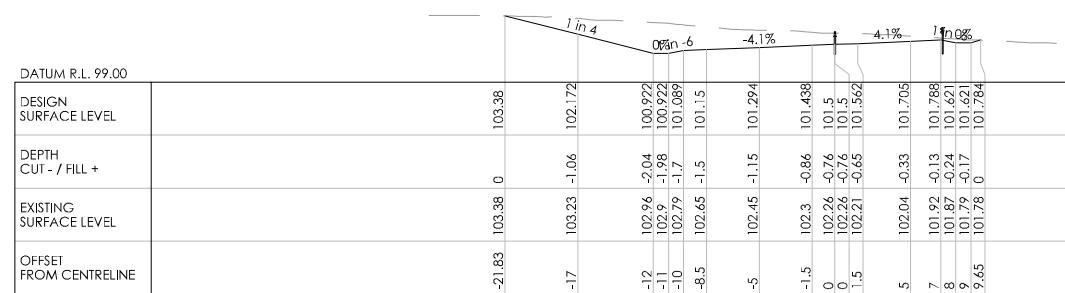
0 10 mm



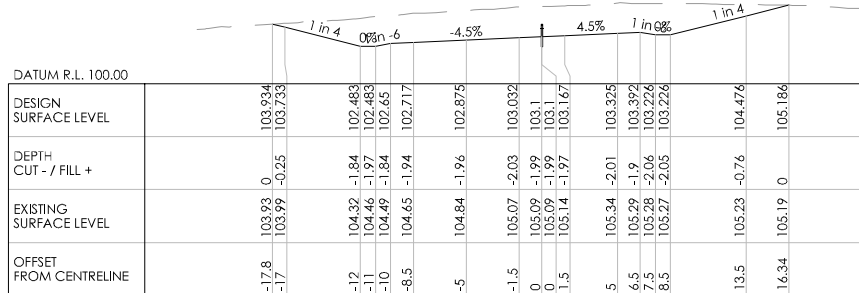
CH 3120



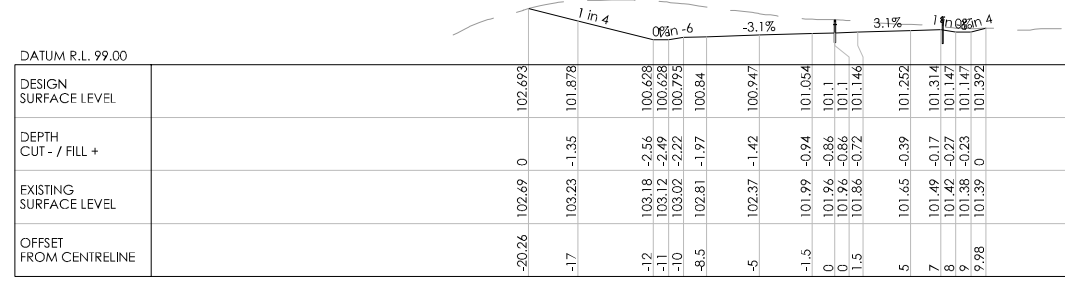
CH 3200



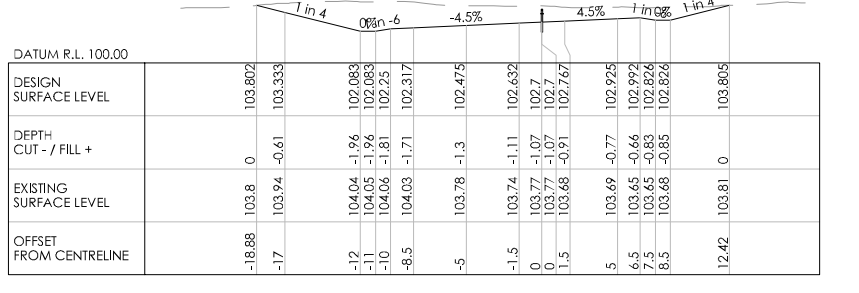
CH 3100



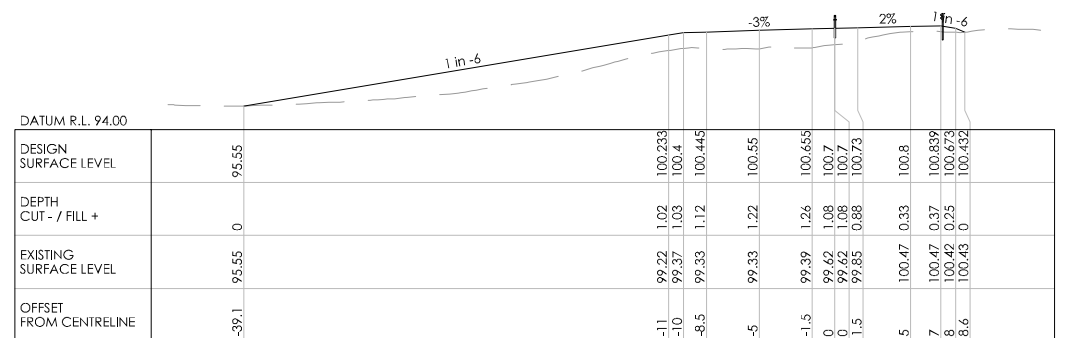
CH 3180



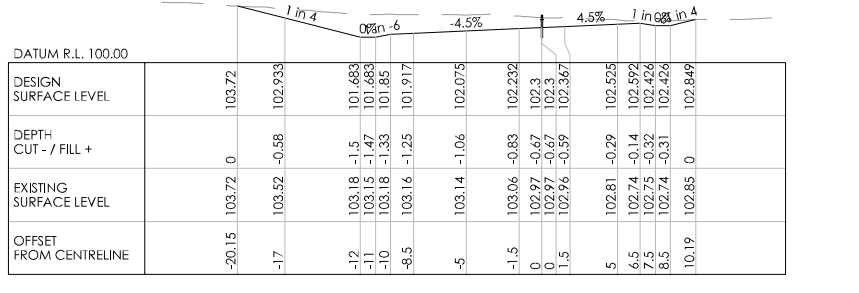
CH 3080



CH 3160



CH 3060



CH 3140

REVISION	AMENDMENT	APPROVED	DATE



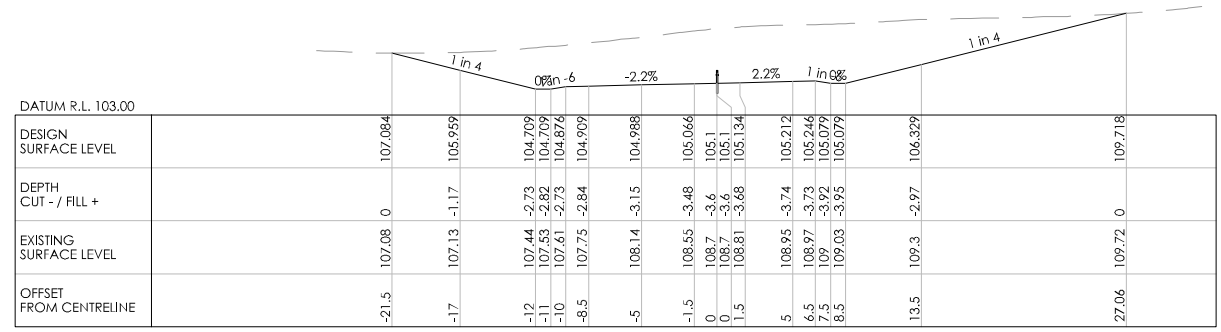
**wsp**  
 Napier Office  
 +64 6 833 5100  
 Private Bag 6019  
 Napier 4142  
 New Zealand

TRANSPORT

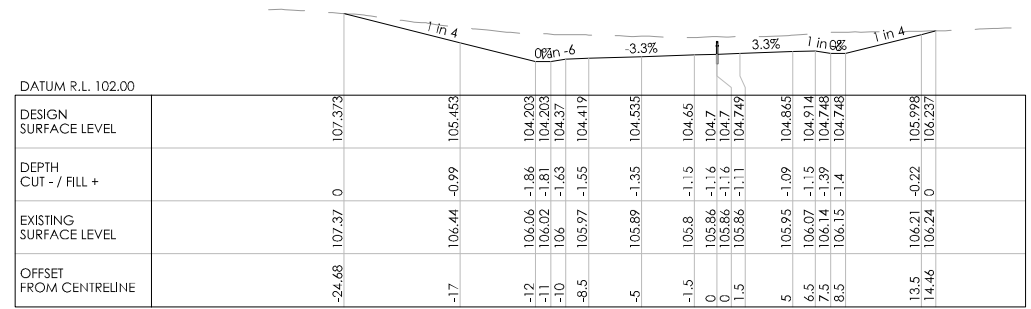
SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

FOR INFORMATION

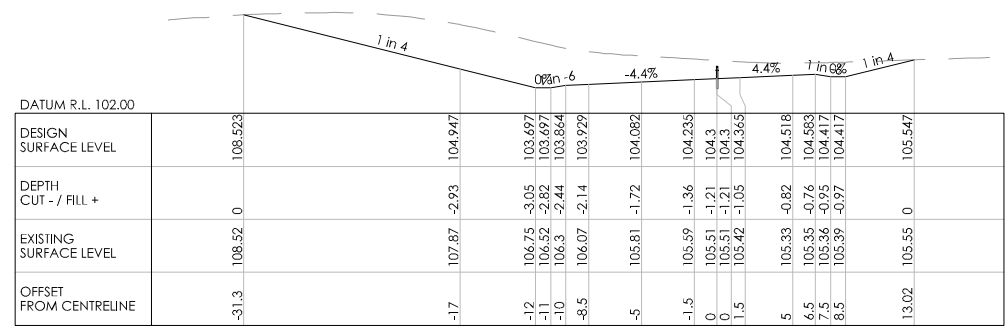
PROJECT		SHEET NO.	REVISION
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT		0177	A
TITLE			
CROSS SECTIONS SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0177	A



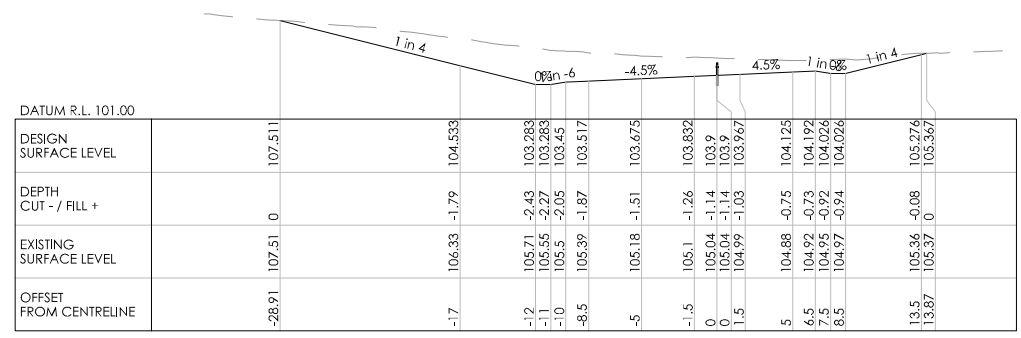
CH 3280



CH 3260



CH 3240



CH 3220



REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
 Napier Office  
 +64 6 833 5100  
 Private Bag 6019  
 Napier 4142  
 New Zealand

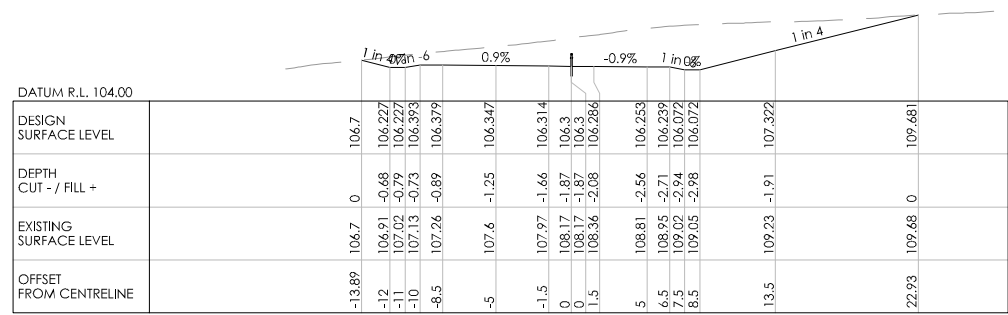
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

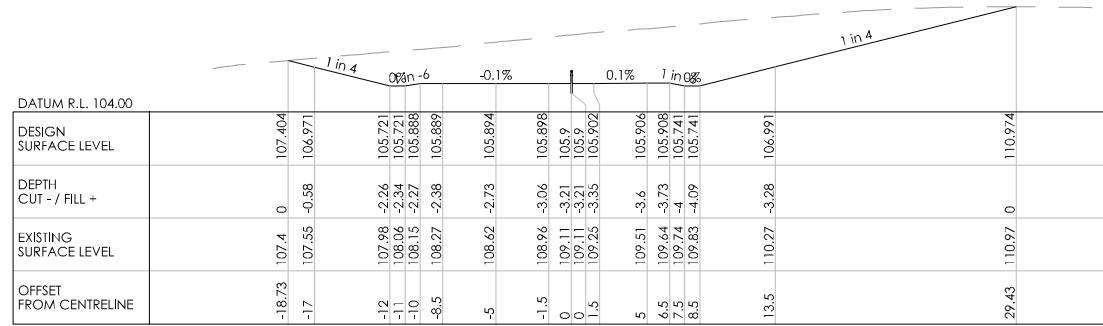
FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0178	A

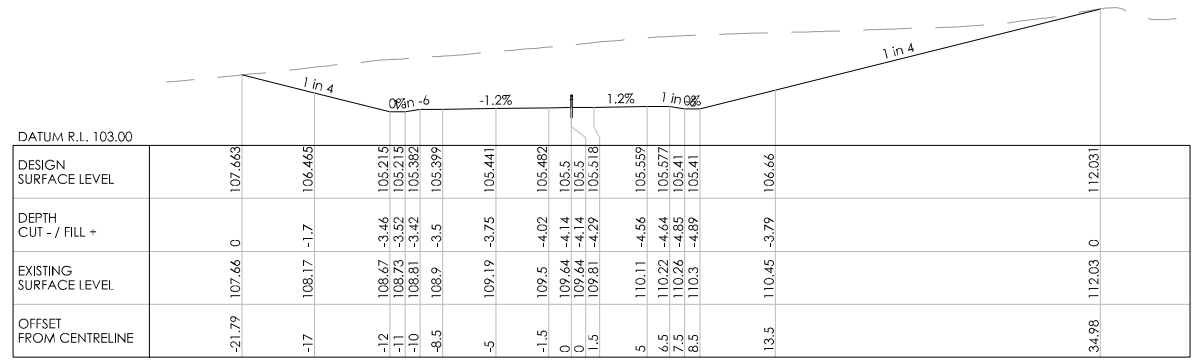
300 mm  
200  
100  
0 10 mm



CH 3340



CH 3320



CH 3300

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

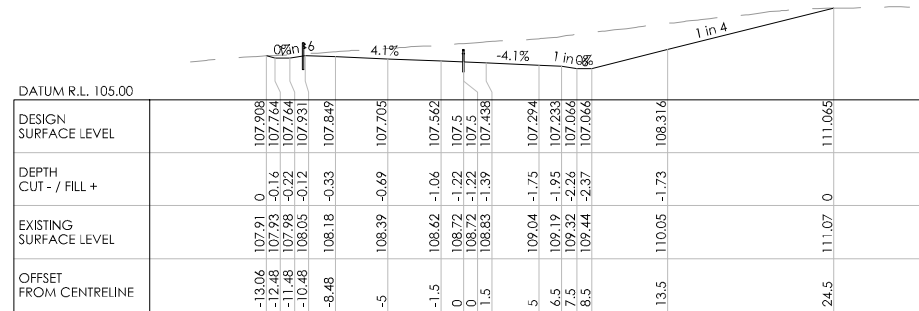
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

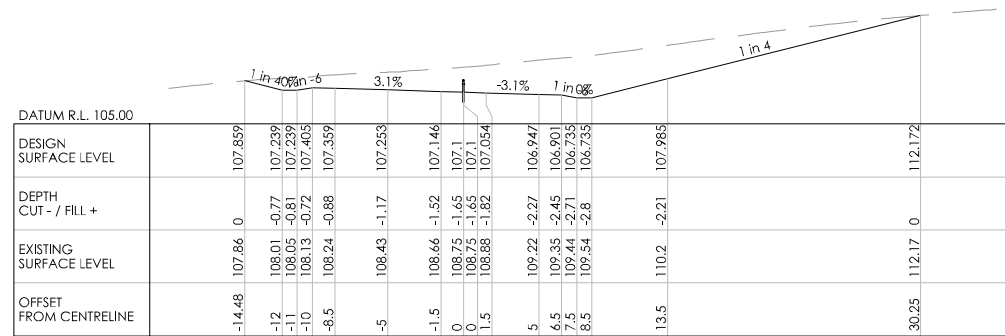
FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0179	A

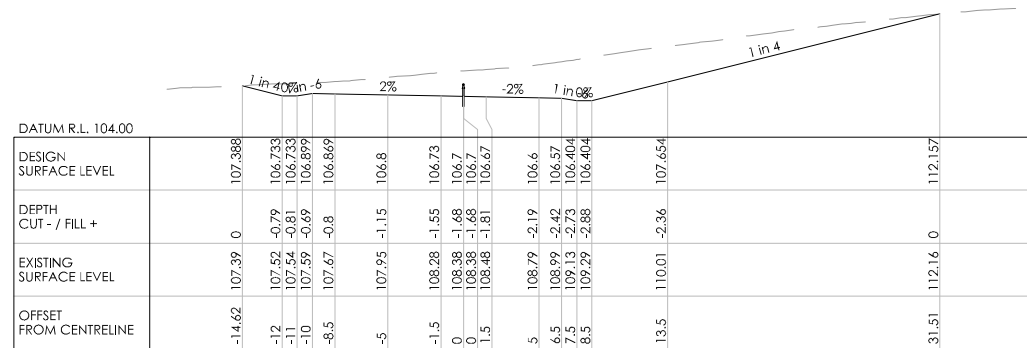
0 10 mm 100 200 300 mm



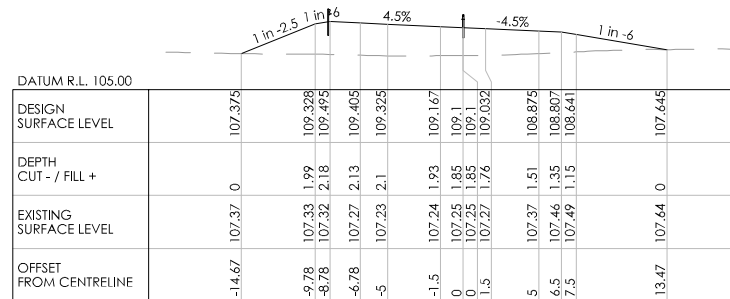
CH 3400



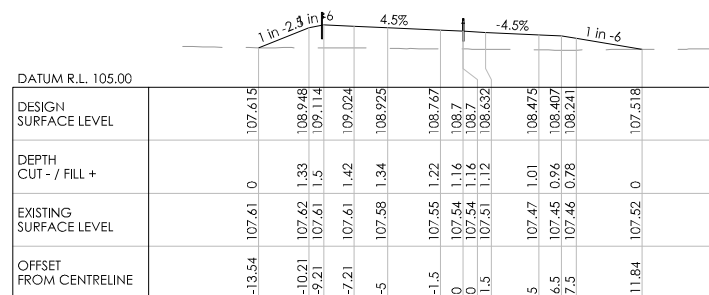
CH 3380



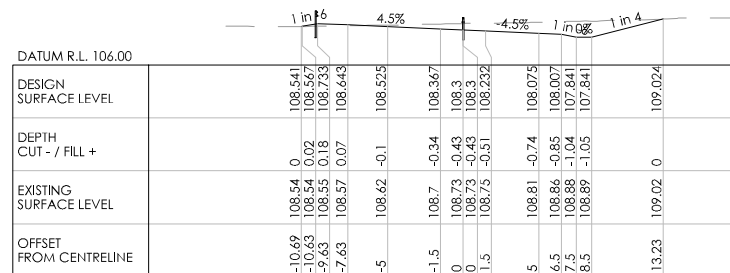
CH 3360



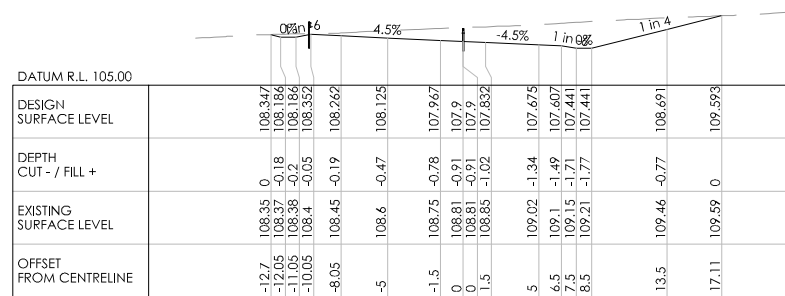
CH 3480



CH 3460



CH 3440



CH 3420

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
 Napier Office  
 Private Bag 6019  
 Napier 4142  
 New Zealand

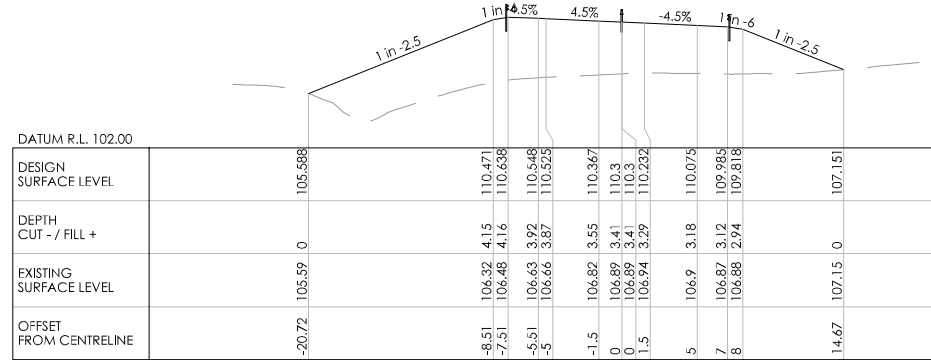
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

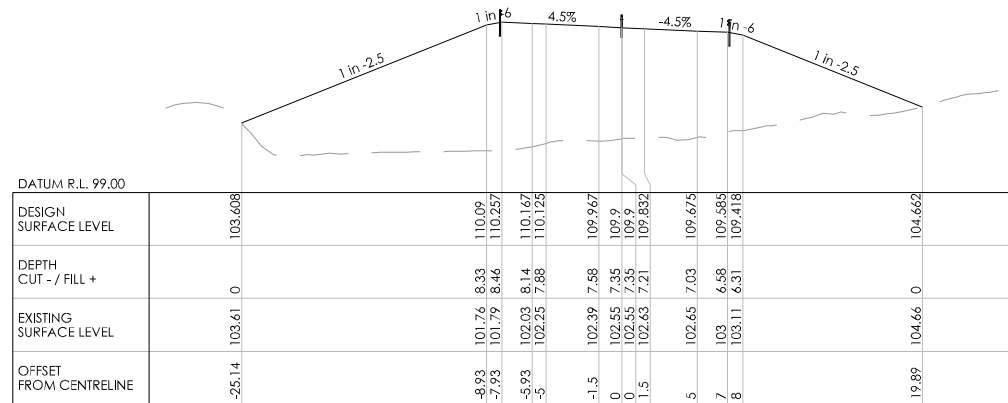
FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0180	A

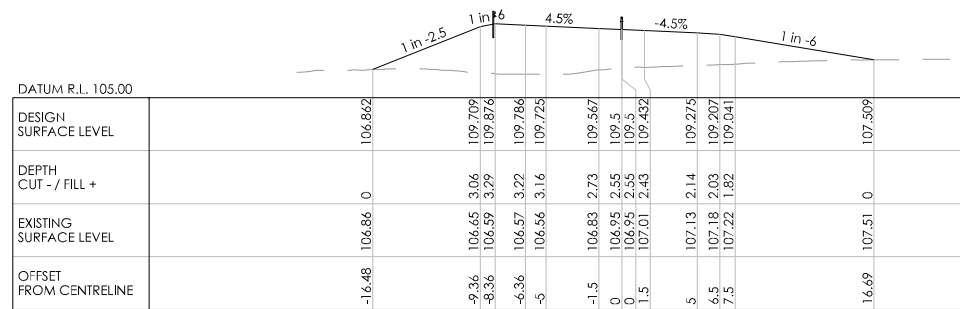
300 mm  
200  
100  
50  
0 10 mm



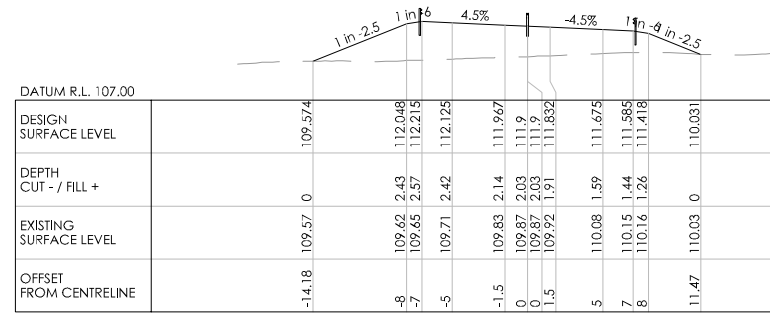
CH 3540



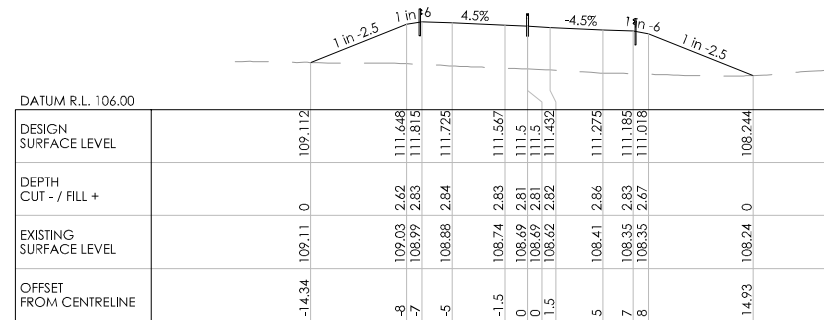
CH 3520



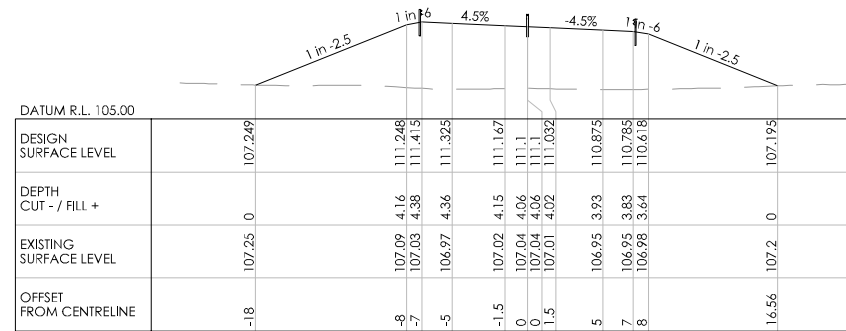
CH 3500



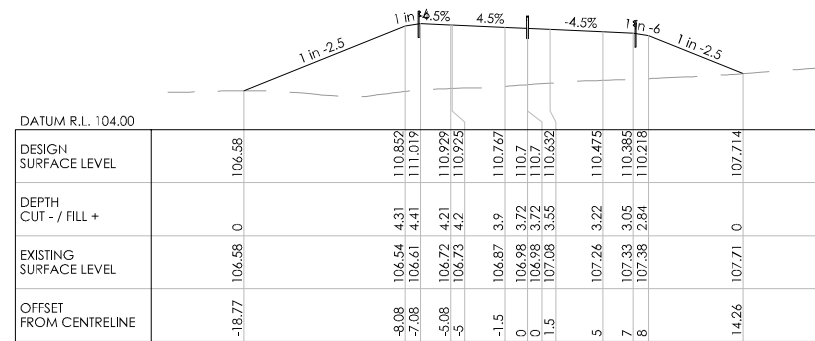
CH 3620



CH 3600



CH 3580



CH 3560

REVISION	AMENDMENT	APPROVED	DATE



Private Bag 6019  
Napier 4142  
New Zealand

TRANSPORT

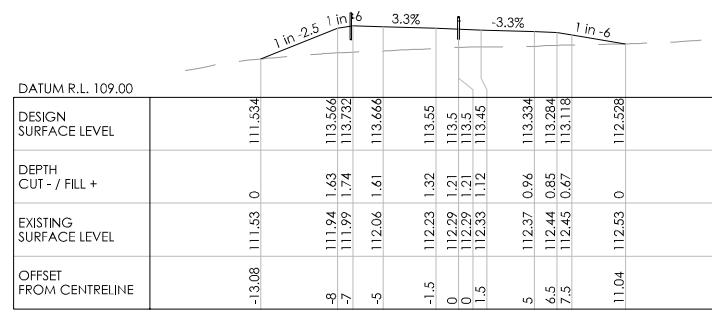
SCALES		ORIGINAL SIZE
1:250 [A1]	1:500 [A3]	A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

FOR INFORMATION

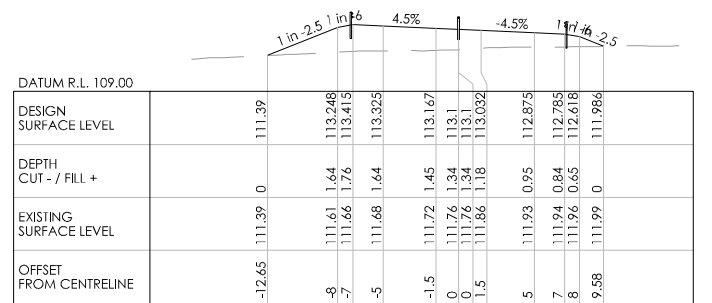
PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0181	A



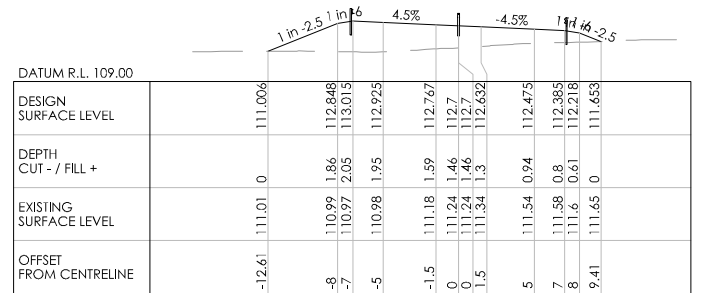
300 mm  
200  
100  
50  
0 10 mm



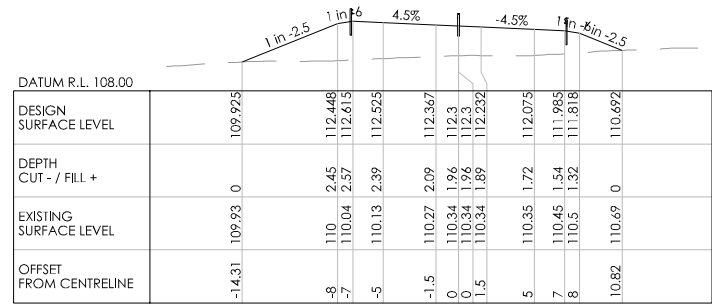
CH 3700



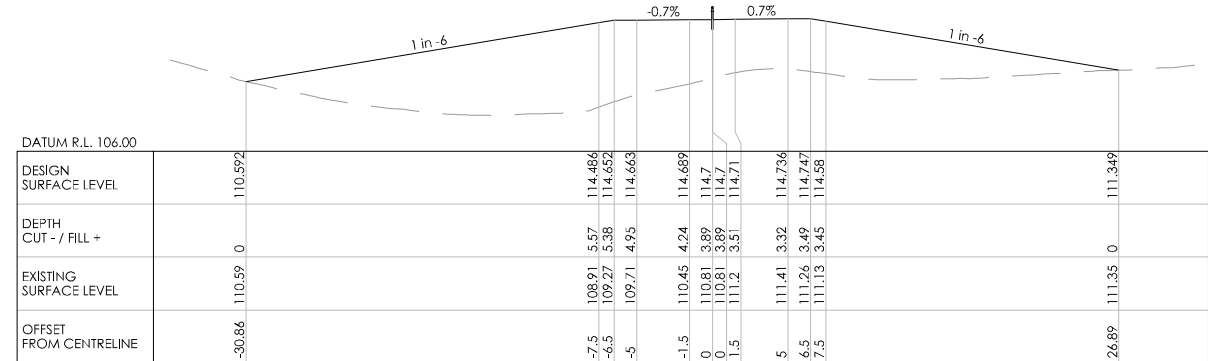
CH 3680



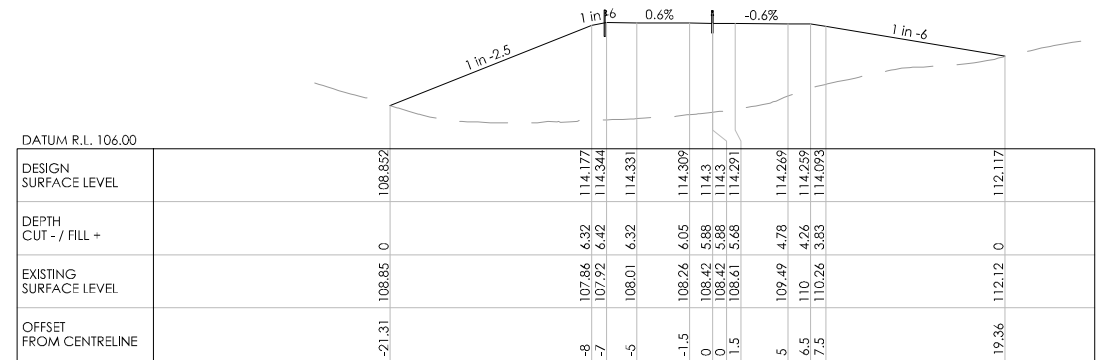
CH 3660



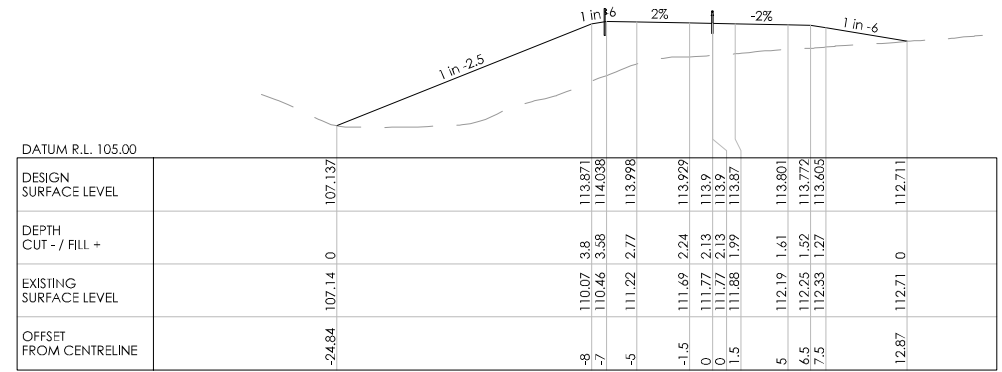
CH 3640



CH 3760



CH 3740



CH 3720

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

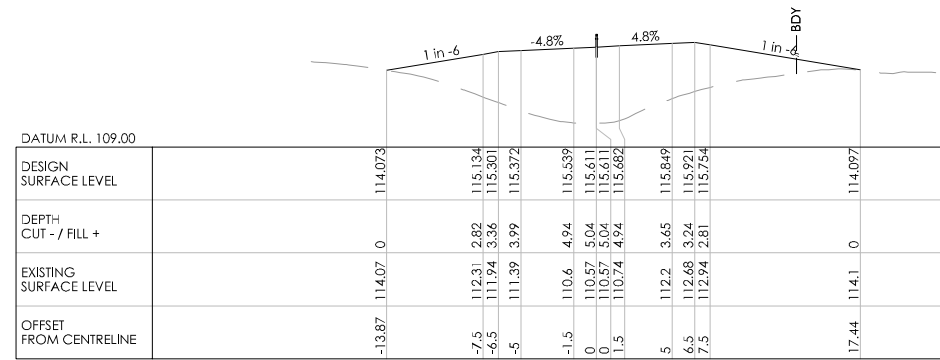
TRANSPORT

SCALES	DESIGNED	APPROVED	ORIGINAL SIZE
1:250 [A1], 1:500 [A3]	A. LEWIS	-	A1
DRAWN	DESIGNED	APPROVED	
P. BIRSE	A. LEWIS	-	
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE	
A. LEWIS	J. TAYLOR	-	

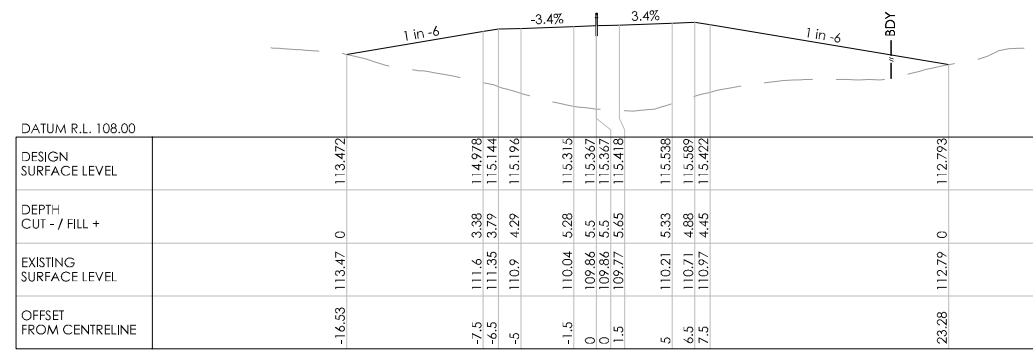
FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0182	A

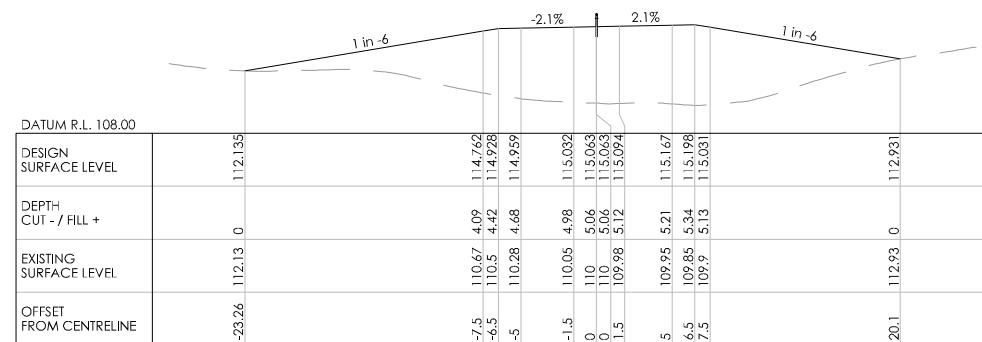
300 mm  
200  
100  
0 10 mm



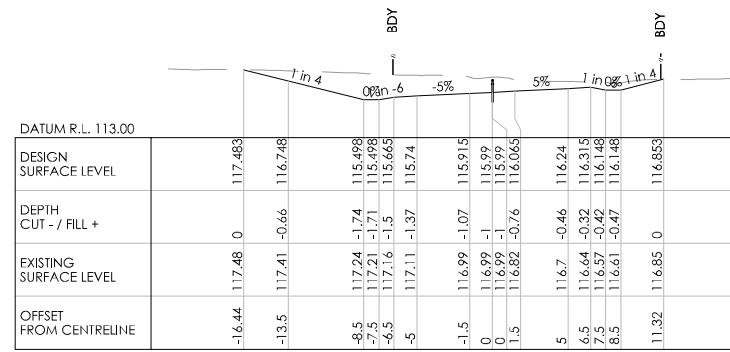
CH 3820



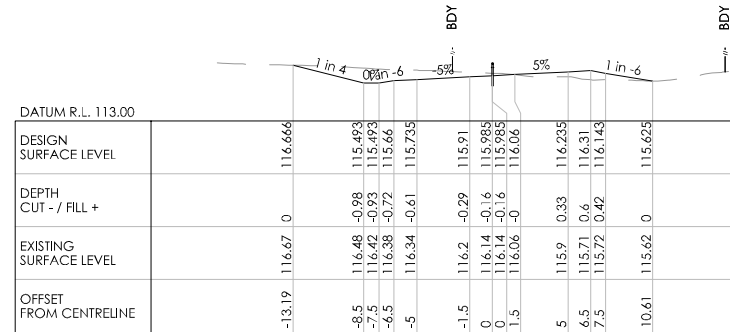
CH 3800



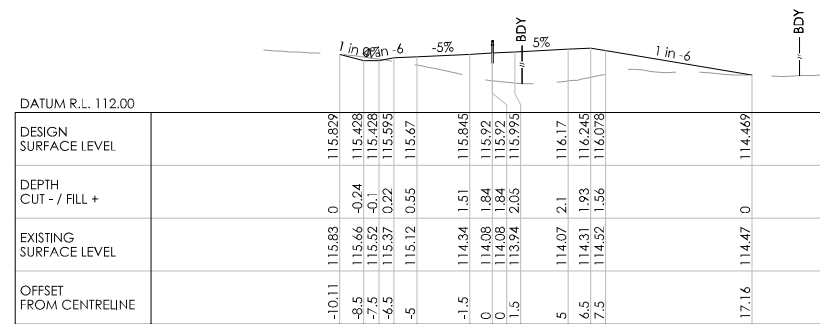
CH 3780



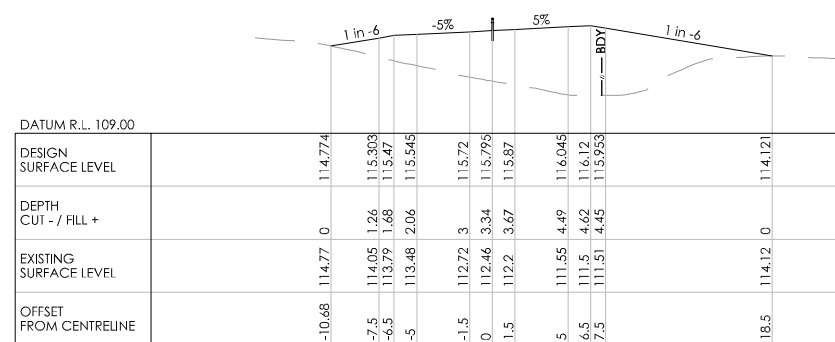
CH 3900



CH 3880



CH 3860



CH 3840

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

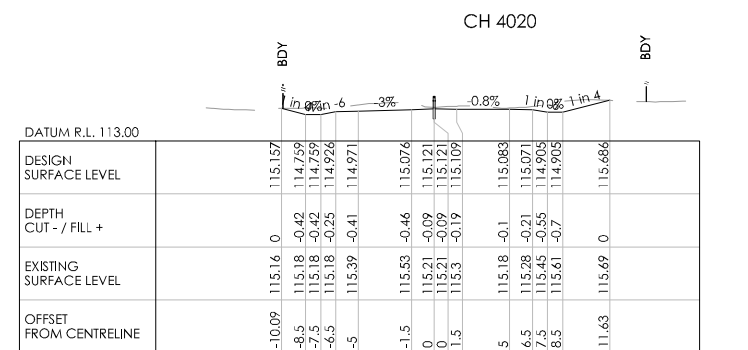
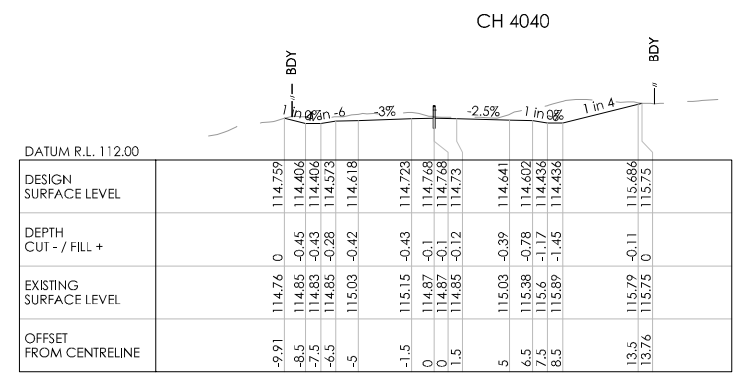
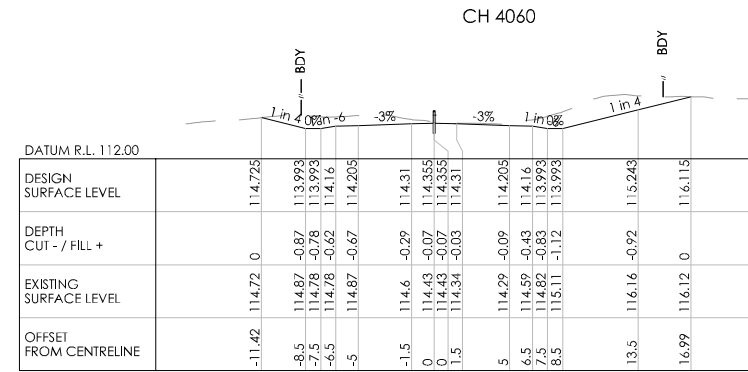
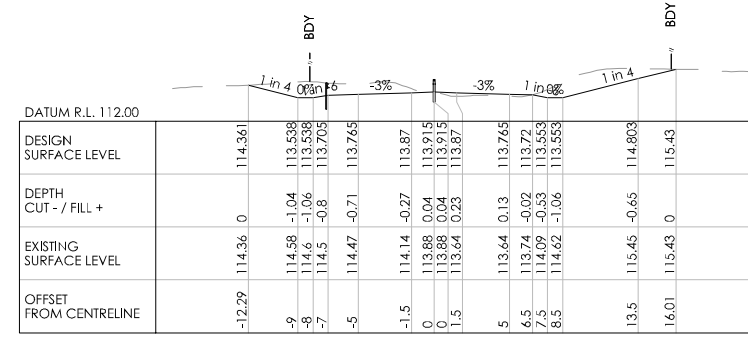
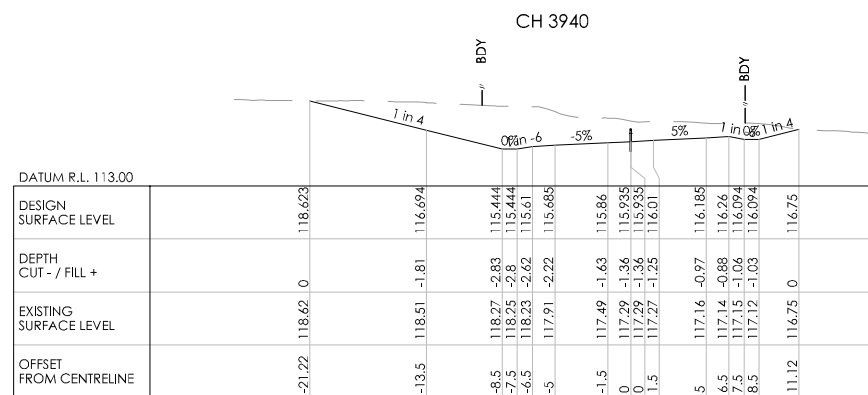
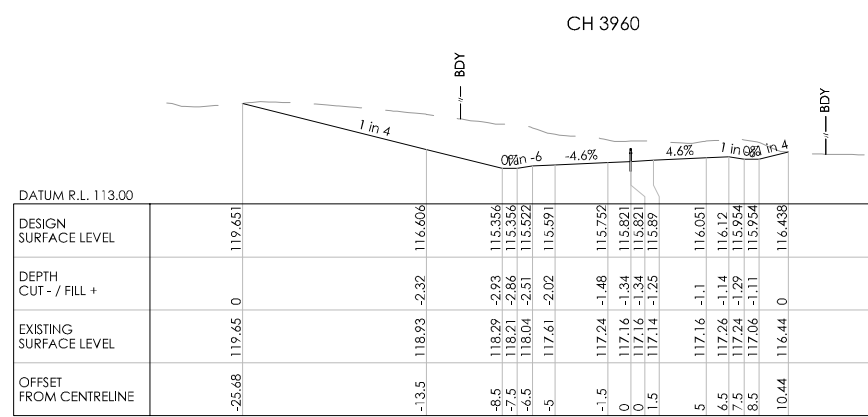
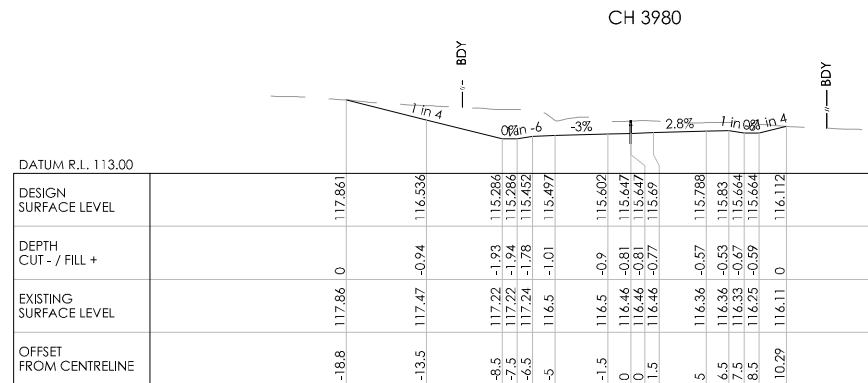
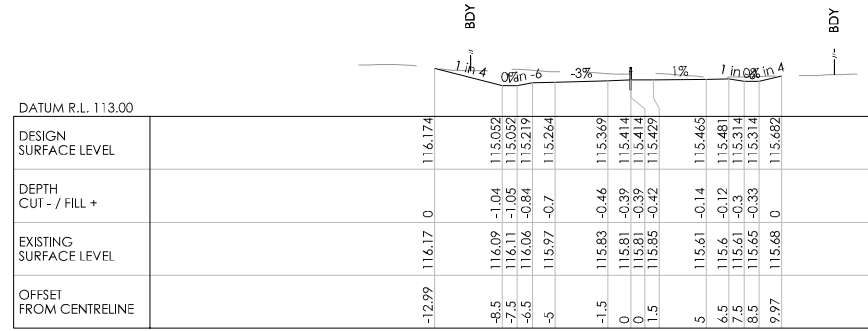
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0183	A

0 10 mm 50 100 200 300 mm



REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100

Private Bag 6019  
Napier 4142  
New Zealand

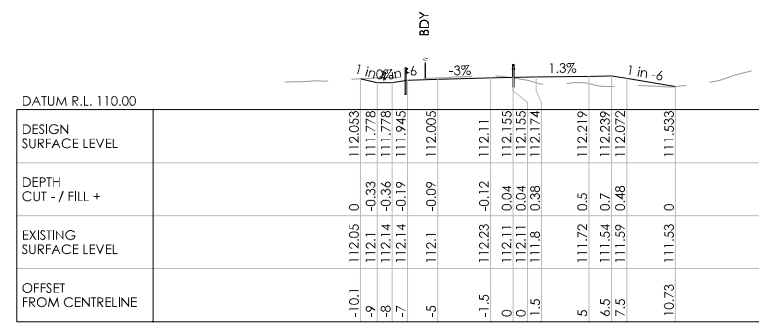
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

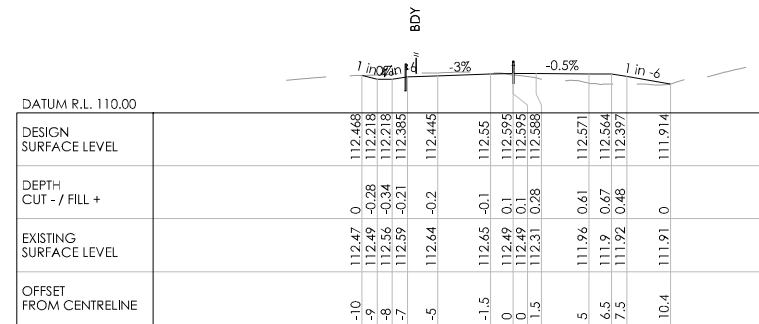
FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/1.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0184	A

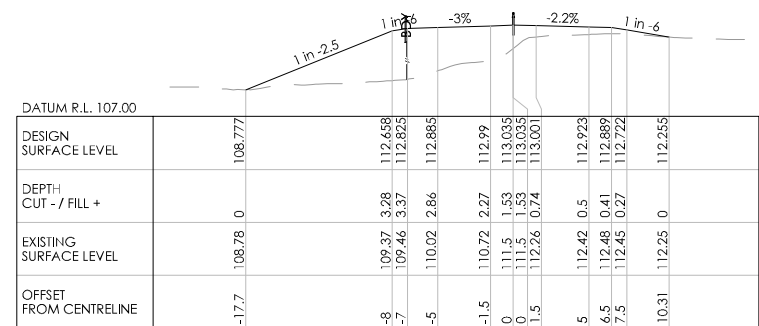
300 mm  
200  
100  
50  
0 10 mm



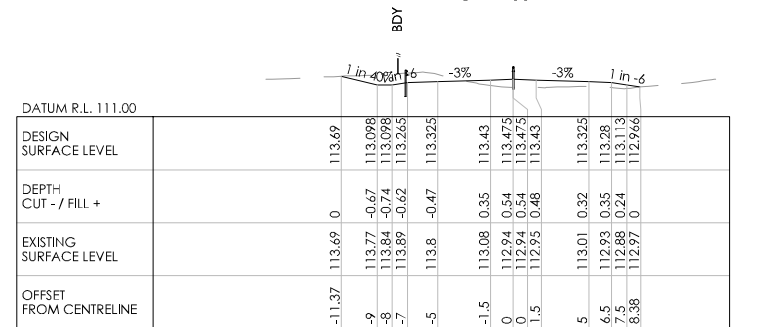
CH 4140



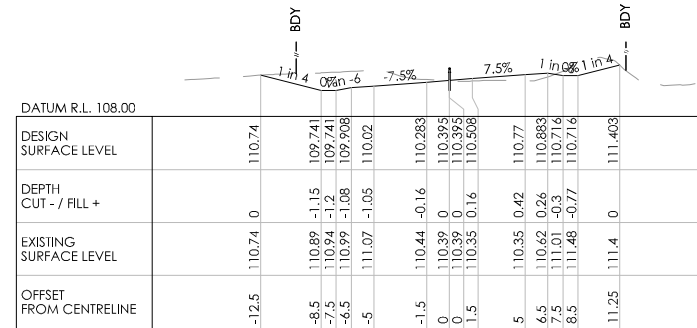
CH 4120



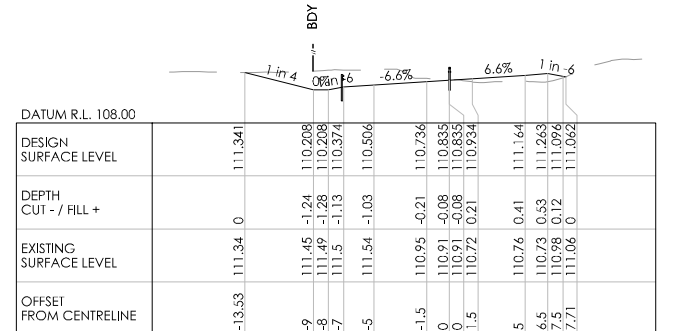
CH 4100



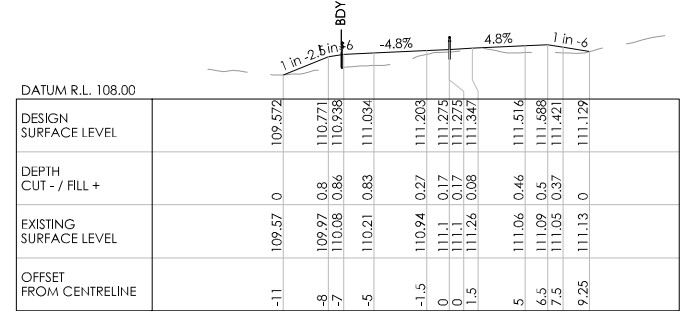
CH 4080



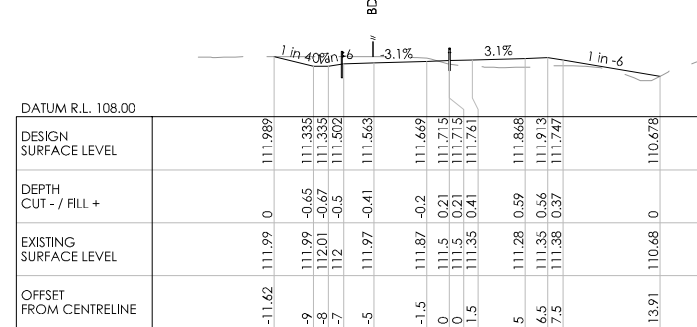
CH 4220



CH 4200



CH 4180



CH 4160

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

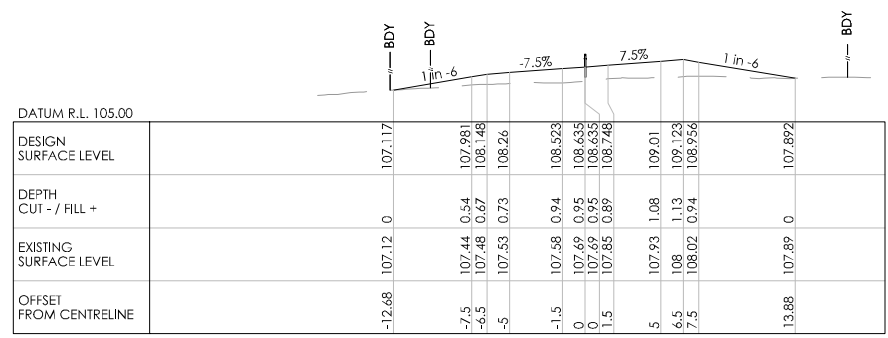
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

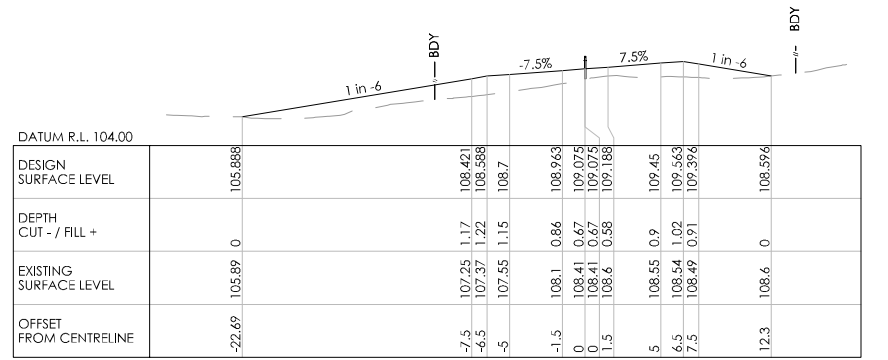
FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0185	A

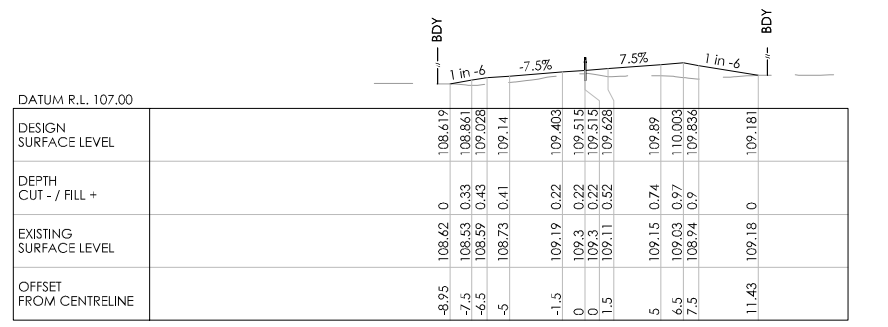
0 10 mm 100 200 300 mm



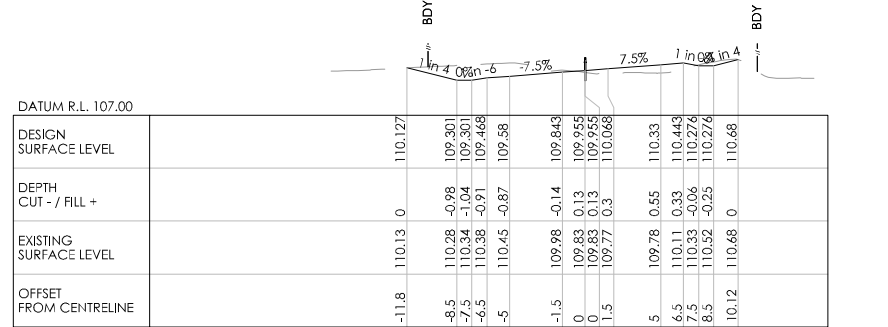
CH 4300



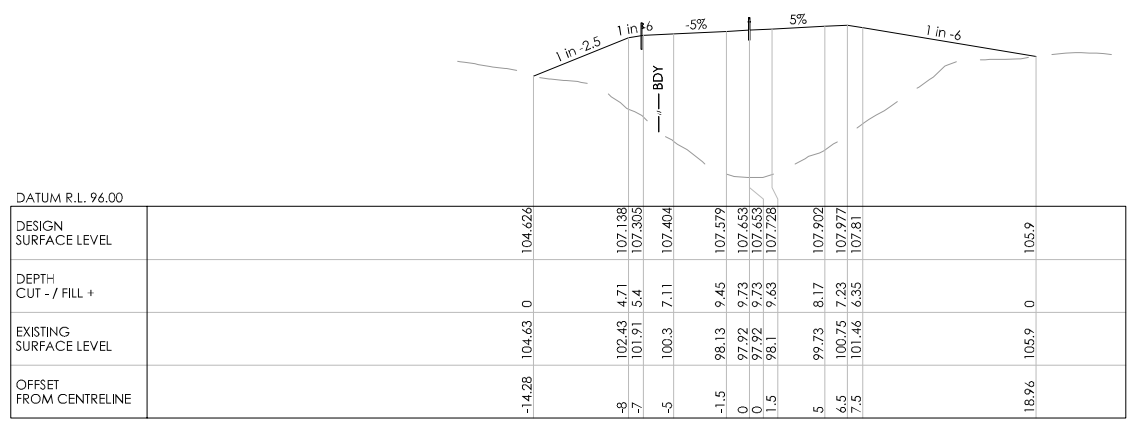
CH 4280



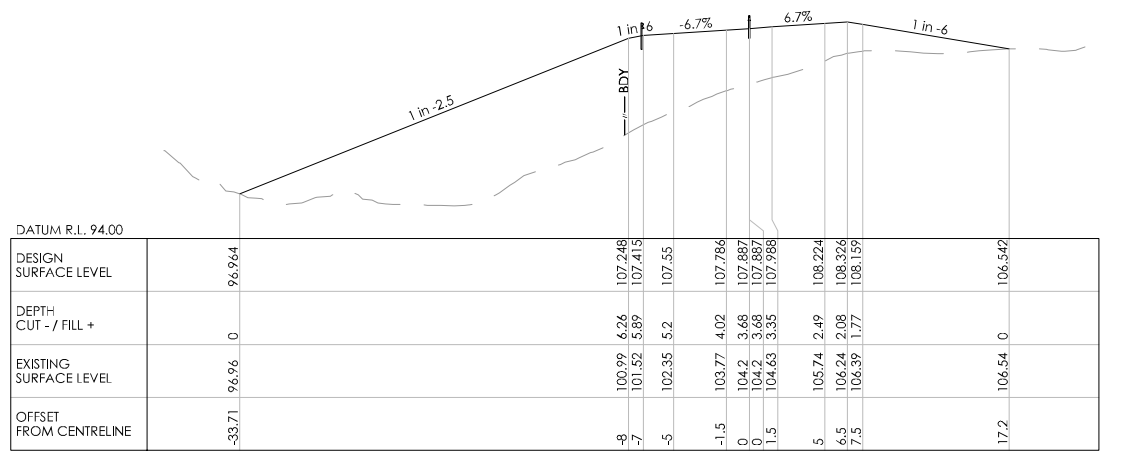
CH 4260



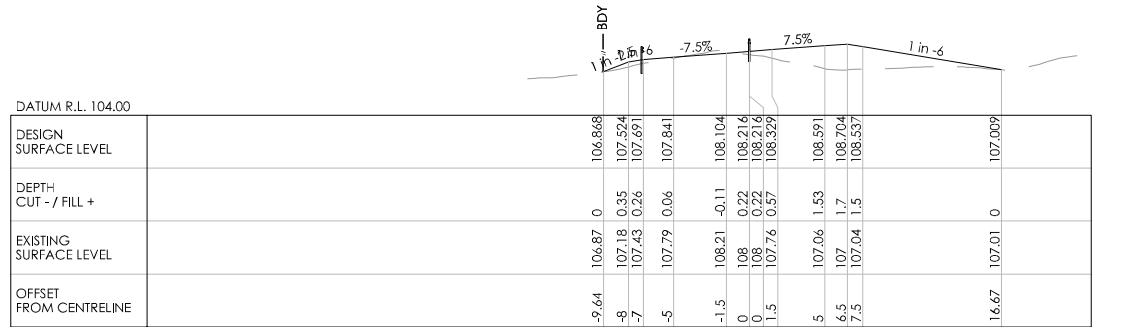
CH 4240



CH 4360



CH 4340



CH 4320

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
 Napier Office  
 +64 6 833 5100  
 Private Bag 6019  
 Napier 4142  
 New Zealand

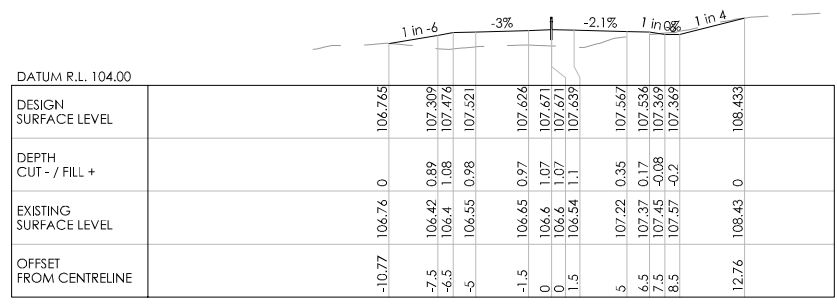
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

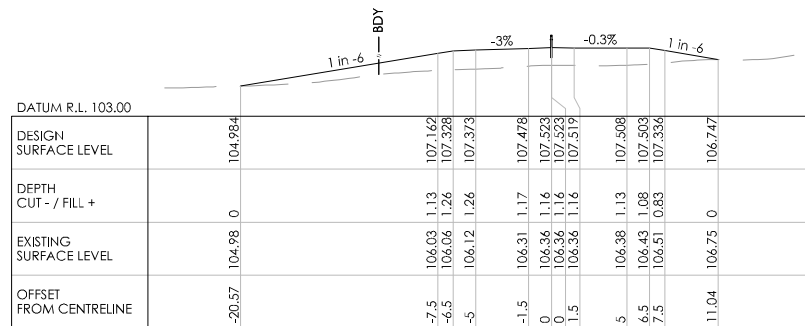
FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0186	A

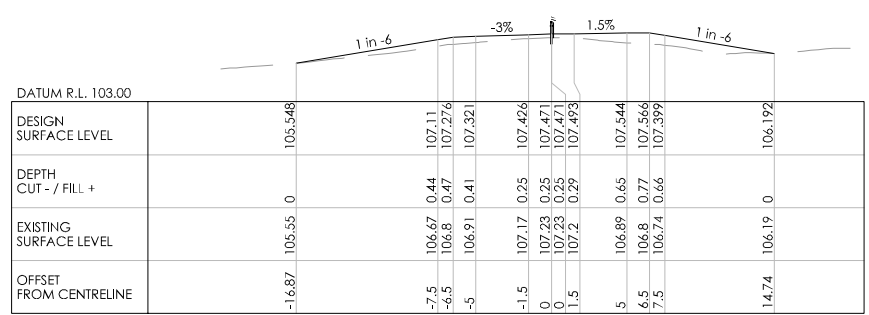
300 mm  
200  
100  
50  
0 10 mm



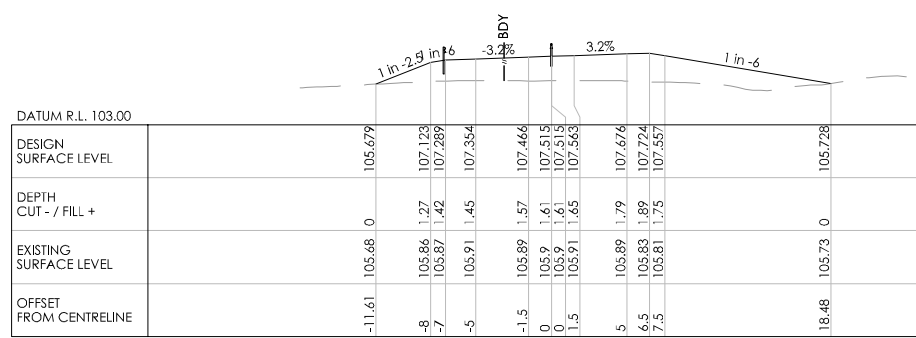
CH 4440



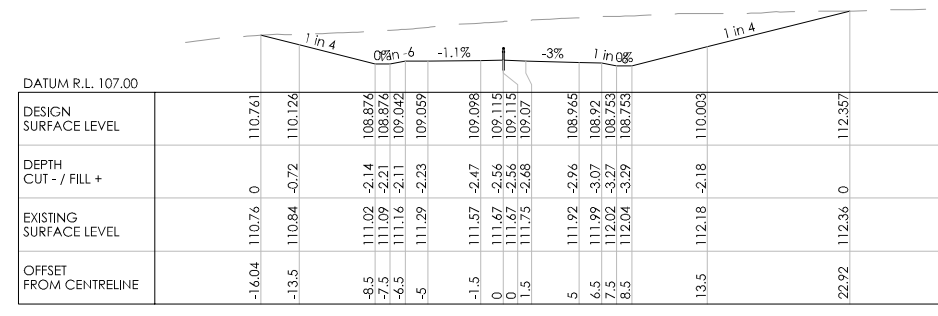
CH 4420



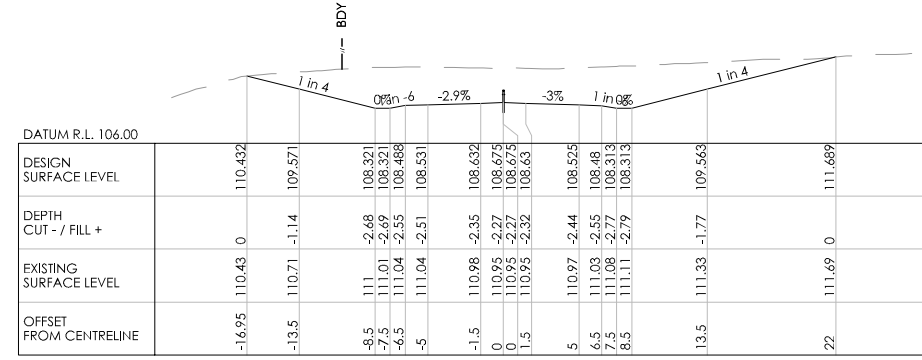
CH 4400



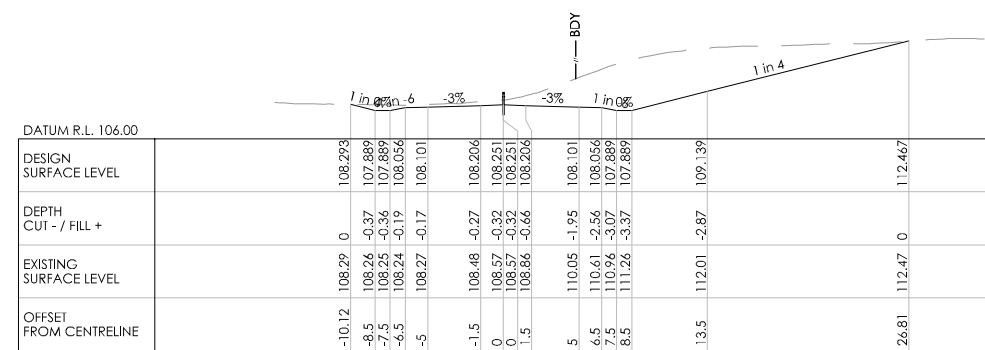
CH 4380



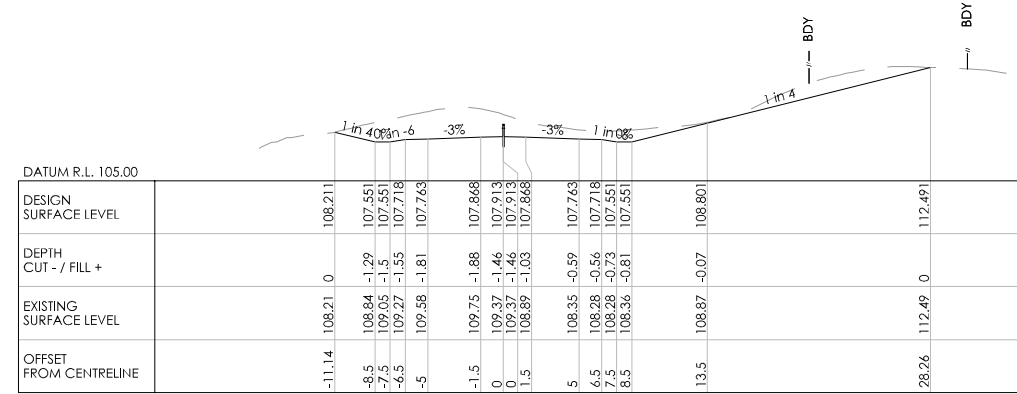
CH 4520



CH 4500



CH 4480



CH 4460

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

TRANSPORT

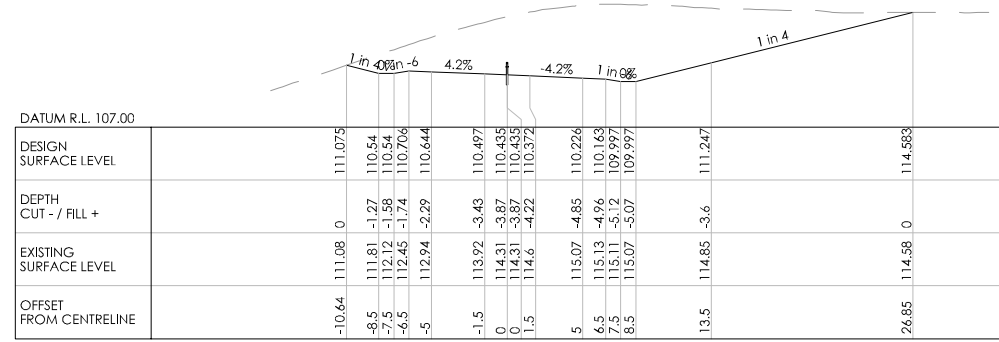
SCALES		ORIGINAL SIZE
1:250 [A1]	1:500 [A3]	A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

FOR INFORMATION

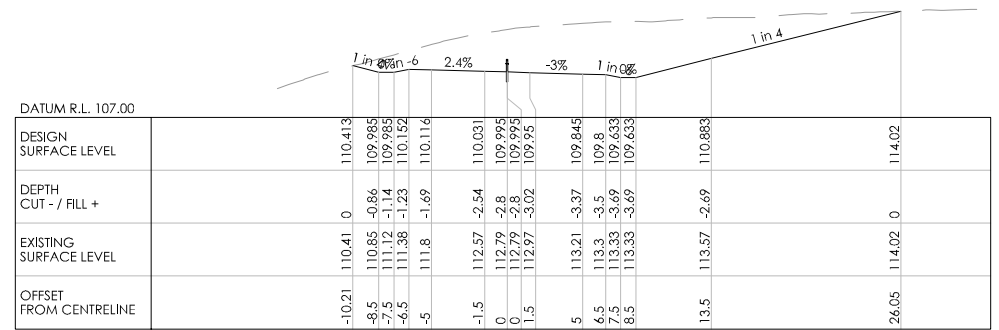
PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY			
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE			
REALIGNMENT			
TITLE			
CROSS SECTIONS			
SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0187	A



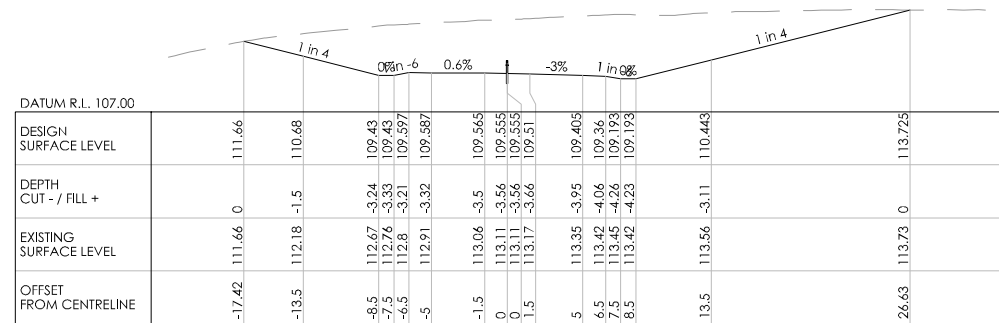
300 mm  
200  
100  
0 10 mm



CH 4580



CH 4560



CH 4540

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

TRANSPORT

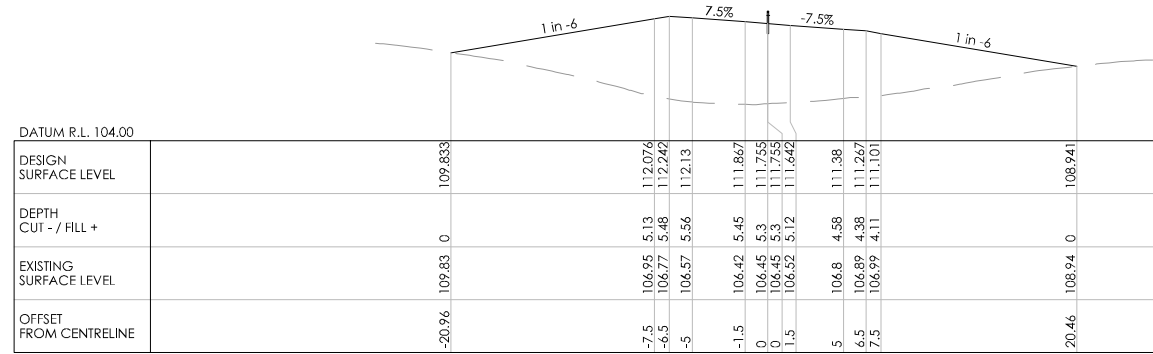
SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

FOR INFORMATION

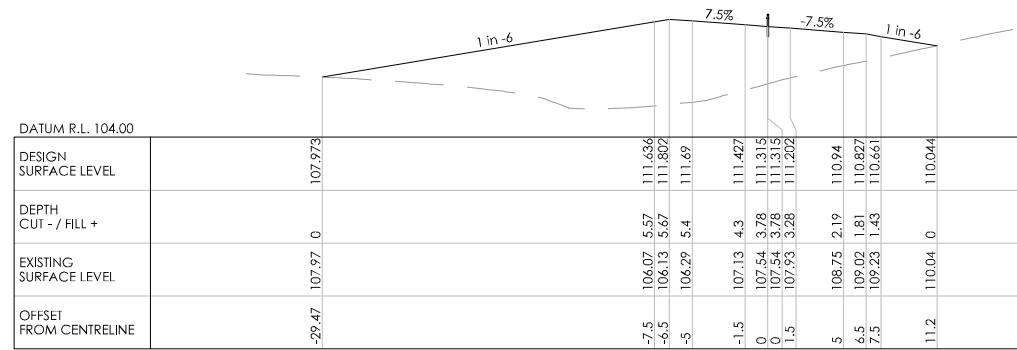
PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/1.600-592/2.500 WAIKARE GORGE REALIGNMENT			
TITLE			
CROSS SECTIONS SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0188	A



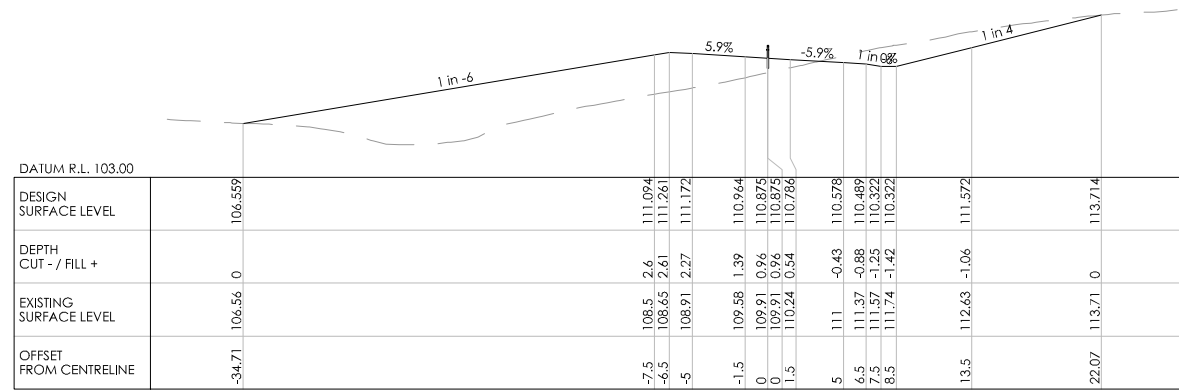
300 mm  
200  
100  
50  
0 10 mm



CH 4640



CH 4620



CH 4600

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

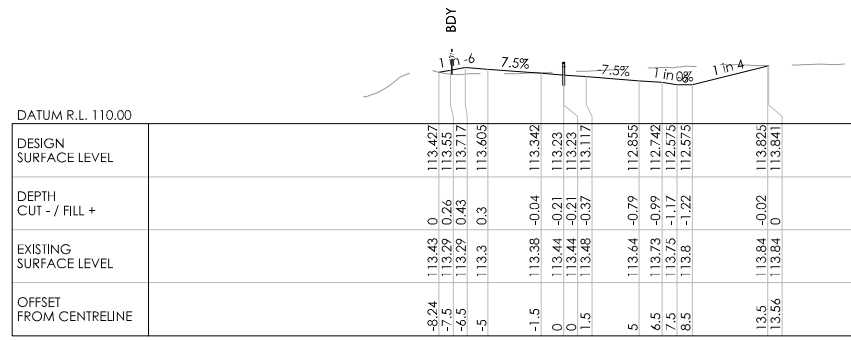
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

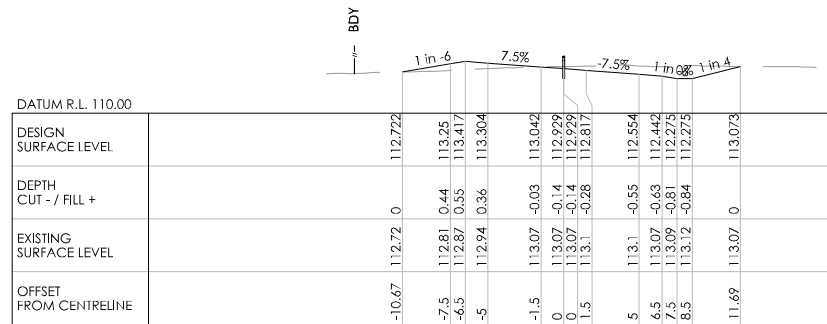
**FOR INFORMATION**

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT			
TITLE			
CROSS SECTIONS SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0189	A

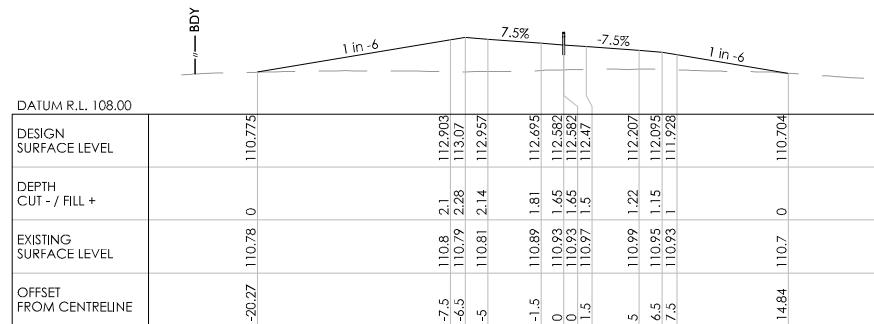
300 mm  
200  
100  
50  
0 10 mm



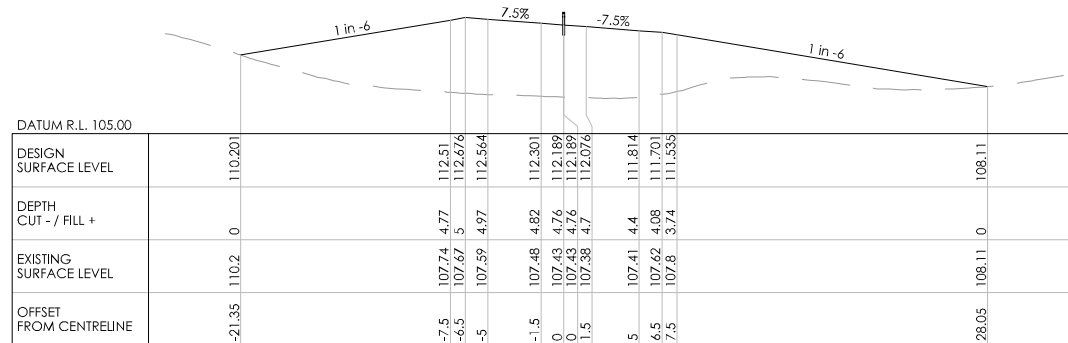
CH 4720



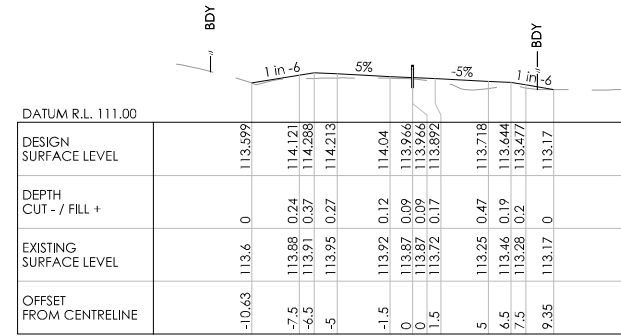
CH 4700



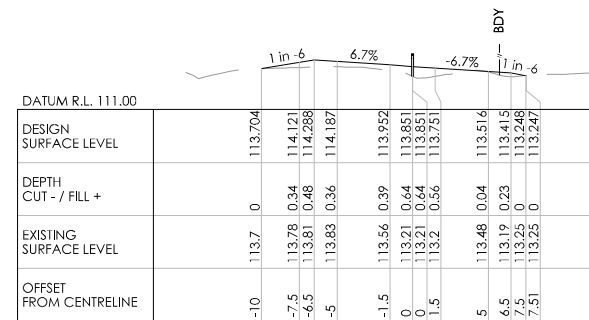
CH 4680



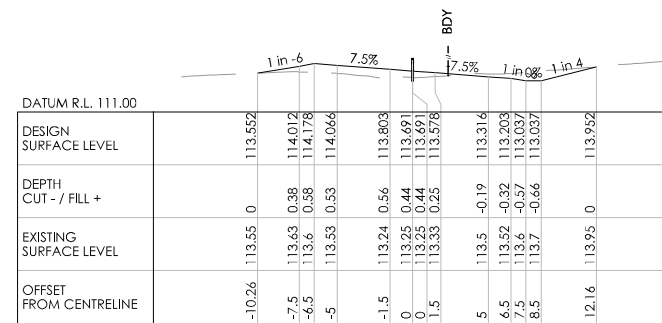
CH 4660



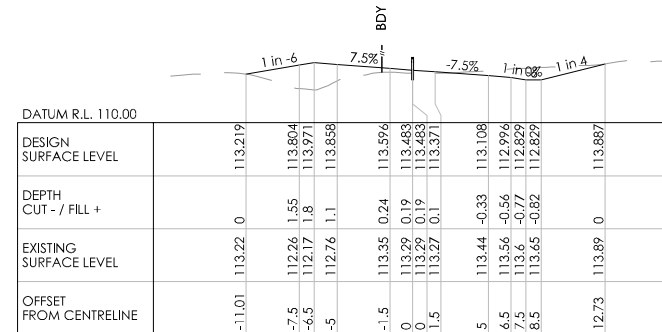
CH 4800



CH 4780



CH 4760



CH 4740

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

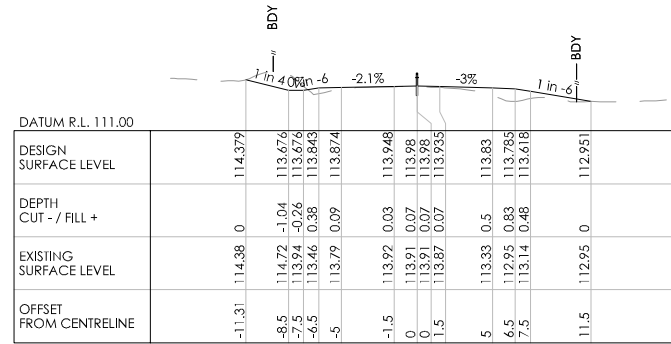
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

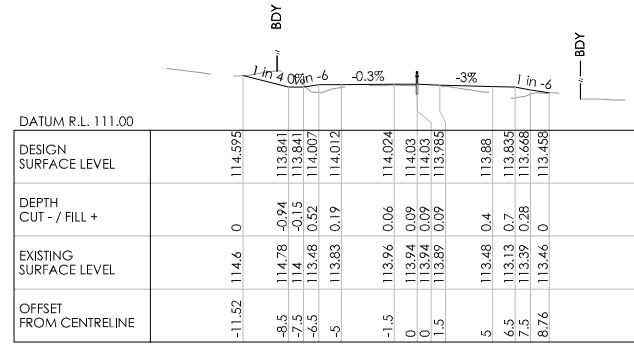
FOR INFORMATION

PROJECT			
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT			
TITLE			
CROSS SECTIONS SHEETS 1 TO 43			
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.	REVISION
2-S5416.01	WGR-DES-GEM-00-DRG	0190	A

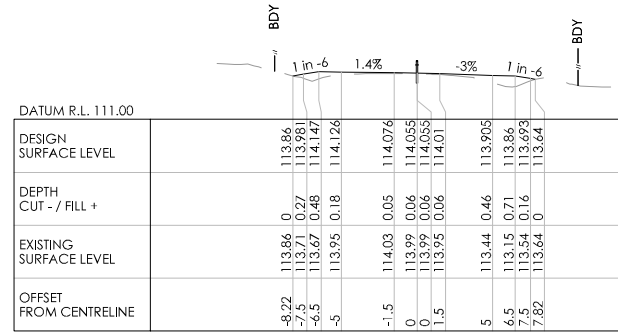
300 mm  
200  
100  
50  
0 10 mm



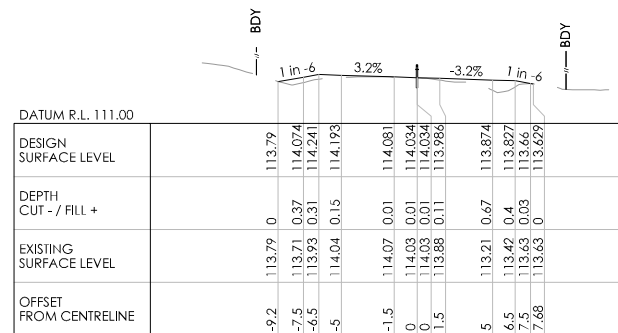
CH 4880



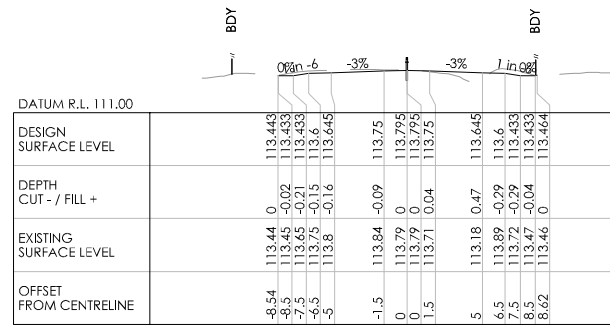
CH 4860



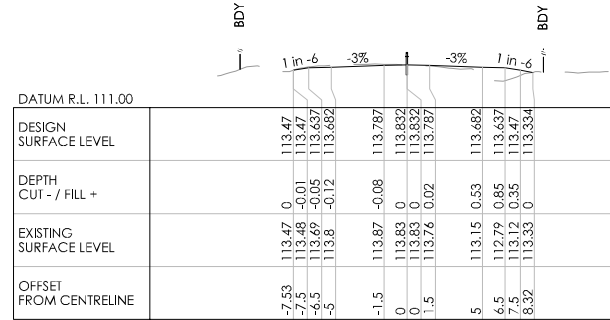
CH 4840



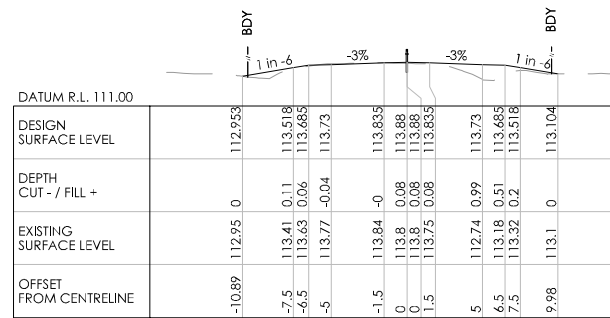
CH 4820



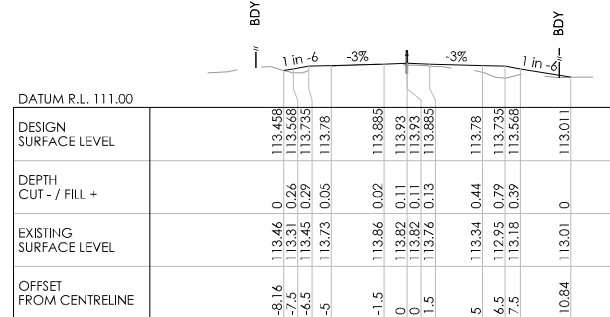
CH 4960



CH 4940



CH 4920



CH 4900

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
Napier Office  
+64 6 833 5100  
Private Bag 6019  
Napier 4142  
New Zealand

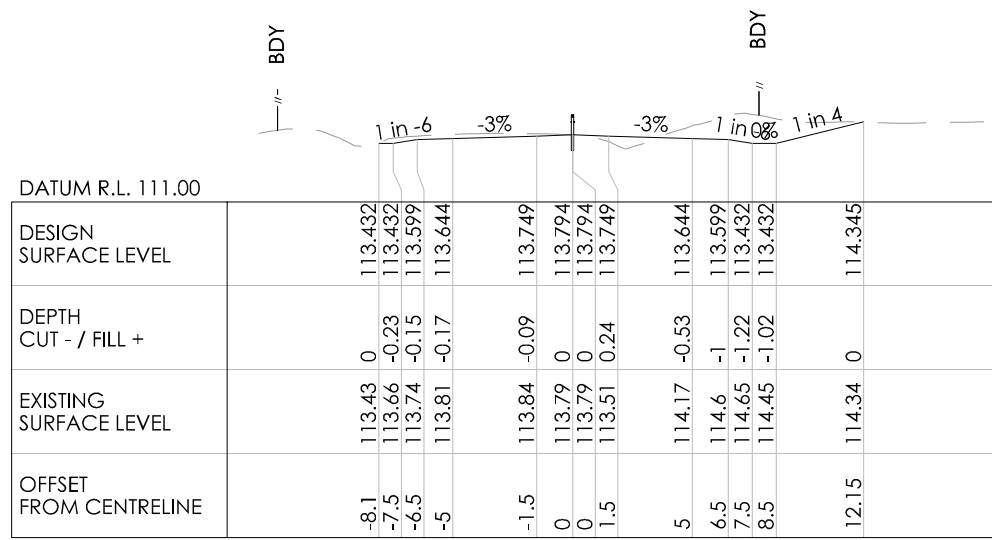
TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1]	1:500 [A3]	A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

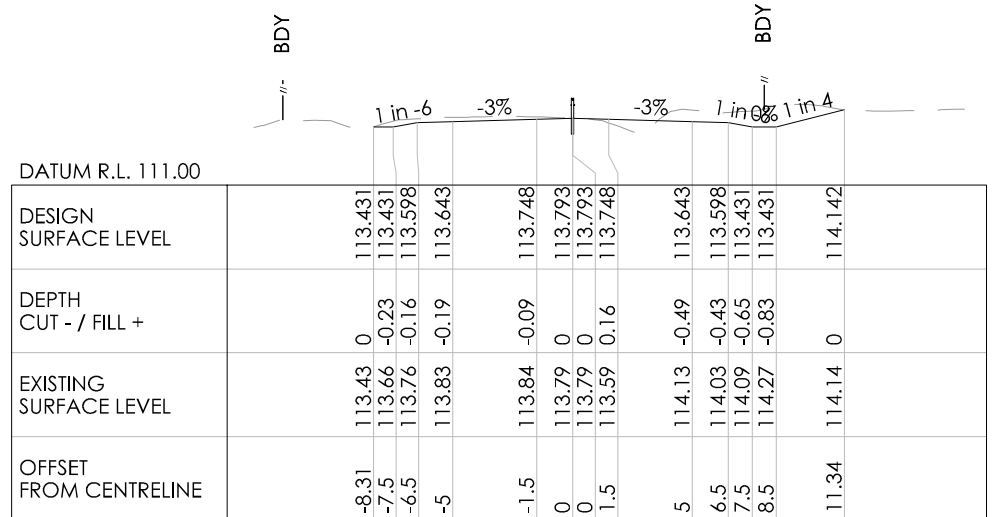
FOR INFORMATION

PROJECT		
WAKA KOTAHI NZ TRANSPORT AGENCY		
SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE		
REALIGNMENT		
TITLE		
CROSS SECTIONS		
SHEETS 1 TO 43		
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.
2-S5416.01	WGR-DES-GEM-00-DRG	0191
REVISION		
A		

0 10 mm 50 100 200 300 mm



CH 4988



CH 4980

REVISION	AMENDMENT	APPROVED	DATE



**wsp**  
 Napier Office  
 +64 6 833 5100  
 Private Bag 6019  
 Napier 4142  
 New Zealand

TRANSPORT

SCALES		ORIGINAL SIZE
1:250 [A1], 1:500 [A3]		A1
DRAWN	DESIGNED	APPROVED
P. BIRSE	A. LEWIS	-
DRAWING VERIFIED	DESIGN VERIFIED	APPROVED DATE
A. LEWIS	J. TAYLOR	-

**FOR INFORMATION**

PROJECT		
WAKA KOTAHI NZ TRANSPORT AGENCY SH2 R.P. 577/11.600-592/2.500 WAIKARE GORGE REALIGNMENT		
TITLE		
CROSS SECTIONS SHEETS 1 TO 43		
WSP PROJECT NO.	PROJ-ORIG-VOL-LOC-TYPE	SHEET NO.
2-S5416.01	WGR-DES-GEM-00-DRG	0192
REVISION		
A		



# **Appendix B**

**Historical aerial image review**

## Historical aerial image review notes

- The following images (from Page 2 onwards) were sourced by GHD from Retrolens<sup>1</sup>, and LINZ<sup>2</sup>.
- Images from the following years were selected for this review due to their availability and clarity: 1945, 1962, 1973, 1983, 1996, 2003, 2010, 2015, and 2020.
- Clear aerial images from this year (2021) were not available for review.
- The 1996 aerial image depicts only the southern section of the Alignment (south of the Wakari River). There were no other images available for the year of 1996 that depicted the remainder of the Alignment.
- The approximate location of the Alignment is shown as a red line in the images. The red line is an indication of location only and does not represent the width of the Alignment, nor does it represent any soil disturbance areas (cut / fill).
- Except for 1996 (for which there are three), each year is split into five separate images which allows the Alignment and surrounding area to be viewed in greater detail. Each image has its own page in this review and there are 43 separate images in total.
- For each year, the first image captures the area where the northern tie in works are proposed. Each image from here moves further south along the Alignment.
- There are no north arrows or scale indicators on the images. The top of each image is approximately north facing, and the scale of each image is unknown.

---

<sup>1</sup> [www.retrolens.co.nz](http://www.retrolens.co.nz)

<sup>2</sup> [www.data.linz.govt.nz](http://www.data.linz.govt.nz)

**Aerial imagery**



**Comments**

**1945 (1 of 5)**

The general area appears as undeveloped rural / agricultural land. There are few scattered buildings – likely for residential occupancies and/or farming purposes.

**Aerial imagery**



**Comments**

**1945 (2 of 5)**  
The general area appears as undeveloped rural / agricultural land.



**Aerial imagery**



**Comments**

**1945 (3 of 5)**

The general area appears as undeveloped rural / agricultural land. There are few scattered buildings – likely for residential occupancies and/or farming purposes.

**Aerial imagery**



**Comments**

**1945 (4 of 5)**

The general area appears as undeveloped rural / agricultural land. There are few scattered buildings – likely for residential occupancies and/or farming purposes.

**Aerial imagery**



**Comments**

**1945 (5 of 5)**

The general area appears as undeveloped rural / agricultural land. There are few scattered buildings – likely for residential occupancies and/or farming purposes.



**Aerial imagery**



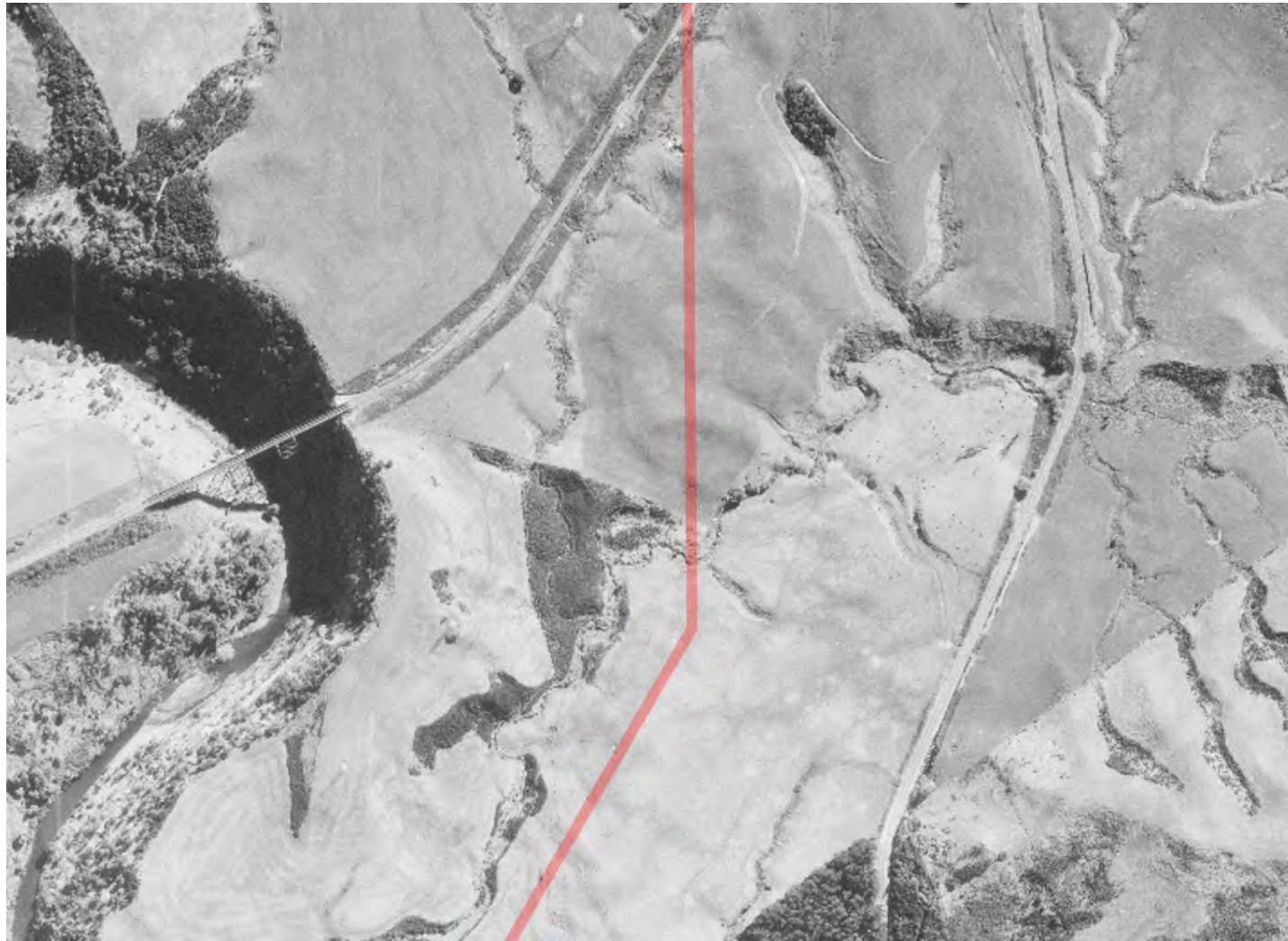
**Comments**

**1962 (1 of 5)**

From 1945 to 1962 the area and land use surrounding the Alignment was subjected to no significant changes.



**Aerial imagery**

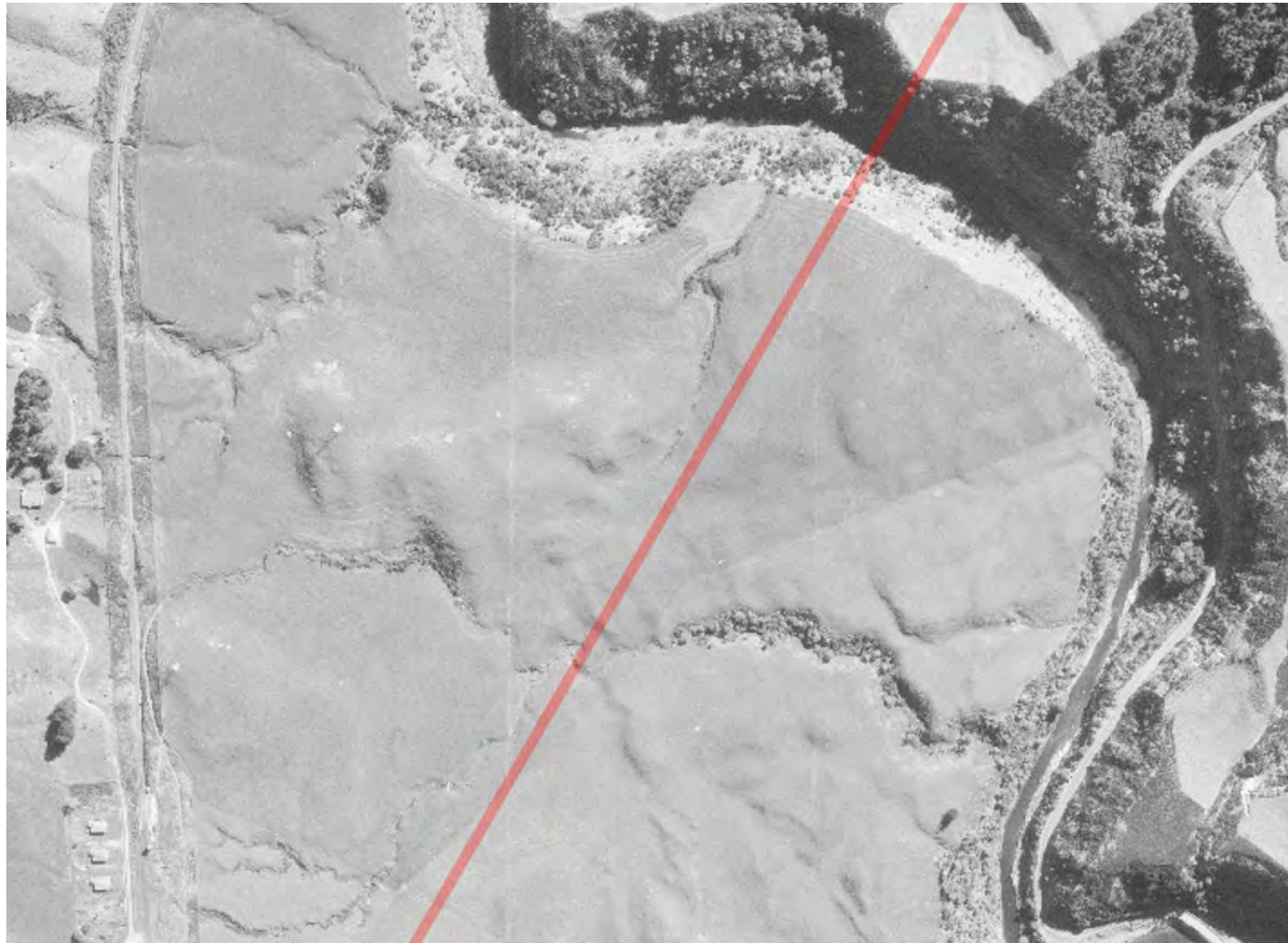


**Comments**

**1962 (2 of 5)**

From 1945 to 1962 the area and land use surrounding the Alignment was subjected to no significant changes.

**Aerial imagery**



**Comments**

**1962 (3 of 5)**

From 1945 to 1962 the area and land use surrounding the Alignment was subjected to no significant changes.

**Aerial imagery**



**Comments**

**1962 (4 of 5)**

From 1945 to 1962 the area and land use surrounding the Alignment was subjected to no significant changes.

Some residential and/or farming oriented buildings were erected during this time period in the northern section of this image.



**Aerial imagery**



**Comments**

**1962 (5 of 5)**

From 1945 to 1962 the area and land use surrounding the Alignment was subjected to no significant changes.

Some residential and/or farming oriented buildings were erected during this time period.



**Aerial imagery**

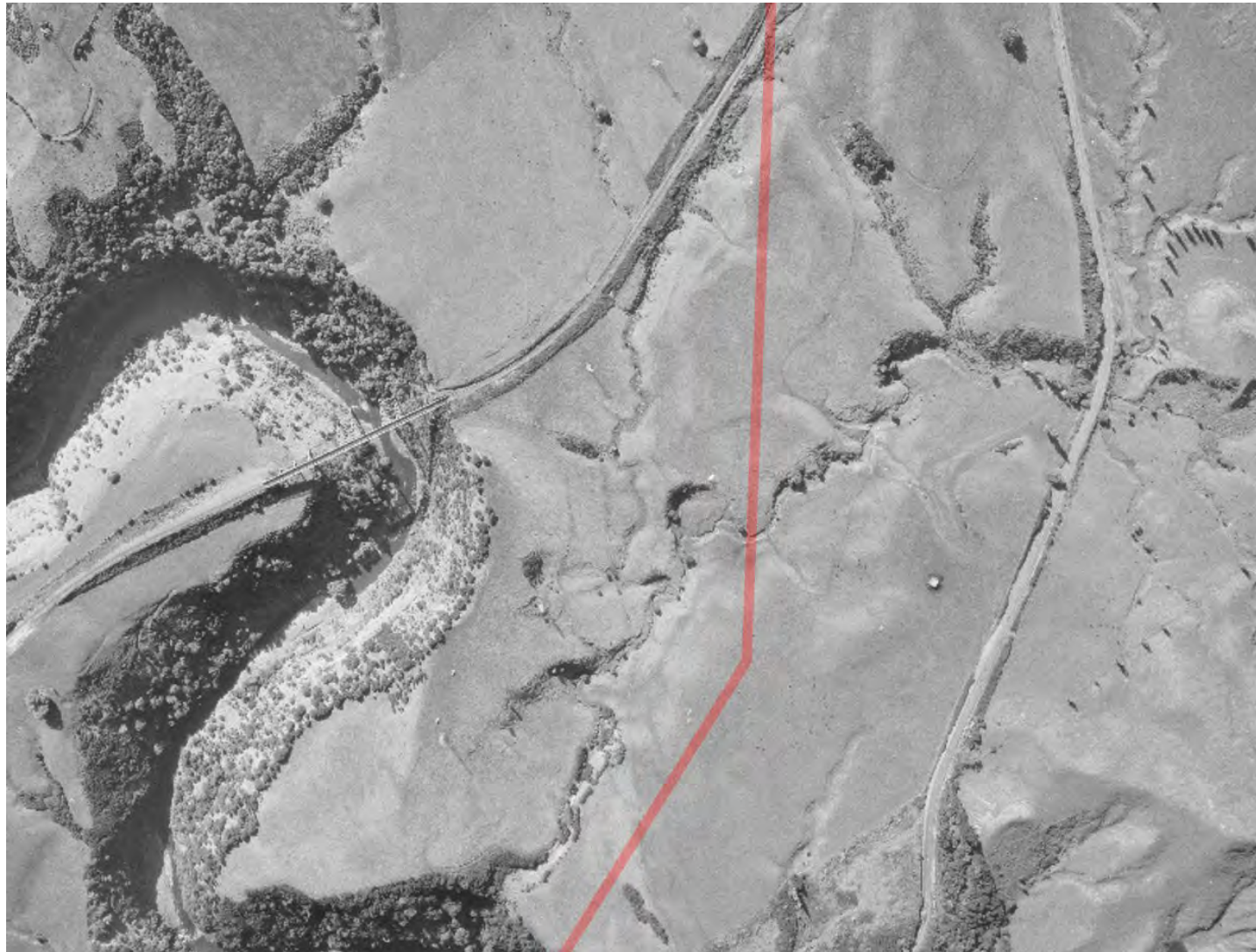


**Comments**

**1973 (1 of 5)**

From 1962 to 1973 the area and land use surrounding the Alignment was subjected to no significant changes.

**Aerial imagery**



**Comments**

**1973 (2 of 5)**

From 1962 to 1973 the area and land use surrounding the Alignment was subjected to no significant changes.

What appears to be a farm shed situated east of the Alignment (near the change in direction) was erected during this time period.



**Aerial imagery**



**Comments**

**1973 (3 of 5)**

From 1962 to 1973 the area and land use surrounding the Alignment was subjected to no significant changes. Some buildings were erected during this time period (bottom left of image).

**Aerial imagery**



**Comments**

**1973 (4 of 5)**

From 1962 to 1973 the area and land use surrounding the Alignment was subjected to no significant changes.

Some buildings were erected during this time period (northern section of image).



**Aerial imagery**



**Comments**

**1973 (5 of 5)**

From 1962 to 1973 the area and land use surrounding the Alignment was subjected to no significant changes. Some buildings were erected during this time period (bottom left of image).

**Aerial imagery**



**Comments**

**1983 (1 of 5)**

From 1973 to 1983 the area and land use surrounding the Alignment was subjected to no significant changes. Some buildings were erected during this time period.

**Aerial imagery**



**Comments**

**1983 (2 of 5)**

From 1973 to 1983 the area and land use surrounding the Alignment was subjected to no significant changes.

A residential building was erected during this time period (top right of image).



**Aerial imagery**



**Comments**

**1983 (3 of 5)**

From 1973 to 1983 the area and land use surrounding the Alignment was subjected to no significant changes.



**Aerial imagery**



**Comments**

**1983 (4 of 5)**

From 1973 to 1983 the area and land use surrounding the Alignment was subjected to no significant changes.

Some buildings were demolished during this time period (middle top of image).

**Aerial imagery**



**Comments**

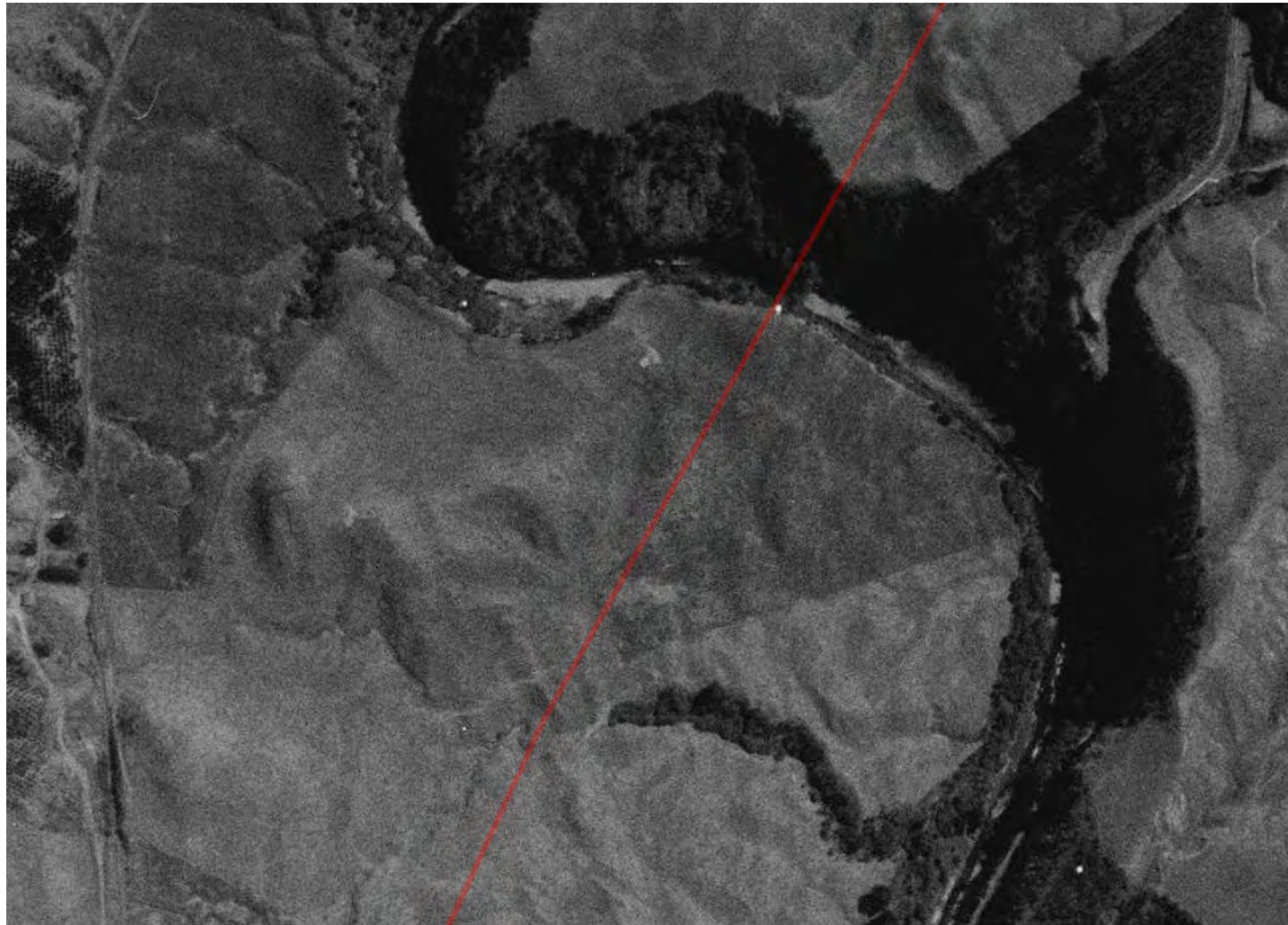
**1983 (5 of 5)**

From 1973 to 1983 the area and land use surrounding the Alignment was subjected to no significant changes.

One building was erected during this time period (bottom left of image).

Some buildings were demolished during this time period including some tree removal / land clearance (middle right of image).

**Aerial imagery**



**Comments**

**1996 southern section only (1 of 3)**  
From 1983 to 1996 the area and land use surrounding the Alignment was subjected to no significant changes. Three buildings (bottom left of image) were demolished during this time period.



**Aerial imagery**



**Comments**

**1996 southern section only (2 of 3)**  
From 1983 to 1996 the area and land use surrounding the Alignment was subjected to no significant changes. Some buildings were demolished during this time period.



## Aerial imagery



## Comments

**1996 southern section only (3 of 3)**  
From 1983 to 1996 the area and land use surrounding the Alignment was subjected to no significant changes.  
A milking shed was erected during this time period (middle left of image).  
North of the milking shed two man made storage ponds have appeared.  
Trees (potentially for forestry) have been planted in the bottom right of the image.

**Aerial imagery**



**Comments**

**2003 (1 of 5)**

From 1983 to 2003 the area and land use surrounding the Alignment was subjected to no significant changes.

Some buildings were erected, and others demolished during this time period.



**Aerial imagery**

**Comments**



**2003 (2 of 5)**

From 1983 to 2003 the area and land use surrounding the Alignment was subjected to no significant changes.

A paddock full of trees has grown during this time period (middle bottom of image).

**Aerial imagery**



**Comments**

**2003 (3 of 5)**

From 1996 to 2003 the area and land use surrounding the Alignment was subjected to no significant changes.



**Aerial imagery**



**Comments**

**2003 (4 of 5)**

From 1996 to 2003 the area and land use surrounding the Alignment was subjected to no significant changes.

An above or below ground dumping / storage / silage area appeared immediately adjacent the railway line / Alignment (middle of image).

A building in the middle bottom of the image was erected during this time period.

**Aerial imagery**



**Comments**

**2003 (5 of 5)**

From 1996 to 2003 the area and land use surrounding the Alignment was subjected to no significant changes.

A shed was erected to the left of the milking shed during this time period.

Some buildings were demolished during this time period.



**Aerial imagery**



**Comments**

**2010 (1 of 5)**

From 2003 to 2010 the area and land use surrounding the Alignment was subjected to no significant changes.

Some buildings were erected, and others demolished during this time period (middle right of image).



**Aerial imagery**



**Comments**

**2010 (2 of 5)**

From 2003 to 2010 the area and land use surrounding the Alignment was subjected to no significant changes.



**Aerial imagery**



**Comments**

**2010 (3 of 5)**

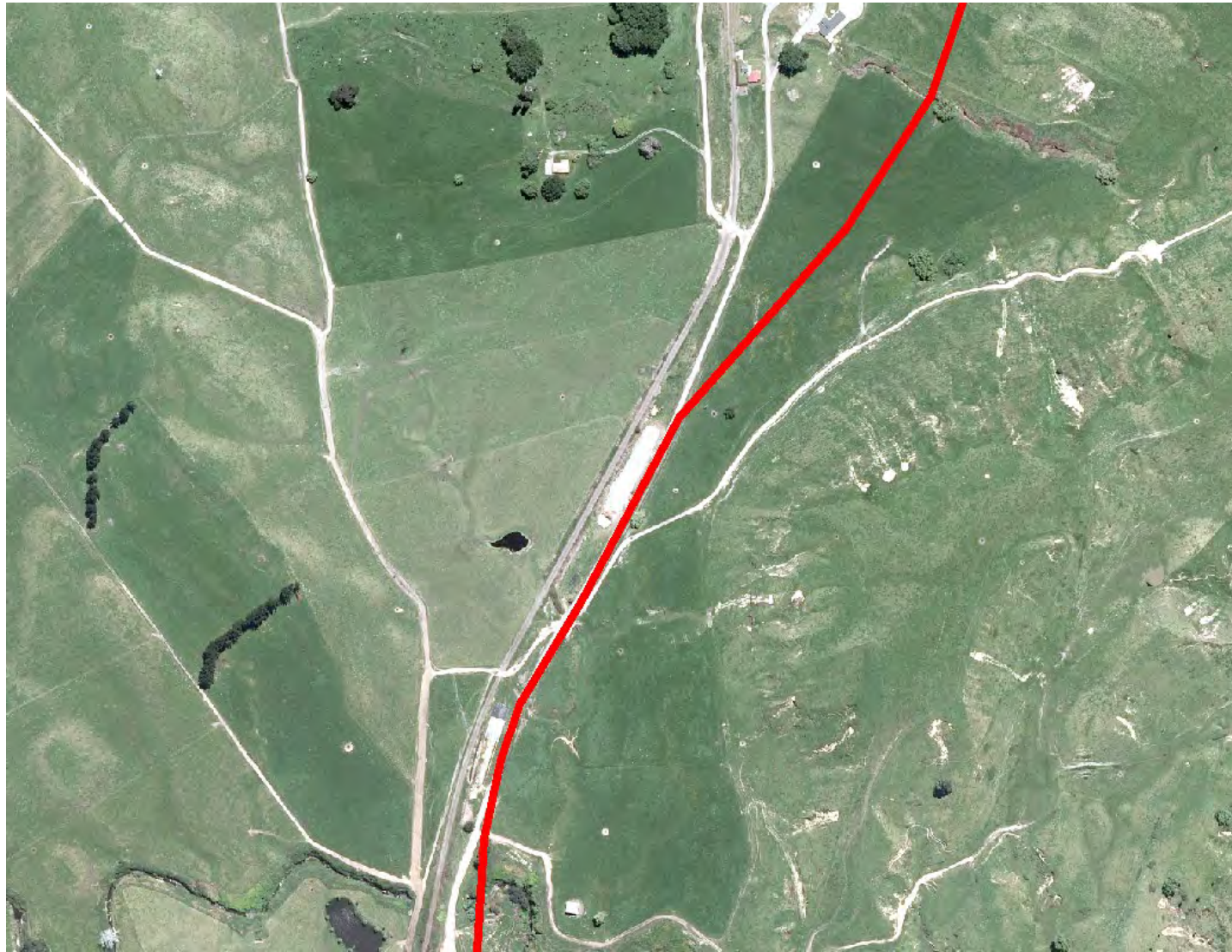
From 2003 to 2010 the area and land use surrounding the Alignment was subjected to no significant changes.

Many man-made water ponds / storage reservoirs appeared during this time period.

A milking shed including a few other sheds were erected during this time period (bottom left of image).



**Aerial imagery**



**Comments**

**2010 (4 of 5)**

From 2003 to 2010 the area and land use surrounding the Alignment was subjected to no significant changes.

A secondary above or below ground dumping / storage / silage area appeared immediately adjacent the railway line / Alignment, south of the first one (middle bottom of image).

A building in the middle bottom of the image was demolished during this time period.



**Aerial imagery**



**Comments**

**2010 (5 of 5)**

From 2003 to 2010 the area and land use surrounding the Alignment was subjected to no significant changes.



**Aerial imagery**



**Comments**

**2015 (1 of 5)**

From 2010 to 2015 the area and land use surrounding the Alignment was subjected to no significant changes.



**Aerial imagery**



**Comments**

**2015 (2 of 5)**

From 2010 to 2015 the area and land use surrounding the Alignment was subjected to no significant changes.



**Aerial imagery**



**Comments**

**2015 (3 of 5)**

From 2010 to 2015 the area and land use surrounding the Alignment was subjected to no significant changes.

An above ground silage area appeared immediately adjacent the Alignment to the northeast of the milking shed (middle bottom of image).



**Aerial imagery**



**Comments**

**2015 (4 of 5)**

From 2010 to 2015 the area and land use surrounding the Alignment was subjected to no significant changes.



**Aerial imagery**



**Comments**

**2015 (5 of 5)**

From 2010 to 2015 the area and land use surrounding the Alignment was subjected to no significant changes.



**Aerial imagery**



**Comments**

**2020 (1 of 5)**

From 2015 to 2020 the area and land use surrounding the Alignment was subjected to no significant changes.



**Aerial imagery**



**Comments**

**2020 (2 of 5)**

From 2015 to 2020 the area and land use surrounding the Alignment was subjected to no significant changes.



### Aerial imagery



### Comments

#### 2020 (3 of 5)

From 2015 to 2020 the area and land use surrounding the Alignment was subjected to no significant changes.

A building was erected east of the railway line and north of the milking shed (bottom left of image).

A soil stockpile has appeared immediately north of the milking shed (bottom left of image).

Some stockpiles have appeared immediately west of the railway line (bottom left of image).



**Aerial imagery**

**Comments**



**2020 (4 of 5)**

From 2015 to 2020 the area and land use surrounding the Alignment was subjected to no significant changes.



**Aerial imagery**



**Comments**

**2020 (5 of 5)**

From 2015 to 2020 the area and land use surrounding the Alignment was subjected to no significant changes.

# **Appendix C**

**Council provided information**

## Max van Stom

---

**From:** contaminated.land <contaminated.land@hbrc.govt.nz>  
**Sent:** Wednesday, 15 September 2021 12:40  
**To:** Max van Stom  
**Subject:** RE: Waikare Gorge Contamination Report Request  
**Attachments:** Register Statement - Waikare Gorge.pdf; Consent\_Document-AUTH-124776-01\_AUTH-124777-01\_.pdf; DP170556L - 20180529 - Consent Document.pdf; Register Statement - 5257 State Highway 2\_ Putorino\_ Hastings.pdf

Hi Max,

Please see attached the Selected Land Use Register Statement for the properties located within the Waikare Gorge project as per your request. I have assessed all historical imagery and associated property files here at HBRC, and we do not have any information/evidence that would indicate potentially contaminating activities occurring on the parcels included in this report. I have listed associated resource consents within the report and attached a copy of the consent documents. Due to the age of the bore permits unfortunately I haven't been able to find copies of the permits.

The property at 5257 State Highway 2 is included on our HAIL database as I found evidence of fuel storage tanks located at the site but they have since been removed.

The invoice relating to this investigation will be sent out in due course.

Should you have any further questions, please don't hesitate to get in touch.

Kind regards,



**Irena Mikolic**

Environmental Compliance Officer  
0800 108 838 | 06 835 9200

Hawke's Bay Regional Council | Te Kaunihera ā-rohe o Te Matau a Māui  
159 Dalton Street, Napier 4110 | [hbrc.govt.nz](http://hbrc.govt.nz)

Enhancing Our Environment Together | Te Whakapakari Tahi I Tō Tātau Taiao



**HBRC Compliance Section is ISO 9001:2015 certified**

Let us know how we're doing, [give your feedback here](#).

This communication, including any attachments, is confidential. Refer to the [disclaimer](#) on our website.



14<sup>th</sup> September 2021

GHD  
C/- Max van Stom  
PO Box 6543  
Victoria Street West  
AUCKLAND 1142

Dear Max,

**PROPERTY ENQUIRY: SELECTED LAND USE REGISTER (SLUR) STATEMENT**

Thank you for submitting your property enquiry in relation to our Selected Land Use Register which holds information about sites that have been used, or are currently used for activities which have the potential to have caused contamination.

The Selected Land Use Register statement provided below indicates the location of the land parcel(s) you enquired about. This provides information relating any listed sites within a radius of this land as specified in the statement.

Please note that if a property is not currently entered on the Register, it does not mean that an activity with the potential to cause contamination has never occurred, or is not currently occurring there. The Register is not complete and new sites are regularly being added as we receive information and conduct our own investigations into current and historic land uses.

The Selected Land Use Register only contains information held by Hawkes Bay Regional Council in relation to contaminated or potentially contaminated land; other information relevant to potential contamination may be held in other files (for example consent and enforcement files).

If your enquiry relates to a farm property, please note that many current and past activities undertaken on farms may not be listed on the Register. Activities such as the storage, formulation and disposal of pesticides, offal pits, foot rot troughs, animal dips and underground or above ground fuel tanks have the potential to cause contamination.

Please contact the Hawkes Bay Regional Council hazardous substances team if you wish to discuss the contents of the Register Statement, or if you require additional information.

Yours sincerely



**IRENA MIKOLIC**  
**ENVIRONMENTAL OFFICER COMPLIANCE**  
**REGULATION GROUP - HAZARDOUS SUBSTANCES TEAM**  
Email: [contaminated.land@hbc.govt.nz](mailto:contaminated.land@hbc.govt.nz)



# Hawkes Bay Regional Council Selected Land Use Register Statement



Date requested: 10/09/2021

Date generated: 14/09/2021

## PARCEL ENQUIRY REFERENCE:

<b>Property Address(s):</b>	5257 State Highway 2, Putorino, Hastings
<b>Legal Description(s):</b>	Part Section 37 Block II, Section 51 Block II Moeangiangi SD
<b>Parcel ID(s):</b>	4235170, 4228513
<b>Valuation Number(s):</b>	0953009300



	Area of enquiry
	Listed sites

*The above map outlines the specific parcel(s) or area(s) where contaminated land information has been requested*

## SITES WITHIN AREA OF ENQUIRY:

### Summary of sites:

Site ID	Site Name	Location	HAIL activity(s)	Category	Sub-Category
SLS-11355	5257 State Highway 2, Putorino, Hastings	5257 State Highway 2, Putorino, Hastings	F4	Verified HAIL	Risk Not Quantified

Please note that the above table represents a summary of sites and HAIL within the area of enquiry stated above only.

### Information held about the sites on the Selected Land Use Register

<b>Site ID:</b>	SLS-11355
<b>Site address:</b>	5257 State Highway 2, Putorino, Hastings
<b>Legal Description(s):</b>	Part Section 37 Block II, Section 51 Block II Moeangiangi SD
<b>Site category:</b>	Verified HAIL
<b>Site sub category:</b>	Risk Not Quantified

HAIL Details:	HAIL description	Period from	Period to
F4	Motor Vehicle Workshops	1981	2002

### Site Notes:

Property files indicate that a vehicle workshop was located at this site from early 1980's which included two fuel storage tanks. The tanks (2 x 4545L) were removed in 2002. There are no reports on file confirming any investigations or sampling undertaken.

### Site Investigation(s):

There are no investigations associated with this site.

### Resource Consent(s):

There are no resource consents associated with this site.



Photograph(s):



Photo 1: Aerial image from 1979



Photo 2: Aerial image from 1981 showing vehicle workshop

## Other Relevant Information

There is no relevant information in relation to contaminated land for this location.

**Disclaimer:**

*This service is provided by the Hawke's Bay Regional Council as a public service. Information is derived from Hawke's Bay Regional Council's Listed Land Use Register. The Register has been established by the Council for the purpose of performing its functions under the Resource Management Act 1991.*

*The information is made available in good faith but the council does not warrant the accuracy or completeness of the information. Users of this Register who rely on the information provided without obtaining independent verification, do so at their own risk. Hawke's Bay Regional Council accepts no liability for any inaccuracy in or omission from the information. Any party relying on the information does so at their own risk.*

*The given land use category reflects the Council's understanding at the time of the date indicated for the property's assessment, which is based only on the information obtained by it and held on record at the time. The site condition or information available may have changed since the date of the Council's assessment of the property. Any person acting on the information should verify the site's condition at the time. The Council accepts no responsibility for changes to the site condition since the site was listed on the Register.*

*Properties listed on the Register include properties where potentially contaminating activities are suspected to have occurred (Unverified HAIL sites) or are known to have occurred but no physical investigation has taken place (Not investigated sites). In both cases, the listing is not an indication of actual contamination and no reliance can or should be placed by any person as indicating the actual presence of contaminants on such sites. Further investigation is required to establish the actual presence or absence of contaminants.*

*The Council does not warrant a listed property's suitability for any specific purpose. The listing is based only on human health considerations. Where a site has been investigated and been listed as suitable for one of several generic uses (e.g. residential or commercial), the suitability is within the given constraints (e.g. a management plan is in place and being adhered to). Such a property may not be suitable for particular land uses within that general use (e.g. being able to grow particular plants; different plants having a widely varying sensitivity to soil contaminants). Any person relying on a property's general suitability as demonstrating the land is suitable for a specific purpose does so at their own risk. Conversely a property listed as being hazardous to people for the given generic land use may not be hazardous for some other less sensitive land use. Independent, expert advice should be sought as to the property's suitability for a particular purpose.*

*The listing of a property does not necessarily mean the property condition implied by the listing occurs over the complete parcel of land represented by the street address or legal description of the property. For example, a large property may only have had a small part of it used for a potentially contaminating activity or have actual contamination over only a small part of it (e.g. a sheep dip within a large block of otherwise uncontaminated land).*

*Where a property or properties have been subdivided or amalgamated since the date of listing, in the absence of information to the contrary, as a precautionary approach the Council will automatically apply the original listing to the new land parcels. Given a potentially contaminating historical activity or actual contamination may originally have had a limited extent, it is not necessarily the case that all the newly subdivided properties are in the condition implied by the listing after subdivision. Similarly, not all of a newly amalgamated property is necessarily in the condition implied by the listing. Further investigation may be necessary to determine the extent of the land actually affected.*



14<sup>th</sup> September 2021

GHD  
C/- Max van Stom  
PO Box 6543  
Victoria Street West  
AUCKLAND 1142

Dear Max,

**PROPERTY ENQUIRY: SELECTED LAND USE REGISTER (SLUR) STATEMENT**

Thank you for submitting your property enquiry in relation to our Selected Land Use Register which holds information about sites that have been used, or are currently used for activities which have the potential to have caused contamination.

The Selected Land Use Register statement provided below indicates the location of the land parcel(s) you enquired about. This provides information relating any listed sites within a radius of this land as specified in the statement.

Please note that if a property is not currently entered on the Register, it does not mean that an activity with the potential to cause contamination has never occurred, or is not currently occurring there. The Register is not complete and new sites are regularly being added as we receive information and conduct our own investigations into current and historic land uses.

The Selected Land Use Register only contains information held by Hawkes Bay Regional Council in relation to contaminated or potentially contaminated land; other information relevant to potential contamination may be held in other files (for example consent and enforcement files).

If your enquiry relates to a farm property, please note that many current and past activities undertaken on farms may not be listed on the Register. Activities such as the storage, formulation and disposal of pesticides, offal pits, foot rot troughs, animal dips and underground or above ground fuel tanks have the potential to cause contamination.

Please contact the Hawkes Bay Regional Council hazardous substances team if you wish to discuss the contents of the Register Statement, or if you require additional information.

Yours sincerely



**IRENA MIKOLIC**  
**ENVIRONMENTAL OFFICER COMPLIANCE**  
**REGULATION GROUP - HAZARDOUS SUBSTANCES TEAM**  
Email: [contaminated.land@hbc.govt.nz](mailto:contaminated.land@hbc.govt.nz)



# Hawkes Bay Regional Council Selected Land Use Register Statement

Date requested: 10/09/2021

Date generated: 14/09/2021

## PARCEL ENQUIRY REFERENCE:

<b>Property Address(s):</b>	5224 State Highway 2, Putorino, Hastings
<b>Legal Description(s):</b>	Lot 1 DP 23291, Lot 1 & 2 DP 21459, Pt Section 34 SO 2516, Section 33 SO 2516, Lot 1 DP 23044, Lot 1 DP 9366, Section 23 SO 1621, Lot 3 DP 25330, Lot 1 DP 26609, Lot 1 DP 21170, Section 41 SO 6201, Lot 1 DP 25330, Section 22 SO 1621, Part Lot 1 DP 13541, Part Lot 1 DP 13713
<b>Parcel ID(s):</b>	4173123, 4193875, 4174342, 4217243, 4178234, 4175457, 4180042, 4200765, 4191761, 4169617, 4225333, 4177179, 4176113, 4168378, 4209983, 4187987
<b>Valuation Number(s):</b>	0953009000, 0953009300, 0953009100, 08820000100, 08820000106



Lot 1 DP 23291





Lot 1 DP 24159



Lot 2 DP 24159





Part Section 34 SO 2516



Section 33 SO 2516



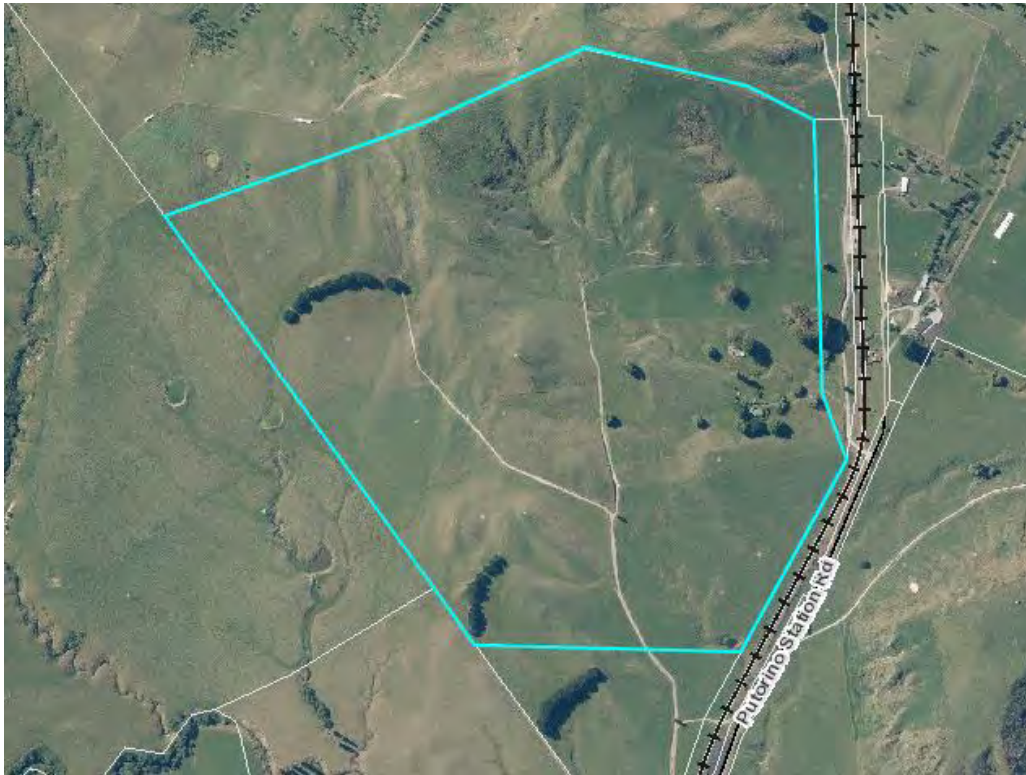


Lot 1 DP 23044



Lot 1 DP 9366





Section 23 SO 1621

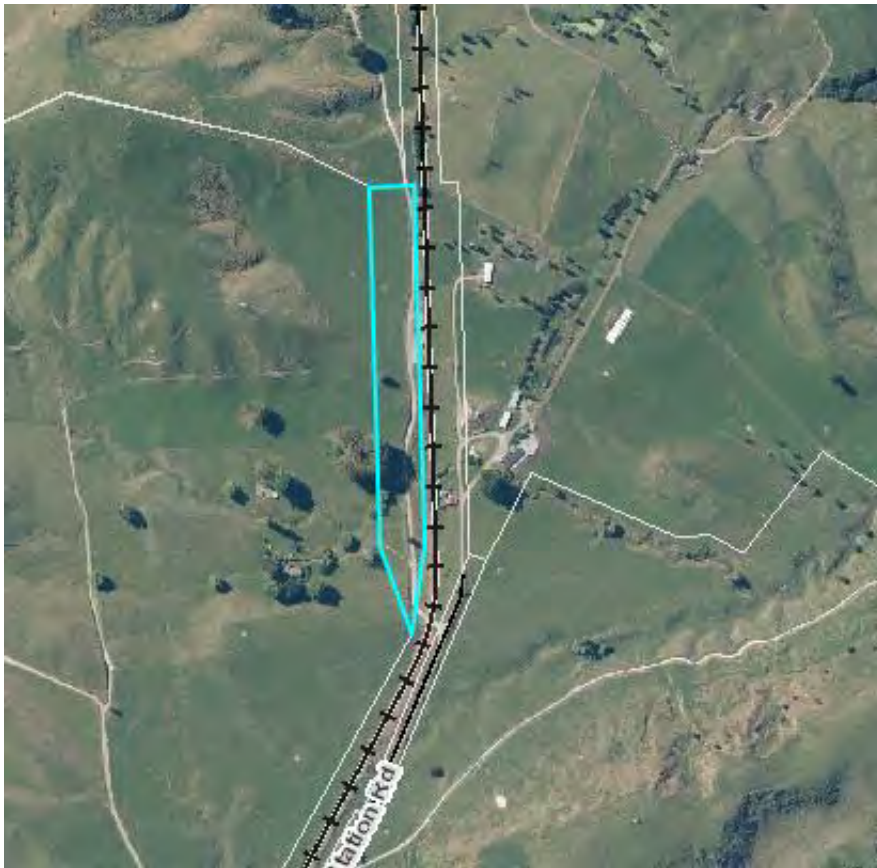


Lot 3 DP 25330





Lot 1 DP 26609

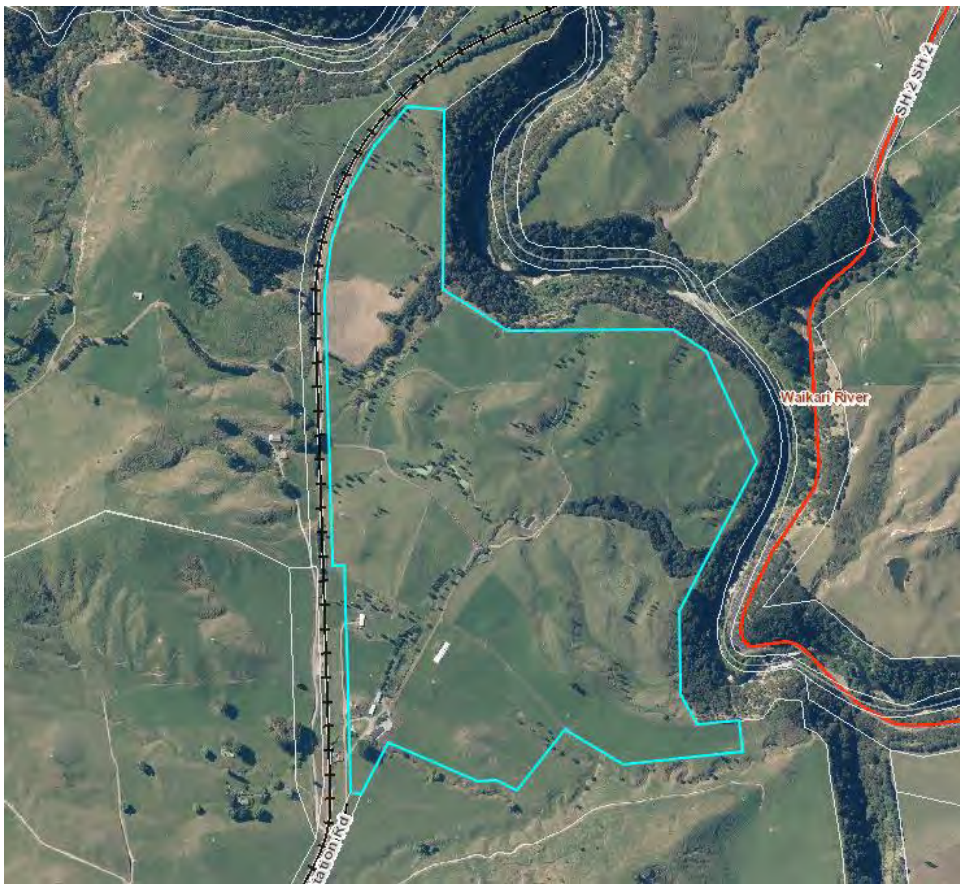


Lot 1 DP 21170





Section 41 SO 6201

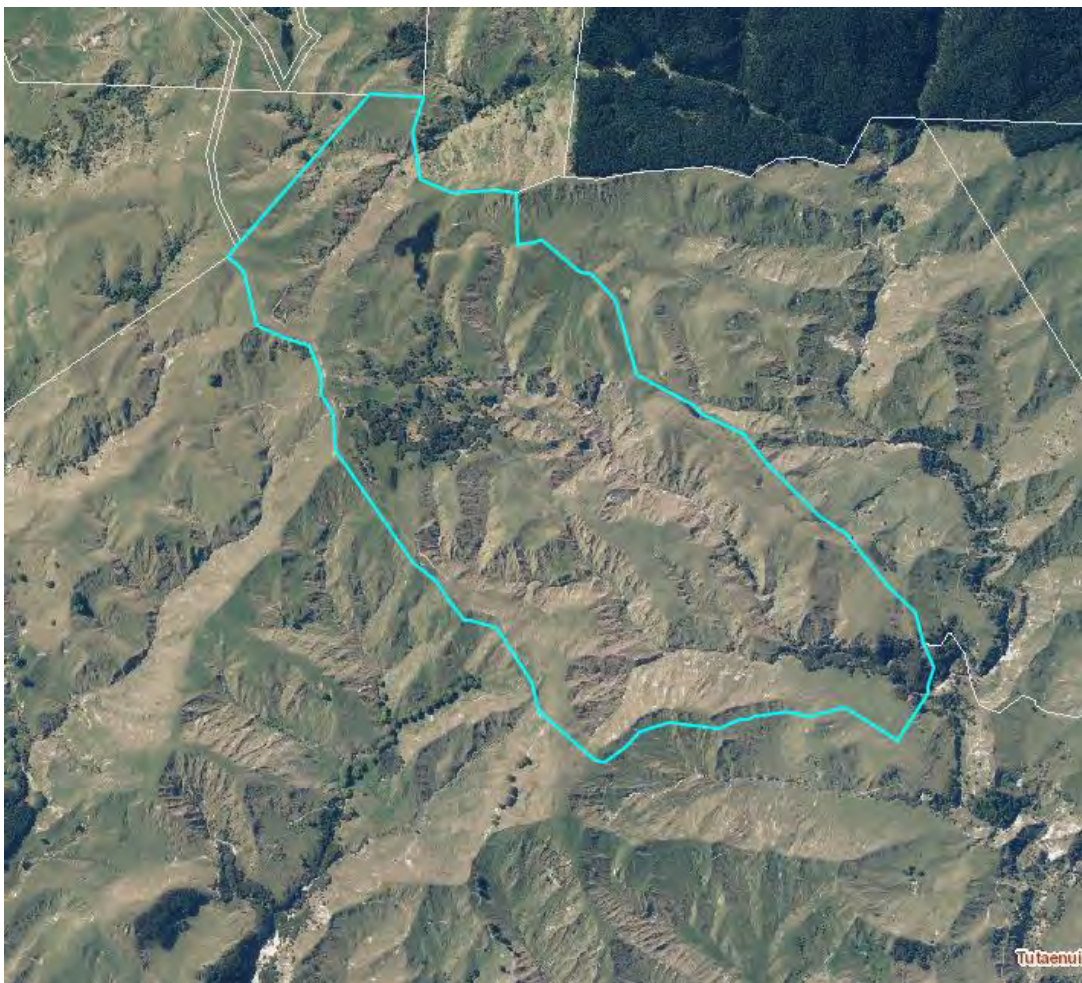


Lot 1 DP 25330





Section 22 SO 1621 Block II Moeangiangi SD

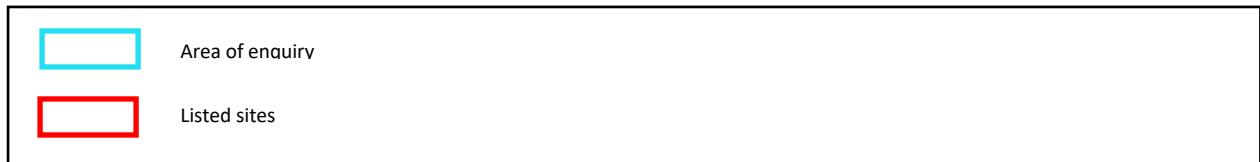


Part Lot 1 DP 13541





Part Lot 1 DP 13713



*The above map outlines the specific parcel(s) or area(s) where contaminated land information has been requested*

### **SITES WITHIN AREA OF ENQUIRY:**

There are no listed sites within the area of enquiry, however all properties are rural and there's the potential for sheep dip and spray traces. Unfortunately, historical imagery show no clear evidence of these types of activities.

### **Resource consents related to the sites:**

1. Putorino Golf Club (part section 34 SO 2516)  
Water Take Consent (AUTH-108259-01) to take water from well no. 2054 (100 mm diameter) to irrigate golf course greens. Consent expired in 2008.
2. Waikare Dairy Co (Section 33 SO 2516)  
Discharge Consent (AUTH-124776-01 & AUTH-124777-01) to discharge farm dairy effluent (including associated sludges and solids) from a herd of up to 650 cows and from the operation of a dairy shed onto land, in circumstances which may result in the contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering

water, and to discharge contaminants into air arising from the management of farm dairy effluent.

3. Flat Hill Trust (Lot 1 DP 25330)

Discharge Consent (AUTH-122768-01) to discharge farm dairy effluent (FDE), generated by a herd of up to 400 cows being milked in a dairy shed, onto land, in circumstances which may result in the contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water, and to discharge contaminants into air arising from the management of that FDE.

Bore Permit (AUTH-114593-01) – to drill a 100mm bore (No. 5337) for domestic/stock water purposes.

4. Mobil Oil NZ Ltd (Part Lot 1 DP 13541) – additional property

Bore Permit (AUTH-113877-01) to drill bore no. 5129 (50 mm diameter) for monitoring purposes.

**SITES SURROUNDING AREA OF ENQUIRY:**

The are no listed sites within the surrounding area of enquiry

**Disclaimer:**

*This service is provided by the Hawke's Bay Regional Council as a public service. Information is derived from Hawke's Bay Regional Council's Listed Land Use Register. The Register has been established by the Council for the purpose of performing its functions under the Resource Management Act 1991.*

*The information is made available in good faith but the council does not warrant the accuracy or completeness of the information. Users of this Register who rely on the information provided without obtaining independent verification, do so at their own risk. Hawke's Bay Regional Council accepts no liability for any inaccuracy in or omission from the information. Any party relying on the information does so at their own risk.*

*The given land use category reflects the Council's understanding at the time of the date indicated for the property's assessment, which is based only on the information obtained by it and held on record at the time. The site condition or information available may have changed since the date of the Council's assessment of the property. Any person acting on the information should verify the site's condition at the time. The Council accepts no responsibility for changes to the site condition since the site was listed on the Register.*

*Properties listed on the Register include properties where potentially contaminating activities are suspected to have occurred (Unverified HAIL sites) or are known to have occurred but no physical investigation has taken place (Not investigated sites). In both cases, the listing is not an indication of actual contamination and no reliance can or should be placed by any person as indicating the actual presence of contaminants on such sites. Further investigation is required to establish the actual presence or absence of contaminants.*

*The Council does not warrant a listed property's suitability for any specific purpose. The listing is based only on human health considerations. Where a site has been investigated and been listed as suitable for one of several generic uses (e.g. residential or commercial), the suitability is within the given constraints (e.g. a management plan is in place and being adhered to). Such a property may not be suitable for particular land uses within that general use (e.g. being able to grow particular plants; different plants having a widely varying sensitivity to soil contaminants). Any person relying on a property's general suitability as demonstrating the land is suitable for a specific purpose does so at their own risk. Conversely a property listed as being hazardous to people for the given generic land use may not be hazardous for some other less sensitive land use. Independent, expert advice should be sought as to the property's suitability for a particular purpose.*

*The listing of a property does not necessarily mean the property condition implied by the listing occurs over the complete parcel of land represented by the street address or legal description of the property. For example, a large property may only have had a small part of it used for a potentially contaminating activity or have actual contamination over only a small part of it (e.g. a sheep dip within a large block of otherwise uncontaminated land).*

*Where a property or properties have been subdivided or amalgamated since the date of listing, in the absence of information to the contrary, as a precautionary approach the Council will automatically apply the original listing to the new land parcels. Given a potentially contaminating historical activity or actual contamination may originally have had a limited extent, it is not necessarily the case that all the newly subdivided properties are in the condition implied by the listing after subdivision. Similarly, not all of a newly amalgamated property is necessarily in the condition implied by the listing. Further investigation may be necessary to determine the extent of the land actually affected.*



## IDENTIFICATION

**WQ Site:**  
**Easting:** 1943927.952  
**Northing:** 5659722.784  
**Method:**

**Address:**

## WELL INFORMATION

**Drill date:** 14/03/1986  
**Driller:** Baylis Brothers Limited  
**Casing Diameter (mm):** 100  
**Bore Depth (m)**  
**Well Depth (m):** 85.34  
**Screen top (m):** 42.6  
**Screen bottom (m):** 60.9  
**Open hole top (m):**  
**Open hole bottom (m):**

**Water level access:** Unknown

## Aquifer Information

**Initial Water Level** -4  
**Aquifer Condition** Confined  
**Aquifer Lithology** Other

## Aquifer Test

**Test Reliability** Unreliable  
**Specific Capacity** 0  
**Hydraulic Conductivity**  
**Storativity**  
**Transmissivity**  
**Aquifer Thickness**  
**Number Of Pumping Steps**  
**Duration** 4  
**Maximum Draw Down** 17  
**Maximum Pumping Rate** 1  
**Report Number**  
**Bore No** 2054

## Bore Log (m)

**Lithology** TOPSOIL  
**From Depth** 0  
**To Depth** 1

**Lithology** ASH/PUMICE  
**From Depth** 1  
**To Depth** 1

**Lithology** brown CLAY (light)  
**From Depth** 1

<b>To Depth</b>	2
<b>Lithology</b>	brown SAND
<b>From Depth</b>	2
<b>To Depth</b>	3
<b>Lithology</b>	blue SANDSTONE
<b>From Depth</b>	3
<b>To Depth</b>	7
<b>Lithology</b>	ASH/PUMICE
<b>From Depth</b>	7
<b>To Depth</b>	7
<b>Lithology</b>	white CLAY
<b>From Depth</b>	7
<b>To Depth</b>	8
<b>Lithology</b>	blue CLAY with sand
<b>From Depth</b>	8
<b>To Depth</b>	18
<b>Lithology</b>	blue SANDSTONE (soft)
<b>From Depth</b>	18
<b>To Depth</b>	47
<b>Lithology</b>	blue SAND with shell
<b>From Depth</b>	47
<b>To Depth</b>	48
<b>Lithology</b>	blue CLAY
<b>From Depth</b>	48
<b>To Depth</b>	51
<b>Lithology</b>	blue CLAY with sand
<b>From Depth</b>	51
<b>To Depth</b>	58
<b>Lithology</b>	ASH/PUMICE
<b>From Depth</b>	58
<b>To Depth</b>	59
<b>Lithology</b>	blue SAND
<b>From Depth</b>	59
<b>To Depth</b>	67
<b>Lithology</b>	blue CLAY
<b>From Depth</b>	67
<b>To Depth</b>	73

<b>Lithology</b>	blue SAND
<b>From Depth</b>	73
<b>To Depth</b>	80

<b>Lithology</b>	blue CLAY
<b>From Depth</b>	80
<b>To Depth</b>	85



## IDENTIFICATION

**WQ Site:**  
**Easting:** 1944684.875  
**Northing:** 5661218.917  
**Method:** Hand-held GPS  
  
**Address:** PUTORINO STATION RD

## WELL INFORMATION

**Drill date:** 09/02/2005  
**Driller:** Baylis Brothers Limited  
**Casing Diameter (mm):** 100  
**Bore Depth (m):** 68  
**Well Depth (m):** 68  
**Screen top (m):** 44  
**Screen bottom (m):** 68  
**Open hole top (m):**  
**Open hole bottom (m):**  
  
**Water level access:** Yes

## Bore Consents

**Consent Id:** LU050043B  
**Consent Type:** Bore consent  
**Use One:** Residential - Single property  
**Use Two:** Potable Supply

## Aquifer Information

**Initial Water Level:** -16  
**Aquifer Condition:** Confined  
**Aquifer Lithology:** Other

## Bore Log (m)

**Lithology:** TOPSOIL  
**From Depth:** 0  
**To Depth:** 0

**Lithology:** brown CLAY with ash/pumice  
**From Depth:** 0  
**To Depth:** 6

**Lithology:** brown SANDSTONE (with blue layers)  
**From Depth:** 6  
**To Depth:** 24

**Lithology:** SAND with ash/pumice  
**From Depth:** 24  
**To Depth:** 24

**Lithology:** blue CLAY  
**From Depth:** 24

<b>To Depth</b>	36
<b>Lithology</b>	white CLAY with ash/pumice
<b>From Depth</b>	36
<b>To Depth</b>	36
<b>Lithology</b>	blue CLAY
<b>From Depth</b>	36
<b>To Depth</b>	38
<b>Lithology</b>	blue SANDSTONE (water bearing)
<b>From Depth</b>	38
<b>To Depth</b>	55
<b>Lithology</b>	blue CLAY
<b>From Depth</b>	55
<b>To Depth</b>	55
<b>Lithology</b>	blue SANDSTONE (water bearing)
<b>From Depth</b>	55
<b>To Depth</b>	63
<b>Lithology</b>	blue SAND (soft (water bearing))
<b>From Depth</b>	63
<b>To Depth</b>	68



## RESOURCE CONSENT

### Discharge Permit

In accordance with the provisions of the Resource Management Act 1991 (RMA), and subject to the attached conditions, the Hawke's Bay Regional Council (the Council) grants a resource consent for a controlled activity to:

#### Waikare Dairy Company Limited

5100 State Highway 2  
RD 1  
Kotemaori  
Hawke's Bay 4188

to discharge farm dairy effluent (including associated sludges and solids) from a herd of up to 650 cows and from the operation of a dairy shed onto land, in circumstances which may result in the contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water and to discharge contaminants into air arising from the management of that FDE.

#### LOCATION

**Address of site:** 5257 State Highway 2, Putorino, Hawke's Bay,

**Legal description** (site of discharge): Sec 33 SO 2516, Sec 34 SO 2516, Lot 1 DP 23044, Lot 1 DP 9366 and Sec 23 SO 1621

#### Map reference:

Feature	NZTM	
	Easting	Northing
Dairy Shed	1944171	5660170
Storage Pond:	1944251	5660273

#### CONSENT DURATION

This consent is granted for a period expiring on 31 May 2030.

**Paul Barrett**  
**Team Leader Consents**

POLICY AND REGULATION GROUP  
Under authority delegated by Hawke's Bay Regional Council  
26 February 2021



## Conditions

1. All works and structures relating to this resource consent shall be designed and constructed to conform to the best engineering practices and at all times maintained to a safe and serviceable standard.
2. The effluent discharged shall be from the milking of no more than **325 cows once per day and 325 cows twice per day**.
3. All effluent from the dairy shed shall be collected in an effluent storage pond(s) with a minimum working capacity of **1,698 m<sup>3</sup>** (See Advice Note 1).
4. The consent holder shall ensure that a minimum of **500 mm freeboard** is maintained in the holding pond(s) over periods when there is no rainfall. The freeboard shall be maintained over and above the minimum holding capacity specified in Condition 3 of this consent.
5. The consent holder shall ensure that:
  - a) Any accumulated sludge in the effluent storage pond is removed annually to maintain the capacity of the holding pond as stated in Condition 3.
  - b) That effluent is applied to land whenever soil conditions are suitable.
6. All effluent storage facilities shall be designed, constructed and maintained to ensure that there is no measurable leakage of effluent from the storage facility.
7. The consent holder shall ensure that clean stormwater from the dairy shed yard shall be diverted so that it does not enter the effluent storage pond during periods when the yard is clean and is not in daily use.
8. The consent holder shall engage a suitably qualified and experienced person to undertake a test on each pond to estimate the permeability and leakage of each pond using a Pond Drop Test. The Pond Drop Test shall be undertaken using a method that is consistent with that set out in IPENZ "Practice Note 21 - Farm Dairy Effluent" (Version 3, August 2017). A written report from a suitably qualified person shall be provided to the Council (Manager Compliance) prior to **31 May 2022**. This report will be used to confirm compliance with Condition 6.
9. The consent holder shall provide the Council (Manager Compliance) in writing, notice of any intended installation of any new or replacement effluent storage facilities. The consent holder shall include with this notice, details of the proposed facilities, including storage volumes, location, and construction methods. This shall be provided at least 20 working days prior to commencement of installation of any storage facilities.
10. Any new or replacement effluent storage facilities shall:
  - a) Ensure that a total minimum working effluent storage capacity of **1,682 m<sup>3</sup>** is provided.
  - b) Be lined with an impermeable liner. Documentation from the manufacturer and installer (including 'As built' plans, a signed Producer Statement and membrane manufacturer quality assurance statements) shall be provided confirming that the liner ensures a permeability not exceeding  $1 \times 10^{-9}$  m/s. This shall be provided to the Council (Manager Compliance) within three months of completion of the new effluent storage facility. (See Advice Note 6).
11. The effluent irrigated to land shall be spread over a minimum area of **22 hectares annually**.
12. The effluent land application area shall be located within the area identified in **Appendix 1** attached to and forming part of this consent.

13. The rate of effluent application to land shall not exceed the soil infiltration rate and shall not exceed a maximum application depth of **18 mm** at any one time.
14. Effluent shall not be applied to the same piece of land more than once in any 20 day period.
15. The total nitrogen loading rate resulting from the application of farm dairy effluent to land shall not exceed **150 kg/ha/year**.
16. The consent holder shall calibrate the effluent irrigator at least twice per year (see Advice Notes 2 and 3).
17. No effluent shall be discharged, either directly or indirectly through spray drift, within:
  - a) **20 metres** of any continuously flowing or ephemeral water body;
  - b) **90 metres** from any water supply used for human consumption;
  - c) **10 metres** of any property boundary, unless written approval has been obtained from the owner or occupier;
  - d) **20 metres** of any public road,
  - e) **90 metres** of any off-site residential dwelling, unless written approval has been obtained from the owner or occupier.
18. There shall be no run-off, or ponding of effluent on the soil surface.
19. The consent holder shall record and provide to Council (Manager Compliance) the following information by **31 May** each year, and at the time of a monitoring inspection:
  - a) Details of the calculation of the travelling irrigator and slurry wagon application rate (in mm per pass).
  - b) A map showing the location of the paddocks over which the discharge takes place (including paddock identification) and the area of each paddock that can be irrigated (in hectares)
  - c) A daily record of each paddock over which the discharge took place (including paddock and run identification), the number of passes and the method of application (i.e. slurry wagon or travelling irrigator).
  - d) The number of cows milked at the beginning of each month.
  - e) A photo of the pond when the pond level is low to demonstrate compliance with Condition 5 (a lack of accumulated sludge).
20. The consent holder shall ensure a sample of the farm dairy effluent is taken from under the irrigator during the months of September, December and February and this shall be analysed for Total Nitrogen. All effluent sampling shall be carried out by a suitably qualified person as authorised by the Council (Manager Compliance). These results may be used in the Overseer Nutrient Budget.
21. All effluent analyses shall be carried out by an independently accredited laboratory in accordance with the Standard Methods for the Examination of Water and Wastewater published jointly by the American Public Health Association, American Wastewater Association, and Water Environment Federation, or any other equivalent method with the approval of the Council (Manager Compliance).

22. The results of analyses undertaken in accordance with the conditions of this consent shall be forwarded to Council (Manager Compliance) within one month of sampling.
23. That where, for any cause (accidental or otherwise), wastes associated with the consent holder's operations escape to water, the consent holder shall:
- a) Immediately take all practicable steps to contain and then remove the contamination from the environment, and;
  - b) Immediately notify the Council of the escape, and;
  - c) Report to the Council, in writing and within 7 days, describing the manner and cause of the escape and steps taken to control it and prevent its recurrence.
24. The nutrient budget supplied with this application shall be updated and supplied to the Council (Manager Compliance) by **1 October** each year for the previous milking season (1 June to 30 May) (i.e. the most recently past season, using actual inputs rather than forecast inputs). All input data must be provided with the OverseerFM nutrient budget, which shall be published to the Council using OverseerFM.
25. There shall be no offensive or objectionable odour, or noxious or dangerous levels of gases or other airborne liquid contaminants, discharged beyond the boundary of the subject property.
26. The consent holder shall log all complaints received. The log shall include:
- a) the date & time,
  - b) nature of the complaint,
  - c) the name, telephone number, and address of the complainant,
  - d) weather information (an estimate of wind speed and direction),
  - e) details of key operating parameters at the time of the complaint, and
  - f) the remedial action taken to prevent further incidents.

Complaints shall be reported to the Council within 24 hours of receipt and the log of complaints shall be made available to the Council on request.

27. The conditions of this consent may be reviewed by Council during the month of May of any year pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The consent(s) may be reviewed for any of the following purposes:
- a) To deal with any adverse effect on the environment which may arise from the exercise of these consents, which it is appropriate to deal with at that time, or which became evident after the date of issue.
  - b) To require the adoption of the best practicable option to remove or reduce any adverse effects on the environment.
  - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate or inadequate.
  - d) To modify or add any condition to ensure that the discharge is in accordance with an operative plan.
  - e) To require a de-activation device to be installed on the irrigation system.



## REASONS FOR DECISION

The effects of the activity on the environment will not be more than minor. Granting the consent is consistent with the purpose and principles of the RMA, the requirements of any relevant NPS, Regulations, NES regulations and with all relevant plans and policies.

## ADVICE NOTES

1. Condition 3 specifies the estimated working capacity of the existing ponds. 'Working capacity' means the actual storage volume once allowance for freeboard (0.5 m at the top of a pond) and unpumpable sludge (0.5 m at base of pond) is made.
2. To calibrate a travelling irrigator or muck spreader, place approximately 4 flat bottom and straight wall containers in a random pattern in front of the irrigator. After the irrigator has passed over the containers measure the depth of effluent in each container and average the depth.
3. To determine the application rate of a stationary irrigator/sprinkler, place approximately 4 flat bottom and straight wall containers in a random pattern around the irrigator/sprinkler at various distances to capture effluent. Time the discharge for a minimum of 5 minutes and shut the discharge off. Measure the depth of effluent in each container and average the depth. Divide the average depth by the period of time.
4. Effluent includes, for the purposes of this consent, farm dairy effluent including any effluent spray irrigated from the pond or storage tank plus any sludge or crusted material when excavated from ponds. These materials are subject to these conditions.
5. All information required by the conditions of this consent can be provided to the council by email to ComplianceReturns@hbc.govt.nz .
6. If a new pond is installed, the consent holder should also ensure that an under-pond leak detection system is also installed during construction of the pond. This will provide a suitable means of testing the pond for leakage in the future.

## MONITORING BY THE COUNCIL

### Routine monitoring

Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than twice every year to check compliance with the conditions of the consent. The costs of **any** routine monitoring will be charged to the consent holder in accordance with Council's Annual Plan of the time.

### Non-routine monitoring

"Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA.

Section 17(1) of the RMA states:

*Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with*

- a) *any of sections 10, 10A, 10B, and 20A; or*
- b) *a national environmental standard, a rule, a resource consent, or a designation.*

### Consent Impact Monitoring

In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council may levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Annual Plan process.

### DEBT RECOVERY

It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

### CONSENT HISTORY

Authorisation No.	Date	Event	Relevant Rule	Relevant Plan
AUTH-124776-01, AUTH-124777-01	26/02/2021	Consent initially granted	14	Regional Resource Management Plan

# APPENDIX 1: EFFLUENT LAND APPLICATION AREAS AND BUFFER ZONES

## EFFLUENT MANAGEMENT



 Effluent System - Stone trap and Stormwater Diversion

 Effluent Storage - Effluent Ponds

 Effluent Irrigation - Canon Irrigator





## RESOURCE CONSENT

### Discharge Permit

In accordance with the provisions of the Resource Management Act 1991 (RMA), and subject to the attached conditions, the Hawke's Bay Regional Council (the Council) grants a resource consent for a controlled activity to:

**Gary Stephen MACKINTOSH, Brian Neil LESSELS and Stephen Peter LUNN**  
**Trustees of Flat Hill Trust**  
 151 Putorino Station Road  
 RD 1  
 Kotemaori 4188

to discharge farm dairy effluent (FDE), generated by a herd of up to 400 cows being milked in a dairy shed, onto land, in circumstances which may result in the contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water, and to discharge contaminants into air arising from the management of that FDE.

#### LOCATION

**Address of site:** 100 Putorino Station Road, Kotemaori

**Legal description (site of discharge):** Lot 1 DP 25330

#### Map reference:

Feature	NZTM		NZMG	
	Easting	Northing	Easting	Northing
Dairy Shed:	1944707	5661183	2854679	6222758
Storage Pond:	1944753	5661304	2854725	6222878
Effluent Land Application Area:	1944854	5661169	2854825	6222744

#### CONSENT DURATION

This consent is granted for a period commencing on 1 June 2018 and expiring on 31 May 2028.

**Paul Barrett**  
**Principal Consents Planner**  
**EXTERNAL RELATIONS GROUP**

Under authority delegated by Hawke's Bay Regional Council  
 29<sup>th</sup> May 2018

## CONDITIONS

1. All works and structures relating to this resource consent shall be designed and constructed to conform to the best engineering practices and at all times maintained to a safe and serviceable standard.
2. The effluent discharged shall be from the milking of no more than **400** cows twice per day.
3. All effluent from the dairy shed shall be collected in the existing effluent storage pond/s that have a minimum working capacity of **874 m<sup>3</sup>** (See Advice Note 1).
4. The consent holder shall ensure that a minimum of **500 mm freeboard** is maintained in the effluent storage pond/s required by Condition 3 over periods when there is no rainfall. The freeboard shall be maintained over and above the minimum holding capacity specified in Condition 3.
5. The consent holder shall ensure that any accumulated sludge in the effluent storage pond/s is removed each year, to maintain the working capacity of the effluent storage pond/s as stated in Condition 3.
6. All effluent storage facilities shall be designed, constructed and maintained to ensure that there is no measurable leakage of effluent from the storage facility.
7. The consent holder shall engage a suitably qualified and experienced person to undertake a test of the pond's permeability and leakage using a Pond Drop Test. The Pond Drop Test shall be undertaken using a method that is consistent with that set out in IPENZ "*Practice Note 21 - Farm Dairy Effluent*" (version 3, August 2017). A written report from a suitably qualified person shall be provided to the Council (Manager Compliance) prior to **31 May 2019**. This report will be used to confirm compliance with Condition 6.
8. The effluent irrigated to land shall be spread over a minimum area of **11** hectares annually.
9. The effluent land application area shall be located within the area identified in **Appendix 1** attached to and forming part of this consent.
10. The rate of effluent application to land shall not exceed the soil infiltration rate and shall not exceed a maximum application rate of **5 mm/hr**. The maximum application depth at any one time shall not exceed **15 mm**.
11. Effluent shall not be applied to the same piece of land more than once in any **7 day period**.
12. The total nitrogen loading rate resulting from the application of farm dairy effluent to land shall not exceed **150 kg/ha/year**.
13. The consent holder shall calibrate the effluent irrigator at least twice per year (see Advice Notes 2 and 3).
14. No effluent shall be discharged, either directly or indirectly through spray drift, within:
  - a) **20 metres** of any continuously flowing or ephemeral water body;
  - b) **90 metres** from any water supply used for human consumption, and **30 m** from any other well;
  - c) **10 metres** of any property boundary, unless written approval has been obtained from the owner or occupier;
  - d) **20 metres** of any public road,
  - e) **90 metres** of any off-site residential dwelling, unless written approval has been obtained from the owner or occupier.

15. There shall be no run-off, or ponding of effluent on the soil surface.
16. The consent holder shall record and provide to Council (Manager Compliance) on request and at the time of a monitoring inspection the following information;
  - a) Details of the calculation of the irrigator application rate (in mm per pass).
  - b) A map showing the location of the paddocks over which the discharge takes place (including paddock identification) and the area of each paddock that can be irrigated (in hectares).
  - c) A daily record of each paddock over which the discharge took place (including paddock identification) and the number of passes.
  - d) The number of cows milked at the beginning of each month.
17. The consent holder shall ensure a sample of the farm dairy effluent is taken from under the irrigator annually and analysed for Total Nitrogen. All effluent sampling shall be carried out by a suitably qualified person as authorised by the Council (Manager Compliance). These results may be used in the Overseer Nutrient Budget.
18. All effluent analyses shall be carried out by an independently accredited laboratory in accordance with the Standard Methods for the Examination of Water and Wastewater published jointly by the American Public Health Association, American Wastewater Association, and Water Environment Federation, or any other equivalent method with the approval of the Council (Manager Compliance)
19. The results of analyses undertaken in accordance with the conditions of this consent shall be forwarded to Council (Manager Compliance) within one month of sampling.
20. The consent holder shall check the effluent irrigation system regularly when it is in use to ensure it is operating correctly.
21. That where, for any cause (accidental or otherwise), wastes associated with the consent holder's operations escape to water, the consent holder shall:
  - a) Immediately take all practicable steps to contain and then remove the contamination from the environment, and;
  - b) Immediately notify the Council of the escape, and;
  - c) Report to the Council, in writing and within 7 days, describing the manner and cause of the escape and steps taken to control it and prevent its recurrence
22. The nutrient budget supplied with this application shall be updated and supplied to the Council (Manager Compliance) by **1 October each year** for the previous milking season (1 June to 30 May) (i.e. the most recently past season, using actual inputs rather than forecast inputs). All input data must be provided with the budget, which shall be supplied in both hard copy and an electronic ovp file.
23. There shall be no offensive or objectionable odour, or noxious or dangerous levels of gases or other airborne liquid contaminants, discharged beyond the boundary of the subject property.
24. The effluent storage pond shall not be located within 300 metres of any off-site residential dwelling, unless written approval has been obtained from the owner or occupier.
25. If an event occurs on-site that may lead to groundwater contamination, the consent holder shall notify the Putorino School and the Hawke's Bay Regional Council (Manager Compliance) of the event as soon as reasonably practicable after the event occurs.

**Advice Note:** Such an event might include for example an overflow of the effluent storage pond. The Putorino School can be contacted on (06) 839 7336. The Regional Council 24 hour Pollution Hotline should also be contacted on 0800 108 838.



26. The consent holder shall log all complaints received. The log shall include:

- a) The date & time,
- b) Nature of the complaint,
- c) The name, telephone number, and address of the complainant,
- d) Weather information (an estimate of wind speed and direction),
- e) Details of key operating parameters at the time of the complaint, and
- f) The remedial action taken to prevent further incidents.

Complaints shall be reported to the Council within 24 hours of receipt and the log of complaints shall be made available to the Council on request.

### **REVIEW OF CONSENT CONDITIONS BY THE COUNCIL**

The Council may review conditions of these consents pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA.

Times of service of notice of any review: During the month of May, of any year.

- Purposes of review:
- To deal with any adverse effect on the environment which may arise from the exercise of these consents, which it is appropriate to deal with at that time, or which became evident after the date of issue.
  - To require the adoption of the best practicable option to remove or reduce any adverse effects on the environment.
  - To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate or inadequate.
  - To modify or add any condition to ensure that the discharge is in accordance with an operative plan.
  - To require the installation of a de-activation device and/or alarm on the irrigator.

### **REASONS FOR DECISION**

The effects of the activity on the environment will not be more than minor. Granting the consent is consistent with the purpose and principles of the RMA, the requirements of any relevant NPS, Regulations, NES regulations and with all relevant plans and policies.

### **ADVICE NOTES**

1. 'Working capacity' means the actual storage volume once allowance for freeboard (0.5 m at the top of a pond) and unpumpable sludge (0.5 m at base of pond) is made.
2. To calibrate a travelling irrigator or muck spreader, place approximately 4 flat bottom and straight wall containers in a random pattern in front of the irrigator. After the irrigator has passed over the containers measure the depth of effluent in each container and average the depth.
3. To determine the application rate of a stationary irrigator/sprinkler, place approximately 4 flat bottom and straight wall containers in a random pattern around the irrigator/sprinkler at various distances to capture effluent. Time the discharge for a minimum of 5 minutes and shut the

discharge off. Measure the depth of effluent in each container and average the depth. Divide the average depth by the period of time.

4. Effluent includes, for the purposes of this consent, farm dairy effluent including any effluent spray irrigated from the pond or storage tank plus any sludge or crusted material when excavated from ponds. These materials are subject to these conditions.
5. All information required by the conditions of this consent can be provided to the council by email to [ComplianceReturns@hbrc.govt.nz](mailto:ComplianceReturns@hbrc.govt.nz) .

## **MONITORING BY THE COUNCIL**

### **Routine monitoring**

Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than once every year to check compliance with the conditions of the consent. The costs of **any** routine monitoring will be charged to the consent holder in accordance with Council's Annual Plan of the time.

### **Non-routine monitoring**

"Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA.

Section 17(1) of the RMA states:

*Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with*

- a) *any of sections 10, 10A, 10B, and 20A; or*
- b) *a national environmental standard, a rule, a resource consent, or a designation.*

### **Consent Impact Monitoring**

In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council may levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Annual Plan process.

## **DEBT RECOVERY**

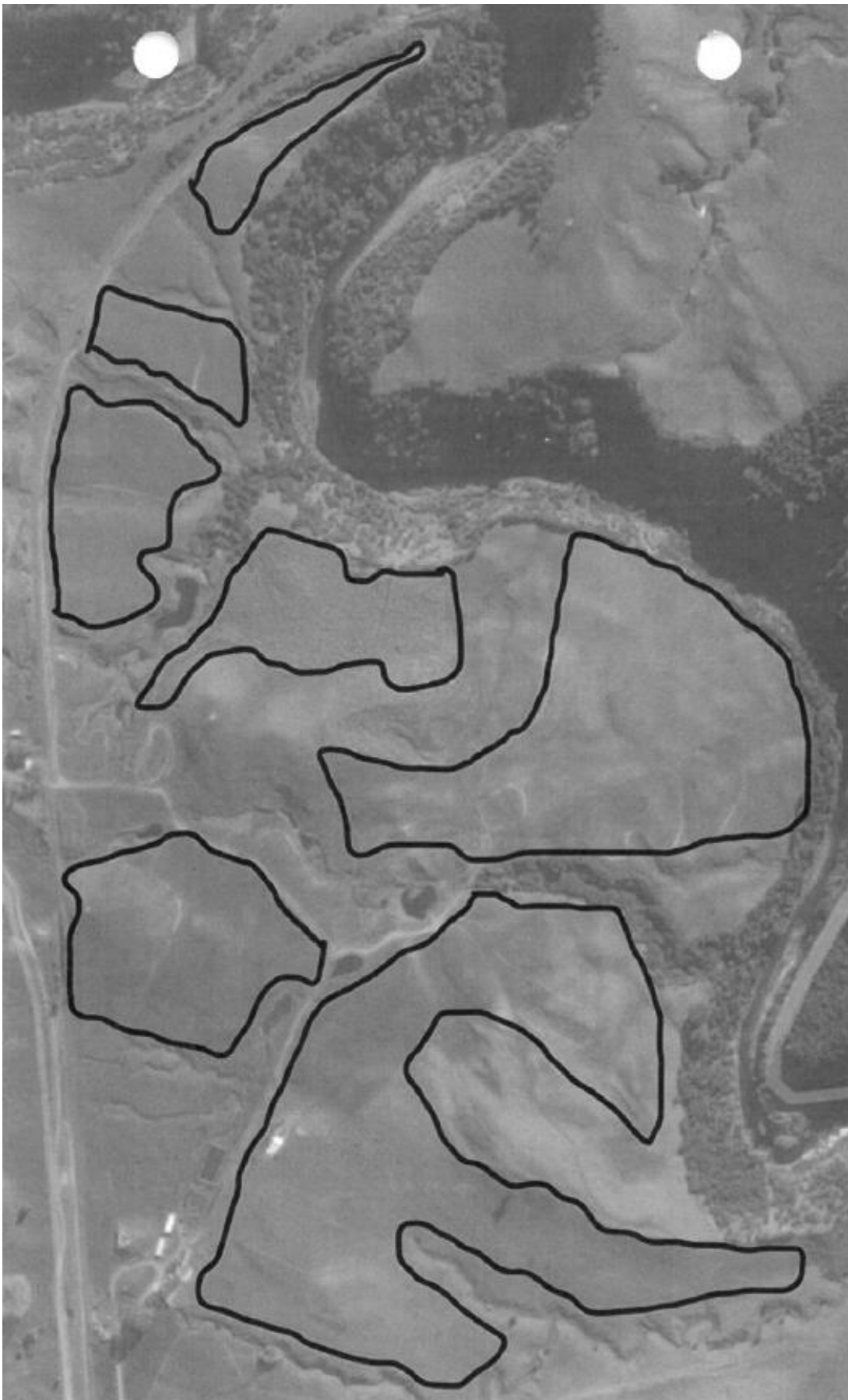
It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

**CONSENT HISTORY**

<b>Consent No. (Version)</b>	<b>Date</b>	<b>Event</b>	<b>Number</b>	<b>Relevant Rule Plan</b>
DP170556L	29/05/2018	Consent initially granted	14	Regional Resource Management Plan



**APPENDIX ONE: EFFLUENT LAND APPLICATION AREA (BOUNDARIES OUTLINED IN BLACK)**



## Max van Stom

---

**From:** Hinetaakoha Viriaere <Hinetaakoha@wairoadc.govt.nz>  
**Sent:** Friday, 10 September 2021 16:04  
**To:** Max van Stom  
**Subject:** RE: Property File Information - Contamination  
**Attachments:** Copy of Property List - WDC.xlsx; Copy of 20170628\_WDCHotspot.xlsx

You don't often get email from hinetaakoha@wairoadc.govt.nz. [Learn why this is important](#)

Kia ora Max

Please see attached list as discussed. There are no resource consents associated with the sites shown in attached property list.

Let me know if you require any further information thanks.

Ngā mihi  
Hine Viriaere  
Kaiwhakamahere Matua | Senior Planner



## WAIROA DISTRICT COUNCIL

Coronation Square, 97-103 Queen Street, Wairoa 4108 | PO Box 54, Wairoa 4160

☎ | +64 6 838 7309, 027 257 4699    📠 | +64 6 838 8874

[www.wairoadc.govt.nz](http://www.wairoadc.govt.nz) | [Facebook](#)

Hapori Tūhono | Āhua Noho Tōrere | Taiao Piki Kōtuku | Ōhanga Taurikura / Connect  
Communities | Desirable Lifestyles | Treasured Environments | Thriving Economy

---

<b>Authority</b>	<b>Address</b>	<b>Legal description</b>	<b>Certificate of title</b>	<b>Area (ha)</b>
WDC	5517 State Highway 2, Putorino 5556 State Highway 2, Putorino	Part Lot 1 DP 13541	HBG3/1433	227.82
WDC	5500 State Highway 2, Putorino	Part Lot 1 DP 13713	HBF4/1448	98.42





SiteID	SiteType	NZSIC_Description	ClassificationCategory	ClassificationSubCategory	LandUse	AddressRapid	AddressNo	AddressRoadName
1443	Power Generation and Distribution	Power Stations	Land-use	Not investigated	Commercial/Industrial			Tuai Hydro Power Stn
1443	Power Generation and Distribution	Power Stations	Land-use	Not investigated	Commercial/Industrial			Tuai Hydro Power Stn
1443	Power Generation and Distribution	Power Stations	Land-use	Not investigated	Commercial/Industrial			Tuai Hydro Power Stn
1443	Power Generation and Distribution	Power Stations	Land-use	Not investigated	Commercial/Industrial			Tuai Hydro Power Stn
1443	Power Generation and Distribution	Power Stations	Land-use	Not investigated	Commercial/Industrial			Tuai Hydro Power Stn
1443	Power Generation and Distribution	Power Stations	Land-use	Not investigated	Commercial/Industrial			Tuai Hydro Power Stn
1443	Power Generation and Distribution	Power Stations	Land-use	Not investigated	Commercial/Industrial			Tuai Hydro Power Stn
1443	Power Generation and Distribution	Power Stations	Land-use	Not investigated	Commercial/Industrial			Tuai Hydro Power Stn
1443	Power Generation and Distribution	Power Stations	Land-use	Not investigated	Commercial/Industrial			Tuai Hydro Power Stn
1443	Power Generation and Distribution	Power Stations	Land-use	Not investigated	Commercial/Industrial			Tuai Hydro Power Stn
1443	Power Generation and Distribution	Power Stations	Land-use	Not investigated	Commercial/Industrial			Tuai Hydro Power Stn
1443	Power Generation and Distribution	Power Stations	Land-use	Not investigated	Commercial/Industrial			Tuai Hydro Power Stn
1443	Power Generation and Distribution	Power Stations	Land-use	Not investigated	Commercial/Industrial			Tuai Hydro Power Stn
1443	Power Generation and Distribution	Power Stations	Land-use	Not investigated	Commercial/Industrial			Tuai Hydro Power Stn
1443	Power Generation and Distribution	Power Stations	Land-use	Not investigated	Commercial/Industrial			Tuai Hydro Power Stn
1444	Landfill Sites	Landfills	Land-use	Not investigated	Commercial/Industrial			Tuai Tip
1446	Ports	Ports	Land-use	Not investigated	Commercial/Industrial			Waikokopu
1446	Ports	Ports	Land-use	Not investigated	Commercial/Industrial			Waikokopu
1452	Agricultural/Horticultural Activities	Meat Slaughtering	Land-use	Not investigated	Commercial/Industrial		203	Awamate Rd
1458	Service Stations	Garages	Land-use	Not investigated	Commercial/Industrial		111	Clyde Rd
1466	Agricultural/Horticultural Activities	Meat Slaughtering	Land-use	Not investigated	Commercial/Industrial		80	Hunterbrown St
1466	Agricultural/Horticultural Activities	Meat Slaughtering	Land-use	Not investigated	Commercial/Industrial		80	Hunterbrown St
1466	Agricultural/Horticultural Activities	Meat Slaughtering	Land-use	Not investigated	Commercial/Industrial		80	Hunterbrown St
1466	Agricultural/Horticultural Activities	Meat Slaughtering	Land-use	Not investigated	Commercial/Industrial		80	Hunterbrown St
1466	Agricultural/Horticultural Activities	Meat Slaughtering	Land-use	Not investigated	Commercial/Industrial		80	Hunterbrown St
1466	Agricultural/Horticultural Activities	Meat Slaughtering	Land-use	Not investigated	Commercial/Industrial		80	Hunterbrown St
1466	Agricultural/Horticultural Activities	Meat Slaughtering	Land-use	Not investigated	Commercial/Industrial		80	Hunterbrown St
1466	Agricultural/Horticultural Activities	Meat Slaughtering	Land-use	Not investigated	Commercial/Industrial		80	Hunterbrown St
1466	Agricultural/Horticultural Activities	Meat Slaughtering	Land-use	Not investigated	Commercial/Industrial		80	Hunterbrown St
1466	Agricultural/Horticultural Activities	Meat Slaughtering	Land-use	Not investigated	Commercial/Industrial		80	Hunterbrown St
1466	Agricultural/Horticultural Activities	Meat Slaughtering	Land-use	Not investigated	Commercial/Industrial		80	Hunterbrown St
1471	Agricultural/Horticultural Activities	Fertilizers	Land-use	Not investigated	Commercial/Industrial			Kaimoana Rd
1472	Railway Yards	Rail Siding	Land-use	Not investigated	Commercial/Industrial			Kaumoana Rd
1474	Miscellaneous	Tyre Retail Workshop	Land-use	Not investigated	Commercial/Industrial		3	Archilles Street
1474	Miscellaneous	Tyre Retail Workshop	Land-use	Not investigated	Commercial/Industrial		3	Archilles Street
1474	Miscellaneous	Tyre Retail Workshop	Land-use	Not investigated	Commercial/Industrial		3	Archilles Street
1476	Service Stations	Panel-Beaters & Motor Body Builders	Land-use	Not investigated	Commercial/Industrial		Cnr	Lucknow St and Achilles Street/SH2
1487	Service Stations	Transport Operators	Land-use	Not investigated	Commercial/Industrial			Marine Parade
1488	Agricultural/Horticultural Activities	Chemicals-Agricultural	Land-use	Not investigated	Commercial/Industrial		40 & 42	Marine Parade
1488	Agricultural/Horticultural Activities	Chemicals-Agricultural	Land-use	Not investigated	Commercial/Industrial		40 & 42	Marine Parade
1488	Agricultural/Horticultural Activities	Chemicals-Agricultural	Land-use	Not investigated	Commercial/Industrial		40 & 42	Marine Parade
1488	Agricultural/Horticultural Activities	Chemicals-Agricultural	Land-use	Not investigated	Commercial/Industrial		40 & 42	Marine Parade
1488	Agricultural/Horticultural Activities	Chemicals-Agricultural	Land-use	Not investigated	Commercial/Industrial		40 & 42	Marine Parade
1488	Agricultural/Horticultural Activities	Chemicals-Agricultural	Land-use	Not investigated	Commercial/Industrial		40 & 42	Marine Parade
1497			Land-use	Unverified HAIL	Commercial/Industrial			McDonald St
1508	Service Stations	Service Stations	Land-use	Not investigated	Commercial/Industrial		11	Paul Street
1508	Service Stations	Service Stations	Land-use	Not investigated	Commercial/Industrial		11	Paul Street
1508	Service Stations	Service Stations	Land-use	Not investigated	Commercial/Industrial		11	Paul Street
1513	Service Stations	Garages	Land-use	Not investigated	Commercial/Industrial		60	Marine Parade
1513	Service Stations	Garages	Land-use	Not investigated	Commercial/Industrial		60	Marine Parade
1513	Service Stations	Garages	Land-use	Not investigated	Commercial/Industrial		60	Marine Parade
1513	Service Stations	Garages	Land-use	Not investigated	Commercial/Industrial		60	Marine Parade
1513	Service Stations	Garages	Land-use	Not investigated	Commercial/Industrial		60	Marine Parade
1513	Service Stations	Garages	Land-use	Not investigated	Commercial/Industrial		60	Marine Parade
1513	Service Stations	Garages	Land-use	Not investigated	Commercial/Industrial		60	Marine Parade
1513	Service Stations	Garages	Land-use	Not investigated	Commercial/Industrial		60	Marine Parade
1513	Service Stations	Garages	Land-use	Not investigated	Commercial/Industrial		60	Marine Parade
1513	Service Stations	Garages	Land-use	Not investigated	Commercial/Industrial		60	Marine Parade
1513	Service Stations	Garages	Land-use	Not investigated	Commercial/Industrial		60	Marine Parade
1513	Service Stations	Garages	Land-use	Not investigated	Commercial/Industrial		60	Marine Parade
1513	Service Stations	Garages	Land-use	Not investigated	Commercial/Industrial		60	Marine Parade
1513	Service Stations	Garages	Land-use	Not investigated	Commercial/Industrial		60	Marine Parade
1515	Service Stations	Garages	Land-use	Partially investigated	Commercial/Industrial		54	Queen Street
1521	Oil Production and Storage	Petrol & Oil Companies	Land-use	Unverified HAIL	Commercial/Industrial			Railway Rd
1529	Airports	Airfields	Land-use	Hazardous substances acceptable for <land use>	Commercial/Industrial			Wairoa Aerodrome
1529	Airports	Airfields	Land-use	Hazardous substances acceptable for <land use>	Commercial/Industrial			Wairoa Aerodrome
1529	Airports	Airfields	Land-use	Hazardous substances acceptable for <land use>	Commercial/Industrial			Wairoa Aerodrome
1529	Airports	Airfields	Land-use	Hazardous substances acceptable for <land use>	Commercial/Industrial			Wairoa Aerodrome

SiteID	SiteType	NZSIC_Description	ClassificationCategory	ClassificationSubCategory	LandUse	AddressRapid	AddressNo	AddressRoadName
1529	Airports	Airfields	Land-use	Hazardous substances acceptable for <land use>	Commercial/Industrial			Wairoa Aerodrome
1529	Airports	Airfields	Land-use	Hazardous substances acceptable for <land use>	Commercial/Industrial			Wairoa Aerodrome
1529	Airports	Airfields	Land-use	Hazardous substances acceptable for <land use>	Commercial/Industrial			Wairoa Aerodrome
1529	Airports	Airfields	Land-use	Hazardous substances acceptable for <land use>	Commercial/Industrial			Wairoa Aerodrome
1529	Airports	Airfields	Land-use	Hazardous substances acceptable for <land use>	Commercial/Industrial			Wairoa Aerodrome
1529	Airports	Airfields	Land-use	Hazardous substances acceptable for <land use>	Commercial/Industrial			Wairoa Aerodrome
1529	Airports	Airfields	Land-use	Hazardous substances acceptable for <land use>	Commercial/Industrial			Wairoa Aerodrome
1529	Airports	Airfields	Land-use	Hazardous substances acceptable for <land use>	Commercial/Industrial			Wairoa Aerodrome
1531	Landfill Sites	Landfills	Land-use	Not investigated	Commercial/Industrial			Wairoa Tip
1787		Underground Tanks Removed:	Land-use	Hazardous substances acceptable for <land use>	Commercial/Industrial		51	Carroll Street
1799			Land-use	Partially investigated	Commercial/Industrial			
1805			Land-use	Hazardous substances acceptable for <land use>	Commercial/Industrial			Kaimoana Road
1841	Wood Treatment and Preservation	Timber Preservation	Land-use	Partially investigated	Commercial/Industrial		159	Carroll Street
1844	Wood Treatment and Preservation	Timber Preservation	Land-use	Partially investigated	Commercial/Industrial		37	Mitchell Road
1844	Wood Treatment and Preservation	Timber Preservation	Land-use	Partially investigated	Commercial/Industrial		37	Mitchell Road
1845			Land-use	Not investigated	Commercial/Industrial			State Highway 2
1864	Landfill Sites	Landfills	Land-use	Partially investigated	Commercial/Industrial			Main Rd North
1865	Landfill Sites	Landfills	Land-use	Partially investigated	Commercial/Industrial			Main North Rd
1906	Agricultural/Horticultural Activities	Meat Slaughtering	Land-use	Not investigated	Commercial/Industrial			Frasertown Road
1907	Scrap Yards	Scrap Metal Merchants	Land-use	Not investigated	Residential			
1910	Agricultural/Horticultural Activities	Chemicals-Agricultural	Land-use	Not investigated	Agricultural			Paul St
1911	Service Stations	Panel-Beaters & Motor Body Builders	Land-use	Not investigated	Commercial/Industrial			Carroll St
2272	Miscellaneous	Forestry	Land-use	Not investigated	Commercial/Industrial		40	Willowflat Road
2272	Miscellaneous	Forestry	Land-use	Not investigated	Commercial/Industrial		40	Willowflat Road
2280	Engineering	Earthmoving/Transport Contractor	Land-use	Hazardous substances acceptable for <land use>	Commercial/Industrial		3221	State Highway 2
2290		Storage	Land-use	Not investigated				Freyburg Street
2292			Land-use	Not investigated			4169	Lake Road, Lake Waikaremoana
2293		Storage	Land-use	Not investigated				Lake Waikaremoana
2307	Miscellaneous	Printing Co	Land-use	Not investigated	Commercial/Industrial		75	Queen St
2307	Miscellaneous	Printing Co	Land-use	Not investigated	Commercial/Industrial		75	Queen St







AddressLocality	TerritorialAuthority	SiteFullAddress	OccupierID	OccupierName	OwnerID	OwnerName
Wairoa	Wairoa	Wairoa Aerodrome, Wairoa, Wairoa	1602	Wairoa Airfield		
Wairoa	Wairoa	Wairoa Aerodrome, Wairoa, Wairoa	1602	Wairoa Airfield		
Wairoa	Wairoa	Wairoa Aerodrome, Wairoa, Wairoa	1602	Wairoa Airfield		
Wairoa	Wairoa	Wairoa Aerodrome, Wairoa, Wairoa	1602	Wairoa Airfield		
Wairoa	Wairoa	Wairoa Aerodrome, Wairoa, Wairoa	1602	Wairoa Airfield		
Wairoa	Wairoa	Wairoa Aerodrome, Wairoa, Wairoa	1602	Wairoa Airfield		
Wairoa	Wairoa	Wairoa Aerodrome, Wairoa, Wairoa	1602	Wairoa Airfield		
Wairoa	Wairoa	Wairoa Tip, Wairoa, Wairoa	1606	Wairoa Borough & District		
Wairoa	Wairoa	51 Carroll Street, Wairoa, Wairoa	12	Adams Engineering	12	Adams Engineering
Nuhaka		, Nuhaka	1725	Church of Latter Day Saints		
Wairoa	Wairoa	Kaimoana Road, Wairoa, Wairoa	1728	Quality Roding Services Wairoa		
Wairoa	Wairoa	159 Carroll Street, Wairoa, Wairoa	2236	East Coast Lumber Co Ltd	2235	East Coast Lumber Co. Ltd
Wairoa	Wairoa	37 Mitchell Road, Wairoa, Wairoa	1755	Former Timber Treatment Site		
Wairoa	Wairoa	37 Mitchell Road, Wairoa, Wairoa	1755	Former Timber Treatment Site		
Nuhaka		State Highway 2, Nuhaka	1756	BP Oil Tank Spill, Nuhaka		
		Main Rd North	1775	The Beacons- Closed Landfill	1044	Napier City Council
		Main North Rd	1776	North Beacons- Closed Landfill	1044	Napier City Council
Frasertown	Wairoa	Frasertown Road, Frasertown, Wairoa	516	Frazertown Meat Co.		
			306	Clyde Auto Dismantlers		
Wairoa	Wairoa	Paul St, Wairoa, Wairoa	1703	Wrightson NMA Ltd		
Wairoa	Wairoa	Carroll St, Wairoa, Wairoa	1079	North Clyde Panel & Paint Ltd		
Mohaka	Wairoa	40 Willowflat Road, Mohaka, Wairoa	1159	Pan Pacific Ltd	1159	Pan Pacific Ltd
Mohaka	Wairoa	40 Willowflat Road, Mohaka, Wairoa	1159	Pan Pacific Ltd	1159	Pan Pacific Ltd
Nuhaka	Wairoa	3221 State Highway 2, Nuhaka, Wairoa	2208	Quality Roding and Services Ltd		
Wairoa	Wairoa	Freyburg Street, Wairoa, Wairoa	670	Hawke's Bay Regional Council		
Wairoa	Wairoa	4169 Lake Road, Lake Waikaremoana, Wairoa, Wairoa	2231	Department of Conservattion		
Wairoa	Wairoa	Lake Waikaremoana, Wairoa, Wairoa	2225	Department of Conservation		
Wairoa	Wairoa	75 Queen St, Wairoa, Wairoa	2262	Wairoa Star		
Wairoa	Wairoa	75 Queen St, Wairoa, Wairoa	2262	Wairoa Star		



Archive	HasLegal	Parcel_ID	LegalDescription	ValuationID	PhysicalLocation	OccName1	OccName2
0	Verified	4117309	LOT 1 DP 5357	0878000302	12 FRASERTOWN ROAD, WAIROA	Kiwi Transport Co Ltd	
0	Unverified	Unknown	SEC 10 BLK I WAIUAU SD	Unknown			
0	Unverified	Unknown	SEC 9 BLK I WAIUAU SD	Unknown			
0	Unverified	Unknown	Unknown	0876003705	0 STATE HIGHWAY 38, WAIROA	Conservation Department	
0	Unverified	Unknown	Unknown	0876004000	4707 STATE HIGHWAY 38, WAIROA	Hodge Phillip Jon	Hodge Laura Anna
0	Verified	4115842	PT SEC 1 BLK III WAIUAU SD	Unknown			
0	Verified	4117864	PT SEC 5 BLK III WAIUAU SD	Unknown			
0	Verified	4138643	SEC 7 BLK I WAIUAU SD	Unknown			
0	Verified	4147577	SEC 8 BLK I WAIUAU SD	Unknown			
0	None						
0	Verified	4181183	LOT 40 DP 11480	0870050836	0 ORMOND DRIVE, WAIROA	The Owners	
0	Verified	4172988	LOT 23 DP 1413	0885025200	7-13 BRIDGE STREET, WAIROA	Vish Holding Limited	
0	Verified	4194474	LOT 24 DP 1413	0885025200	7-13 BRIDGE STREET, WAIROA	Vish Holding Limited	
0	Verified	4194863	PT LOT 21 DP 1413	0885025200	7-13 BRIDGE STREET, WAIROA	Vish Holding Limited	
0	Verified	4194883	PT LOT 22 DP 1413	0885025200	7-13 BRIDGE STREET, WAIROA	Vish Holding Limited	
0	Unverified	Unknown	LOT 16 DP 6847	Unknown			
0	Unverified	Unknown	LOT 17 DP 6847	Unknown			
0	Unverified	Unknown	LOT 18 DP 6847	Unknown			
0	Unverified	Unknown	LOT 19 DP 6847	Unknown			
0	Unverified	Unknown	LOT 2 DP 21632	Unknown			
0	Unverified	Unknown	LOT 21 DP 6847	Unknown			
0	Unverified	Unknown	MBLK 12E3 ORANGITIROHIA	Unknown			
0	Verified	4242462	LOT 3 DP 18324	0885004100	145 CARROLL STREET, WAIROA	Drager Holdings Ltd	
0	Verified	4242461	LOT 1 DP 7306	0885004000	107 CARROLL STREET, WAIROA	Drager Holdings Ltd	
0	Unverified	Unknown	LOT 1 DP 19452	Unknown			
0	Unverified	Unknown	LOT 1 DP 21632	Unknown			
0	Verified	4160730	PT LOT 43 DP 1583	0885005800	0 FREYBERG STREET, WAIROA	Carters Holt Harvey Limited	
0	Verified	4225704	PT LOT 43 DP 1583	0885005800	0 FREYBERG STREET, WAIROA	Carters Holt Harvey Limited	
0	Verified	4160183	PT LOT 44 DP 1583	0885005800	0 FREYBERG STREET, WAIROA	Carters Holt Harvey Limited	
0	Verified	4160290	PT LOT 5 DP 3780	0885005900	2 MACDONALD STREET, WAIROA	Carters Holt Harvey Limited	
0	Verified	4225183	PT LOT 6 DP 3780	0885005900	2 MACDONALD STREET, WAIROA	Carters Holt Harvey Limited	
0	Verified	4203359	PT LOT 7 DP 3780	0885005900	2 MACDONALD STREET, WAIROA	Carters Holt Harvey Limited	
0	Verified	4225396	PT LOT 1 DP 3780	0885005900	2 MACDONALD STREET, WAIROA	Carters Holt Harvey Limited	
0	Verified	4181979	PT LOT 2 DP 3780	0885005900	2 MACDONALD STREET, WAIROA	Carters Holt Harvey Limited	
0	Verified	4203063	PT LOT 3 DP 3780	0885005900	2 MACDONALD STREET, WAIROA	Carters Holt Harvey Limited	
0	Verified	4224600	PT LOT 4 DP 3780	0885005900	2 MACDONALD STREET, WAIROA	Carters Holt Harvey Limited	
0	Verified	4159642	PT SEC 4 SO 950	0872023600	0 STATE HIGHWAY 2 NORTH, WAIROA	Wairoa District Council	
0	Verified	4239520	PT SEC 4 SO 950	0872023600	0 STATE HIGHWAY 2 NORTH, WAIROA	Wairoa District Council	
0	Unverified	Unknown	PT MBLK 244A1B NUHAKA	Unknown			
0	Unverified	Unknown	PT MBLK 2A4A1C NUHAKA	Unknown			
0	Unverified	Unknown	PT MBLK 2A4A1C1 NUHAKA	Unknown			
0	Unverified	Unknown	PT MBLK 2C2J NUHAKA	Unknown			
0	Unverified	Unknown	PT MBLK 2C2K NUHAKA	Unknown			
0	Unverified	Unknown	PT MBLK 2C2L NUHAKA	Unknown			
0	Unverified	Unknown	PT MBLK 2C2L1 NUHAKA	Unknown			
0	Unverified	Unknown	PT MBLK 2C2L2 NUHAKA	Unknown			
0	Verified	4229055	Lot 1 DP 4481	0872025300	0 STATE HIGHWAY 2 NORTH, WAIROA	Michaelsen Richard Layton	Michaelsen Peke Maharatanga
0	Verified	4207496	X1B Nuhaka	0872025400	0 STATE HIGHWAY 2 NORTH, WAIROA	Michaelsen Richard Layton	
0	None						
0	Unverified	Unknown	Unknown	0870013800	1484 OPOUTAMA RD, WAIROA	Fosters Buses (2005) Limited	
0	Verified	4191614	SEC 33 BLK III MAHANGA SD	Unknown			
0	Verified	4145463	PT MBLK 2 HEIOTAHOKA	Unknown			
0	Unverified	Unknown	PT SEC 2 BLK IV WAIUAU SD	Unknown			
0	Unverified	Unknown	Unknown	0876005400	4488 S HWAY 38, WAIROA	Heiotahoka 2B, Te Kopani 36 & 37 Trustee	
0	None						
0	Unverified	Unknown	LOT 15 DP 7900	Unknown			
0	Unverified	Unknown	LOT 20 DP 7900	Unknown			
0	Unverified	Unknown	LOT 30 DP 7900	Unknown			
0	Unverified	Unknown	LOT 38 DP 7900	Unknown			
0	Unverified	Unknown	LOT 40 DP 7900	Unknown			
0	Unverified	Unknown	LOT 42 DP 7900	Unknown			
0	Unverified	Unknown	LOT 44 DP 7900	Unknown			
0	Unverified	Unknown	LOT 51 DP 7900	Unknown			
0	Unverified	Unknown	LOT 55 DP 7900	Unknown			
0	Unverified	Unknown	PT SEC 1 OF 5 BLK IV WAIUAU SD	Unknown			
0	Unverified	Unknown	PT SEC 14 BLK IV WAIUAU SD	Unknown			

Archive	HasLegal	Parcel_ID	LegalDescription	ValuationID	PhysicalLocation	OccName1	OccName2
0	Unverified	Unknown	PT SEC 2 OF 5 BLK IV WAIU SD	Unknown			
0	Unverified	Unknown	SEC 13 BLK IV WAIU SD	Unknown			
0	Unverified	Unknown	SEC 15 BLK IV WAIU SD	Unknown			
0	Unverified	Unknown	Unknown	0876001800	6395 STATE HIGHWAY 38, WAIROA	Te Urewera National Park Board	
0	Verified	4135581	Pt Manuoha	0876001800	6395 STATE HIGHWAY 38, WAIROA	Te Urewera National Park Board	
0	Verified	4113850	Pt Maungapohatu	0876001800	6395 STATE HIGHWAY 38, WAIROA	Te Urewera National Park Board	
0	Verified	4137685	LOT 5 DP 7989	0876005906	41 VALLEY ROAD, WAIROA	Gilbert Hurae	Gilbert Monehu Heni
0	Verified	4128249	LOT 10 DP 7989	0876005911	36 VALLEY ROAD, WAIROA	Dawick Ian John	
0	Verified	4115377	LOT 93 DP 7989	0876005914	34 VALLEY ROAD, WAIROA	Dawick Ian John	
0	Verified	4116840	LOT 90 DP 7991	0876005965	0 TUAI MAIN ROAD, WAIROA	Wairoa District Council	
0	Verified	4116810	LOT 72 DP 7991	0876005978	3 ROTTEN ROW, WAIROA	Tuahine Joseph	
0	Verified	4115600	LOT 74 DP 7991	0876005980	1 ROTTEN ROW, WAIROA	Taylor Neal George	
0	Verified	4128229	LOT 60 DP 7991	0876005982	0 WAIKARE-TAHEKE STREET, WAIROA	Genesis Power Ltd	
0	Verified	4125553	PT SEC 5 BLK IV WAIU SD	Unknown			
0	Verified	4145465	SEC 1 BLK XIX WAIKAREMOANA SD	Unknown			
0	None						
0	Verified	4219154	Pt Sec 12 Blk X Nuhaka Survey District	0870010500	0 WAIKOKOPU ROAD, WAIROA	Various	
0	Verified	4219154	Pt Sec 12 Blk X Nuhaka Survey District	0870010500A	0 WAIKOKOPU ROAD, WAIROA	Wairoa District Council	
0	Verified	4173986	LOT 1 DP 22597	0878025196	203 AWAMATE ROAD, WAIROA	Hebron Ltd	Coastvet Limited
0	Verified	4228229	LOT 1 DP 8388	0888078600	111 CLYDE ROAD, WAIROA	Chamberlain Craig Gordon	Wallace Kelly Patricia
0	Verified	4215268	LOT 1 DP 13699	0878054101	0 HUNTER-BROWN STREET, WAIROA	AFFCO New Zealand Limited	
0	Verified	4237744	LOT 2 DP 3183	0878053900	0 STATE HIGHWAY 2 NORTH, WAIROA	AFFCO New Zealand Limited	
0	Verified	4205942	PT LOT 2 DP 3286	0878053900	0 STATE HIGHWAY 2 NORTH, WAIROA	AFFCO New Zealand Limited	
0	Verified	4220852	PT LOT 2 DP 3286	0878053900	0 STATE HIGHWAY 2 NORTH, WAIROA	AFFCO New Zealand Limited	
0	Verified	4213070	LOT 1 DP 3901	0878053900	0 STATE HIGHWAY 2 NORTH, WAIROA	AFFCO New Zealand Limited	
0	Verified	4179818	LOT 2 DP 13699	0878054100	0 HUNTER-BROWN STREET, WAIROA	Affco New Zealand Limited	
0	Unverified	Unknown	SEC 10R BLK II CLYDE SD	Unknown			
0	Unverified	Unknown	SEC 11R BLK II CLYDE SD	Unknown			
0	Unverified	Unknown	SEC 12R BLK II CLYDE SD	Unknown			
0	Unverified	Unknown	SEC 15 BLK II CLYDE SD	Unknown			
0	Verified	4173367	LOT 2 DP 16841	Unknown			
0	None						
0	None						
0	Verified	4225602	LOT 3 DP 1419	0888007100	3 ACHILLES STREET, WAIROA	Bay Tyres 1996 Ltd	
0	Verified	4182200	PT LOT 1 DP 1419	0888007200	2 LAHORE STREET, WAIROA	Ottol Ltd	
0	Verified	4226408	LOT 1 DP 9116	0888007200	2 LAHORE STREET, WAIROA	Ottol Ltd	
0	Verified	4161395	LOT 7 DP 5366	0888009000	0 LUCKNOW STREET, WAIROA	Gasson Barry Robert	Gasson Denice Yvonne
0	Verified	4209517	SEC 392 SO 9438	0887040800	173 KING STREET, WAIROA	Eastland Network Ltd	
0	Unverified	Unknown	TNSEC 365 CLYDE SD	Unknown			
0	Unverified	Unknown	TNSEC 366 CLYDE SD	Unknown			
0	Unverified	Unknown	Unknown	0887041400	4042 MARINE PARADE, WAIROA	AG Property Holdings Limited	
0	Verified	4188670	TNSEC 398 CLYDE SD	Unknown			
0	Verified	4188002	TNSEC 399 CLYDE SD	Unknown			
0	Verified	4160188	LOT 1 DP 8346	0885005600	0 MACDONALD STREET, WAIROA	Ripcare Marketing Ltd	
0	Verified	4182853	LOT 1 DP 9102	0887051700	11 PAUL STREET, WAIROA	Megahan Investments Limited	
0	Verified	4226794	LOT 2 DP 9102	0887051700	11 PAUL STREET, WAIROA	Megahan Investments Limited	
0	Verified	4182198	PT SEC 212 SO 9438	0887051700	11 PAUL STREET, WAIROA	Megahan Investments Limited	
0	Verified	4238191	Pt Lot 3 DEEDS 623	0887042000	60 MARINE PARADE, WAIROA	Wairoa Club Inc	
0	Verified	4164124	PT SEC 403 SO 9438	0887042000	60 MARINE PARADE, WAIROA	Wairoa Club Inc	
0	Verified	4236217	SEC 1 SO 9963	0887042000	60 MARINE PARADE, WAIROA	Wairoa Club Inc	
0	Verified	4225103	SEC 2 SO 9963	0887042000	60 MARINE PARADE, WAIROA	Wairoa Club Inc	
0	Verified	4185734	SEC 3 SO 9963	0887042000	60 MARINE PARADE, WAIROA	Wairoa Club Inc	
0	Verified	4226688	LOT 1 DP 5241	0887042000	60 MARINE PARADE, WAIROA	Wairoa Club Inc	
0	Verified	4183916	LOT 2 DP 5241	0887042000	60 MARINE PARADE, WAIROA	Wairoa Club Inc	
0	Verified	4169405	Pt Lot 1 DEEDS 623	Unknown			
0	Verified	4184550	Pt Lot 1 DP 8501	Unknown			
0	Verified	4216401	Pt Lot 1 DP 9153	Unknown			
0	Verified	4237150	Pt Lot 2 DEEDS 623	Unknown			
0	Verified	4238144	PT LOT 3 DEEDS 623	Unknown			
0	Verified	4175818	Pt Sec 403 SO 9438	Unknown			
0	Verified	4203113	LOT 2 DP 24087	0887050501	0 QUEEN STREET, WAIROA	Chris Joblin 2008 Ltd	
0	Verified	4160866	1B1A2 Paeroa	0878012600	0 ORMOND ROAD, WAIROA	Fulton Hogan Ltd East Coast	
0	Unverified	Unknown	PT MBLK 1E4 PAEROA	Unknown			
0	Unverified	Unknown	PT MBLK 1E6 PAEROA	Unknown			
0	Unverified	Unknown	PT MBLK 1E7B2 PAEROA	Unknown			
0	Unverified	Unknown	SEC 1 BLK I CLYDE SD	Unknown			

Archive	HasLegal	Parcel_ID	LegalDescription	ValuationID	PhysicalLocation	OccName1	OccName2
0	Unverified	Unknown	SEC 26 BLK I CLYDE SD	Unknown			
0	Unverified	Unknown	SEC 27 BLK I CLYDE SD	Unknown			
0	Verified	4181632	PT LOT 3 DP 6699	0878024100	78 AIRPORT ROAD, WAIROA	Clark Richard Stanley	Clark Rosemary Karen
0	Verified	4181755	PT LOT 3 DP 6699	0878024100	78 AIRPORT ROAD, WAIROA	Clark Richard Stanley	Clark Rosemary Karen
0	Verified	4165484	PT LOT 3 DP 5390	0878024200	85 AIRPORT ROAD, WAIROA	Wairoa District Council	
0	Verified	4182165	PT LOT 3 DP 5390	0878024200	85 AIRPORT ROAD, WAIROA	Wairoa District Council	
0	Verified	4182973	PT LOT 3 DP 5390	0878024200	85 AIRPORT ROAD, WAIROA	Wairoa District Council	
0	Verified	4203455	PT LOT 3 DP 5390	0878024200	85 AIRPORT ROAD, WAIROA	Wairoa District Council	
0	None						
0	Verified	4237737	Lot 6 DP 1174	0885028401	0 CARROLL STREET, WAIROA	Adams Hugh	Adams Ngaire
0	None						
0	None						
0	Verified	4183182	Lot 2 DP 28346	0885003401	161 CARROLL STREET, WAIROA	East Coast Lumber Property Ltd	
0	Verified	4232330	Lot 2 DP 24653	0890009500	118 ACHILLES STREET, WAIROA	Christian Revival Crusade Wairoa Inc	
0	Verified	4215433	Lot 3 DP 9068	0890009500	118 ACHILLES STREET, WAIROA	Christian Revival Crusade Wairoa Inc	
0	None						
0	None						
0	None						
0	None						
0	None						
0	None						
0	None						
0	Verified	4222677	LOT 1 DP 21899	0882000410	0 WILLOWFLAT ROAD, WAIROA	Pan Pac Forest Products Ltd	
0	Verified	4242680	LOT 1 DP 21991	0882000410	0 WILLOWFLAT ROAD, WAIROA	Pan Pac Forest Products Ltd	
0	None						
0	None						
0	None						
0	None						
0	Unverified	Unknown	Pt. Lot 13 DP 2695	0887046700	77 QUEEN STREET, WAIROA	Wairoa Star Ltd	
0	Unverified	Unknown	Pt. Lot 14 DP 2695	0887046700	77 QUEEN STREET, WAIROA	Wairoa Star Ltd	







OccAddr1	OccAddr2	OccAddr3
PO Box 490	Wairoa	
PO Box 490	Wairoa	
PO Box 54	Wairoa	
PO Box 54	Wairoa	
PO Box 54	Wairoa	
PO Box 54	Wairoa	
PO Box 86	Wairoa	
PO Box 34	Wairoa	
C/- Paul King	9 Lockwood Point	Wairoa
C/- Paul King	9 Lockwood Point	Wairoa
Private Bag 6203	Hawkes Bay Mail Centre	Napier
Private Bag 6203	Hawkes Bay Mail Centre	Napier
PO Box 41	Wairoa	
PO Box 41	Wairoa	





Notes

Double up with Site ID 1528 (Waihi,Wairoa) - ID 1528 in "error". Are some of these sites in private ownership now?  
Double up with Site ID 1528 (Waihi,Wairoa) - ID 1528 in "error". Are some of these sites in private ownership now?  
Double up with Site ID 1528 (Waihi,Wairoa) - ID 1528 in "error". Are some of these sites in private ownership now?  
Double up with Site ID 1528 (Waihi,Wairoa) - ID 1528 in "error". Are some of these sites in private ownership now?  
Double up with Site ID 1528 (Waihi,Wairoa) - ID 1528 in "error". Are some of these sites in private ownership now?  
Double up with Site ID 1528 (Waihi,Wairoa) - ID 1528 in "error". Are some of these sites in private ownership now?  
Double up with Site ID 1528 (Waihi,Wairoa) - ID 1528 in "error". Are some of these sites in private ownership now?  
Double up with Site ID 1528 (Waihi,Wairoa) - ID 1528 in "error". Are some of these sites in private ownership now?  
Double up with Site ID 1528 (Waihi,Wairoa) - ID 1528 in "error". Are some of these sites in private ownership now?  
Double up with Site ID 1528 (Waihi,Wairoa) - ID 1528 in "error". Are some of these sites in private ownership now?  
Double up with Site ID 1528 (Waihi,Wairoa) - ID 1528 in "error". Are some of these sites in private ownership now?  
Double up with Site ID 1528 (Waihi,Wairoa) - ID 1528 in "error". Are some of these sites in private ownership now?  
Double up with Site ID 1528 (Waihi,Wairoa) - ID 1528 in "error". Are some of these sites in private ownership now?  
Double up with Site ID 1528 (Waihi,Wairoa) - ID 1528 in "error". Are some of these sites in private ownership now?  
Double up with Site ID 1528 (Waihi,Wairoa) - ID 1528 in "error". Are some of these sites in private ownership now?  
Double up with Site ID 1528 (Waihi,Wairoa) - ID 1528 in "error". Are some of these sites in private ownership now?

Owner, valuation etc updatedFuel tank originally washed out to sea  
Owner, valuation etc updatedFuel tank originally washed out to sea

Current usage Residential & Joinery workshop, check historical site usage

Double up with ID 1447. ID 1447 placed in "error" category.HAIL A8  
Double up with ID 1447. ID 1447 placed in "error" category.HAIL A8  
Double up with ID 1447. ID 1447 placed in "error" category.HAIL A8  
Double up with ID 1447. ID 1447 placed in "error" category.HAIL A8  
Double up with ID 1447. ID 1447 placed in "error" category.HAIL A8  
Double up with ID 1447. ID 1447 placed in "error" category.HAIL A8  
Double up with ID 1447. ID 1447 placed in "error" category.HAIL A8  
Double up with ID 1447. ID 1447 placed in "error" category.HAIL A8  
Double up with ID 1447. ID 1447 placed in "error" category.HAIL A8  
Double up with ID 1447. ID 1447 placed in "error" category.HAIL A8  
Double up with ID 1447. ID 1447 placed in "error" category.HAIL A8  
Double up with ID 1447. ID 1447 placed in "error" category.HAIL A8  
Double up with ID 1447. ID 1447 placed in "error" category.HAIL A8  
Double up with ID 1447. ID 1447 placed in "error" category.HAIL A8

Insufficient location details

Require legal description & valuation ID

Was this site previously a garage workshop-check with WDC  
Was this site previously a garage workshop-check with WDC  
Was this site previously a garage workshop-check with WDC

CR Site Visit 6/10/2011. Check if 173 King St is correct address?

CR Site Visit 6/10/2011  
CR Site Visit 6/10/2011  
CR Site Visit 6/10/2011  
CR Site Visit 6/10/2011  
CR Site Visit 6/10/2011

Part of this site appears to be the Gasoline Alley Service Station. Is there a UST removal report for this site?  
Part of this site appears to be the Gasoline Alley Service Station. Is there a UST removal report for this site?  
Part of this site appears to be the Gasoline Alley Service Station. Is there a UST removal report for this site?

CR Site Visit dated 6/10/2011  
CR Site Visit dated 6/10/2011  
CR Site Visit dated 6/10/2011  
CR Site Visit dated 6/10/2011  
CR Site Visit dated 6/10/2011  
CR Site Visit dated 6/10/2011  
CR Site Visit dated 6/10/2011  
CR Site Visit dated 6/10/2011  
CR Site Visit dated 6/10/2011  
CR Site Visit dated 6/10/2011  
CR Site Visit dated 6/10/2011  
CR Site Visit dated 6/10/2011  
CR Site Visit dated 6/10/2011  
CR Site Visit dated 6/10/2011  
CR Site Visit dated 6/10/2011

Z Energy. Locate UST removal report & remediation of contaminated area

Legal, valuation and parcel updatedACTION: Resend letter

Google-Cookson Airspread, closed operations 1995. Possible UST still on site ex Cookson Air.PDP email (Z Energy) advising removal of 1 x UST 31800 L 24.9.12. ERM letter 10.03.15 soil validation report Z Energy.  
Google-Cookson Airspread, closed operations 1995. Possible UST still on site ex Cookson Air.PDP email (Z Energy) advising removal of 1 x UST 31800 L 24.9.12. ERM letter 10.03.15 soil validation report Z Energy.  
Google-Cookson Airspread, closed operations 1995. Possible UST still on site ex Cookson Air.PDP email (Z Energy) advising removal of 1 x UST 31800 L 24.9.12. ERM letter 10.03.15 soil validation report Z Energy.  
Google-Cookson Airspread, closed operations 1995. Possible UST still on site ex Cookson Air.PDP email (Z Energy) advising removal of 1 x UST 31800 L 24.9.12. ERM letter 10.03.15 soil validation report Z Energy.

Notes

Google-Cookson Airspread, closed operations 1995. Possible UST still on site ex Cookson Air.PDP email (Z Energy) advising removal of 1 x UST 31800 L 24.9.12. ERM letter 10.03.15 soil validation report Z Energy.  
Google-Cookson Airspread, closed operations 1995. Possible UST still on site ex Cookson Air.PDP email (Z Energy) advising removal of 1 x UST 31800 L 24.9.12. ERM letter 10.03.15 soil validation report Z Energy.  
Google-Cookson Airspread, closed operations 1995. Possible UST still on site ex Cookson Air.PDP email (Z Energy) advising removal of 1 x UST 31800 L 24.9.12. ERM letter 10.03.15 soil validation report Z Energy.  
Google-Cookson Airspread, closed operations 1995. Possible UST still on site ex Cookson Air.PDP email (Z Energy) advising removal of 1 x UST 31800 L 24.9.12. ERM letter 10.03.15 soil validation report Z Energy.  
Google-Cookson Airspread, closed operations 1995. Possible UST still on site ex Cookson Air.PDP email (Z Energy) advising removal of 1 x UST 31800 L 24.9.12. ERM letter 10.03.15 soil validation report Z Energy.  
Google-Cookson Airspread, closed operations 1995. Possible UST still on site ex Cookson Air.PDP email (Z Energy) advising removal of 1 x UST 31800 L 24.9.12. ERM letter 10.03.15 soil validation report Z Energy.  
Google-Cookson Airspread, closed operations 1995. Possible UST still on site ex Cookson Air.PDP email (Z Energy) advising removal of 1 x UST 31800 L 24.9.12. ERM letter 10.03.15 soil validation report Z Energy.  
Google-Cookson Airspread, closed operations 1995. Possible UST still on site ex Cookson Air.PDP email (Z Energy) advising removal of 1 x UST 31800 L 24.9.12. ERM letter 10.03.15 soil validation report Z Energy.

URS Letter 12/8/08Project no: 42766550UST removalBP Wairoa Truckstop was previous occupier of this site, dates in History are incorrect.

Diesel Contamination at the site of the Church of Latter Day Saints.MWH site report datedProject No 801/003592

Project Number: 48213.045Report 16/1/2002UPSS Decommissioning

PDP site investigation report dated 10 May 2010. HAIL A18

Boric Solution and PCP used on old sitePDP site investigation report dated 1 October 09

Boric Solution and PCP used on old sitePDP site investigation report dated 1 October 09

Tanker tipped and spilt onto a Paddock (owned by T. Hickling) on the 28th March 2007 just south of Nuhaka13900L Petrol450L of petrol and diesel mixURS report: 42759070

Consent No: DP950089L2.ShaClosed in 1965180m North of the Beacons

Consent No: DP950090L2haClosed in 1965On a side road off the main road about 500m North of the Beacons

Above ground combined 1000L deisel & 500L petrol tankHerbicide storage

Above ground combined 1000L deisel & 500L petrol tankHerbicide storage

URS UST report dated 19 August 2010.Map Ref: NZTM 2010750E,5668420NLegal:Sec 105,Omana Settlement

Joint HBRC/DOC premises - HBRC land - has DOC store with agrichemicals & fuel storage

Lake Waikaremoana Motorcamp (also known as Home Bay campground). Has refuelling facilities-DOC or Iwi owned?

DOC Field Centre Lake Waikaremoana - fuel storage



## TANK REMOVAL CHECKLIST

1. Name of business: *Gair Contracting*
2. Licence number: *1115*
3. Location: *4 Putorino Station Road, Waikare*
4. Property Number: *50178*
5. Date of removal: *18 July 2002*
6. Tank description: *Tank 1: 4545l steel cylindrical  
Tank 2: 4545l steel cylindrical*
7. What was the contents of the tank(s)? *T1 3(a) - Petrol T2 3C - diesel*
8. What is the condition of the tank(s)? *T1 good condition, no sign of deterioration  
T2 Hole in bottom and severe stone pitting bottom*
9. Has all product been removed? *Yes*
10. Has there been any product leakage prior to removal? *No*
11. Does the soil contain any hydro-carbon contamination? *No, slight 'smell' around filling points but no real concern. Small quantity from hole on removal T2 but 2 cub m soil removed. Nil trace after this removal.*
12. If yes, has the Environmental Resources Officer been notified? *N/A*
13. If the contamination is of a moderate to high level, contact Suzanne Porter at Regional Council. 835-3164. *N/A*
14. Soil sample taken by: ( Consultant and Inspector ) *Colin Reid*
15. Are all openings in the tank(s) and pipework securely closed and gas tight? DGR 55 *Yes*
16. Is the owner removing the tank? (Class 3 only) *Yes*
17. If no, do the removers have written authority from the licencing authority? DGR 56 *N/A*
18. What is the destination of the tank? *Palmerston North - for destruction*
19. If the tank is being disposed of to a new owner. Is it accompanied with a tank disposal notice and acceptance? *N/A*
20. Has GEMS been updated? *YES / NO*
21. Date updated. *30 July 2002*
22. Have the dispensing pumps been removed? *Yes*

Inspector: **Rick Sloman**

Signature:



**Additional Comments:**

No additional comments

**Photo List:**

Tank 1



Tank 2



Tank 1 pit



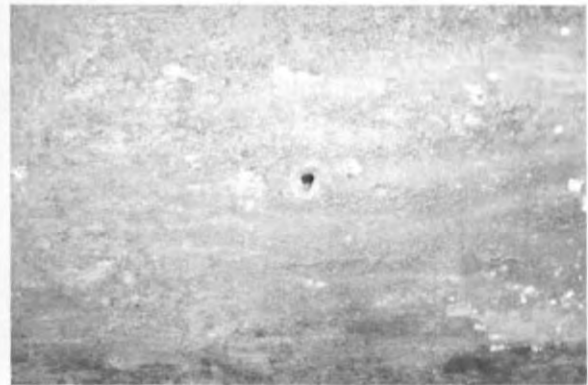
Tank 2 pit (with slight diesel residue on removal)



Tank 2 in pit



Tank 2 hole and pitting on base of tank



Distribution:

- Paul Hawke
- Mark Boere
- Rick Sloman
- Malcolm Hart
- Property File *4 Putorino Station Road, Waikare  
Property ID 50178*

*Contaminated Site Database.*





[ghd.com](http://ghd.com)

→ **The Power of Commitment**