Site Specific Environmental Management Plan

– Peka Peka to Ōtaki Project

Project-wide Utilities

FCCL-EV-MPN-0011

REV C – January 2018

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | New Zealand Government

Contents

AUTHORISATION AND REVISION RECORD

Revision	Status	Author	Date	Description
A	Draft	Alice Naylor Ed Breese	31/07/17	Draft for PA review
A.1	Draft	Alice Naylor	21/08/17	Draft for PA review
B	Draft	Alice Naylor	23/08/17	Draft for Council review
C	Final	Alice Naylor	23/01/18	For Council Approval

Certification Record

Revision	Action	Name	Position	Date	Signature
	Approved by:	Richard Percy	Project Leader	24/1/18	
	On behalf of GWRC:				
	Approved by:				
	On behalf of KCDC:				

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	Approved by:				
	On behalf of GWRC:				
	Approved by:	Paul Busing	Acting Consents and Compliance Manager	29/1/18	
	On behalf of KCDC:				

1 INTRODUCTION

This Site Specific Environmental Management Plan (SSEMP) for the Peka Peka to Ōtaki Project (referred to as PP2O or the Project) provides the necessary information to demonstrate how the project team plan to avoid or mitigate potential adverse environmental effects as a result of works covered by this document. This SSEMP reflects the requirements of the Construction Environmental Management Plan (CEMP) and its appendices, as well as the Ecological Management Plan (EMP).

The preparation of this SSEMP has involved consultation with various stakeholders which is documented in Appendix B. Expert input (Appendix A) from specialist disciplines has also been included such as ecology, contaminated land, noise and vibration.

This document is intended to be utilised by the construction team to clearly identify any site specific environmental requirements that must be adhered to prior to, and during works. A suite of over-arching environmental management plans have been drawn from to inform the contents of this SSEMP. All works will be carried out in general accordance with these management plans. Following approval of this document, a number of internal procedures are still required to take place prior to commencement of works on site, with final sign-off of any ground breaking activities required by the Environmental Manager.

Construction activities covered by this SSEMP are as follows:

- Installation of new underground services and the relocation of existing underground services including water, gas, power, sewer, Chorus and ITS across the full project alignment.
- Use of pipe ramming, horizontal directional drilling and open trench options depending on the preferred methodology.
- Relocation of overhead power lines.

Works are not to commence on site until certification of this SSEMP has been confirmed in writing by Kapiti Coast District Council (KCDC) and Greater Wellington Regional Council (GWRC).

1.1 Programme

The expected programme for the activities covered by this SSEMP is as follows:

Activity	Timing	Duration
Project-wide utilities – Installation of new services and relocation of existing services.	January 2018 – June 2018	Ongoing for approximately six months

A project programme can be found in Appendix E.

2 PLAN IMPLEMENTATION

2.1 Responsibilities

The following provides a summary of responsibilities relevant to the planning and implementation of this SSEMP.

Role	Person	Contact Details	Responsibilities
Construction Manager	Steve Findlay	stevef@fcc.co.nz 029 770 3128	• Ensures there is a system in place so that construction works do not proceed until required environmental sign-offs are completed. • Overviews systems and processes to ensure consent requirements are captured for construction works. • Ensures adequate resources are provided to ensure environmental issues are appropriately managed. • Reviews environmental incidents and complaints with the Environmental Manager and acts to address issues where needed. • Reviews and monitors construction work methods to ensure compliance with RMA conditions
Environmental Manager	Alice Naylor	A.Naylor@Higgins.co.nz 027 297 6055	• Develops, implements and reviews environmental management systems and environmental management plans. • Coordinates all environmental auditing functions and ensures relevant records are maintained. • Responds to and investigates all environmental complaints, issues or incidents. • Coordinates the SSEMP implementation process and pre-works requirements to ensure that environmental requirements are adhered to. • Provides training and briefings to site staff to ensure that there is sufficient knowledge of environmental requirements in the field. • Acts as the primary point of communication between regulatory bodies and the project.

			• Coordinates a team of experts in specialist disciplines such as contaminated land, ecology, groundwater, noise and vibration. • Communicates environmentally sensitive areas to the construction team.
Environmental Coordinator	Sevasti Hartley	sevastih@fcc.co.nz 0278078400	• Supports the Environmental Manager and provides leadership to ensure all staff comply with environmental management systems. • Provides support in the formation of SSEMPs. • Undertakes as-builting of environmental controls. • Undertakes regular site inspections and audits. • Coordinates all site monitoring including but not limited to groundwater, water quality, ecological, dust, noise, and vibration monitoring. • Manages maintenance and monitoring of Chemical Treatment Systems (if used). • Ensures spill kits are available and stocked and provides training on equipment use. • Conducts regular site inspections of erosion and sediment control devices and co-ordinates maintenance where necessary. • Monitors site controls during rain storms. • Trains staff in site specific environmental procedures.
Stakeholder & Communications Manager	Ed Breese	ebreese@tonkintaylor.co.nz 021 333 726	• Organises, co-ordinates and facilitates engagement with affected property holders and community prior to and during construction. • Works in partnership with Environmental Manager on engagement and construction activities in accordance with RMA conditions

Site Superintendent / Supervisors / Foreman	Simon Fifield	SimonF@fcc.co.nz 027 209 2295	• Provides leadership to the site construction team. • Ensures environmental controls including erosion and sediment control works are protected and maintained on a day to day basis. • Ensures that the SSEMPs and Archaeological Authority requirements are implemented appropriately by the construction team. • Maintains contactability 24/7 during construction and has authority to initiate immediate response actions. • Reports all environmental incidents, compliance issues and complaints to the Environmental Manager. • Reviews the need to use a water cart or sprinklers to control dust.
Project Engineers	Richard Rakovics (Civil) Craig Service (Structural)	RichardR@fcc.co.nz CraigS@fcc.co.nz	• Responsible for ensuring environmental controls and erosion and sediment control works are installed and modified as appropriate for each stage of construction. • Develop, implements and monitors construction methods and environmental protection measures to ensure compliance with the SSEMPs. • Demonstrate understanding of major environmental and community issues and environmentally sensitive areas. • Coordinate environmental interfaces with subcontractors and suppliers. • Reports all environmental incidents, compliance issues and complaints to the Environmental Manager.
Specialist support (contaminated land, ecology, noise and vibration)	Liz Deakin (Terrestrial Ecologist) Dean Miller (Principal Ecologist)	LDeakin@tonkintaylor.co.nz 027 568 1995 DCMiller@tonkintaylor.co.nz 021542396	• Provide expert advice to the Environmental Manager and Environmental Coordinator regarding specific site requirements. • Submits reports to the Environmental Manager to fulfil requirements of consents relevant to their field. • Briefs the construction team of site specific requirements for environmentally 'sensitive areas'.

	Kathryn Longstaff (Avian Ecologist) Genevieve Smith – Contaminated land Brendon Shanks – Noise and Vibration	KLongstaff@tonkintaylor.co.nz Genevieve.Smith@beca.co.nz Brendon.Shanks@marshallday.co.nz	
Iwi	Te Waari Carkeek (Ngā Hapū o Ōtaki)	TeWaariC@fcc.co.nz	• Provide input into project documentation such as management plans, design processes, planning documents. • Reviews permits to work and coordinates the level of involvement of kaitiaki in site activities • Coordinates all aspects of iwi monitoring. • Key point of contact for Ngā Hapū o Ōtaki.
Iwi	Muaupoko Tribal Authority	TBC	• Point of contact for any archaeological discoveries in accordance with the agreed accidental discovery protocols and MTA agreement.

3 ENVIRONMENTAL CONSIDERATIONS

The following section identifies key environmental aspects that need to be considered during planning and commencement of works on site. In some instances, these have been further defined in section 4 of the document.

3.1 Iwi

Ngā Hapū o Ōtaki and NZTA are currently in the final stages of agreeing a Mitigation Plan. The Mitigation Plan requires the establishment of a Kaiarahi which will be the key point of contact and coordination for Ngā Hapū o Ōtaki. The Kaiarahi will be involved in the design process, construction supervision and environmental monitoring. The Kaiarahi will be supported by the Kaitiaki who provide

support in supervision and monitoring activities and provision of specialist advice. Ngā Hapū o Ōtaki will be informed of all works on site and invited to be present for all works, particularly in regards to initial topsoil stripping or ecological surveys required prior to physical works commencement.

3.2 Archaeology

All works under this SSEMP will be carried out in accordance with the approved archaeological authority and the Archaeological Site Management Plan. The Archaeological Site Management Plan outlines high and medium risk archaeological areas across the project footprint (refer to Appendix C for locations).

In accordance with the Archaeological Site Management Plan, high-risk archaeological areas require further investigations prior to works commencing in these areas. Areas marked as medium risk will require site visits by the project archaeologist to monitor initial topsoil stripping when construction commences. All other areas are deemed to be low-risk areas and will be covered by an 'On-call Protocol'. On-call protocols are outlined in the Archaeological Site Management Plan and must be adhered to in instances where subsurface archaeological remains, koiwi tangata, or taonga are exposed during construction.

3.3 Ecology

3.3.1 Terrestrial

Ecological requirements are set out in the Ecological Management Plan (EMP) with the relevant requirements outlined below for clarity on site when progressing with works on utilities.

To ensure that there is a clear delineation of 'high risk' areas on site in regards to ecologically significant species as identified in the EMP, Appendix C clearly outlines areas where significant species need to be considered prior to works. Significant species that must be considered are as follows:

- Herpetofauna, specifically in Hautere Bush, Cottle's Bush, and bush to south of Te Hapua Road.
- *Powelliphanta traversii Ōtaki* snails (Ōtaki snails) which are classified as 'Nationally Critical' and potentially present within Hautere Bush and Cottle's Bush.
- Peripatus, (Velvet Worm) potentially present in rotting timber in Steven's bush (to the south of Te Hapua Road).
- New Zealand Pipits potentially present south of Mary Crest and in dunes north of Ōtaki.

Site requirements relating to these species have been further defined in Section 6 below.

3.3.2 Aquatic

Requirements relating to aquatic ecology are not yet relevant to the works scope under this SSEMP. Works will be restricted to land only.

3.4 Noise and Vibration

The Construction Noise and Vibration Management Plan (CNVMP) identifies the noise and vibration performance standards that must, where practicable, be complied with. It also sets out best practicable options for noise and vibration management for the Project, including mitigation measures, monitoring requirements, and communication and complaint procedures. All works under this SSEMP will be carried out in general accordance with the CNVMP. Site specific information relevant to noise and vibration associated with the activities outlined in this SSEMP are further defined in Section 10.

3.5 Air Quality

It is not anticipated that works involved with utility relocations will generate air quality issues in regards to dust as bulk ground disturbance will not take place. The Construction Air Quality Management Plan (CAQMP) outlines methods to be used to prevent dust and odour nuisance during construction from the site. All works under this SSEMP will be carried out in general accordance with the CAQMP. Further information in regards to site specific mitigation measures have been included in Section 9 below.

3.6 Contaminated Land

The Bulk Earthworks Contaminated Land Management Plan (BECLMP) provides a framework and general procedures for the management of contaminated soil and other contaminated materials/structures potentially present in ground that may be disturbed or require removal to complete the Project. A number of potentially contaminated sites located within the Project corridor were identified during the desk based Phase 1 Contaminated Land Assessment. Further testing is required at these sites to determine the extent of contamination and therefore utility works will not take place within these areas unless approval is granted by the Project contaminated land specialist.

In the event that any potential risks to human health or the environment is detected, site specific Contaminated Soil Management Plans (CSMPs) will be developed on a site specific basis to be included in future SSEMPs. Until further analysis of the potentially contaminated sites is complete, general contaminated land management procedures will apply to these sites in accordance with the BECLMP.

4 SITE MANAGEMENT

4.1 Construction Activities

Utility works under this SSEMP will involve a number of different methodologies to enable effective installation / relocation of services along the Project alignment.

4.1.1 Open Trench Method

An open cut trenching methodology will be used in cases where underground services are fully accessible. During excavation of the trench, material will be side cast to be used to backfill once the services have been installed / removed. Once backfilled, disturbed areas will be tidied and stabilised with grass, mulch, or aggregate depending on the desired finished surface.

4.1.2 Horizontal Directional Drilling

Horizontal directional drilling (HDD) will be utilised in areas where an open trench methodology cannot be implemented such as beneath local roads and the main trunk railway. HDD will not be used to drill below any watercourses. Works will involve the use of a directional drilling machine and associated attachments, to accurately drill along the chosen bore path and back-ream the required pipe.

Prior to drilling, a drill pad constructed of aggregate will be located at the entry and exit point of each section. A pilot hole will be drilled on a controlled path to the receiving pad with a back cutting auger fitted and pipe string connected. The auger will widen the hole as the pipe is pulled back towards the drill rig. The drilling operation produces a bentonite slurry which will be contained, collected using a vacuum unit, and disposed of off-site to an appropriate facility. Localised containment bunds or a suitable alternative control will be established along the edge of the drill pad as required to prevent bentonite slurry from discharge off-site.

Due to the mixing process and resulting consistency of drilling fluid, it is unlikely that 'frac' outs will occur. The contractor undertaking the works will monitor operations constantly during HDD activities including visual inspections along the drill path and entry/exit points for evidence of release.

In the event of loss of circulation of drilling fluid during HDD operations, the contractor will:

- Cease works;
- Contain any drilling fluid using earth bunds or available silt socks;
- Utilise the vacuum unit to remove material immediately;
- Adapt methodology to ensure that it is not repeated; and
- Report the issue to the environmental team.

4.1.3 Pipe Ramming

Pipe ramming is another trenchless method that will be utilised in circumstances where HDD may not be sufficient for installation of large steel sleeves beneath the main trunk railway around Rahui Road. Powered by compressed air, the ramming tool attaches to the rear of the casing, pushing the casing into the ground with repeated percussive blows. An auger will then be drilled and pulled back to remove excess material. Any excess material that is brought to the surface will be removed from site to prevent unnecessary stockpiling on site.

4.1.4 Overhead Power Lines

A number of overhead power lines will be relocated outside of the project footprint. Consultation with the relevant utility operator will be carried out to arrange disconnection and public consultation will take place to ensure that nearby residents and / or businesses are informed. Where removal of vegetation is required to enable works, consideration will be given to site preparation requirements (refer to section 4.3) to ensure that vegetation identified as 'to be retained' is not impacted, and ecological requirements are adhered to.

4.2 Access

Due to the linear nature of the project, a number of access/egress points will be established along the alignment which will be constructed prior to works commencing under this SSEMP. These access locations are mainly from the local road network and State Highway 1.

The access/egress points will be stabilised using clean aggregate or sealed to avoid any construction related material entering the local road network and SH1.

4.3 Site Preparation

As part of the site preparation and establishment works the following mitigation measures will be implemented to avoid or minimise adverse environmental effects.

- Sensitive areas in regards to ecology, archaeology, contaminated land, and residential receivers in close proximity to works will be clearly marked on drawings (attached) to ensure that the contractor carrying out the works is aware of the high risk areas.
- A detailed methodology and programme is to be developed including any environmental constraints prior to commencing works, following further input from specialist support.
- Areas identified as 'retained vegetation' as per the approved vegetation retention plans outlined in SSEMP PW1 'Vegetation Clearance and Enabling Work' will be clearly delineated using physical markers on site. Note that these areas are also outlined on Appendix C plans also.
- Environmental requirements for any given area will be noted on each Project "Permit to Work'. These permits are required for any activity on site and must be in place and signed off by the environmental team prior to work commencement.

4.4 Construction Plant

Plant items to be used to undertake each of the activities is generally as follows:

Open trench

- 6 – 20 tonne excavator
- Light vehicles
- Hiab truck

- Tip truck
- Roller

Horizontal Directional Drilling

- Directional drilling machine
- Vacuum truck
- Light vehicles
- Hiab truck
- Mini mixer – bentonite

Pipe ramming

- Air compressor
- Pneumatic pipe rammer
- Light vehicles
- Hiab truck

Overhead power line relocation

- Crane
- Loaders
- excavator

All plant will be required to be inspected prior to start of works and during construction activities at regular intervals. Unwanted vegetation, seeds or contaminants will be cleared prior to plant entering the site to avoid the introduction or spread of weeds or pest species.

Plant inspections will be recorded on daily plant inspection forms to demonstrate that all plant used on the Project is in good working order. Any faulty equipment will be stood down until the necessary repairs are carried out and the given plant is fit for purpose.

Spill control kits will be available on site at the site compound locations and areas where heavy machinery is working (as a minimum) to assist with the clean-up in the event of any spillages. Plant storage during non-working hours will take into consideration high risk areas such as flood prone areas to ensure that machinery is located outside of these locations. Refuelling activities will take place using a mini-tanker away from watercourses to prevent additional risk of spillage to water.

4.5 Waste

Resource efficiency and waste management is discussed in Section 3.12 of the CEMP. Waste units for works under this SSEMP will generally be located at the two site establishment locations and will be located as such that they do not cause issues in regards to odour for adjacent properties. The project is working towards a Greenroads Bronze certification and therefore resource efficiency and effective waste management practices will be integrated into planning for all works, whether at the site establishment locations, in the offices, or across the wider site.

4.5.1 Sewage

Generally, location of workers' conveniences will be coordinated by the site supervisors and will be located away from residential properties and watercourses wherever practicable to prevent potential odour or discharge issues. Given that the site will be constantly moving during these works with limited time required at any given location, additional portaloos across the site will not be required for utility works.

4.6 Materials Storage

Storage of Project materials, including fuels and lubricants will also require careful management. Section 3.11 of the CEMP outlines procedures for storing fuels and lubricants on site and this will be followed at all times. Only materials necessary for the Project will be stored on site in order to keep materials to a minimum.

4.7 Water Supply

Given that ground disturbance on a bulk scale is not allowed for under this SSEMP, it is not anticipated that water will be required on a routine basis for dust suppression.

5 EARTHWORKS

Major earth-working activities are not required at this stage and have not been included in this SSEMP. Earthworks will be restricted to minor excavations required during open trenching and all material removed will be utilised during backfill of the trench. A small amount of excavated material may be utilised for drilling pads and site access / exit points where necessary.

5.1 Erosion and Sediment Control

It is not anticipated that sediment controls will be required for works carried out under this SSEMP. Given the minor nature of the works, a cut and cover methodology will be applied whereby any exposed ground will be stabilised using an appropriate surface cover such as aggregate or temporary / permanent mulch. Side-cast material during open-trenching will be positioned such that it falls towards the trench to eliminate potential for discharge off-site.

Disturbed areas will be required to be stabilised on the same working day as the disturbance which will be monitored regularly by the environmental team during routine site inspections.

5.2 Re-Vegetation

Application of grass seed and permanent planting will take place progressively once works have progressed to bulk earthworks and permanent works. Re-vegetation is not required at this early stage.

5.3 Quarrying

No aggregate sourcing will occur as part of this SSEMP.

6 ECOLOGICAL REQUIREMENTS

Appendix C outlines areas that require ecological input prior to and / or during construction. The Majority of pre-works ecological requirements will be satisfied during earlier vegetation clearance works under a separate SSEMP. For completeness, the following sections summarise site specific requirements in regards to ecology. It is anticipated that following further site inspections, due to be carried out by the project ecologists, the requirements outlined in this section may evolve.

6.1 General Requirements

- A suitably experienced ecologist will undertake a site walkover of the full alignment in conjunction with Project landscape architects to identify specific vegetation and trees near the works footprint that may be possible to retain. A follow up assessment will be undertaken by an arborist if required.
- Areas marked as 'vegetation to be retained' on the attached drawings will be marked on site to provide a visible barrier for the contractor carrying out works.
- Ecologically sensitive areas as identified on the attached maps in Appendix C will be marked on site and 'no-go areas' will be communicated clearly to the contractor.

6.2 Herpetofauna

6.2.1 Skinks

Skinks that could be potentially present within native vegetation in the Project footprint include the common skink, spotted skink and brown skink.

At locations identified as potential lizard areas in the attached drawings (Appendix C), works under this SSEMP will not take place until the required salvage procedures have been carried out in accordance with section 6.2.1 of SSEMP PW1 'Enabling Works and Vegetation Clearance', due to take place prior to vegetation clearance. These areas will be physically marked out on site as no-go zones until ecological clearance has been granted by the Project ecologist.

6.2.2 Geckos

Geckos that may be present within the native forest patches include the Ngahere gecko (otherwise known as the Southern North Island Forest gecko) and the Barking gecko (otherwise known as the Wellington green gecko), both of which are classified as 'At Risk'.

At locations identified as potential lizard areas in the attached drawings (Appendix C), works under this SSEMP will not take place until the required salvage procedures have been carried out in

accordance with section 6.2.2 of SSEMP PW1 'Enabling Works and Vegetation Clearance', due to take place prior to vegetation clearance. These areas will be physically marked out on site as no-go zones until ecological clearance has been granted by the Project ecologist.

6.3 Powelliphanta traversii Ōtakia (Ōtaki Snails)

The project will affect areas of suitable habitat that may support *Powelliphanta traversii Ōtaki* snails (Ōtaki snails) which are classified as 'Nationally Critical'. Locations of potential habitat for Ōtaki snails have been identified in Appendix C. Works covered by this SSEMP will not take place in areas identified as potential habitat for Ōtaki Snails until the required procedures have been carried out in accordance with section 6.4 of SSEMP PW1 'Enabling Works and Vegetation Clearance', due to take place prior to vegetation clearance. These areas will be physically marked out on site as no-go zones until ecological clearance has been granted by the Project ecologist.

6.4 Peripatus (Velvet Worm)

One area of potential habitat for Peripatus has been identified in Appendix C. Works covered by this SSEMP will not take place in this area until the required procedures have been carried out in accordance with section 6.4 of SSEMP PW1 'Enabling Works and Vegetation Clearance', due to take place prior to vegetation clearance. These areas will be physically marked out on site as no-go zones until ecological clearance has been granted by the Project ecologist.

6.5 Pipit

Locations for potential pipit habitat have been identified in Appendix C, south of Mary Crest and in the dunes north of Ōtaki. In accordance with the EMP, pipit surveys will take place in spring/summer prior to commencement of vegetation clearance. Due to the large area of potential habitat, it is not practical to mark off the entire area. Instead, the attached drawings with the identified areas will be provided to the contractors undertaking the works and a pre-site meeting will take place with the Project ecology team to ensure that the survey requirements have been satisfied and works can commence.

The survey will be carried out by a qualified ornithologist and will involve grid-searching the Project designation within the areas identified as potential pipit habitat. The number of birds seen and site locations will be recorded on GPS and the project team will follow the advice of the Project ecologist prior to commencing construction activities.

It is anticipated that bird surveys will be completed prior to vegetation clearance works, covered under SSEMP PW1 'Enabling Works and Vegetation Clearance'. Given the nature of the site however, in the event that utility works are required in isolation of vegetation clearance, then pipit surveys will be required prior to works commencement under this SSEMP.

6.6 Native Log Salvage

Areas where native log salvage is required have been identified in Appendix C. Prior to works commencing in these areas, the Project ecologist will carry out an inspection and physically mark vegetation that may need to be salvaged. Areas identified for native log salvage in Appendix C will remain as 'no go areas' until the Project ecologist has provided confirmation of which trees / vegetation require protection.

6.7 Ecological Monitoring

There are no ecological monitoring requirements associated with these works. Pre-works ecological surveys will be carried out as outlined in the previous sections.

6.8 Aquatic Species Relocation

Relocation of fish species will not be required under this SSEMP.

7 STREAMWORKS

Streamworks are not required under this SSEMP and therefore requirements specific to streamwork activities will not be included at this stage.

Pre-construction ecological inspections and associated monitoring (turbidity and macroinvertebrate) will be the only activities carried out within watercourses.

Works are not permitted to take place within watercourses. Watercourse locations have been marked on the attached drawings as Appendix C.

8 STORMWATER

Works under this SSEMP are restricted to land-based activities and there is no need to install temporary or permanent culverts for access at this early stage of the Project. Stormwater requirements in regards to permanent stormwater treatment areas, flood response procedures, culvert sizing and conveyance of stormwater through the site will be addressed in future SSEMPs.

9 AIR QUALITY

High risk locations in regards to air quality have been identified in Appendix C. Particular care will be taken during the planning stage of the works to ensure that nuisance air discharges are prevented from crossing the boundary. Given the scope of works, the risk of air quality issues as a result of the

works is relatively low. All works will be carried out in general accordance with the mitigation measures outlined in the CAQMP with emphasis placed on ensuring that adjacent landowners are not impacted by odour from site facilities, storage of materials, or idling machinery.

9.1 Transport of Materials

Prior to carting materials on / off site, a risk assessment will be made by the site supervisor to assess whether there is potential for the material to create an air discharge concern. In cases where a risk is identified, materials will be covered to prevent air discharge to adjacent properties and / or SH1 and local roads.

10 NOISE AND VIBRATION

High-risk areas in regards to potential noise and vibration effects as a result of works have been identified in Appendix C. All high-risk locations identified within the overarching CNVMP are relevant to this SSEMP given the project-wide scale of works.

In accordance with the CNVMP, works carried out under this SSEMP will generally be restricted to take place between the hours of:

- 0630 and 2000hrs on weekdays; and
- 0730 and 1800hrs on Saturdays.

As far as practicable, works will be scheduled to avoid noisy activities in areas identified as sensitive receivers on the attached drawings between 0630 – 0730hrs in the morning, and between 1800 – 2000hrs in the evening to align with noise level criteria outlined in the CNVMP.

It is not anticipated that works will be required to take place outside of normal working hours for works outlined in this SSEMP. In the event that this changes, the procedures outlined in the CNVMP will be followed.

The majority of work associated with service relocations are of short duration during normal working hours. Noise will be monitored regularly during these activities to ensure that levels are within the noise and vibration criteria limits. Pipe ramming has the potential to cause vibration concerns for residents along Rahui Road. During these works, vibration monitoring will be carried out at nearby locations following consultation with nearby commercial builds and / or dwellings identified within the vibration boundary in Appendix C.

Both noise and vibration monitoring will take place throughout the works to assess the impacts on adjacent properties at various locations. In the event that noise or vibration criteria is exceeded, mitigation options will be reassessed in an effort to comply with the construction limits, and a site specific noise 'schedule' will be submitted to the Kapiti Coast District Council in accordance with the CNVMP.

11 TRAFFIC

With the project interfacing with local roads and SH1 at multiple locations, it is important that potential impacts on local traffic movements are managed accordingly. A Site Specific Traffic Management Plan has been included as Appendix F relevant to the works due to commence under this SSEMP.

APPENDIX A – SSEMP AUTHORS

Name	Role	Company	Input
Liz Deakin	Terrestrial Ecologist	Tonkin and Taylor	Section 6
Ed Breese	Stakeholder, Communications and Compliance Manager	Tonkin and Taylor	All
Alice Naylor	Environmental Manager	Higgins	All

APPENDIX B – CONSULTATION RECORD

Group	Date
Community Liaison Group (CLG)	Consultation commenced on 3rd July 2017 at the first CLG meeting – consultation will continue throughout the approval phase. No comments or questions received from the CLG as of 20th November 2017.
Utility Operators – First Gas, Electra, Chorus, KCDC, and Arcus.	Consultation with the relevant utility owners / operators was initiated through the design phase and will be ongoing throughout construction. Consultation certificates have been agreed and signed by the relevant companies.

APPENDIX C – ENVIRONMENTAL DRAWINGS

ECOLOGY LEGEND:

TERRESTRIAL ECOLOGY REQUIREMENTS:

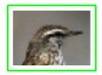
LIZARD SURVEYS, SALVAGING AND MONITORING

NATIVE TREE LOG SALVAGE

PERIPATUS MANAGEMENT

POWELLIPHANTA TRAVERSI OTAKI SURVEY

BIRD SURVEY



PIPIT SURVEY

BANDED DOTTEREL SURVEY

NOISE VIBRATION LEGEND:

VIBRATION - LOW RISK (RESIDENTIAL)

VIBRATION - LOW RISK (COMMERCIAL)

COMMERCIAL STRUCTURES WITHIN VIBRATION BOUNDARY

DWELLINGS WITHIN VIBRATION BOUNDARY

DWELLINGS WITHIN BOTH NOISE AND VIBRATION BOUNDARIES

AIR QUALITY:

AIR QUALITY SENSITIVE RECEIVERS

DRAINAGE LEGEND:

DESIGNATION

RAILWAY DESIGNATION

EXISTING STREAMS

STORMWATER WETLAND/POND

SITE COMPOUNDS:

HARD STAND AREA

SITE ENTRY AND EXIT

ARCHAEOLOGICAL HIGH-RISH AREAS:

SITE ARCHAEOLOGICAL

SITES ARCHAEOLOGICAL-AERIAL-PHOTO

LANDSCAPE:

EXISTING VEGETATION RETAINED

ORIGINAL IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AR	GD	AN	28.07.17

Scale (A1) 1:1000
Scale (A3)

Design	AN	13.07.17	Approved For Construction
Drawn	AR	13.07.17	
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: SSEMP PW2
Title: LEGENDS

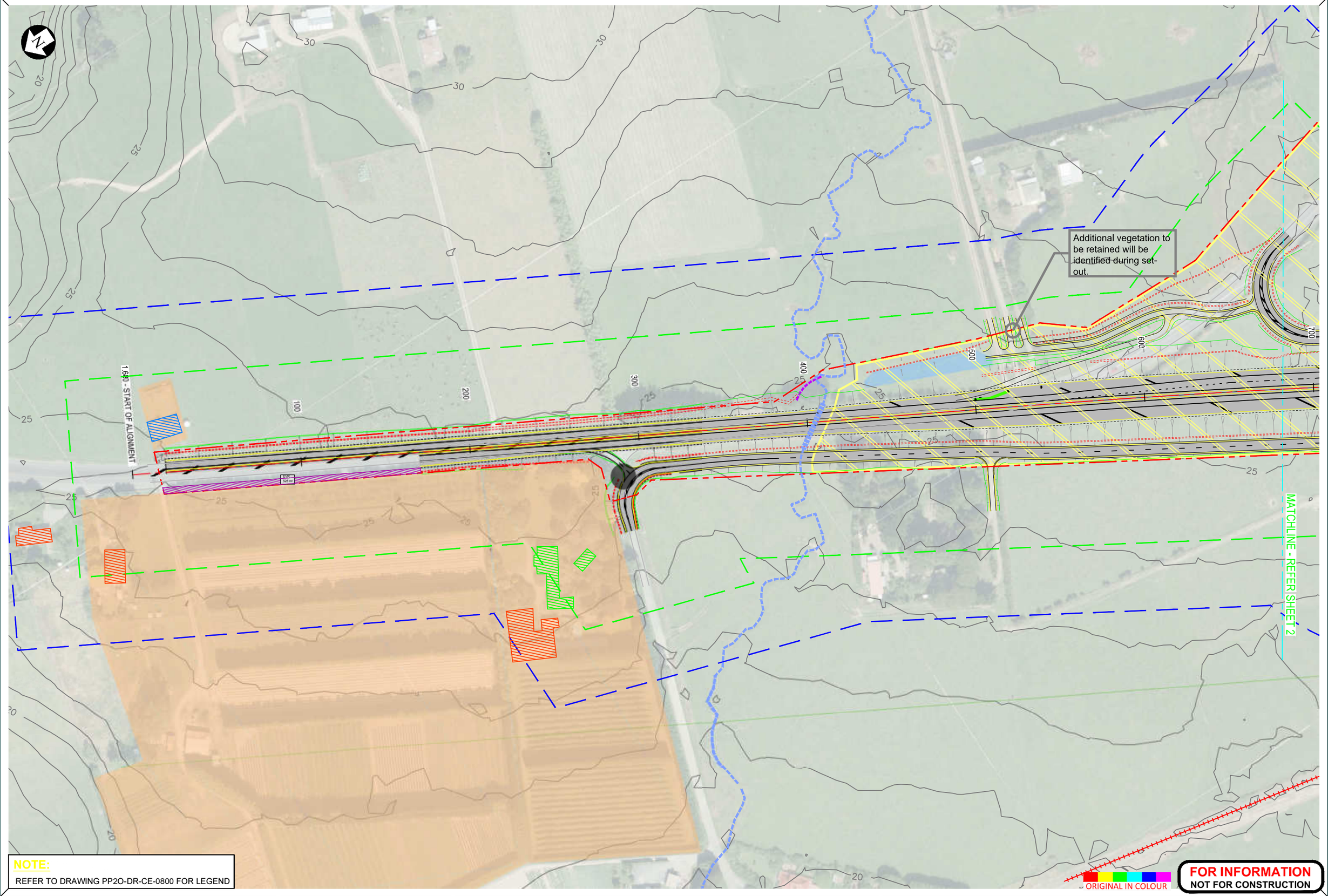
Discipline: CIVIL
Drawing No.: SSEMP PW2-00
Rev.: B

Document No. \\MZPPSP.FCC.INTERNAL\DAV\WWWROOT\2000\27\270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR ALICE\PP2O-DR-CE-0801-0818 2017-09-28+ STANDARD\PP2O-DR-CE-0801-0818_14.09-ZMIANA TABELKI REWIZJI+ DO WYRZUCANIA.DWG

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 02 Nov 2017 10:14 a.m.



NOTE:
REFER TO DRAWING PP2O-DR-CE-0800 FOR LEGEND

FOR INFORMATION
NOT FOR CONSTRUCTION

ORIGINAL IN COLOUR

No.	Revision	By	Chk	Appd	Date
C.2	Rev C.2 Updates	WW			6.11.1
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AK	GD	AN	20.07.17

Scale (A1) 1:1000
Scale (A3)

Design	AN	15.07.17	Approved For Construction
Drawn	AK	15.07.17	
Dsg Verifier	.	.	
Drg Check	.	.	Date . .

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI
Peka Peka to Ōtaki Expressway
IFC_logo_SMALL_Colour_40%.jpg
Beca
HIGGINS
Tonkin+Taylor

Subject: SSEMP PW2
Title: SHEET 1 OF 18

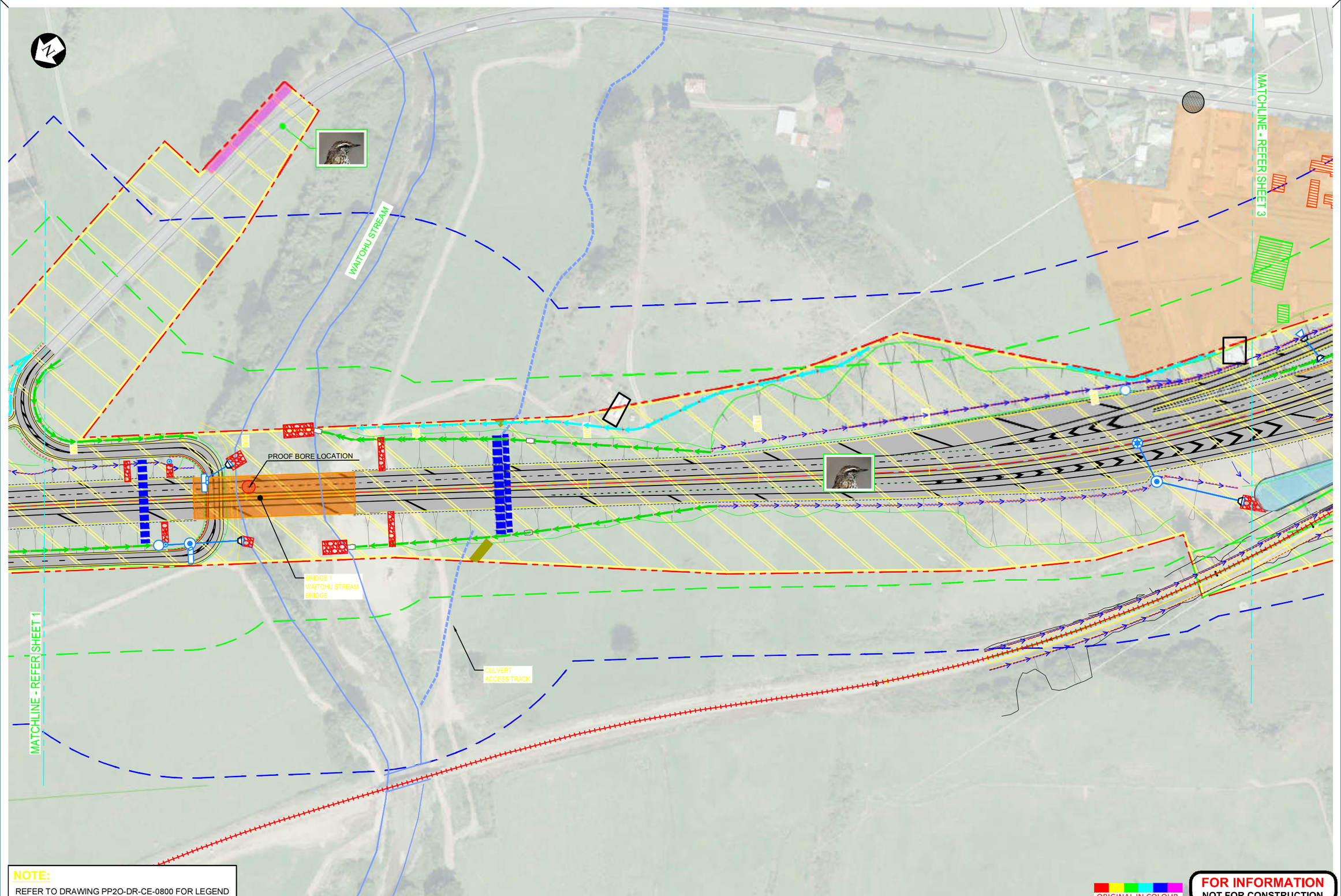
Discipline: CIVIL
Drawing No.: SSEMP-PW2-01
Rev.: B

Document No.: \\W2PSP.FCC.INTERNAL\DAV\WWROOT\2002\7\270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR ALICE\PP2O-DR-CE-0801-0818 2017-08-29- STANDARD PP2O-DR-CE-0801-0818_29.09-SET2.DWG

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 18 Sep 2017 9:36 a.m.



NOTE:
REFER TO DRAWING PP2O-DR-CE-0800 FOR LEGEND

ORIGINAL IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AM	GD	AN	31.07.17

Scale (A1) 1:1000
Scale (A3)

Design	AN	13.07.17	Approved For Construction
Drawn	AE	13.07.17	
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI
Peka Peka to Ōtaki Expressway
:PC_Logo_SMALL_Colour_40Pt.jpg
Beca
HIGGINS
Tonkin+Taylor

Subject: SSEMP PW2
Title: SHEET 2 OF 18

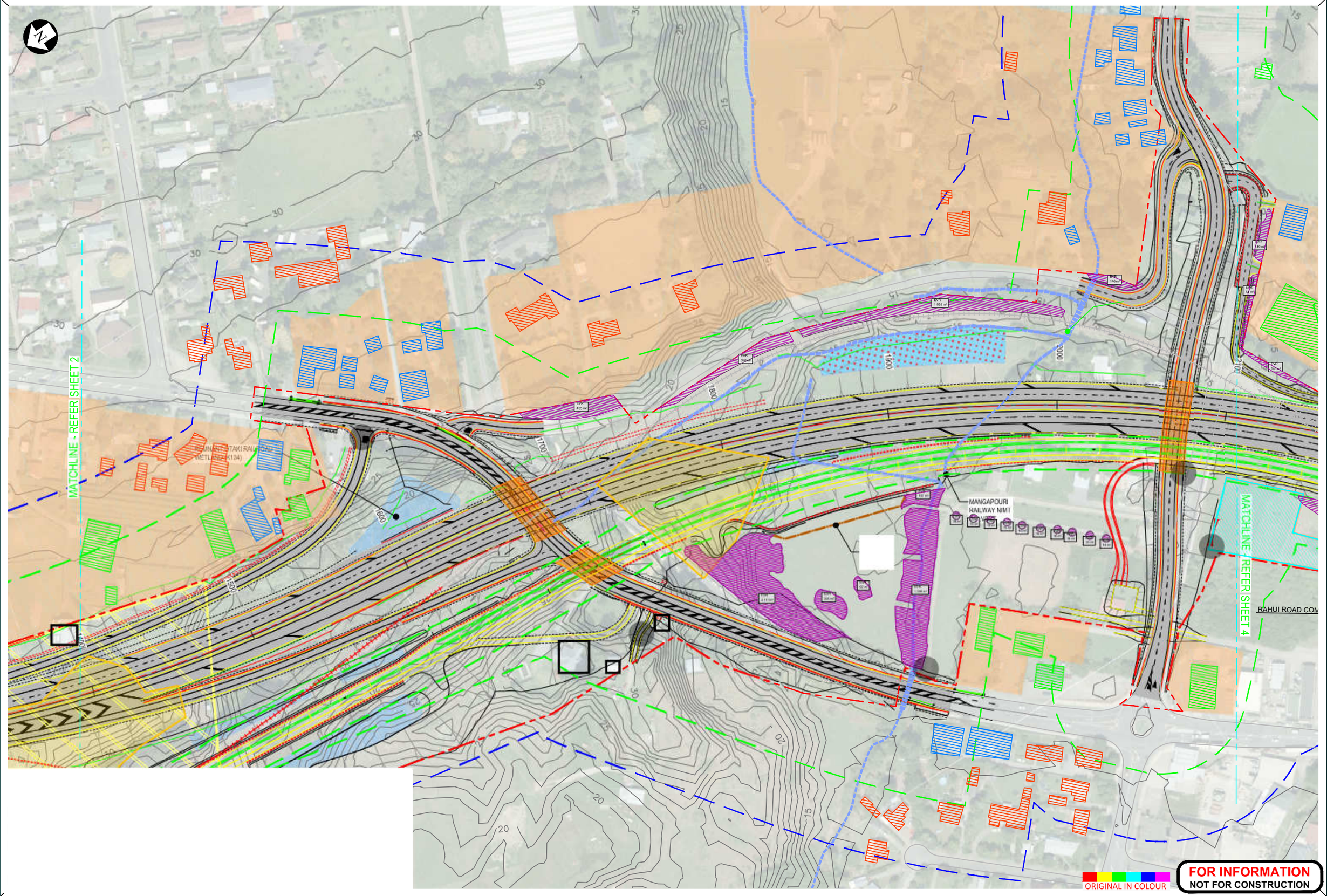
Discipline: CIVIL
Drawing No.: SSEMP-PW2-02
Rev.: B

Document No.: \\MZPPSP-FCC.INTERNAL\DAV\WWWROOT\2002\270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR ALICE\PP2O-DR-CE-0801-0818 2017-08-28- STANDARD\PP2O-DR-CE-0801-0818_14.09-ZMIANA TABELKI REWIZJI- DO WYRZUCANIA.DWG

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 02 Nov 2017 10:15 a.m.



No.	Revision	By	Chk	Appd	Date
C.2	Rev C.2 Updates	WW			6.11.17
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AK	GD	AN	30.07.17

Scale (A1) 1:1000	Design	AN	13.07.17
Scale (A3)	Drawn	AK	13.07.17
	Dsg Verifier	.	.
	Drg Check	.	.

Approved For Construction . Date .

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

Peka Peka to Ōtaki Expressway

Beca | HIGGINS | Tonkin+Taylor

Subject: SSEMP PW2

Title: SHEET 3 OF 18

Discipline: CIVIL

Drawing No.: SSEMP-PW2-03 3 Rev. B

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Document No. \\WZPPSP-FCC.INTERNAL\DAVWW\ROOT\200\27\270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR ALICE\PP2O-DR-CE-0801-0818 2017-08-28 STANDARD\

Save Date: 02 Nov 2017 10:15 a.m.

MATCHLINE - REFER SHEET 3

MATCHLINE - REFER SHEET 5

RAHUI ROAD COMPOUND

EVR 149 m²
EVR 94 m²
EVR 78 m²
EVR 232 m²
EVR 1,318 m²

15
2100
2200
2300
2400
2500
2600
2700
2800

NOTE:
REFER TO DRAWING PP2O-DR-CE-0800 FOR LEGEND

ORIGINAL IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
C.2	Rev C.2 Updates	WW			6.11.17
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AK	GD	AN	20.07.17

Design	AN	13.07.17	Approved For Construction
Drawn	AK	13.07.17	
Dsg Verifier	.	.	
Drg Check	.	.	Date . .
* Refer to Original Hardcopy for Signature			

Scale (A1) 1:1000
Scale (A3)

NZ TRANSPORT AGENCY WAKA KOTAHI
Peka Peka to Ōtaki Expressway
IFC_Logo_SMALL_Colour_40%.jpg
Beca
HIGGINS
Tonkin+Taylor

Subject: SSEMP PW2
Title: SHEET 4 OF 18

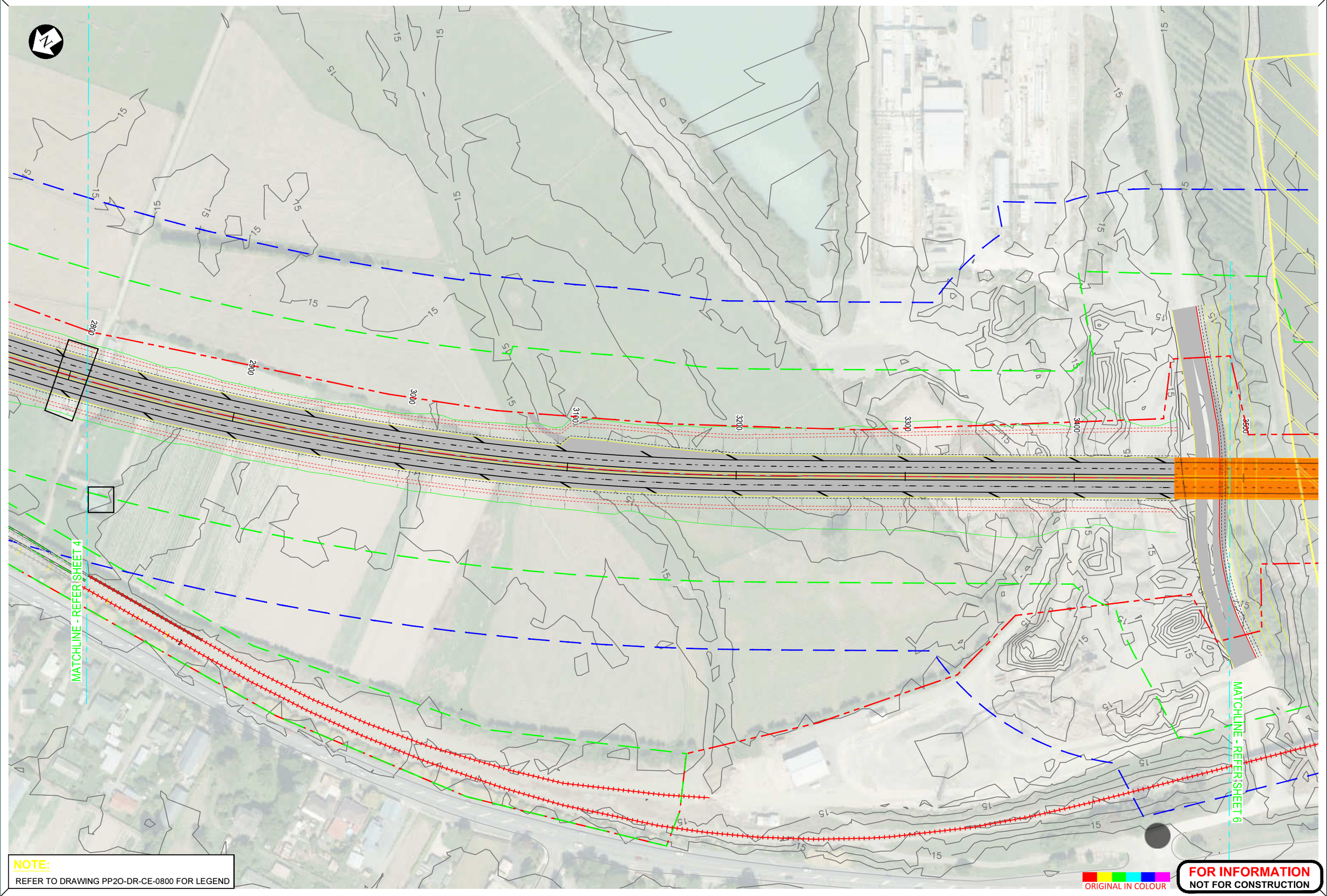
Discipline: CIVIL
Drawing No.: SSEMP-PW2-04
Rev.: B

Document No.: \\W2PPSP.FCC.INTERNAL\DAVWWWROOT2000\2021270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR ALIC\PP2O-DR-CE-0801-0818 2017-06-29 STANDARD\PP2O-DR-CE-0801-0818_29.09-SET2.DWG

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 02 Nov 2017 10:16 a.m.



NOTE:
REFER TO DRAWING PP2O-DR-CE-0800 FOR LEGEND

ORIGINAL IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
C.2	Rev C.2 Updates	WW			6.11.17
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AK	GD	AN	20.07.17

Scale (A1) 1:1000
Scale (A3)

Design	AN	19.07.17	Approved For Construction
Drawn	AK	19.07.17	
Dsg Verifier	-	-	
Drg Check	-	-	Date -

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Beca | HIGGINS | Tonkin+Taylor

Subject: SSEMP PW2
Title: SHEET 5 OF 18

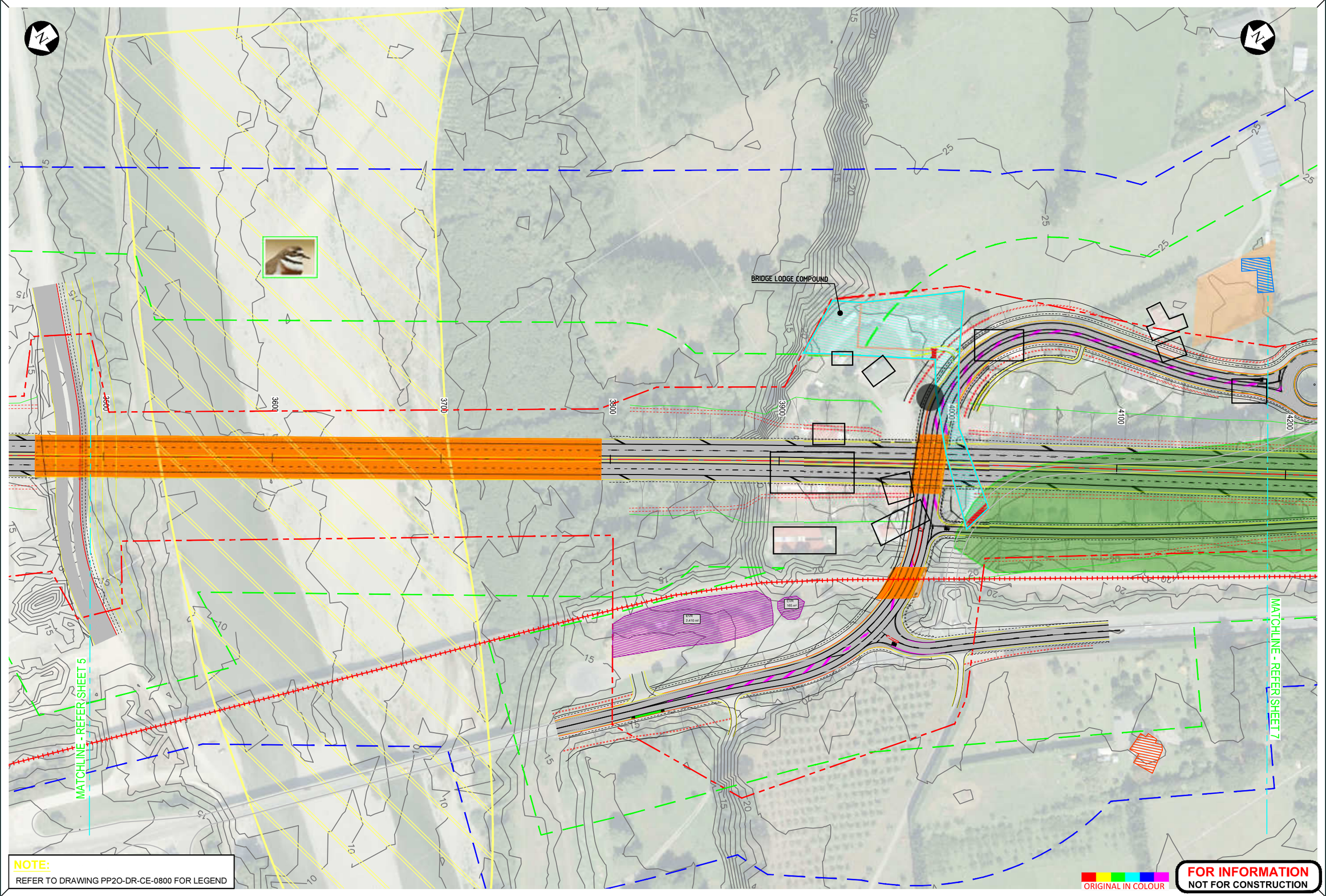
Discipline: CIVIL
Drawing No.: SSEMP-PW2-05
Rev.: B

Document No.: \\WZPPSP.FCC.INTERNAL\DAV\WWWROOT\2005\71270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR ALIC\EIPP2O-DR-CE-0801-0818_29.09-SET2.DWG

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 02 Nov 2017 10:16 a.m.



NOTE:
REFER TO DRAWING PP2O-DR-CE-0800 FOR LEGEND

ORIGINAL IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AK	GD	AN	20.07.17

Design	AK	13.07.17	Approved For Construction
Drawn	AK	13.07.17	
Dsg Verifier			
Drg Check			Date

Scale (A1) 1:1000
Scale (A3)
* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI
Peka Peka to Ōtaki Expressway
/FC_Logo_SMALL_Colour_40Pt.jpg
Beca
HIGGINS
Tonkin+Taylor

Subject: SSEMP PW2
Title: SHEET 6 OF 18

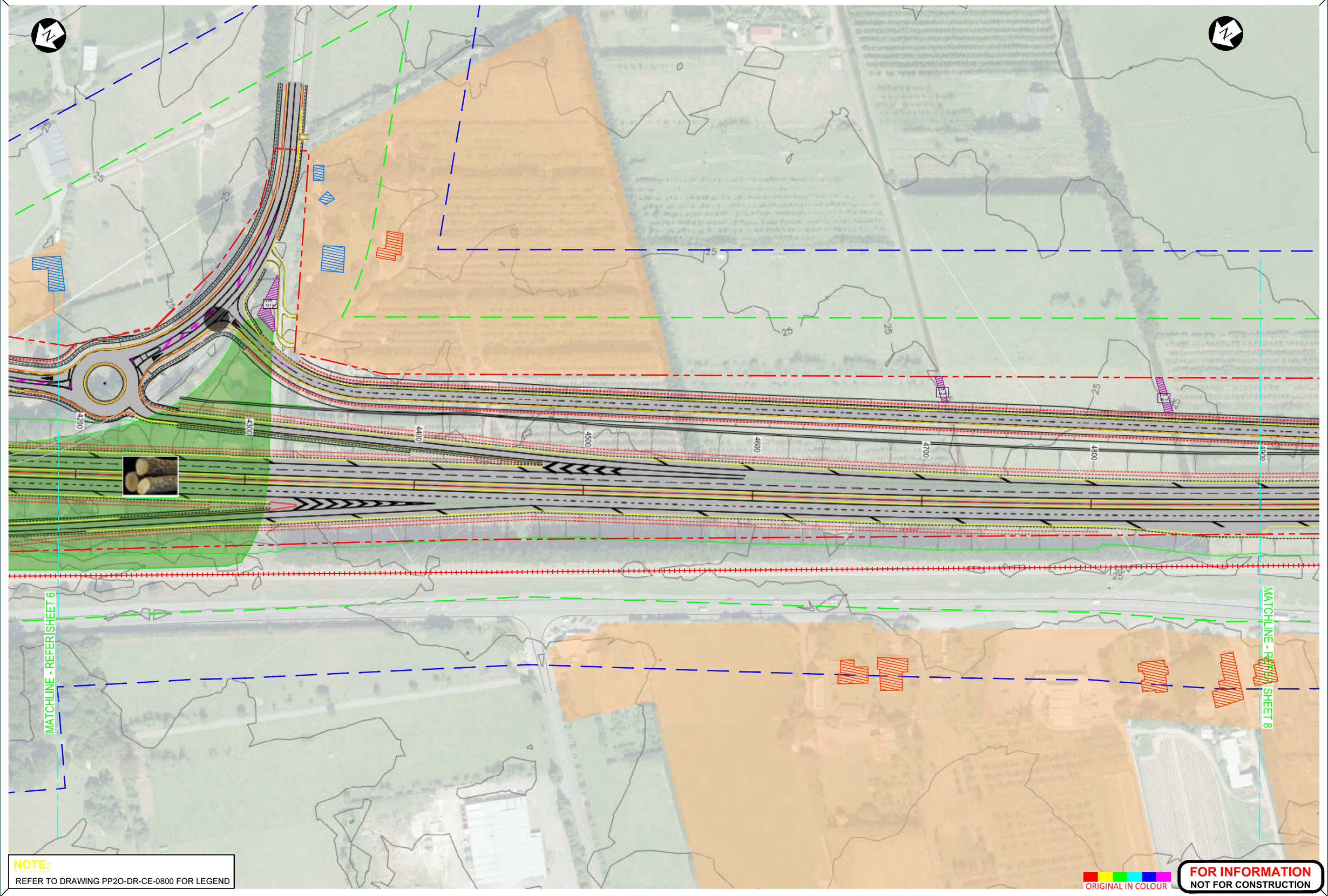
Discipline: CIVIL
Drawing No.: SSEMP-PW2-06
Rev.: B

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Document No.: \\WZPPSP FCC.INTERNAL\DAV\WWWROOT\2000\27\270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR ALICE\PP2O-DR-CE-0801-0818 2017-08-28- STANDARD\PP2O-DR-CE-0801-0818_28.08-SET2.DWG

Save Date: 02 Nov 2017 10:16 a.m.



NOTE:
REFER TO DRAWING PP2O-DR-CE-0800 FOR LEGEND

ORIGINAL IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AK	GD	AN	20.07.17

Scale (A1) 1:1000
Scale (A3)

Design	AN	13.07.17	Approved For Construction
Drawn	AK	13.07.17	
Dsg Verifier	-	-	
Drg Check	-	-	Date -

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

Peka Peka to Ōtaki Expressway

IPC_Logo_SMALL_Colour_40%.jpg

Beca

HIGGINS

Tonkin+Taylor

Subject: SSEMP PW2

Title: SHEET 07 OF 18

Discipline: CIVIL

Drawing No.: SSEMP-PW2-07

Rev.: B

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Document No. \\APPSP-FCIC.INTERNAL\DAVWWWROOT\2000\27\270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR ALICE\PP2O-DR-CE-0801-0818 2017-08-28- STANDARD\PP2O-DR-CE-0801-0818_29.09-SET2.DWG

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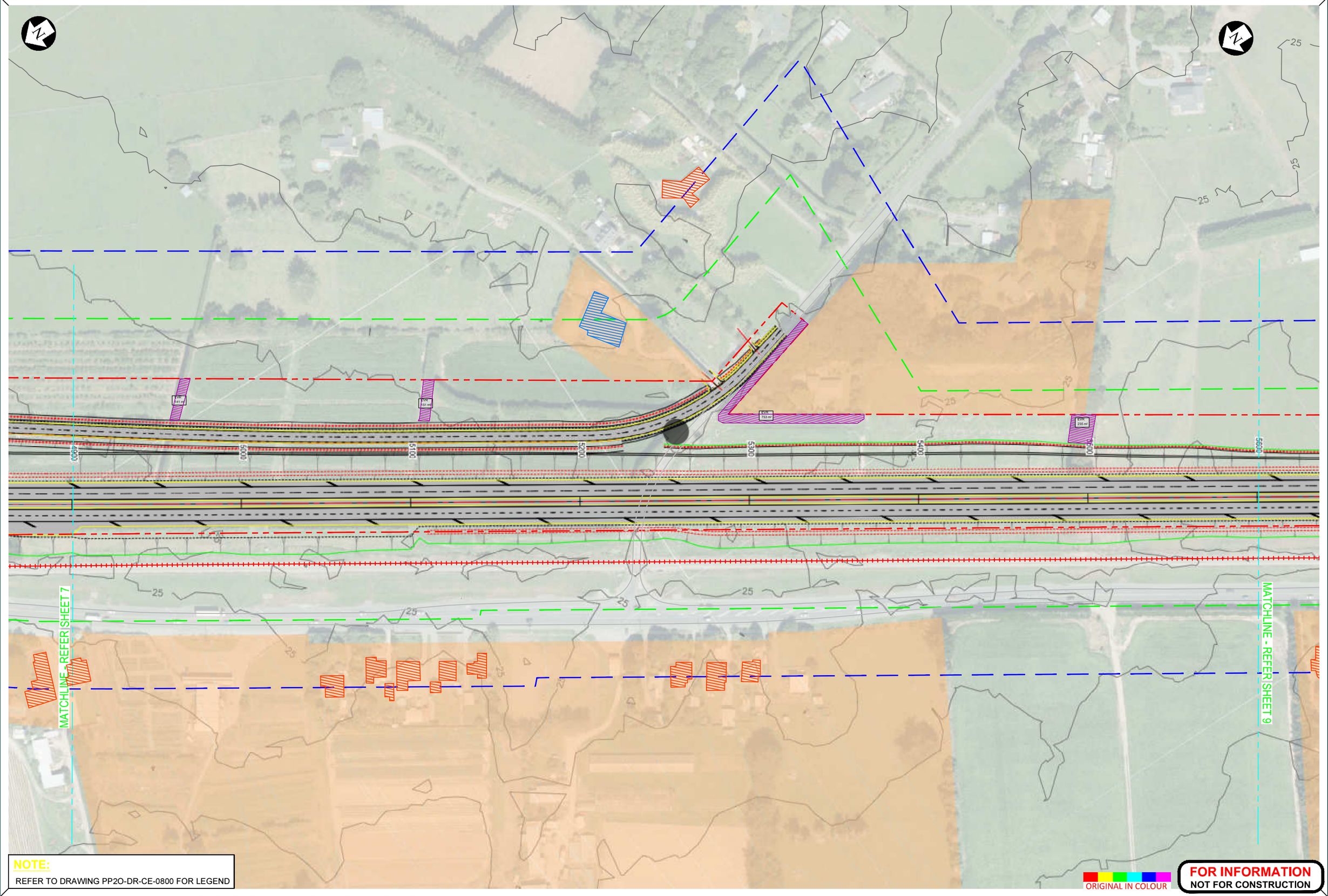

NOTE:
REFER TO DRAWING PP2O-DR-CE-0800 FOR LEGEND

ORIGINAL IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AK	GD	AN	07.07.17

Scale (A1) 1:1000 Scale (A3)	Design	AN	13.07.17
	Drawn	AK	13.07.17
	Dsg Verifier		
	Drg Check		
	* Refer to Original Hardcopy for Signature		

Approved For Construction
Date

NZ TRANSPORT AGENCY WAKA KOTAHI
Peka Peka to Ōtaki Expressway
Beca
HIGGINS
Tonkin+Taylor

Subject: SSEMP PW2
Title: SHEET 08 OF 18

Discipline: CIVIL
Drawing No.: SSEMP-PW2-08
Rev.: B

Document No. \\MDPPSP.FCC.INTERNAL\DAV\WWROOT\200\271\270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR ALICE\PP2O-DR-CE-0801-0818 2017-08-28- STANDARD\PP2O-DR-CE-0801-0

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 02 Nov 2017 10:17 a.m.

HAUTERE BUSH
(K038)

MATCHLINE - REFER SHEET 8

MATCHLINE - REFER SHEET 10

NOTE:
REFER TO DRAWING PP2O-DR-CE-0800 FOR LEGEND

ORIGINAL IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AK	GD	AN	31.07.17

Scale (A1) 1:1000
Scale (A3)

Design	AN	13.07.17	Approved For Construction
Drawn	AK	13.07.17	
Dsg Verifier			Date
Drg Check			

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

Peka Peka to Ōtaki Expressway

IFC_Logo_SMALL_Colour_40%.jpg

Beca HIGGINS Tonkin+Taylor

Subject: SSEMP PW2

Title: SHEET 09 OF 18

Discipline: CIVIL

Drawing No.: SSEMP-PW2-09

Rev.: B

Document No. \\MDPPSP-FCC.INTERNAL\DAVWWROOT\20\2\7\270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR ALICE\PP2O-DR-CE-0801-0818 2017-08-28- STANDARD\PP2O-DR-CE-0801-0818_29.09-SET2.DWG

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 02 Nov 2017 10:17 a.m.

NATIVE TREES

COTTLE'S BUSH
(K037)

MATCHLINE - REFER SHEET 9

MATCHLINE - REFER SHEET 11

NOTE:
REFER TO DRAWING PP2O-DR-CE-0800 FOR LEGEND

ORIGINAL IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AK	GD	AN	20.07.17

Scale (A1) 1:1000
Scale (A3)

Design	AN	19.07.17	Approved For Construction
Drawn	AK	19.07.17	
Dsg Verifier	-	-	
Drg Check	-	-	Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI
Peka Peka to Ōtaki Expressway
JFC_Logo_SMALL_Colour_40%.jpg
Beca
HIGGINS
Tonkin+Taylor

Subject: SSEMP PW2
Title: SHEET10 OF 18

Discipline: CIVIL
Drawing No.: SSEMP-PW2-10
Rev.: B

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

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Save Date: 02 Nov 2017 10:17 a.m.

MANGAONE LINK RD EAST CULVERT

MANGAONE EXPRESS CULVERT

MATCHLINE - REFER SHEET 10

MATCHLINE - REFER SHEET 12

NOTE:
REFER TO DRAWING PP2O-DR-CE-0800 FOR LEGEND

ORIGINAL IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AK	GD	AN	20.07.17

Scale (A1) 1:1000 Scale (A3)	Design	AN	13.07.17	Approved For Construction
	Drawn	AK	13.07.17	
	Dsg Verifier	-	-	Date
	Drg Check	-	-	
	* Refer to Original Hardcopy for Signature			

NZ TRANSPORT AGENCY WAKA KOTAHI
Peka Peka to Ōtaki Expressway
HIGGINS
Beca
Tonkin+Taylor

Subject:	SSEMP PW2
Title:	SHEET 11 OF 18
Discipline	CIVIL
Drawing No.	SSEMP-PW2-11
Rev.	B

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Document No. \\MZPPSP-FCI.INTERNAL\DATA\WWWROOT\2020\270\270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR ALICE\PP2O-DR-CE-0801-0818 2017-08-28- STANDARD\PP2O-DR-CE-0801-0818_29,09-SET2.DWG

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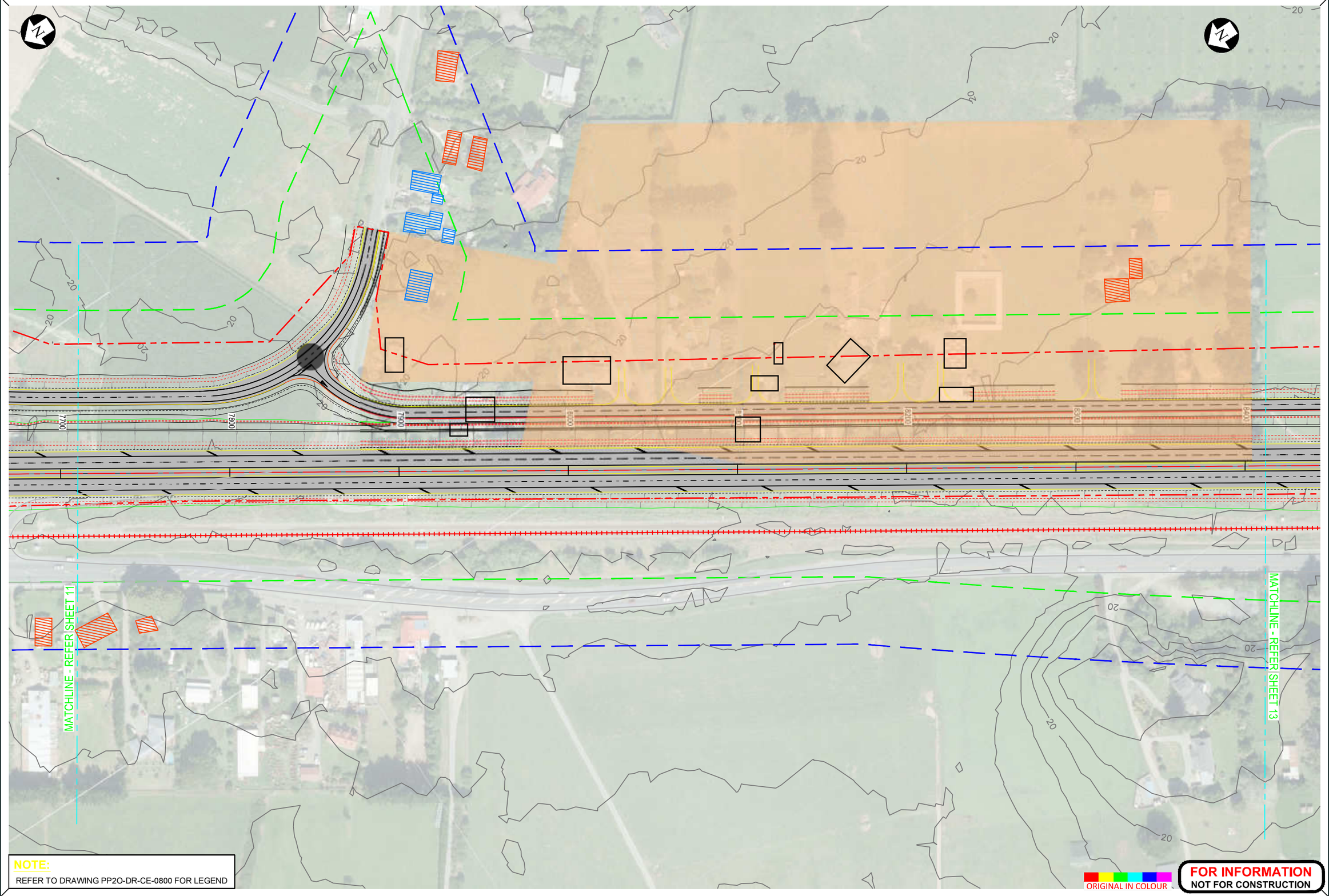


NOTE:
REFER TO DRAWING PP2O-DR-CE-0800 FOR LEGEND

ORIGINAL IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AR	GD	AN	28.07.17

Scale (A1) 1:1000
Scale (A3)

Design	AN	13.07.17	Approved For Construction
Drawn	AR	13.07.17	
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI
Peka Peka to Ōtaki Expressway
Beca
HIGGINS
Tonkin+Taylor

Subject: SSEMP PW2
Title: SHEET 12 OF 18

Discipline: CIVIL
Drawing No.: SSEMP-PW2-12
Rev.: B

Document No. \\MZPPSP-FCC.INTERNAL\DAV\WWWROOT\2000\27\270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR ALICE\PP2O-DR-CE-0801-0818 2017-08-28- STANDARD\PP2O-DR-CE-0801-0818_29,09-SET2.DWG

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 02 Nov 2017 10:18 a.m.

GEAR ROAD CULVERT

SETTLEMENT HEIGHTS CULVERT

MATCHLINE - REFER SHEET 12

MATCHLINE - REFER SHEET 14

NOTE:
REFER TO DRAWING PP2O-DR-CE-0800 FOR LEGEND

ORIGINAL IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AR	GD	AN	20.07.17

Scale (A1) 1:1000
Scale (A3)

Design	AR	13.07.17	Approved For Construction
Drawn	AR	13.07.17	
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

Peka Peka to Ōtaki Expressway

/FC_Logo_SMALL_Colour_40Pt.jpg

Beca HIGGINS Tonkin+Taylor

Subject: SSEMP PW2

Title: SHEET 13 OF 18

Discipline: CIVIL

Drawing No: SSEMP-PW2-13

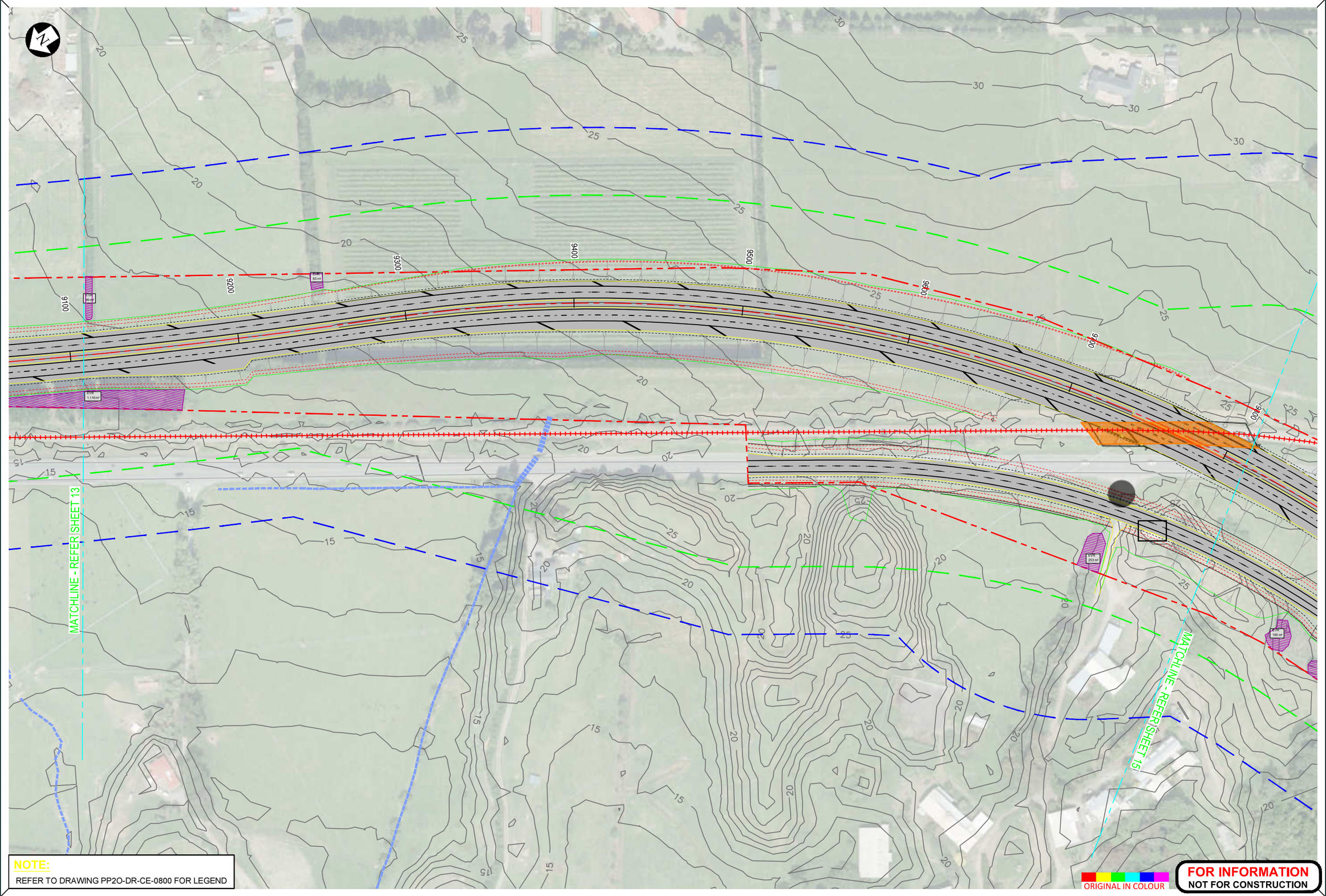
Rev: B

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Document No. \\WZPSP FCC.INTERNAL\DAV\WWROOT\2000271270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR ALICE\PP2O-DR-CE-0801-0818 2017-08-28- STANDARD\PP2O-DR-CE-0801-0818_29.09-SET2.DWG

Save Date: 02 Nov 2017 10:18 a.m.



No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AK	GD	AN	20.07.17

Scale (A1) 1:1000 Scale (A3)	Design	AN	13.07.17 Approved For Construction
	Drawn	AK	13.07.17
	Dsg Verifier	-	-
	Drg Check	-	- Date
	* Refer to Original Hardcopy for Signature		

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Beca | HIGHGINS | Tonkin+Taylor

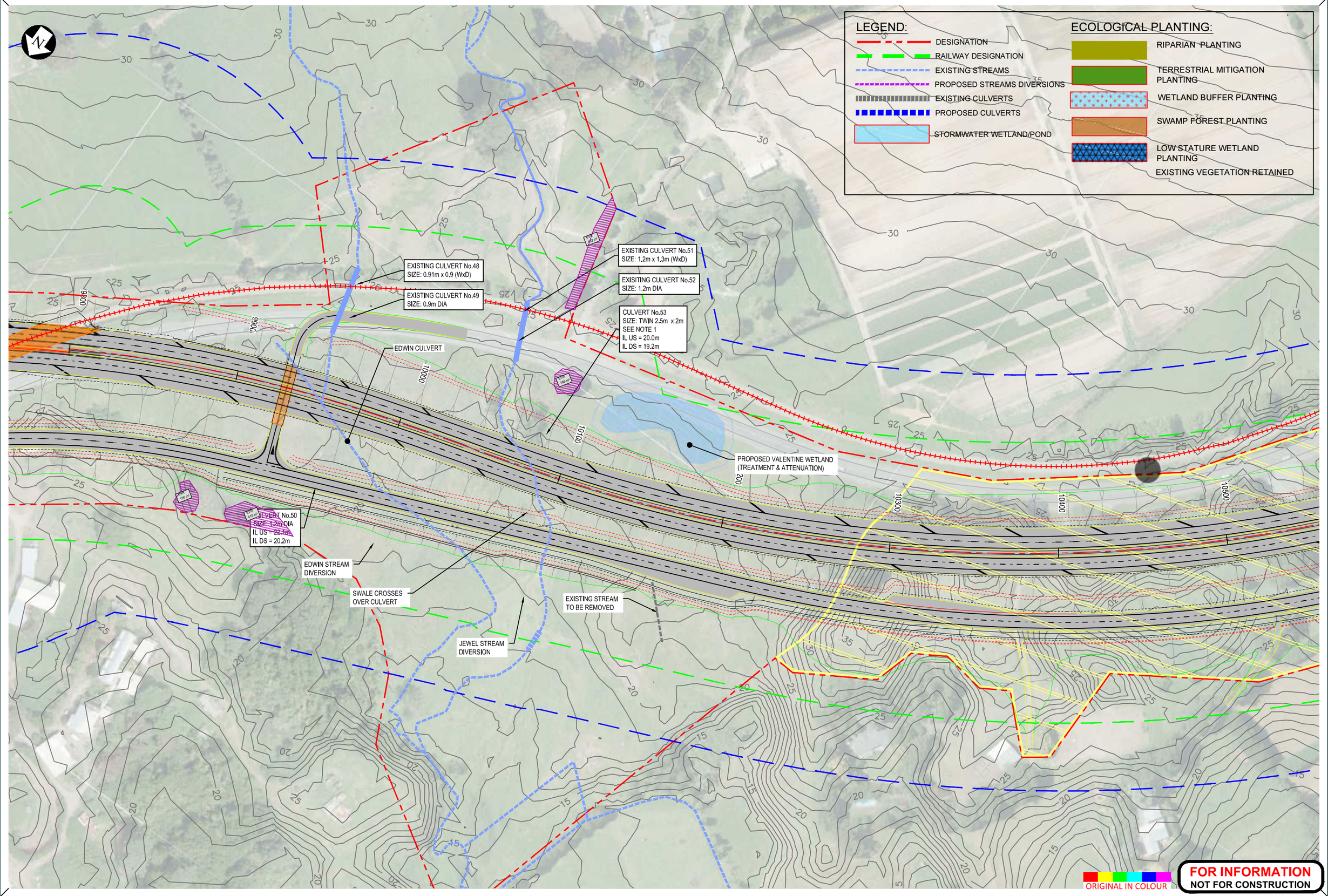
Subject:	SSEMP PW2
Title:	SHEET 14 OF 18
Discipline	CIVIL
Drawing No	SSEMP-PW2-14
Rev.	B

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Document No. \\WPPSPFCC:INTERNAL\DAVWWWROOT\2002\2070 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR ALICE\PP2O-DR-CE-0801-0818 2017-08-28- STANDARD\PP2O-DR-CE-0801-0818_29JSN-SET2.DWG

Save Date: 02 Nov 2017 10:18 a.m.



No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	SJH	GD	AN	"

Scale (A1) 1:1000	Design	AN	13.07.17
Scale (A3)	Drawn	SJH	10.08.17
	Dsg Verifier	.	.
	Drg Check	.	.
	* Refer to Original Hardcopy for Signature		

Approved For Construction . Date .

NZ TRANSPORT AGENCY WAKA KOTAHI

Peka Peka to Ōtaki Expressway

Beca HIGGINS Tonkin+Taylor

Subject: SSEMP PW2

Title: SHEET 15 OF 18

Discipline: CIVIL

Drawing No.: SSEMP-PW2-15

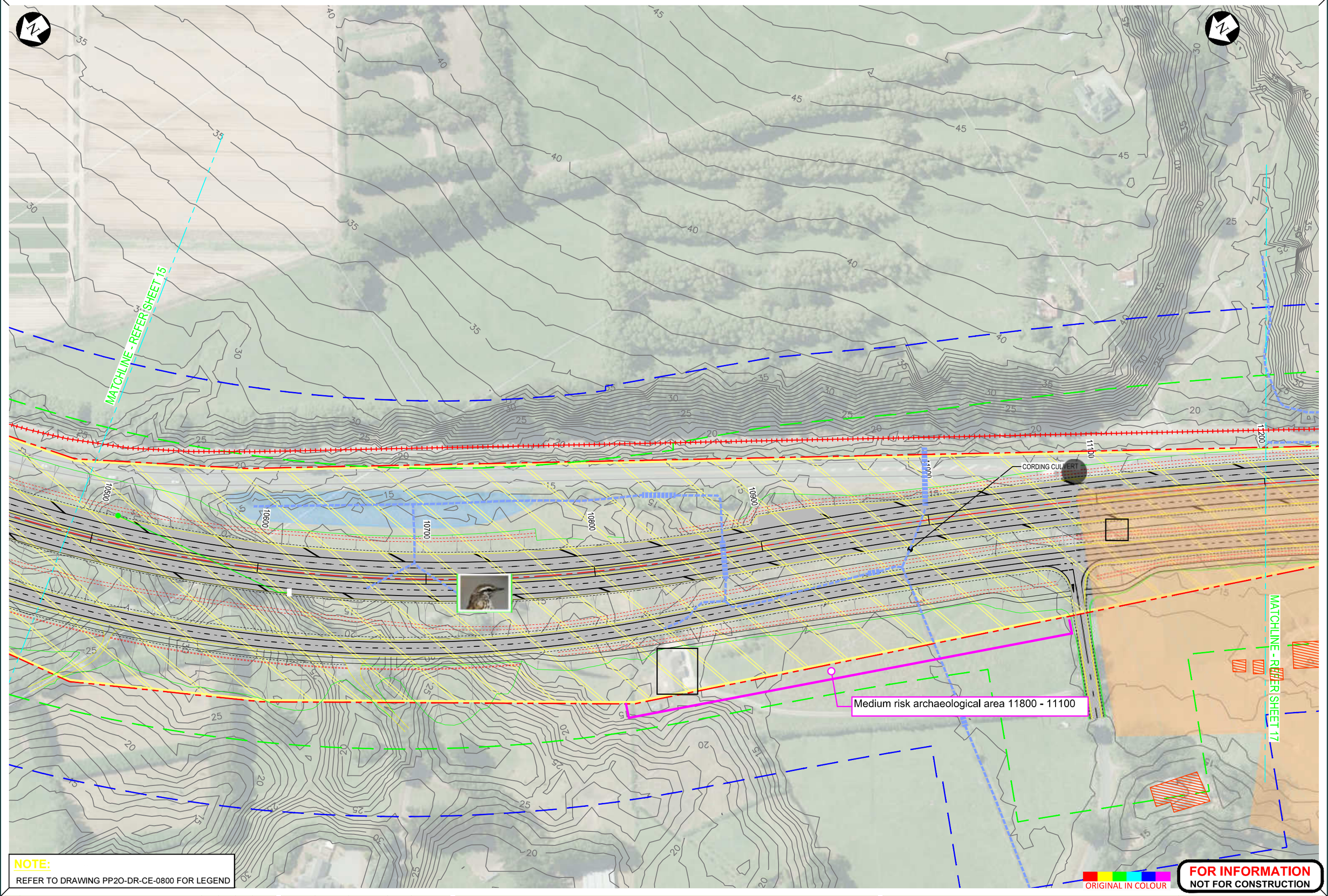
Rev.: B

Document No. \\WZPPSP-FCC.INTERNAL\DAV\WW\ROOT\200\207\270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR ALICE\PP2O-DR-CE-0801-0818 2017-08-28 STANDARD\PP2O-DR-CE-0801-0818_29.09-SET2.DWG

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 02 Nov 2017 10:19 a.m.



NOTE:
REFER TO DRAWING PP2O-DR-CE-0800 FOR LEGEND

ORIGINAL IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AK	GD	AN	20.07.17

Scale (A1) 1:1000 Scale (A3)	Design	AN	19.07.17
	Drawn	AK	19.07.17
	Dsg Verifier	.	.
	Drg Check	.	.
	* Refer to Original Hardcopy for Signature		

Approved For Construction . . Date . .

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | HIGGINS | Beca | Tonkin+Tonkin+Taylor

Subject: SSEMP PW2

Title: SHEET 16 OF 18

Discipline: CIVIL

Drawing No.: SSEMP-PW2-16

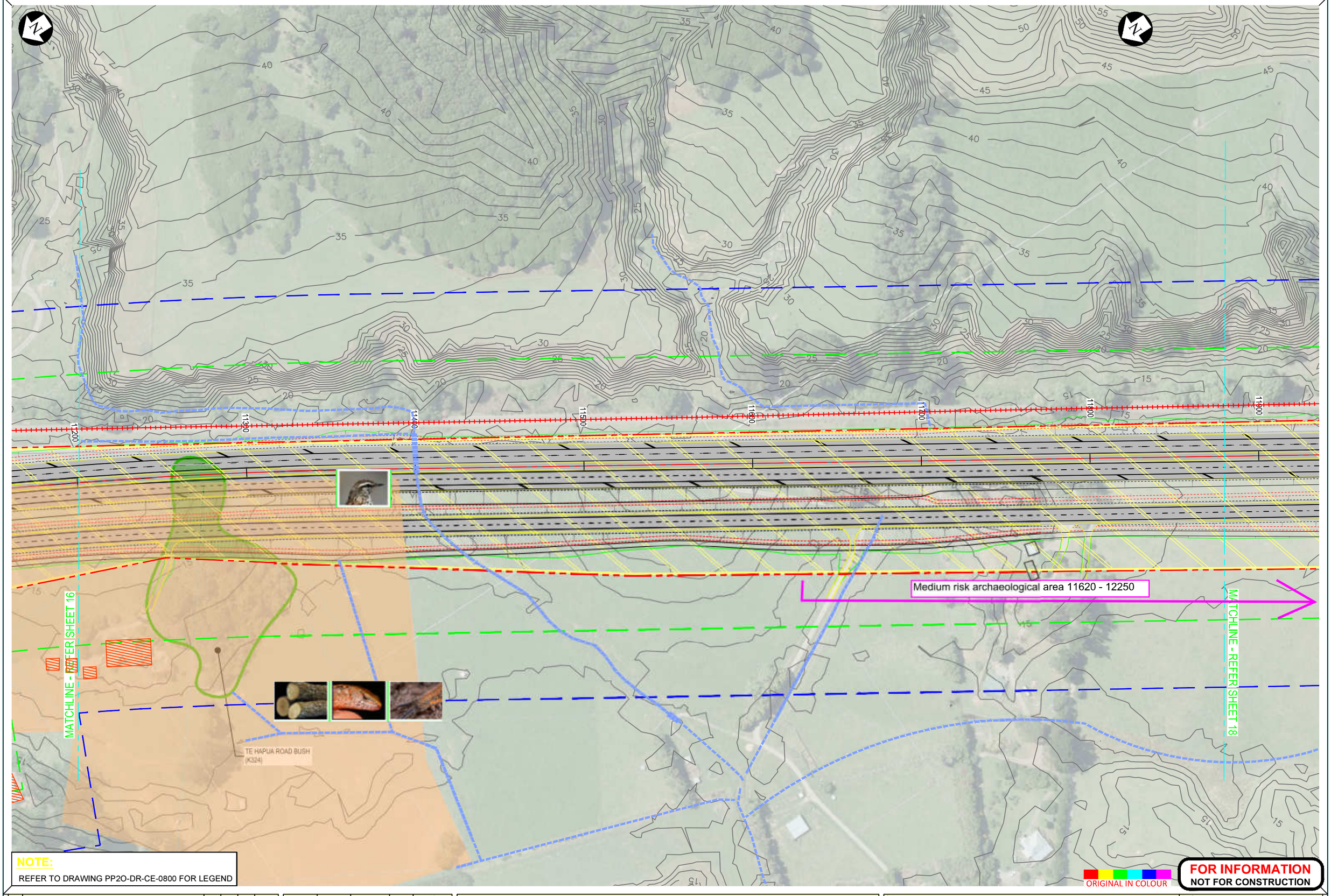
Rev.: B

Document No.: \\WLPPSP-FCC.INTERNAL\DAV\WWROOT\2000\27270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR AUIC\PP2O-DR-CE-0801-0818_29.09-SET2.DWG

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 02 Nov 2017 10:19 a.m.



NOTE:
REFER TO DRAWING PP2O-DR-CE-0800 FOR LEGEND

ORIGINAL IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AK	GD	AN	20.07.17

Scale (A1) 1:1000
Scale (A3)

Design	AN	19.07.17	Approved For Construction
Drawn	AK	19.07.17	
Dsg Verifier	-	-	
Drg Check	-	-	Date -

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI
Peka Peka to Ōtaki Expressway
JFC_Logo_SMALL_Colour_40%.jpg
Beca
HIGGINS
Tonkin+Taylor

Subject: SSEMP PW2
Title: SHEET 17 OF 18

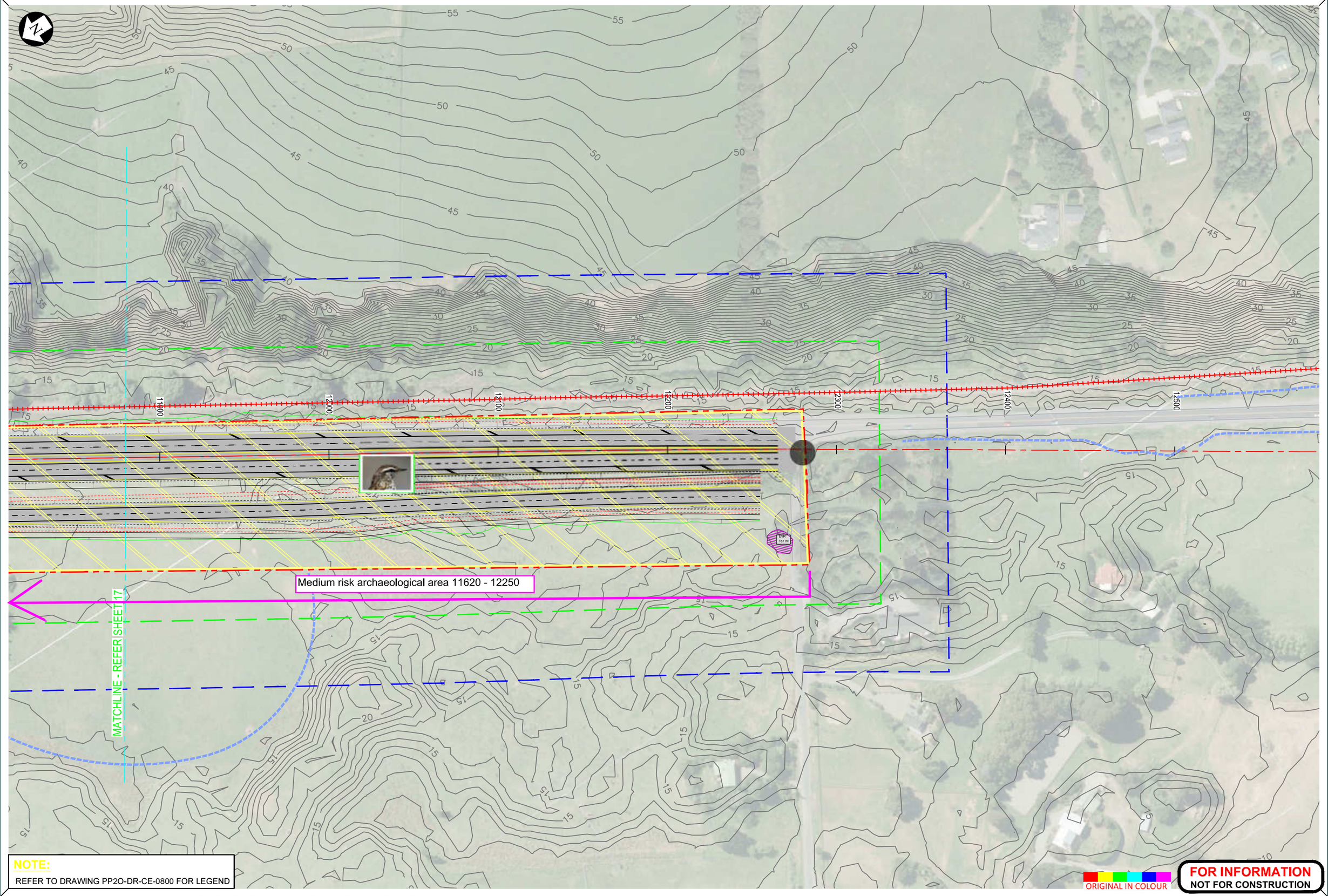
Discipline: CIVIL
Drawing No.: SSEMP-PW2-17
Rev.: B

Document No. W:\PP2SP.FCC.INTERNAL\DAVWWROOT\2000\27\270 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR AU\CE\PP2O-DR-CE-0801-0818 2017-08-28- STANDARD PP2O.DWG

ORIGINAL SIZE A1 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 02 Nov 2017 10:19 a.m.



NOTE:
REFER TO DRAWING PP2O-DR-CE-0800 FOR LEGEND

ORIGINAL IN COLOUR

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	SSEMP FOR INFORMATION	WW			14.09.17
A	SSEMP FOR INFORMATION	AK	GD	AN	20.07.17

Scale (A1) 1:1000	Design	AN	13.07.17
Scale (A3)	Drawn	AK	13.07.17
	Dsg Verifier	.	.
	Drg Check	.	.
	* Refer to Original Hardcopy for Signature		

Approved For Construction . . Date . .

NZ TRANSPORT AGENCY WAKA KOTAHI
Peka Peka to Ōtaki Expressway
HIGGINS
Beca
Tonkin+Taylor

Subject: SSEMP PW2
Title: SHEET 18 OF 18

Discipline: CIVIL
Drawing No.: SSEMP-PW2-18
Rev.: B

Document No. \\WZPSP.FCC.INTERNAL\DAV\WWWROOT\20\0\2\1\2\70 SECTOR GENERAL\PRECAST WORKING SHOP DRAWINGS\PP2O\FOR ALICE\PP2O-DR-CE-0801-0818 2017-06-28 STANDARD\PP2O-DR-CE-0801-0818_29.09-SET2.DWG

ORIGINAL SIZE A1 : DO NOT SCALE

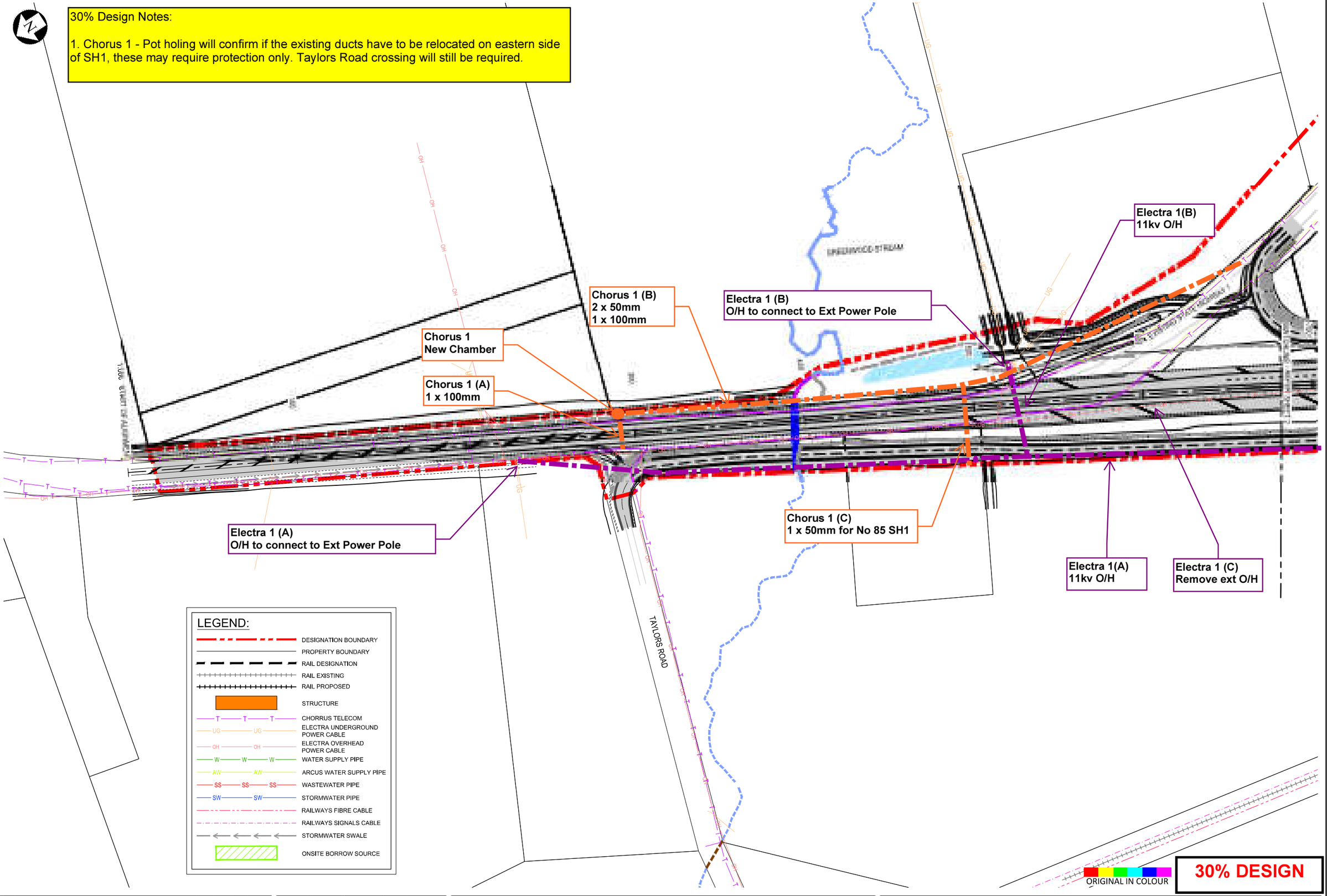
IF IN DOUBT ASK

APPENDIX D – UTILITY LOCATIONS

Save Date: 16 May 2017 4:26 p.m.

30% Design Notes:

1. Chorus 1 - Pot holing will confirm if the existing ducts have to be relocated on eastern side of SH1, these may require protection only. Taylors Road crossing will still be required.



30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

			Approved For Construction
Design			
Drawn			
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: UTILITIES
Title: LAYOUT PLAN SHEET 1 OF 18

Discipline: CIVIL
Drawing No.: PP2O-DR-CU-0001
Rev.: 0

Document No. R:\30DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CE\PP2O-DR-CU-0001-0018.DWG

ORIGINAL SIZE A3 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 16 May 2017 4:26 p.m.

30% Design Notes:

1. Electra 1 - Overheads to be relocated close to edge of designation to ensure poles are outwith construction zone.
2. Electra 1 (A) - Check if overheads crossing expressway can be installed in ducts.

EXISTING STATE HIGHWAY 1

TE MANUAO ROAD

MATCHLINE - REFER SHEET 3

MATCHLINE - REFER SHEET 1

Electra 1 (C)
Remove ext O/H

Electra 1 (C)
Remove ext O/H

Electra 1 (B)
11kv O/H

Electra 1 (A)
11kv O/H

Electra 1 (A)
11kv O/H

WAITOHU STREAM

NORTH ISLAND MAIN TRUNK RAILWAY

LEGEND:

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- RAIL DESIGNATION
- RAIL EXISTING
- RAIL PROPOSED
- STRUCTURE
- CHORRUS TELECOM
- ELECTRA UNDERGROUND POWER CABLE
- ELECTRA OVERHEAD POWER CABLE
- WATER SUPPLY PIPE
- ARCUS WATER SUPPLY PIPE
- WASTEWATER PIPE
- STORMWATER PIPE
- RAILWAYS FIBRE CABLE
- RAILWAYS SIGNALS CABLE
- STORMWATER SWALE
- ONSITE BORROW SOURCE

ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

Design			Approved For Construction
Drawn			
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: UTILITIES
Title: LAYOUT PLAN SHEET 2 OF 18

Discipline: CIVIL
Drawing No.: PP2O-DR-CU-0002
Rev.: 0

Document No. R:\30DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CE\PP2O-DR-CU-0001-0018.DWG

ORIGINAL SIZE A3 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 16 May 2017 4:26 p.m.

LEGEND:

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- RAIL DESIGNATION
- RAIL EXISTING
- RAIL PROPOSED
- STRUCTURE
- CHORRUS TELECOM
- ELECTRA UNDERGROUND POWER CABLE
- ELECTRA OVERHEAD POWER CABLE
- WATER SUPPLY PIPE
- ARCUS WATER SUPPLY PIPE
- WASTEWATER PIPE
- STORMWATER PIPE
- RAILWAYS FIBRE CABLE
- RAILWAYS SIGNALS CABLE
- STORMWATER SWALE
- ONSITE BORROW SOURCE

30% Design Notes:

1. Chorus 2 - No changes from concept design. Alignment to be confirmed after pot holing. Supply to Toki Cell Site to be installed as a temporary connection prior to construction of bridge 2 & 3.
2. Electra 11 - Current design shows overhead. Look at alternative underground on east side of SH1, subject to potholing water mains.

RAHUI ROAD SHOWN IN MORE DETAIL ON DRAWING ??

Electra 11 (A) 11kv O/H

Electra 11 (A) Connect to ext pole

Electra 11 (A) Connect to ext pole

ŌTAKI SOUTHBOUND OFF-RAMP

Chorus 2 (A) New Chamber

Chorus 2 A) 2 x 100mm Ducts within steel sleeve over bridge 2 & 3

PARE-O-MATANGI RESERVE

Chorus 2 New Chamber

ŌTAKI NORTHBOUND ON-RAMP

Electra 1 (C) Remove ext O/H

Chorus 2 (B) 1 x 50mm Duct to Toki cell site

Chorus 2 (A) 2 x 100mm Ducts

Chorus 2 (A) New Chamber

Electra 1 (A) Connect to existing O/H

Electra 1 (A) 11kv O/H

MANGAPOURI STREET

HARIATA STREET

ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

			Approved For Construction
Design			
Drawn			
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: UTILITIES
Title: LAYOUT PLAN SHEET 3 OF 18

Discipline: CIVIL
Drawing No.: PP2O-DR-CU-0003
Rev.: A

Document No. R:\30DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CE\PP2O-DR-CU-0001-0018.DWG

ORIGINAL SIZE A3 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 16 May 2017 4:26 p.m.

LEGEND:

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- RAIL DESIGNATION
- RAIL EXISTING
- RAIL PROPOSED
- STRUCTURE
- CHORRUS TELECOM
- ELECTRA UNDERGROUND POWER CABLE
- ELECTRA OVERHEAD POWER CABLE
- WATER SUPPLY PIPE
- ARCUS WATER SUPPLY PIPE
- WASTEWATER PIPE
- STORMWATER PIPE
- RAILWAYS FIBRE CABLE
- RAILWAYS SIGNALS CABLE
- STORMWATER SWALE
- ONSITE BORROW SOURCE

30% Design Notes:

1. Electra 3 - Section shown in yellow cloud may be able to be deleted. Check with Electra if entire section can be deleted which will be dependent on the feed to winstones

Electra 3 (C)
Remove ext O/H

Electra 3 (A)
11kv O/H

Electra 3 (B)
O/H

ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

			Approved For Construction
Design			
Drawn			
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI
Peka Peka to Ōtaki Expressway
Fletcher HIGGINS
Beca Tonkin+Taylor

Subject: UTILITIES
Title: LAYOUT PLAN SHEET 4 OF 18

Discipline: CIVIL
Drawing No.: PP2O-DR-CU-0004
Rev.: 0

Document No.: R:\30DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CE\PP2O-DR-CU-0001-0018.DWG

ORIGINAL SIZE A3 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 16 May 2017 4:26 p.m.

30% Design Notes:

1. Electra 3 - Section shown in yellow cloud may be able to be deleted. Check with Electra if entire section can be deleted which will be dependent on the feed to winstones.
2. Electra 4 - Section shown in yellow cloud may be able to be deleted. Confirm with Electra.
3. Chorus 4 - No change from concept design. Alignment will be confirmed after potholing.
4. First Gas 2 - Termination points at each end of bridge to be agreed. Design for duct on bridge is part of bridge design.

LEGEND:

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- RAIL DESIGNATION
- RAIL EXISTING
- RAIL PROPOSED
- STRUCTURE
- CHORRUS TELECOM
- ELECTRA UNDERGROUND POWER CABLE
- ELECTRA OVERHEAD POWER CABLE
- WATER SUPPLY PIPE
- ARCUS WATER SUPPLY PIPE
- WASTEWATER PIPE
- STORMWATER PIPE
- RAILWAYS FIBRE CABLE
- RAILWAYS SIGNALS CABLE
- STORMWATER SWALE
- ONSITE BORROW SOURCE

MATCHLINE - REFER SHEET 4

STRESSCRETE PLANT

First Gas 2 (A)
200mm uPVC duct to be installed past bridge abutment and terminated to a location off the expressway

Electra 4 (C)
Remove existing O/H

First Gas 2 (B)
200mm uPVC duct across Otaki River Bridge

Chorus 4 (A)
1 x 50mm Duct

Electra 4 (B)
2 x 100mm ducts

Electra 3 (B)
O/H

Electra 3 (A)
11kv O/H

Electra 3 (A)
Connect to existing O/H

Electra 4 (A)
2 x 100mm ducts

Electra 3 (C)
Remove ext O/H

Chorus 4 (A)
1 x 50mm Duct

EXISTING STATE HIGHWAY 1

NORTH ISLAND MAIN TRUNK RAILWAY

ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

			Approved For Construction
Design			
Drawn			
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI

Peka Peka to Ōtaki Expressway

Fletcher HIGGINS Beca Tonkin+Taylor

Subject: UTILITIES
Title: LAYOUT PLAN SHEET 5 OF 18

Discipline: CIVIL
Drawing No.: PP2O-DR-CU-0005
Rev.: A

ORIGINAL SIZE A3 : DO NOT SCALE

IF IN DOUBT ASK

Document No. R:\3DDD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CE\PP2O-DR-CU-0001-0018.DWG

Save Date: 16 May 2017 4:26 p.m.

LEGEND:

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- RAIL DESIGNATION
- RAIL EXISTING
- RAIL PROPOSED
- STRUCTURE
- CHORRUS TELECOM
- ELECTRA UNDERGROUND POWER CABLE
- ELECTRA OVERHEAD POWER CABLE
- WATER SUPPLY PIPE
- ARCUS WATER SUPPLY PIPE
- WASTEWATER PIPE
- STORMWATER PIPE
- RAILWAYS FIBRE CABLE
- RAILWAYS SIGNALS CABLE
- STORMWATER SWALE
- ONSITE BORROW SOURCE

30% Design Notes:

1. Electra 5 & Chorus 5 - Relocation on existing SH1 may not be required, subject to pot holing.
2. First Gas 2 - Termination points at each end of bridge to be agreed. Design for duct on bridge is part of bridge design.

First Gas 2 (B)
200mm uPVC duct across Otaki River Bridge

First Gas 2 (C)
200mm uPVC duct to be installed past bridge abutment and terminated to a location off the expressway

Electra 5 (D)
Remove ext O/H

Electra 5 (B)
New O/H

Chorus 5 (A)
2 x 50mm Duct

Electra 5 (A)
11kv & 33kv O/H

WINSTONES QUARRY ACCESS

BRIDGE No. 207
EXISTING SH1 ŌTAKI RIVER BRIDGE

NORTH ISLAND MAIN TRUNK RAILWAY

ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

			Approved For Construction
Design			
Drawn			
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: UTILITIES
Title: LAYOUT PLAN SHEET 6 OF 18

Discipline: CIVIL
Drawing No.: PP2O-DR-CU-0006
Rev.: 0

Document No. R:\3DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CE\PP2O-DR-CU-4001-0018.DWG

ORIGINAL SIZE A3 :: DO NOT SCALE

IF IN DOUBT ASK

Save Date: 16 May 2017 4:26 p.m.

30% Design Notes:

1. Electra 5 - Concept design was to install by HDD at chainage 4320m, however due to railway cutting crossing will be around chainage 4650m either with O/H or U/G which will be confirmed by Electra.
1. Chorus 5 - Concept design was to install by HDD at chainage 4320m, however due to railway cutting crossing will be around chainage 4650m which is to be confirmed by Chorus.
4. Arcus Water 1 - Located between local road and expressway. Investigate into moving alignment east to other side of local road.

LEGEND:

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- RAIL DESIGNATION
- RAIL EXISTING
- RAIL PROPOSED
- STRUCTURE
- CHORRUS TELECOM
- ELECTRA UNDERGROUND POWER CABLE
- ELECTRA OVERHEAD POWER CABLE
- WATER SUPPLY PIPE
- ARCUS WATER SUPPLY PIPE
- WASTEWATER PIPE
- STORMWATER PIPE
- RAILWAYS FIBRE CABLE
- RAILWAYS SIGNALS CABLE
- STORMWATER SWALE
- ONSITE BORROW SOURCE

Chorus 5 (B)
1 x 100mm Duct

Arcus Water 1
Connect to existing
200mm PVC

Chorus 5 (B)
1 x 100mm Duct

Arcus Water 1
200mm uPVC

Chorus 5 (B)
Chamber

Electra 5 (C)
Connect to ext O/H

Electra 5 (C)
11kv U/G (1 x 100mm duct)

Electra 5 (D)
Remove ext O/H

Chorus 5 (C)
Abandoned Ducts

Arcus Water 1
Abandoned 200mm PVC

Chorus 5 (B)
1 x 100mm Duct

Chorus 5 (B)
Chamber

Electra 5 (C)
Connect to ext O/H

OTAKI GORGE ROAD

OTAKI SOUTHBOUND ON-RAMP

OLD HAUTERE ROAD LINK

ADDINGTON ROAD

MAINTENANCE BAY

EXISTING STATE HIGHWAY 1

MATCHLINE - REFER SHEET 8

4400 4500 4600 4700 4800

ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

Design				Approved For Construction
Drawn				
Dsg Verifier				
Drg Check				Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher | HIGGINS | Beca | Tonkin+Taylor

Subject: UTILITIES
Title: LAYOUT PLAN SHEET 7 OF 18

Discipline: CIVIL
Drawing No.: PP2O-DR-CU-0007
Rev.: 0

Document No. R:\30DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CE\PP2O-DR-CU-0001-0018.DWG

ORIGINAL SIZE A3 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 16 May 2017 4:26 p.m.

LEGEND:

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- RAIL DESIGNATION
- RAIL EXISTING
- RAIL PROPOSED
- STRUCTURE
- CHORRUS TELECOM
- ELECTRA UNDERGROUND POWER CABLE
- ELECTRA OVERHEAD POWER CABLE
- WATER SUPPLY PIPE
- ARCUS WATER SUPPLY PIPE
- WASTEWATER PIPE
- STORMWATER PIPE
- RAILWAYS FIBRE CABLE
- RAILWAYS SIGNALS CABLE
- STORMWATER SWALE
- ONSITE BORROW SOURCE

30% Design Notes:

1. Arcus Water 1 - Pipe aligned to western side of local road.
2. Chorus 6 - No changes from concept design. Pothole to determine depth and if relocation is required.
3. Electra 6 - Overhead possibly could be changed to underground. Electra to confirm.

Chorus 6 (A)
Connect to ext duct

Arcus Water 1
200mm uPVC

Chorus 6 (A)
1 x 100mm Duct

Chorus 6 (B)
Decommission ext ducts

Arcus Water 1
200mm uPVC

Electra 6 (A)
Connect to ext O/H

Electra 6 (A)
2 x 100mm Ducts

Electra 6 (B)
Remove to ext O/H

Chorus 6 (A)
Connect to ext duct

Electra 6 (A)
Connect to ext O/H

OLD HAUTERE ROAD

OLD HAUTERE ROAD LINK

SOUTHERN ŌTAKI GATEWAY

NORTH ISLAND MAIN TRUNK RAILWAY

EXISTING STATE HIGHWAY 1

MATCHLINE - REFER SHEET 7

MATCHLINE - REFER SHEET 9

4900 5000 5100 5200 5400 5500 5600

ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

			Approved For Construction
Design			
Drawn			
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: UTILITIES

Title: LAYOUT PLAN
SHEET 8 OF 18

Discipline: CIVIL

Drawing No.: PP2O-DR-CU-0008

Rev.: 0

Document No.: R:\30DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CE\PP2O-DR-CU-0001-0018.DWG

ORIGINAL SIZE A3 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 16 May 2017 4:27 p.m.

LEGEND:

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- RAIL DESIGNATION
- RAIL EXISTING
- RAIL PROPOSED
- STRUCTURE
- CHORRUS TELECOM
- ELECTRA UNDERGROUND POWER CABLE
- ELECTRA OVERHEAD POWER CABLE
- WATER SUPPLY PIPE
- ARCUS WATER SUPPLY PIPE
- WASTEWATER PIPE
- STORMWATER PIPE
- RAILWAYS FIBRE CABLE
- RAILWAYS SIGNALS CABLE
- STORMWATER SWALE
- ONSITE BORROW SOURCE

30% Design Notes:

1. Arcus Water 1 - Pipe aligned to eastern side of Winiata Link Road.
2. Electra 7 - Investigate overhead to be changed to underground and share trench with Chorus and Arcus Water.
3, Chorus 7 - No change from concept design.

Arcus Water 1
200mm uPVC

Electra 7 (B)
U/G to existing pole

Electra 7 (D)
Remove ext O/H

Arcus Water 1
200mm uPVC

Electra 7 (C)
11kv O/H

MATCHLINE - REFER SHEET 8

5700

5800

6200

WINIATA LINK

6300

MATCHLINE - REFER SHEET 10

NORTH ISLAND MAIN TRUNK RAILWAY

Electra 7 (D)
Remove ext O/H

Chorus 7 (A)
1 x 50mm Duct

EXISTING STATE HIGHWAY 1

MAINTENANCE BAY

Electra 7 (A)
2 x 100mm Ducts to replace existing O/H

ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

Design | Drawn | Dsg Verifier | Drg Check | Approved For Construction | Date

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NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: UTILITIES

Title: LAYOUT PLAN SHEET 9 OF 18

Discipline: CIVIL

Drawing No.: PP2O-DR-CU-0009

Rev.: 0

Document No.: R1303DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CE\PP2O-DR-CU-0001-0018.DWG

ORIGINAL SIZE A3 : DO NOT SCALE

IF IN DOUBT ASK

LEGEND:

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- RAIL DESIGNATION
- RAIL EXISTING
- RAIL PROPOSED
- STRUCTURE
- CHORRUS TELECOM
- ELECTRA UNDERGROUND POWER CABLE
- ELECTRA OVERHEAD POWER CABLE
- WATER SUPPLY PIPE
- ARCUS WATER SUPPLY PIPE
- WASTEWATER PIPE
- STORMWATER PIPE
- RAILWAYS FIBRE CABLE
- RAILWAYS SIGNALS CABLE
- STORMWATER SWALE
- ONSITE BORROW SOURCE

30% Design Notes:

1. Arcus Water 1 - Shared trench with Chorus. Connection point and asset data to be determined after pot holing investigations.
2. Electra 7 - Investigate overhead to be changed to underground and share trench with Chorus and Arcus Water.
3, Chorus 7 - No change from concept design.

Arcus Water 1
200mm uPVC

Electra 7 (C)
11kv O/H or U/G

Arcus Water 1
Connect to ext
200mm PVC main

Chorus 7 (A)
1 x 50mm Duct

Electra 7 (C)
11kv O/H or U/G
Check termination point

MATCHLINE - REFER SHEET 9

MATCHLINE - REFER SHEET 11

6400 6500 6600 6700 6800 6900 7000

WINIATA RD

NORTH ISLAND MAIN TRUNK RAILWAY

EXISTING STATE HIGHWAY 1

TE WAKA ROAD

ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

Design | Drawn | Dsg Verifier | Drg Check | Approved For Construction | Date

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NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: UTILITIES

Title: LAYOUT PLAN
SHEET 10 OF 18

Discipline: CIVIL

Drawing No. PP2O-DR-CU-0010

Rev. 0

Document No. R:\30DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CE\PP2O-DR-CU-0001-0018.DWG

ORIGINAL SIZE A3 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 16 May 2017 4:27 p.m.

30% Design Notes:

1. Chorus 7 - Minor changes to alignment.
2. Electra 8 - No changes from concept design.
3. First Gas 3 - No changes from concept design.
4. KCDC Water 2 (Hautere) - New 90mm OD PE Pipe on western side of School Road in a shared trench with Chorus. Connection to the existing 50mm pipe on eastern side of railway. New 90mm OD PE pipe inside a 160mm OD PE sleeve

Chorus 7 (A)
1 x 50mm Duct

Chorus 7 (B)
1 x 50mm Duct

KCDC Water 2
(Hautere)
90mm OD PE

KCDC Water 2
(Hautere)
90mm OD PE inside
160mm OD PE Sleeve

Electra 8 (A)
1 x 100mm duct

Electra 9 (D)
Remove ext O/H

KCDC Water 2 (Hautere)
Connect to ext 50mm Pipe on
eastern side of railway corridor

Chorus 7 (E)
Decommission ext ducts

First Gas 3 (A)
150mm uPVC duct below
school road

MANGAONE STREAM
SCHOOL ROAD
SCHOOL ROAD UNDERPASS
SCHOOL ROAD FLOOD BASIN
TE HORO BEACH ROAD
NORTH ISLAND MAIN TRUNK RAILWAY
MATCHLINE - REFER SHEET 10
MATCHLINE - REFER SHEET 12
7100
7200
7300
7600

LEGEND:

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- RAIL DESIGNATION
- RAIL EXISTING
- RAIL PROPOSED
- STRUCTURE
- CHORRUS TELECOM
- ELECTRA UNDERGROUND POWER CABLE
- ELECTRA OVERHEAD POWER CABLE
- WATER SUPPLY PIPE
- ARCUS WATER SUPPLY PIPE
- WASTEWATER PIPE
- STORMWATER PIPE
- RAILWAYS FIBRE CABLE
- RAILWAYS SIGNALS CABLE
- STORMWATER SWALE
- ONSITE BORROW SOURCE

ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

			Approved For Construction
Design			
Drawn			
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: UTILITIES
Title: LAYOUT PLAN
SHEET 11 OF 18

Discipline: CIVIL
Drawing No.: PP2O-DR-CU-0011
Rev.: 0

Document No. R:\30DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CE\PP2O-DR-CU-0001-0018.DWG

ORIGINAL SIZE A3 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 16 May 2017 4:27 p.m.

30% Design Notes:

1. Chorus 7 - No change from concept design.
2. Electra 9 - Investigate overhead to be changed to underground and share trench with Chorus and KCDC Water.
3. Electra 9 - Relocation may not be required on the existing SH1. Check with Electra
3. KCDC Water 2 (Hautere) - No changes from concept design. Some alignment change to accommodate shared trench with Chorus

LEGEND:

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- RAIL DESIGNATION
- RAIL EXISTING
- RAIL PROPOSED
- STRUCTURE
- CHORRUS TELECOM
- ELECTRA UNDERGROUND POWER CABLE
- ELECTRA OVERHEAD POWER CABLE
- WATER SUPPLY PIPE
- ARCUS WATER SUPPLY PIPE
- WASTEWATER PIPE
- STORMWATER PIPE
- RAILWAYS FIBRE CABLE
- RAILWAYS SIGNALS CABLE
- STORMWATER SWALE
- ONSITE BORROW SOURCE

Chorus 7 (B)
1 x 50mm Duct
Connect to ext

KCDC Water 2 (Hautere)
Connect to ext 50mm Pipe.

KCDC Water 2
(Hautere)
90mm OD PE

Electra 9 (B)
Connect to ext O/H

Chorus 7 (B)
1 x 50mm Duct

Electra 9 (C)
11KV O/H

Electra 9 (D)
Remove ext O/H

Chorus 7 (E)
Decommission ext ducts

KCDC Water 2
(Hautere)
90mm OD PE

Electra 9 (D)
Remove ext O/H

Chorus 7 (C)
1 x 100mm duct includ-
ing HDD below existing
railway

Chorus 7 (D)
1 x 50mm Duct

Chorus 7 (E)
Decommission ext ducts

Electra 9 (B)
2 x 100mm ducts 11kv including HDD below SH1
and railway

Electra 9 (A)
2 x 100mm ducts 11kv.

Flag - Ask Electra if
O/H along SH1 has
to be replaced.

SCHOOL ROAD

ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

Design			Approved For Construction
Drawn			
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: UTILITIES

Title: LAYOUT PLAN
SHEET 12 OF 18

Discipline: CIVIL

Drawing No.: PP2O-DR-CU-0012

Rev.: 0

Document No. R:\30\DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CE\PP2O-DR-CU-0001-0918.DWG

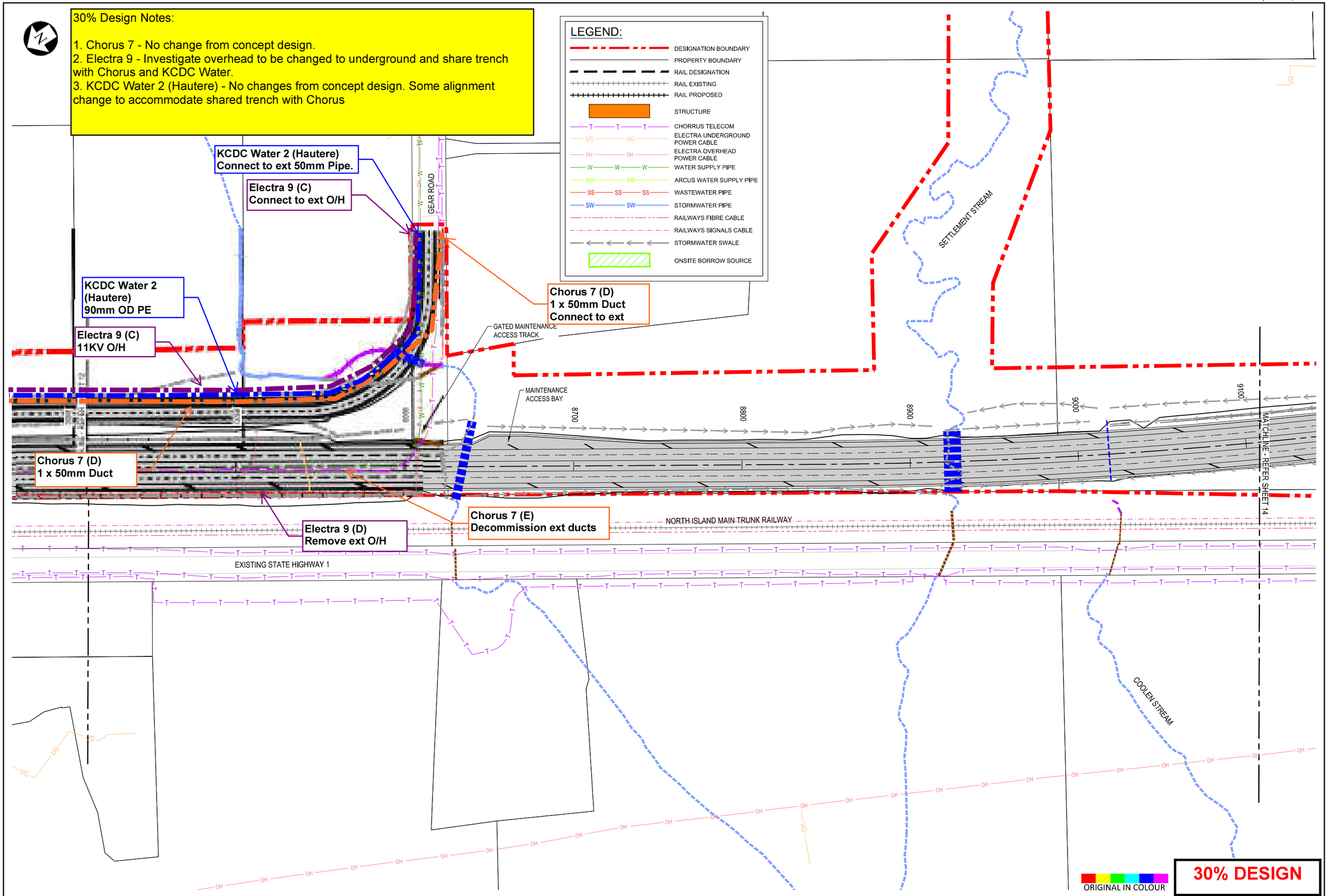
ORIGINAL SIZE A3 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 16 May 2017 4:27 p.m.

30% Design Notes:

1. Chorus 7 - No change from concept design.
2. Electra 9 - Investigate overhead to be changed to underground and share trench with Chorus and KCDC Water.
3. KCDC Water 2 (Hautere) - No changes from concept design. Some alignment change to accommodate shared trench with Chorus



ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

Design				Approved For Construction
Drawn				
Dsg Verifier				
Drg Check				Date

* Refer to Original Hardcopy for Signature

NZ Transport Agency Waka Kotahi | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: UTILITIES
Title: LAYOUT PLAN SHEET 13 OF 18

Discipline: CIVIL
Drawing No.: PP2O-DR-CU-0013
Rev.: 0

ORIGINAL SIZE A3 : DO NOT SCALE

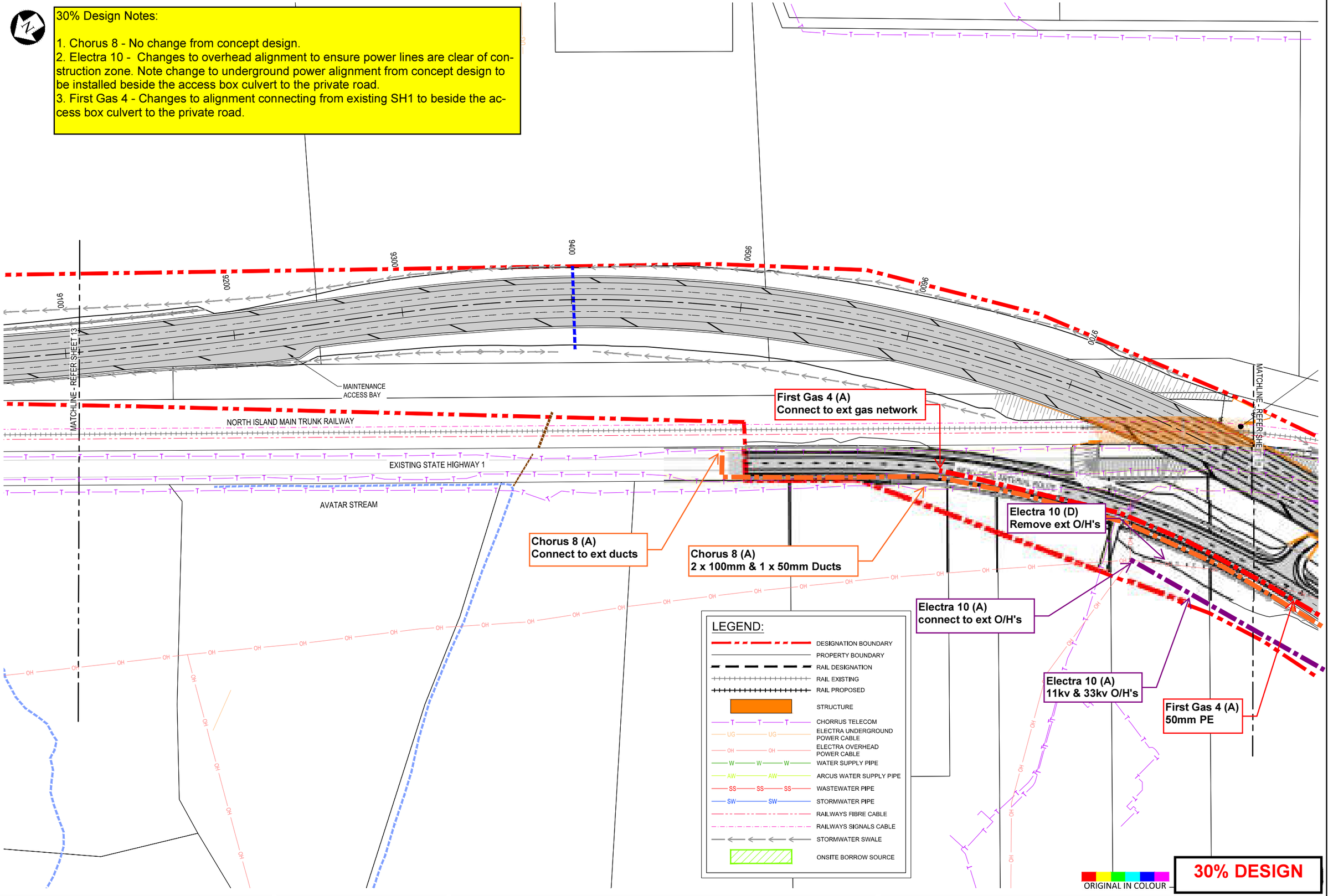
IF IN DOUBT ASK

Document No.: R:\30DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CE\PP2O-DR-CU-0001-0018.DWG

Save Date: 16 May 2017 4:27 p.m.

30% Design Notes:

1. Chorus 8 - No change from concept design.
2. Electra 10 - Changes to overhead alignment to ensure power lines are clear of construction zone. Note change to underground power alignment from concept design to be installed beside the access box culvert to the private road.
3. First Gas 4 - Changes to alignment connecting from existing SH1 to beside the access box culvert to the private road.



ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

Design			Approved For Construction
Drawn			
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: UTILITIES
Title: LAYOUT PLAN SHEET 14 OF 18

Discipline: CIVIL
Drawing No.: PP2O-DR-CU-0014
Rev.: 0

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ORIGINAL SIZE A3 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 16 May 2017 4:27 p.m.

30% Design Notes:

1. Chorus 8 - No change from concept design.
2. Electra 10 - Changes to overhead alignment to ensure power lines are clear of construction zone. Note change to underground power alignment from concept design to be installed beside the access box culvert to the private road.
3. First Gas 4 - Changes to alignment connecting from existing SH1 to beside the access box culvert to the private road.

LEGEND:

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- RAIL DESIGNATION
- RAIL EXISTING
- RAIL PROPOSED
- STRUCTURE
- CHORRUS TELECOM
- ELECTRA UNDERGROUND POWER CABLE
- ELECTRA OVERHEAD POWER CABLE
- WATER SUPPLY PIPE
- ARCUS WATER SUPPLY PIPE
- WASTEWATER PIPE
- STORMWATER PIPE
- RAILWAYS FIBRE CABLE
- RAILWAYS SIGNALS CABLE
- STORMWATER SWALE
- ONSITE BORROW SOURCE

First Gas 4 (A)
Install 50mm PE pipe inside 70m of 150mm PVC duct beside underpass.

First Gas 4 (A)
Connect to ext gas network

Electra 10 (B)
Connect to ext O/H

First Gas 4 (A)
50mm PE

Electra 10 (D)
Remove ext O/H's

Electra 10 (B)
U/G 11kv beside underpass

Chorus 8 (B)
1 x 100mm Duct

Chorus 8 (C)
Decommission ext ducts

Electra 10 (D)
Remove ext O/H's

Chorus 8 (A)
2 x 100mm & 1 x 50mm Ducts

Electra 10 (A)
11kv & 33kv O/H's

Chorus 8 (A)
2 x 100mm & 1 x 50mm Ducts

Electra 10 (A)
11kv & 33kv O/H's

MARY CREST

NORTH ISLAND MAIN TRUNK RAILWAY

FER SHEET 14

VALENTINE BASIN

ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

Design				Approved For Construction
Drawn				
Dsg Verifier				
Drg Check				Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: UTILITIES
Title: LAYOUT PLAN SHEET 15 OF 18

Discipline: CIVIL
Drawing No.: PP2O-DR-CU-0015
Rev.: 0

Document No. R:\30DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CE\PP2O-DR-CU-0001-0018.DWG

ORIGINAL SIZE A3 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 16 May 2017 4:27 p.m.

30% Design Notes:

1. Chorus 8 - No change from concept design.
2. Electra 10 - Changes to overhead alignment to ensure power lines are clear of construction zone.

LEGEND:

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- RAIL DESIGNATION
- RAIL EXISTING
- RAIL PROPOSED
- STRUCTURE
- CHORRUS TELECOM
- ELECTRA UNDERGROUND POWER CABLE
- ELECTRA OVERHEAD POWER CABLE
- WATER SUPPLY PIPE
- ARCUS WATER SUPPLY PIPE
- WASTEWATER PIPE
- STORMWATER PIPE
- RAILWAYS FIBRE CABLE
- RAILWAYS SIGNALS CABLE
- STORMWATER SWALE
- ONSITE BORROW SOURCE

Chorus 8 (C)
Decommission ext ducts

Chorus 8 (C)
Decommission ext ducts

Electra 10 (C)
U/G 2 x 100mm
ducts 11kv

3m WIDTH OF EXISTING PAVEMENT
RETAINED FOR PROPERTY ACCESS

REFER SHEET 15

MARY CREST BASIN

NORTH ISLAND MAIN TRUNK RAILWAY

MATCHLINE 11200

CASALLO STREAM

EXISTING STATE HIGHWAY 1

Chorus 8 (A)
2 x 100mm & 1 x 50mm Ducts

Chorus 8 (A)
2 x 100mm & 1 x 50mm Ducts

Electra 10 (D)
Remove ext O/H's

Electra 10 (A)
11kv & 33kv O/H's

Electra 10 (A)
11kv & 33kv O/H's

TE HAPUA ROAD

ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

Design			Approved For Construction
Drawn			
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: UTILITIES
Title: LAYOUT PLAN
SHEET 16 OF 18

Discipline: CIVIL
Drawing No.: PP2O-DR-CU-0016
Rev.: 0

Document No. R:\30DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CE\PP2O-DR-CU-0001-0018.DWG

ORIGINAL SIZE A3 : DO NOT SCALE

IF IN DOUBT ASK

30% Design Notes:

1. Chorus 8 - No change from concept design.
2. Electra 10 - Changes to overhead alignment to ensure power lines are clear of construction zone.

LEGEND:

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- RAIL DESIGNATION
- RAIL EXISTING
- RAIL PROPOSED
- STRUCTURE
- CHORRUS TELECOM
- ELECTRA UNDERGROUND POWER CABLE
- ELECTRA OVERHEAD POWER CABLE
- WATER SUPPLY PIPE
- ARCUS WATER SUPPLY PIPE
- WASTEWATER PIPE
- STORMWATER PIPE
- RAILWAYS FIBRE CABLE
- RAILWAYS SIGNALS CABLE
- STORMWATER SWALE
- ONSITE BORROW SOURCE

Chorus 8 (C)
Decommission ext ducts

Chorus 8 (C)
Decommission ext ducts

Chorus 8 (A)
2 x 100mm & 1 x 50mm Ducts

Electra 10 (D)
Remove ext O/H's

Chorus 8 (A)
2 x 100mm & 1 x 50mm Ducts

Electra 10 (A)
11kv & 33kv O/H's

Electra 10 (A)
11kv & 33kv O/H's

KUMOTOTO STREAM

AWATEA STREAM

NORTH ISLAND MAIN TRUNK RAILWAY

CYCLEWAY / WALKWAY / BRIDLEWAY (CWB) PATH

HADFIELD STREAM

MATCHLINE

11300 11400 11500 11600 11700 11800 11900

ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

Design			Approved For Construction
Drawn			
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: UTILITIES
Title: LAYOUT PLAN SHEET 17 OF 18

Discipline: CIVIL
Drawing No.: PP2O-DR-CU-0017
Rev.: 0

Document No. R:\30DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CEPP2O-DR-CU-0001-0018.DWG

ORIGINAL SIZE A3 : DO NOT SCALE

IF IN DOUBT ASK

Save Date: 16 May 2017 4:27 p.m.

30% Design Notes:

1. Chorus 8 - No change from concept design.
2. Electra 10 - Changes to overhead alignment to ensure power lines are clear of construction zone.

LEGEND:

- DESIGNATION BOUNDARY
- PROPERTY BOUNDARY
- RAIL DESIGNATION
- RAIL EXISTING
- RAIL PROPOSED
- STRUCTURE
- CHORRUS TELECOM
- ELECTRA UNDERGROUND POWER CABLE
- ELECTRA OVERHEAD POWER CABLE
- WATER SUPPLY PIPE
- ARCUS WATER SUPPLY PIPE
- WASTEWATER PIPE
- STORMWATER PIPE
- RAILWAYS FIBRE CABLE
- RAILWAYS SIGNALS CABLE
- STORMWATER SWALE
- ONSITE BORROW SOURCE

Chorus 8 (C)
Decommission ext ducts

Chorus 8 (A)
Connect to ext ducts installed at M2PP

Electra 10 (D)
Remove ext O/H's

Chorus 8 (A)
2 x 100mm & 1 x 50mm Ducts

Electra 10 (A)
Connect to ext O/H

Electra 10 (A)
11kv & 33kv O/H's

SHEET 17

11900 12000 12100 12200 12300 12400 12500

NORTH ISLAND MAIN TRUNK RAILWAY

EXISTING STATE HIGHWAY 1

NEW LOCAL ARTERIAL ROUTE

TE KOWHAI ROAD

HADFIELD STREAM

ORIGINAL IN COLOUR

30% DESIGN

No.	Revision	By	Chk	Appd	Date

Scale (A1) 1:1000
Scale (A3)

			Approved For Construction
Design			
Drawn			
Dsg Verifier			
Drg Check			Date

* Refer to Original Hardcopy for Signature

NZ TRANSPORT AGENCY WAKA KOTAHI | Peka Peka to Ōtaki Expressway | Fletcher HIGGINS | Beca | Tonkin+Taylor

Subject: UTILITIES
Title: LAYOUT PLAN SHEET 18 OF 18

Discipline: CIVIL
Drawing No.: PP2O-DR-CU-0018
Rev.: 0

Document No.: R:\30DD - DESIGN DEVELOPMENT GENERAL\09 CAD\DRAWINGS\CE\PP2O-DR-CU-0001-0018.DWG

ORIGINAL SIZE A3 : DO NOT SCALE

IF IN DOUBT ASK

Ext Sewer PS

Ext MH KWWN000783
LL: 14.151m
IL: 11.567m

Ext 150mm AC
Rising Sewer

Ext 225mm AC
Gravity Sewer

Ext MH KWWN000744
LL: 14.500m
IL: 11.880m

Ext MH KWWN000745
LL: 14.460m
IL: 11.940m

Ext MH KWWN000518
LL: 14.690m
IL 12.930m

Ext 150mm PVC Water

Ext 225mm AC
Gravity Sewer

KCDC Sewer 1 (A)
Proposed SEWER 250mm OD
PE100 SDR13.6 Rising Main

KCDC Sewer 1 (A)
Connect 250mm OD PE to existing 150mm
AC Rising Main

KCDC Sewer 1 (C)
PE pipe inside steel sleeve

DESIGNATION

Ext MH KWWN000746
LL: 14.380m
IL 12.060m

KCDC Water 1 (C)
Proposed WATER 180mm
OD PE100 SDR13.6

COUNTY ROAD

MH6

KCDC Sewer 1 (B)
Proposed SEWER 250mm PVC

KCDC Water 1 (A)
Proposed WATER - 250mm OD
PE100 SDR13.6

B

Ext Water PS

C

KCDC Sewer 1 (D)
Proposed SEWER 250mm PVC

Connect to ext 150mm PVC

MH4

Ext MH KWWN000748
LL: 13.560m
IL 11.360m

MH5

KCDC Water 1 (B)
PE pipe inside steel sleeve

KCDC Water 1 (F)
PE pipe inside steel sleeve

Abandoned 150mm
PVC Water

Abandoned 225mm
AC Gravity Sewer

RAHUI ROAD

Abandoned 200mm
PVC Water

KCDC Sewer 1 (D)
Proposed SEWER
250mm PVC

No. 43 Rahui Road Lateral

KCDC Water 1 (D)
Proposed WATER 125mm
OD PE100 SDR13.6

A

Abandoned 150mm
AC Rising Sewer

MH1

150mm PVC

No. 41 & 43 Water Connection

Abandoned 200 PVC
Water

Abandoned 225mm
AC Gravity Sewer

Ext MH KWWN000741
LL: 14.930m
IL 12.460m

MH2

MH3

KCDC Sewer 1 (D)
Proposed SEWER
250mm PVC

MILK FACTORY ACCESS

No. 41 Rahui Road Lateral

Proposed WATER 125mm OD
PE100 SDR13.6

RAIL CORRIDOR

No. 35 Rahui Road
Lateral (to MH1)

Ext MH KWWN000505
LL: 14.62m
IL 12.680m

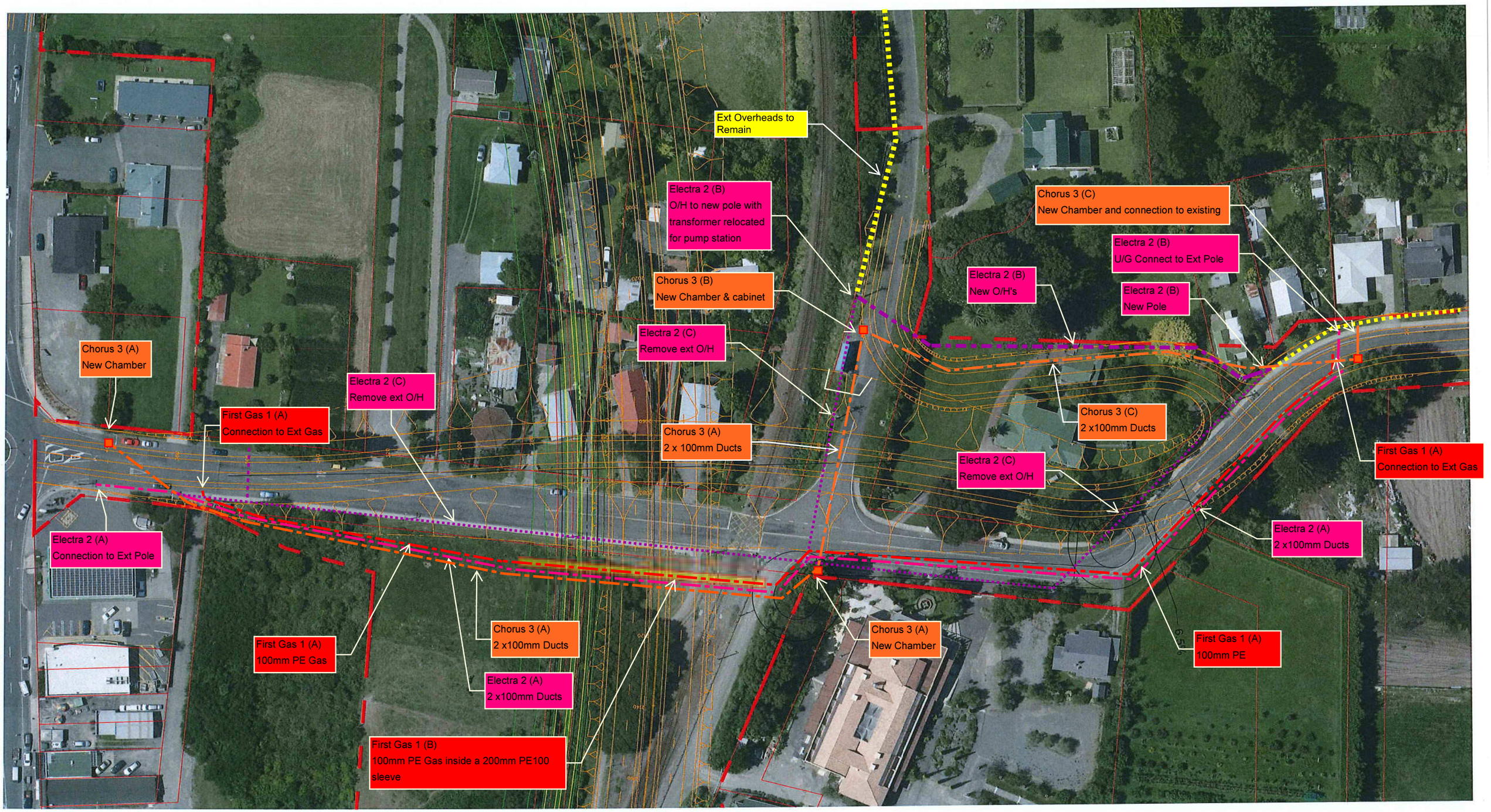
EXPRESSWAY

30% DESIGN

NORTH ZONE - PLAN SHOWING RAHUI RD
ALIGNMENT FOR CRAIG HIDDLESTON
PP2O-SK-GE-1-0003
SCALE 1:1000 (A3)
BY DST
28/02/2017

NOTE: THE DESIGN SHOWN IS STILL IN DEVELOPMENT AND WILL CHANGE . THIS DRAWING IS PROVIDED FOR INFORMATION ONLY

NETWORK UTILITIES PLAN - RAHUI ROAD - PROPOSED KCDC WATER & WASTEWATER DESIGN



LEGEND:

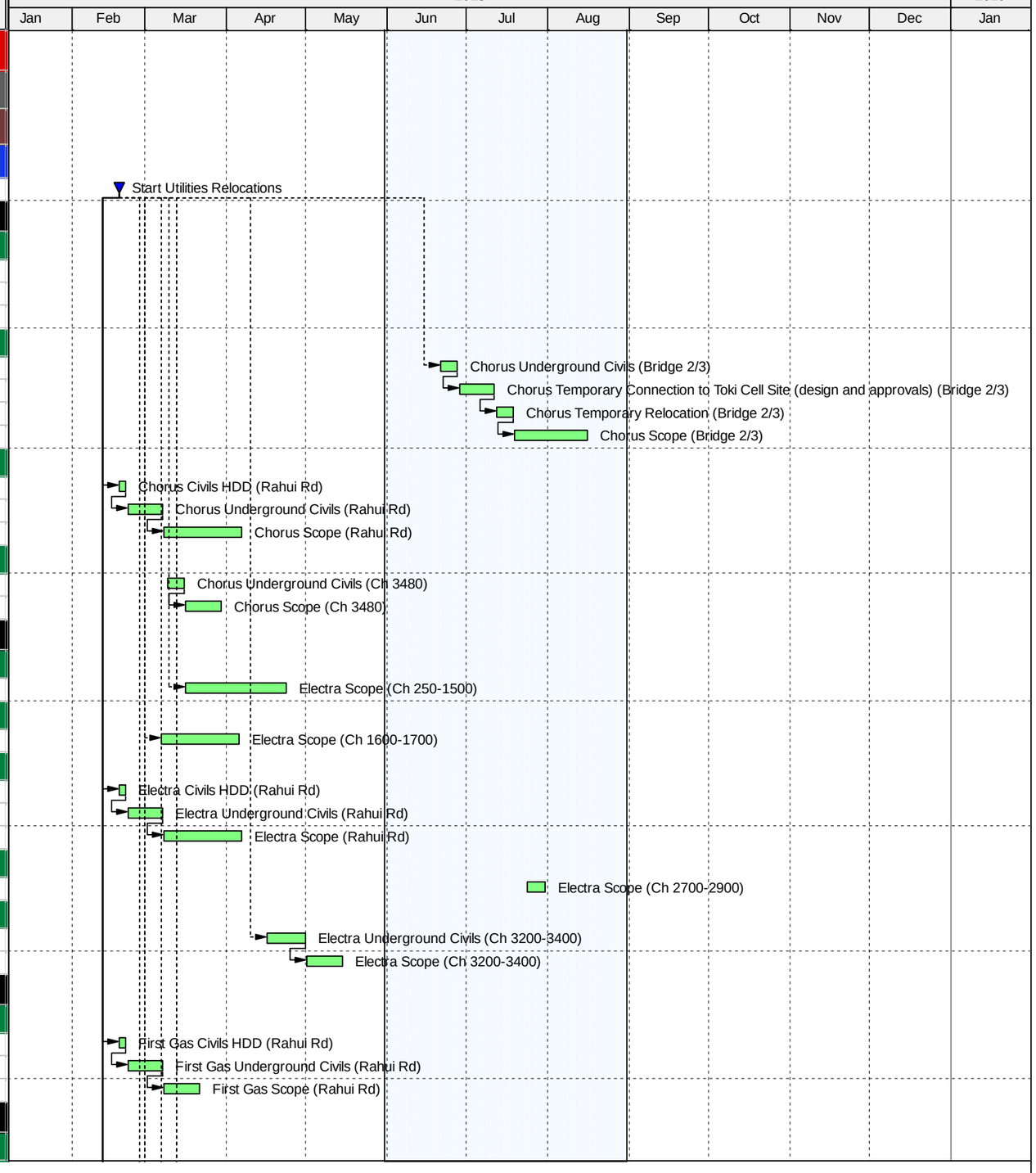
Existing Overheads to be Abandoned
Existing Overheads to Remain
New Overheads
New Underground Power
New Gas
New Chorus

30% DESIGN

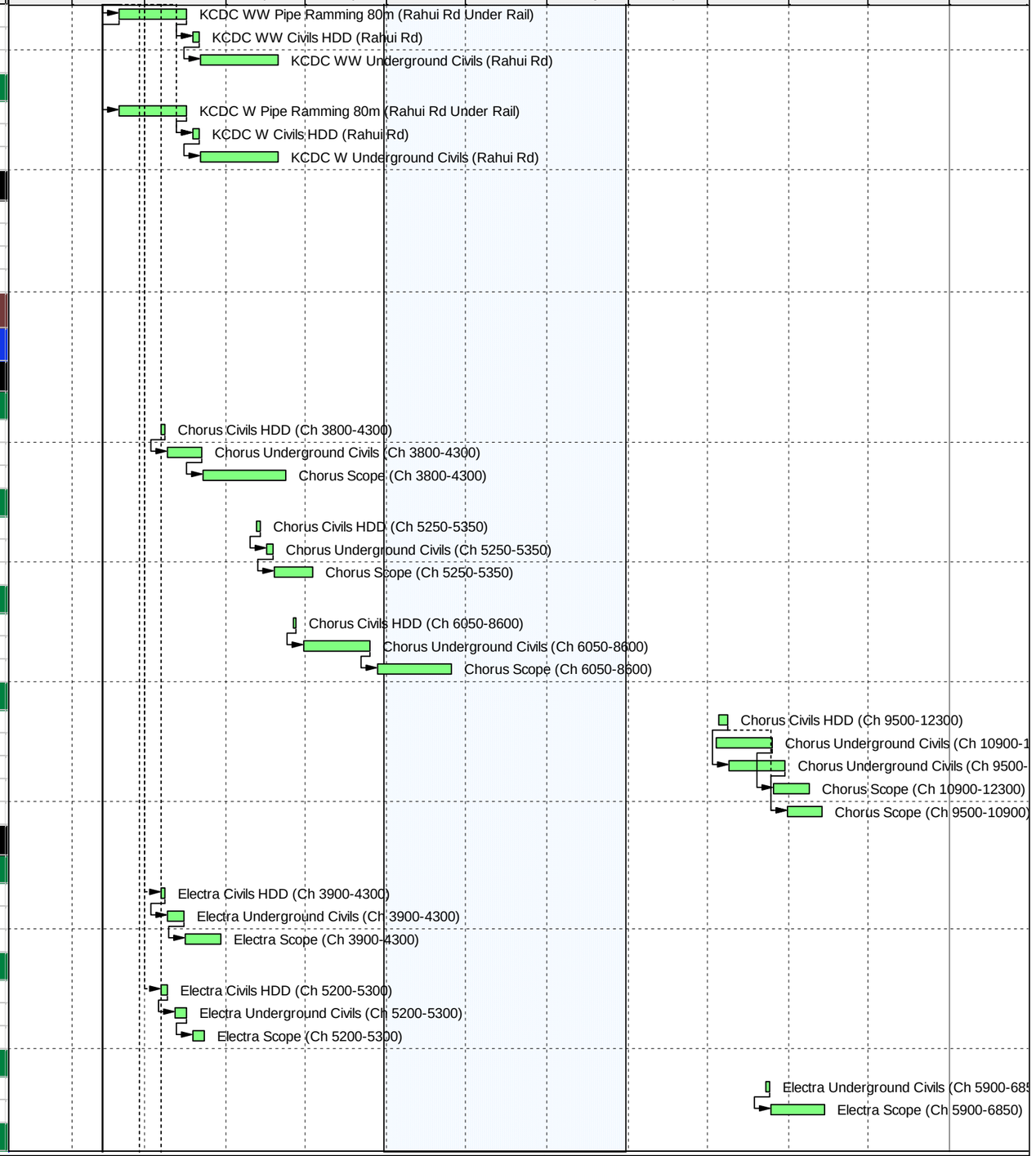
NETWORK UTILITIES PLAN - RAHUI ROAD - PROPOSED ELECTRA, CHORUS & FIRST GAS DESIGN

APPENDIX E – PROGRAMME

Activity Name	Orig Dur	Rem Dur	Start	Finish
Peka Peka to Otaki Expressway - Master	435d	435d	19-Feb-18	19-Nov-19
Construction	435d	435d	19-Feb-18	19-Nov-19
Zone 1 (North): Ch 0 - 3800	435d	435d	19-Feb-18	19-Nov-19
Utilities & Services	435d	435d	19-Feb-18	19-Nov-19
Start Utilities Relocations	0d	0d	19-Feb-18*	
Chorus	271d	271d	19-Feb-18	27-Mar-19
Chorus 1 (300-800)	28d	28d	18-Feb-19	27-Mar-19
Chorus Civils HDD 50m (Ch 300-800)	2d	2d	18-Feb-19	19-Feb-19
Chorus Underground Civils 630m (Ch 300-800)	6d	6d	20-Feb-19	27-Feb-19
Chorus Scope 630m (Ch 300-800)	20d	20d	28-Feb-19	27-Mar-19
Chorus 2 (Bridge 2/3)	40d	40d	21-Jun-18	15-Aug-18
Chorus Underground Civils (Bridge 2/3)	5d	5d	21-Jun-18	27-Jun-18
Chorus Temporary Connection to Toki Cell Site (design and approvals) (Bridge 2/	10d	10d	28-Jun-18	11-Jul-18
Chorus Temporary Relocation (Bridge 2/3)	5d	5d	12-Jul-18	18-Jul-18
Chorus Scope (Bridge 2/3)	20d	20d	19-Jul-18	15-Aug-18
Chorus 3 (Rahui Rd)	33d	33d	19-Feb-18	06-Apr-18
Chorus Civils HDD (Rahui Rd)	3d	3d	19-Feb-18	21-Feb-18
Chorus Underground Civils (Rahui Rd)	10d	10d	22-Feb-18	07-Mar-18
Chorus Scope (Rahui Rd)	20d	20d	08-Mar-18	06-Apr-18
Chorus 4 (3480)	15d	15d	09-Mar-18	29-Mar-18
Chorus Underground Civils (Ch 3480)	5d	5d	09-Mar-18	15-Mar-18
Chorus Scope (Ch 3480)	10d	10d	16-Mar-18	29-Mar-18
Electra	112d	112d	19-Feb-18	30-Jul-18
Electra 1 (Ch 250-1500)	25d	25d	16-Mar-18	23-Apr-18
Electra Scope (Ch 250-1500)	25d	25d	16-Mar-18	23-Apr-18
Electra 11 (Ch 1600-1700, Bridge 2/3))	20d	20d	07-Mar-18	05-Apr-18
Electra Scope (Ch 1600-1700)	20d	20d	07-Mar-18	05-Apr-18
Electra 2 (Rahui Rd)	33d	33d	19-Feb-18	06-Apr-18
Electra Civils HDD (Rahui Rd)	3d	3d	19-Feb-18	21-Feb-18
Electra Underground Civils (Rahui Rd)	10d	10d	22-Feb-18	07-Mar-18
Electra Scope (Rahui Rd)	20d	20d	08-Mar-18	06-Apr-18
Electra 3 (2700-2900)	5d	5d	24-Jul-18	30-Jul-18
Electra Scope (Ch 2700-2900)	5d	5d	24-Jul-18	30-Jul-18
Electra 4 (3200-3400)	20d	20d	16-Apr-18	14-May-18
Electra Underground Civils (Ch 3200-3400)	10d	10d	16-Apr-18	30-Apr-18
Electra Scope (Ch 3200-3400)	10d	10d	01-May-18	14-May-18
First Gas	23d	23d	19-Feb-18	21-Mar-18
First Gas 1 Rahui Rd (Ch 2100)	23d	23d	19-Feb-18	21-Mar-18
First Gas Civils HDD (Rahui Rd)	3d	3d	19-Feb-18	21-Feb-18
First Gas Underground Civils (Rahui Rd)	10d	10d	22-Feb-18	07-Mar-18
First Gas Scope (Rahui Rd)	10d	10d	08-Mar-18	21-Mar-18
KCDC (WW & SW)	43d	43d	19-Feb-18	20-Apr-18
Sewer (Rahui Rd)	43d	43d	19-Feb-18	20-Apr-18



Activity Name	Orig Dur	Rem Dur	Start	Finish
KCDC WW Pipe Ramming 80m (Rahui Rd Under Rail)	20d	20d	19-Feb-18*	16-Mar-18
KCDC WW Civils HDD (Rahui Rd)	3d	3d	19-Mar-18	21-Mar-18
KCDC WW Underground Civils (Rahui Rd)	20d	20d	22-Mar-18	20-Apr-18
Water 1 (Rahui Rd)	43d	43d	19-Feb-18	20-Apr-18
KCDC W Pipe Ramming 80m (Rahui Rd Under Rail)	20d	20d	19-Feb-18	16-Mar-18
KCDC W Civils HDD (Rahui Rd)	3d	3d	19-Mar-18	21-Mar-18
KCDC W Underground Civils (Rahui Rd)	20d	20d	22-Mar-18	20-Apr-18
ITS	90d	90d	16-Jul-19	19-Nov-19
ITS Trench/Ducting (100m/day) Zone 1	40d	40d	16-Jul-19	09-Sep-19
ITS Cabling Zone 1	10d	10d	10-Sep-19	23-Sep-19
ITS Terminations and Connections Zone 1	20d	20d	24-Sep-19	21-Oct-19
ITS Testing and Commissioning Zone 1	20d	20d	22-Oct-19	19-Nov-19
Zone 2 (South): 3800 - 12200	345d	345d	19-Feb-18	15-Jul-19
Utilities & Services	345d	345d	19-Feb-18	15-Jul-19
Chorus	175d	175d	07-Mar-18	13-Nov-18
Chorus 5 (3800-4300)	32d	32d	07-Mar-18	23-Apr-18
Chorus Civils HDD (Ch 3800-4300)	2d	2d	07-Mar-18	08-Mar-18
Chorus Underground Civils (Ch 3800-4300)	10d	10d	09-Mar-18	22-Mar-18
Chorus Scope (Ch 3800-4300)	20d	20d	23-Mar-18	23-Apr-18
Chorus 6 (5250-5350)	15d	15d	12-Apr-18	03-May-18
Chorus Civils HDD (Ch 5250-5350)	2d	2d	12-Apr-18	13-Apr-18
Chorus Underground Civils (Ch 5250-5350)	3d	3d	16-Apr-18	18-Apr-18
Chorus Scope (Ch 5250-5350)	10d	10d	19-Apr-18	03-May-18
Chorus 7 (6050-8600)	42d	42d	26-Apr-18	25-Jun-18
Chorus Civils HDD (Ch 6050-8600)	2d	2d	26-Apr-18	27-Apr-18
Chorus Underground Civils (Ch 6050-8600)	20d	20d	30-Apr-18	25-May-18
Chorus Scope (Ch 6050-8600)	20d	20d	28-May-18	25-Jun-18
Chorus 8 (9500-12300)	28d	28d	04-Oct-18	13-Nov-18
Chorus Civils HDD (Ch 9500-12300)	2d	2d	05-Oct-18	08-Oct-18
Chorus Underground Civils (Ch 10900-12300)	15d	15d	04-Oct-18	25-Oct-18
Chorus Underground Civils (Ch 9500-10900)	15d	15d	09-Oct-18	30-Oct-18
Chorus Scope (Ch 10900-12300)	10d	10d	26-Oct-18	08-Nov-18
Chorus Scope (Ch 9500-10900)	10d	10d	31-Oct-18	13-Nov-18
Electra	197d	197d	19-Feb-18	27-Nov-18
Electra 5 (3900-4300)	17d	17d	07-Mar-18	29-Mar-18
Electra Civils HDD (Ch 3900-4300)	2d	2d	07-Mar-18	08-Mar-18
Electra Underground Civils (Ch 3900-4300)	5d	5d	09-Mar-18	15-Mar-18
Electra Scope (Ch 3900-4300)	10d	10d	16-Mar-18	29-Mar-18
Electra 6 (5200-5300)	13d	13d	07-Mar-18	23-Mar-18
Electra Civils HDD (Ch 5200-5300)	3d	3d	07-Mar-18	09-Mar-18
Electra Underground Civils (Ch 5200-5300)	5d	5d	12-Mar-18	16-Mar-18
Electra Scope (Ch 5200-5300)	5d	5d	19-Mar-18	23-Mar-18
Electra 7 (5900-6850)	17d	17d	23-Oct-18	14-Nov-18
Electra Underground Civils (Ch 5900-6850)	2d	2d	23-Oct-18	24-Oct-18
Electra Scope (Ch 5900-6850)	15d	15d	25-Oct-18	14-Nov-18
Electra 8 (7100-7200)	2d	2d	26-Nov-18	27-Nov-18



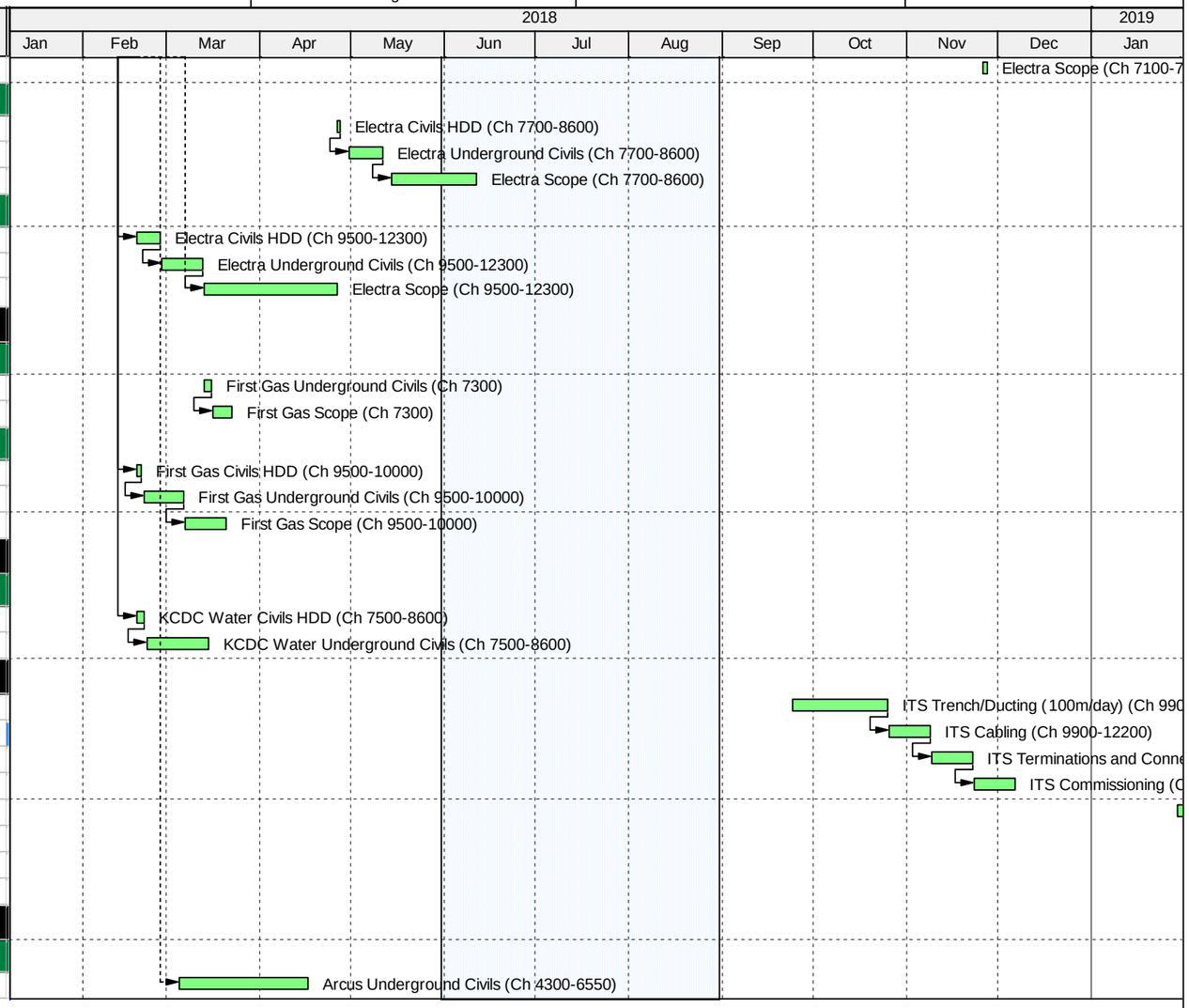
NZ TRANSPORT AGENCY WAKA KOTAHI

Peka Peka to Otaki
Utilities Programme

Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Milestones
Critical R...
Milestone

Fletcher HIGGINS
beca
Tonkin+Taylor

Activity Name	Orig Dur	Rem Dur	Start	Finish
Electra Scope (Ch 7100-7200)	2d	2d	26-Nov-18	27-Nov-18
Electra 9 (7700-8600)	32d	32d	26-Apr-18	11-Jun-18
Electra Civils HDD (Ch 7700-8600)	2d	2d	26-Apr-18	27-Apr-18
Electra Underground Civils (Ch 7700-8600)	10d	10d	30-Apr-18	11-May-18
Electra Scope (Ch 7700-8600)	20d	20d	14-May-18	11-Jun-18
Electra 10 (9500-12300)	46d	46d	19-Feb-18	26-Apr-18
Electra Civils HDD (Ch 9500-12300)	6d	6d	19-Feb-18	26-Feb-18
Electra Underground Civils (Ch 9500-12300)	10d	10d	27-Feb-18	12-Mar-18
Electra Scope (Ch 9500-12300)	30d	30d	13-Mar-18	26-Apr-18
First Gas	24d	24d	19-Feb-18	22-Mar-18
First Gas 3 School Rd (Ch 7300)	8d	8d	13-Mar-18	22-Mar-18
First Gas Underground Civils (Ch 7300)	3d	3d	13-Mar-18	15-Mar-18
First Gas Scope (Ch 7300)	5d	5d	16-Mar-18	22-Mar-18
First Gas 4 Mary Crest (Ch 9500-10000)	22d	22d	19-Feb-18	20-Mar-18
First Gas Civils HDD (Ch 9500-10000)	2d	2d	19-Feb-18	20-Feb-18
First Gas Underground Civils (Ch 9500-10000)	10d	10d	21-Feb-18	06-Mar-18
First Gas Scope (Ch 9500-10000)	10d	10d	07-Mar-18	20-Mar-18
KCDC	18d	18d	19-Feb-18	14-Mar-18
Water Relocation (7500-8600)	18d	18d	19-Feb-18	14-Mar-18
KCDC Water Civils HDD (Ch 7500-8600)	3d	3d	19-Feb-18	21-Feb-18
KCDC Water Underground Civils (Ch 7500-8600)	15d	15d	22-Feb-18	14-Mar-18
ITS	194d	194d	24-Sep-18	15-Jul-19
ITS Trench/Ducting (100m/day) (Ch 9900-12200)	23d	23d	24-Sep-18	25-Oct-18
ITS Cabling (Ch 9900-12200)	10d	10d	26-Oct-18	08-Nov-18
ITS Terminations and Connections (Ch 9900-12200) Zone 2	10d	10d	09-Nov-18	22-Nov-18
ITS Commissioning (Ch 9900-12200)	10d	10d	23-Nov-18	06-Dec-18
ITS Trench/Ducting (100m/day) (Ch 3800-9900)	65d	65d	29-Jan-19	03-May-19
ITS Cabling (Ch 3800-9900)	20d	20d	06-May-19	31-May-19
ITS Terminations and Connections (Ch 3800-9900) Zone 2	10d	10d	04-Jun-19	17-Jun-19
ITS Commissioning (Ch 3800-9900)	20d	20d	18-Jun-19	15-Jul-19
Arcus Water	29d	29d	05-Mar-18	16-Apr-18
Water Relocation (4300-6550)	29d	29d	05-Mar-18	16-Apr-18
Arcus Underground Civils (Ch 4300-6550)	29d	29d	05-Mar-18*	16-Apr-18



NZ TRANSPORT AGENCY WAKA KOTAHI

Peka Peka to Otaki Utilities Programme

Remaining Level of Effort
Actual Level of Effort
Actual Work
Remaining Work
Milestones
Critical R...
Milestone

Fletcher HIGGINS
Beca
Tonkin+Taylor

APPENDIX F – SITE SPECIFIC TRAFFIC MANAGEMENT PLAN

Site Specific Traffic Management Plan

– Peka Peka to Ōtaki Project

Project-wide Utilities

FCCL-TM-MPN-0010

Revision C – January 2018

Contents

1 INTRODUCTION

This Site Specific Traffic Management Plan (SSTMP) provides the necessary information to demonstrate how the project team plan to avoid or mitigate potential construction traffic effects from activities associated with installation and relocation of project-wide utilities.

This SSTMP reflects the requirements of the Construction Traffic Management Plan (CTMP) including sections 1.3 (Performance Standards) and section 3.2.1 - specifically the need to interface with TTM on other networks. This plan is also consistent with the requirements set out in the over-arching Construction Environmental Management Plan (CEMP).

This document is intended to be utilised by the construction team to clearly identify any site specific traffic management requirements that must be adhered to prior to, and during works in any given area.

The scope of works detailed within **SSEMP PW2** and for which this SSTMP covers includes:

- Installation of new underground services and the relocation of existing underground services including water, gas, power, sewer, Chorus and ITS across the full project alignment.
- Use of pipe ramming, horizontal directional drilling and open trench options depending on the preferred methodology.
- Relocation of overhead power lines.

The temporary traffic management required to carry out these works across the site consists of the establishment of access point only.

There are twelve access points proposed across the length of the works – Site Access Points (SAPs) 1 to 12 which shall be utilised for the duration of the works. Details and locations of these SAPs are included within Appendix A.

Most of these SAPs are already established in accordance with SSTMP PW1 'Vegetation Clearance and Enabling Works', and will continue to be utilised for works required for project wide utility installation and relocations.

Majority of the SAP's are in locations of existing access points off either the State Highway network or KCDC network. The SAPs in locations where there are no existing access points are all within the KCDC network in areas of clear and / or reduced local speed environments.

1.1 The SSTMP and TMP Process

This SSTMP provides the necessary information from a project level on how the effects of construction traffic related to the site activities will be avoided or mitigated across the two roading networks in the location of the expressway works i.e. the State Highway Network (NZTA) and the local road network (KCDC).

Each of the two Road Controlling Authorities (RCAs) has its own processes and procedures for the approval of Traffic Management Plans (TMPs) and implementation of temporary traffic management within their respective networks which is separate to the SSTMP process.

It is recognised that approval / implementation of TMPs associated with this SSTMP will be staged and implemented at differing times over the course of the works. In addition, it is recognised that the TMPs themselves may alter due to both project and surrounding community requirements.

The purpose of this SSTMP is to provide the base (minimum) standard of service / maximum practical level of mitigation to be incorporated into the development of the respective TMPs, all the while ensuring that the BOI consent conditions and subsequent CTMP requirements are met during the construction process

2 SSTMP CONSENT CONSIDERATIONS

Reference should also be made to section 3.2 of the CTMP.

2.1 Proposed Temporary Traffic Management Measures – BOI condition 34 b (i)

Access to site will be via twelve site access points (SAPs). Each of these will have the required (CoPTTM) signage and early warning delineation provided by a combination of cones and line marking, all in accordance with the respective RCA TMP requirements.

2.2 Assessment of delays – BOI condition 34 b (ii)

As there are no closures or detours associated with the implementation and operation of the SAPs, delays to existing traffic flows are not expected.

Subsequent TMPs will incorporate an assessment of expected delays if relevant and will also provide delay calculations.

2.3 Detour Routes – BOI condition 34 b (iii)

There are no expected detours associated with the temporary traffic management measures included within this SSTMP. Should a Detour Route be identified a Traffic Management Plan will be subject to review by the relevant RCA before implementation. It is expected that should any detour be required this will be for short term activities only.

2.4 Existing Accesses – BOI condition 34 b (iv)

The proposed temporary traffic management measures do not knowingly affect existing accesses to private or commercial properties.

2.5 Pedestrian and Cyclist Access – BOI condition 34 b (v)

There are a number of SAPs that will cross existing pedestrian footpaths. At these locations, the appropriate (CoPTTM) signage will be installed. Operation of these Saps will be mindful of daily peak periods generated through students walking to and from school.

The SAPs do not affect any dedicated cycle paths or lanes though their set out and operation will be mindful of cyclists in accordance with CoPTTM and applicable RCA requirements.

2.6 Maintaining Existing Transport Services – BOI condition 34 b (vi)

The proposed temporary traffic management measures for implementation of the work areas will not affect any existing public transport services and facilities such as bus stops.

2.7 Temporary Speed Limits (TSL) – BOI condition 34 b (vii)

There are currently no TSLs proposed or required in conjunction with the safe operation of the SAPs. If required as works progress, TSLs will be identified as and when required in TMPs submitted to and approved by the relevant RCA.

2.8 Access to & From the Construction Site – BOI condition 34 b (viii)

The primary objective of this SSTMP is the planning (TMPs), approvals (RCAs) and incorporation of Site Access Points (SAP's) as outlined in the attached drawings to ensure the safe and efficient access to and from site of construction related traffic.

The operating hours of the SAPs will be in accordance with the proposed hours of work included within the Construction Noise and Vibration Management Plan (CNVMP) i.e.

- Monday to Friday 6.30am to 8pm
- Saturday 7.30am to 6pm

Operation outside those hours will be at the approval of the Engineer and in accordance with the provisions of the CNVMP.

2.9 Communications and Stakeholders – BOI condition 34 b (ix)

As the effects of the proposed measures are as yet unknown, implementation and operation of the SAPs will be communicated to stakeholders, road users and the community via the methods and processes as included within the project Stakeholder and Communications Management Plan, with particular emphasis on the key groups identified in Section 3.1 of the CTMP as required.

3 ADDITIONAL CTMP CONSIDERATIONS

3.1 Kiwirail NIMTR – CTMP section 2.1.2

The implementation of and operation of the SAPs may involve the need to collaborate with Kiwirail as sites may cross the NIMT Railway or existing at grade carriageway crossings. Traffic management strategies will include having no delays created for Kiwirail and the NIMT.

3.2 Emergency Action Plan(s) – CTMP section 3.2.3.8

All emergency services shall have unimpeded access along all State Highway and local roads 24 hours per day.

3.3 Access to KCDC Owned and Operated Water and Waste Water Assets – CTMP section 3.2.1.1.7

Access to existing KCDC water and waste water assets will not be impeded by any SAPs outlined in this SSTMP.

3.4 Monitoring, Auditing & Reporting – CTMP sections 3.3 & 3.4

Monitoring, auditing and reporting of the traffic management measure (once implemented) shall be in accordance with the CTMP.

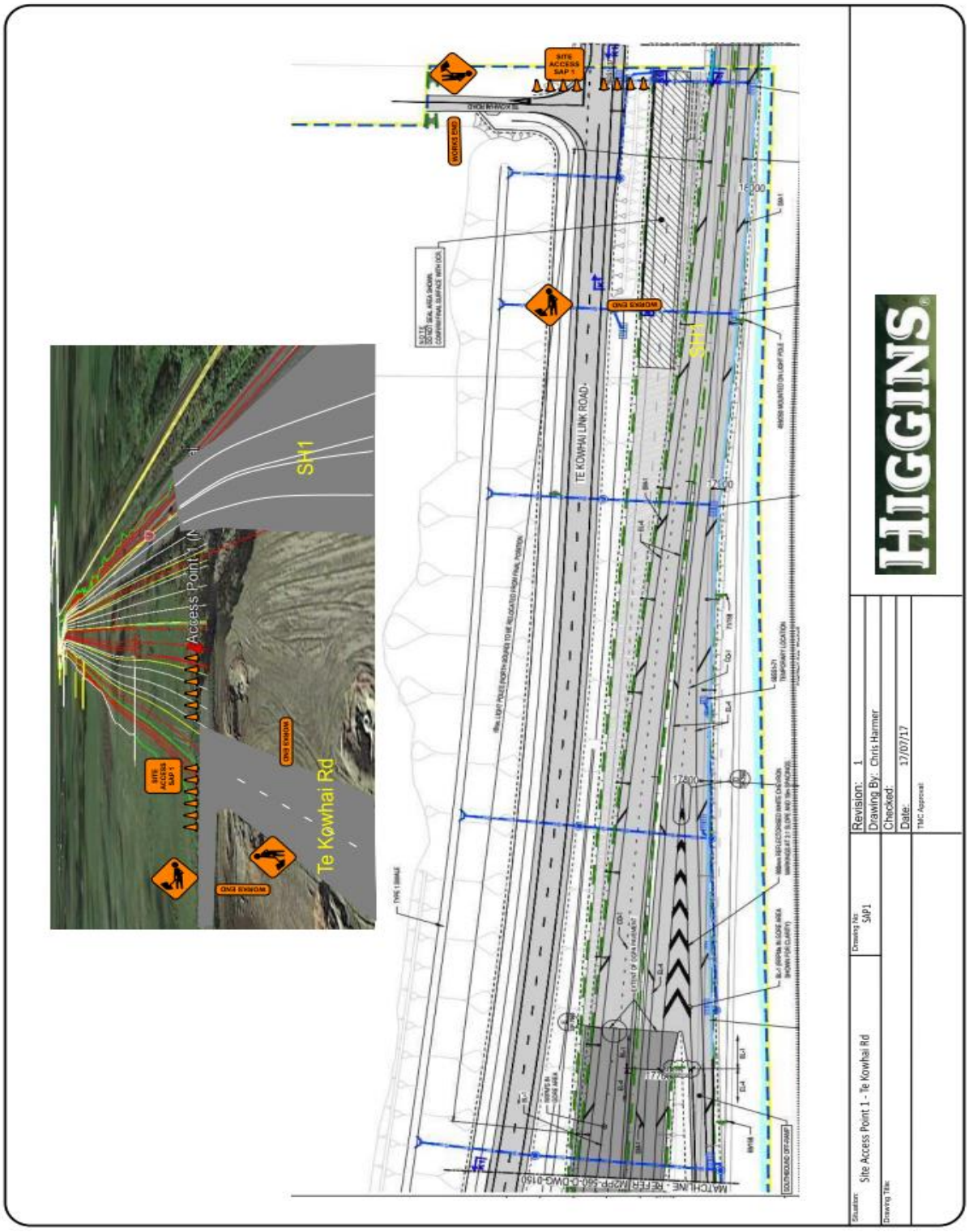
3.5 Complaints – CTMP sections 3.5

Feedback including complaints received related to the implementation of temporary traffic management measures covered within this SSTMP shall be recorded and processed in line with the CTMP.

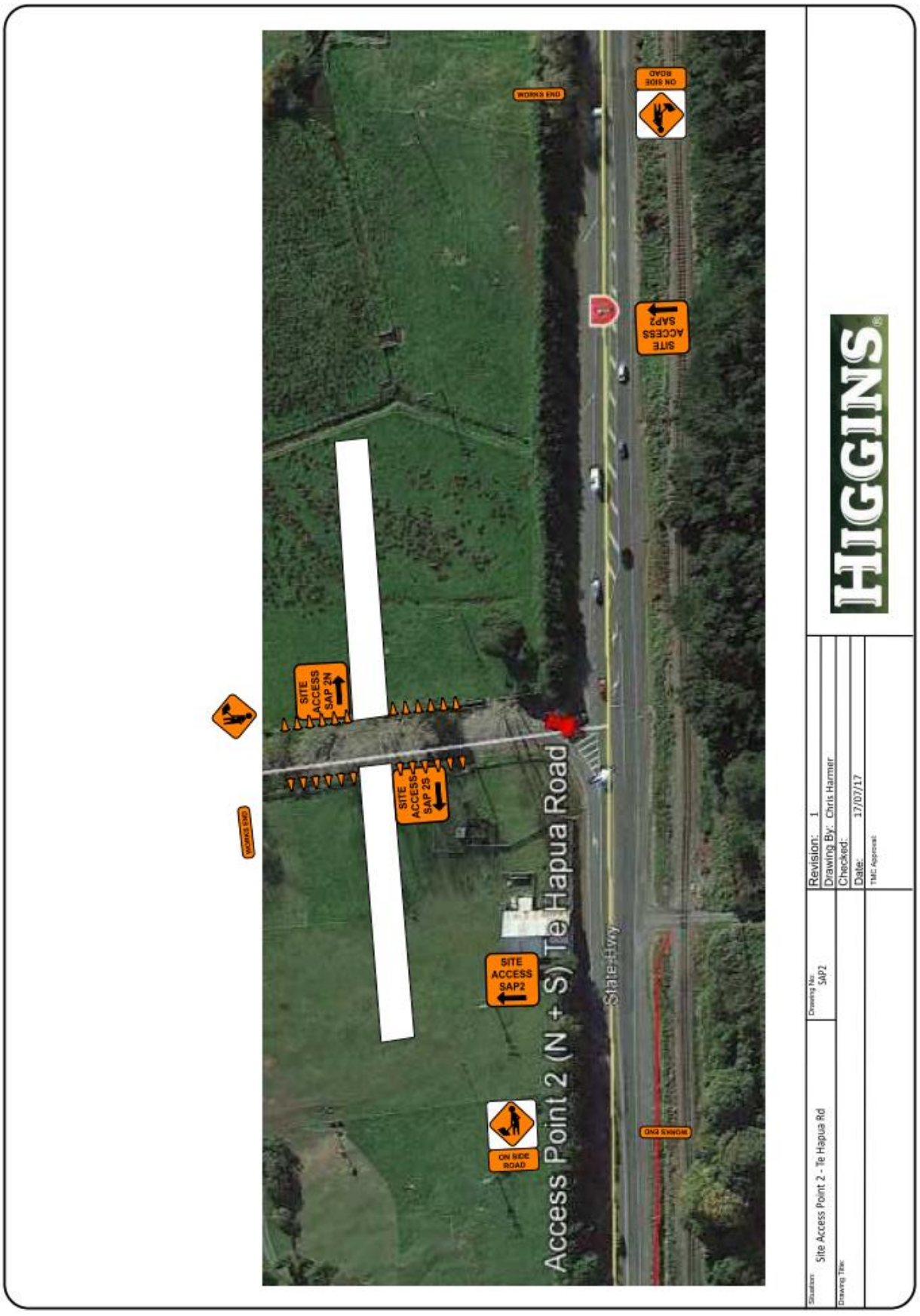
APPENDIX A – SITE ACCESS POINT (I.D) AND LOCATION

Site Access Point No	Location
1	Te Kowhai Road
2	Te Hapua Road
3	SH1 – Mary Crest
4	SH1 – Mary Crest
5	Gear Road
6	School Road
7	Te Horo Beach Road
8	Old Hautere Road
9	Ōtaki Gorge Road
10	Ōtaki Gorge Road
11	Rahui Road
12	SH! North Ōtaki

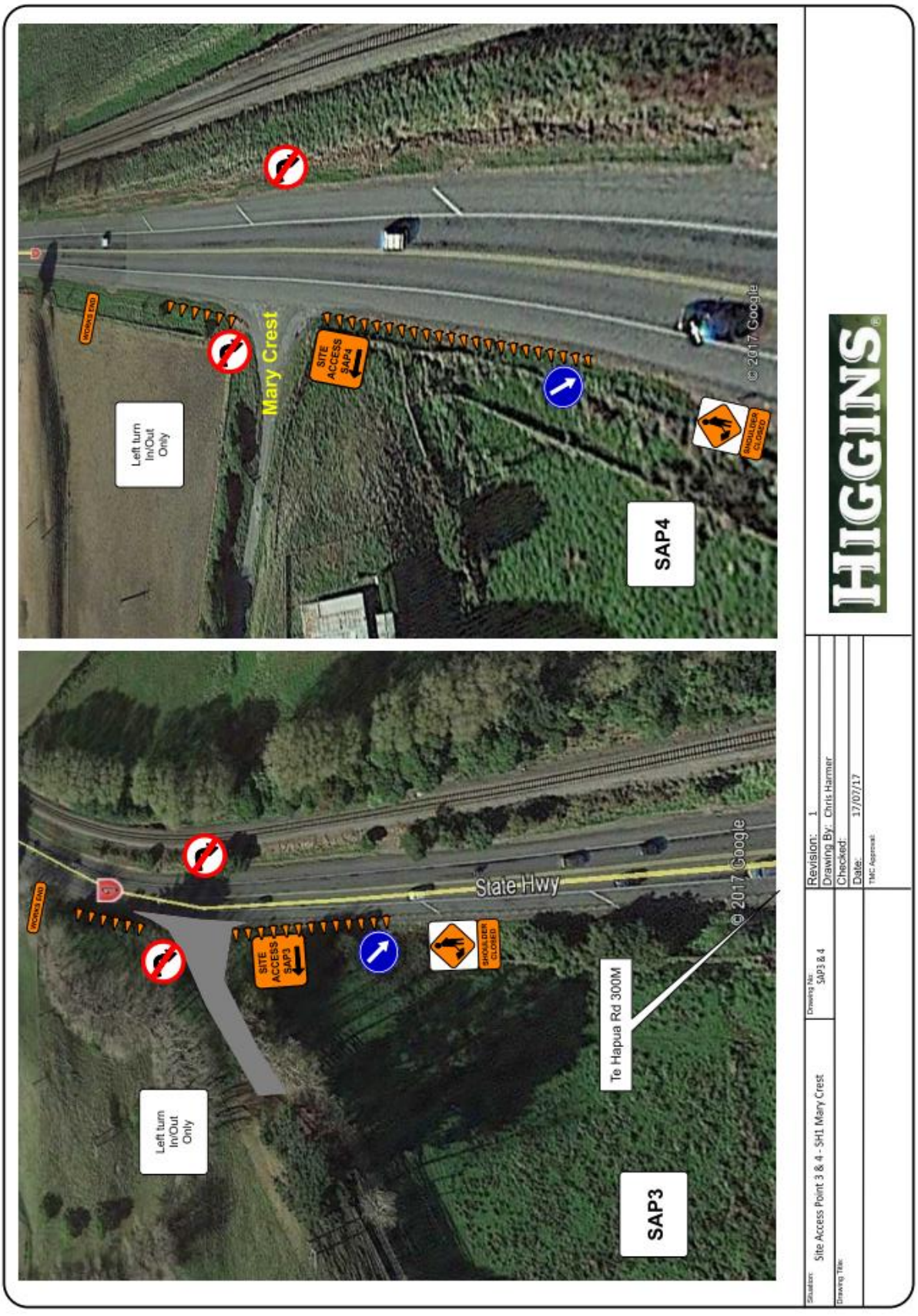
SAP 1


SH1
Access Point 1
Te Kowhai Rd
SITE ACCESS SAP 1
WORKS END
TE KOWHAI LINK ROAD
SH1
HIGGINS
Situation: Site Access Point 1 - Te Kowhai Rd
Drawing No: SAP1
Drawing Title:
Revision: 1
Drawing By: Chris Harmer
Checked:
Date: 17/07/17
TMC Approval:

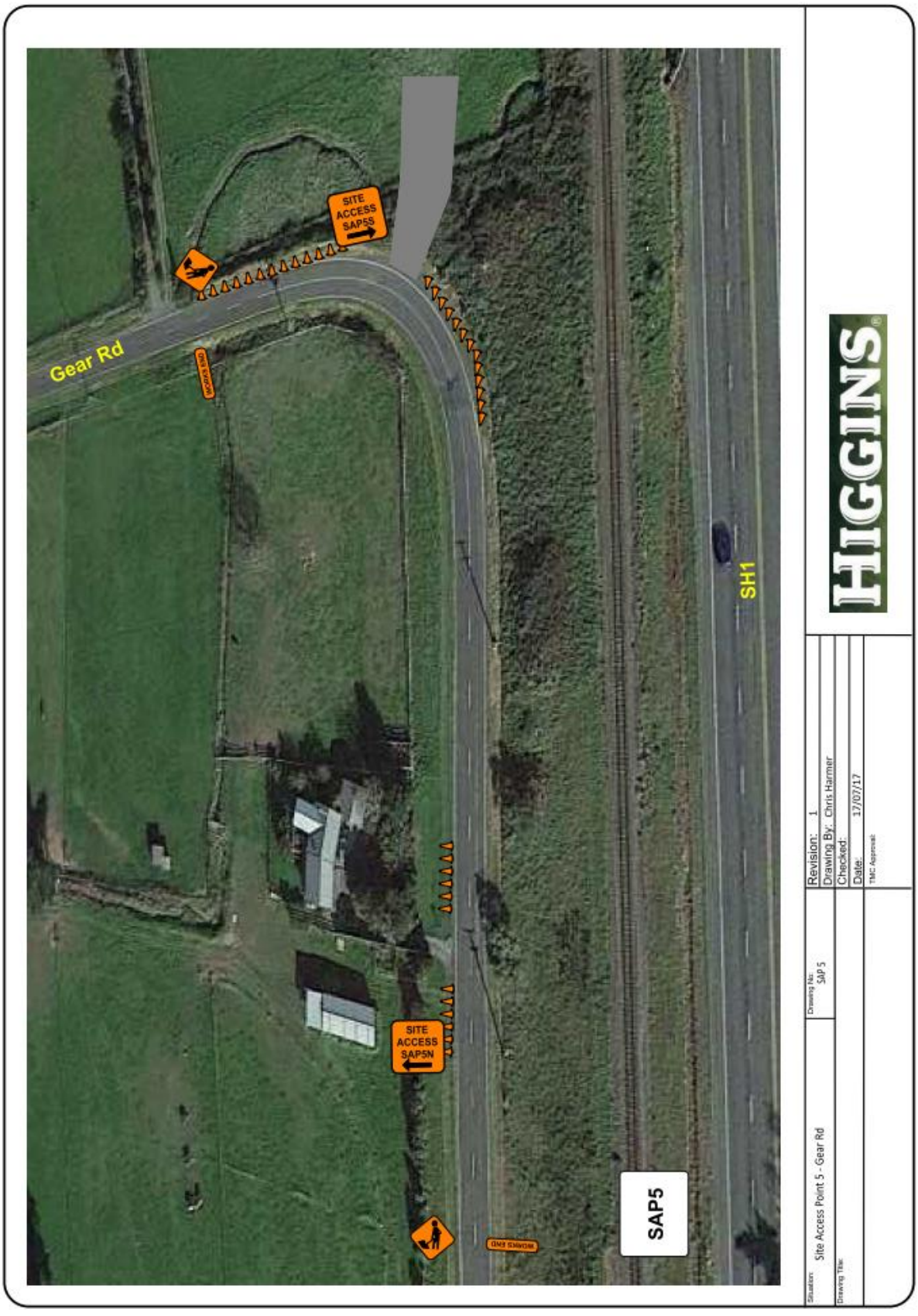
SAP 2


Access Point 2 (N + S) Te Hapua Road
State Hwy
SITE ACCESS SAP 2N
SITE ACCESS SAP 2S
SITE ACCESS SAP2
SITE ACCESS SAP2
ON SIDE ROAD
ON SIDE ROAD
WORKS END
WORKS END
WORKS END
Site Access Point 2 - Te Hapua Rd
SAP2
Revision: 1
Drawing By: Chris Harmer
Checked:
Date: 17/07/17
TMC Approval:
HIGGINS

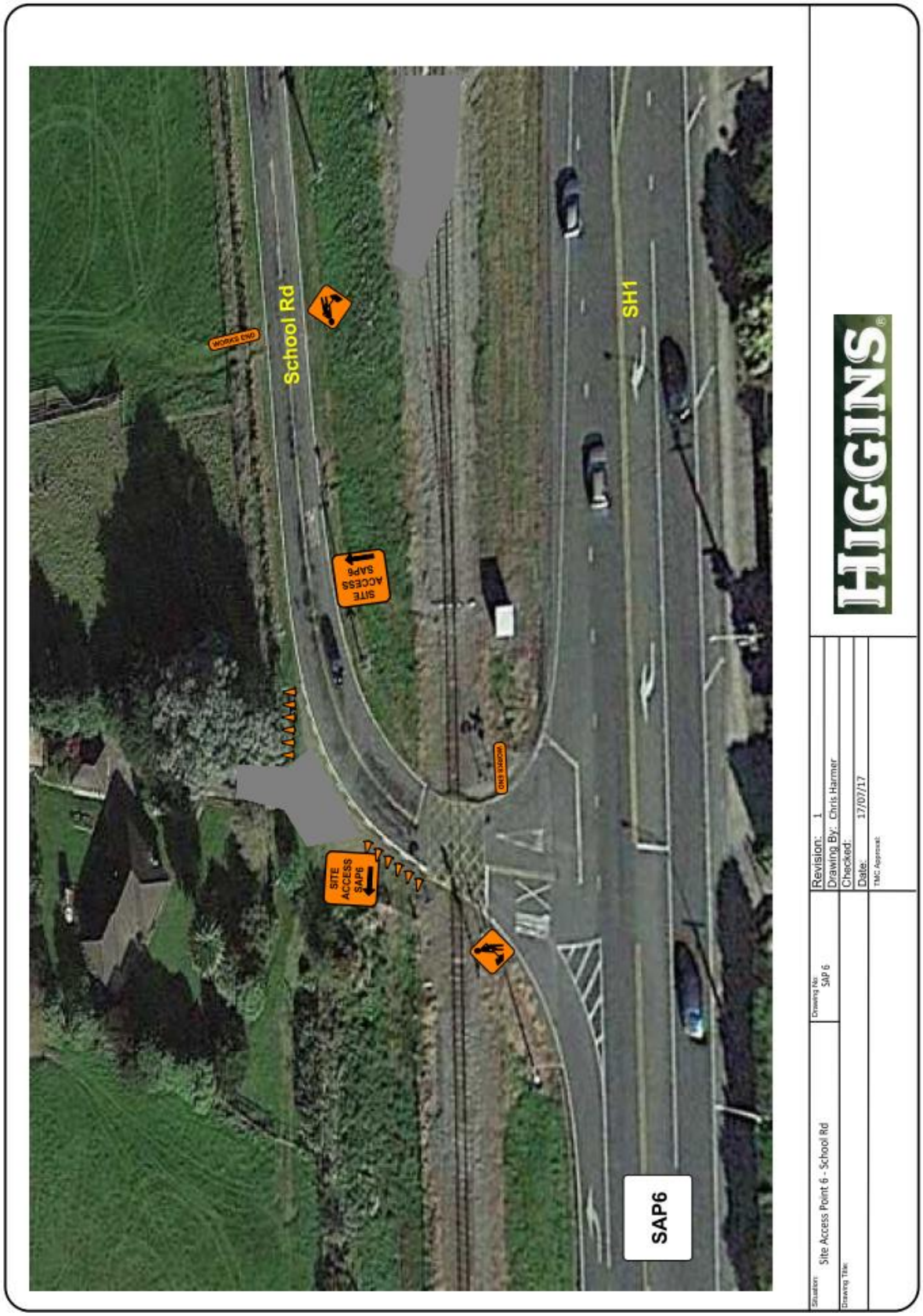
SAP 3 & SAP 4


Mary Crest
SITE ACCESS SAP4
WORKS END
Left turn In/Out Only
SHOULDER CLOSED
SAP4
© 2017 Google
State Hwy
SITE ACCESS SAP3
Te Hapua Rd 300M
SAP3
HIGGINS
Site Access Point 3 & 4 - SH1 Mary Crest
SAP3 & 4
Revision: 1
Drawing By: Chris Harmer
Checked:
Date: 17/07/17
TMC Approval:

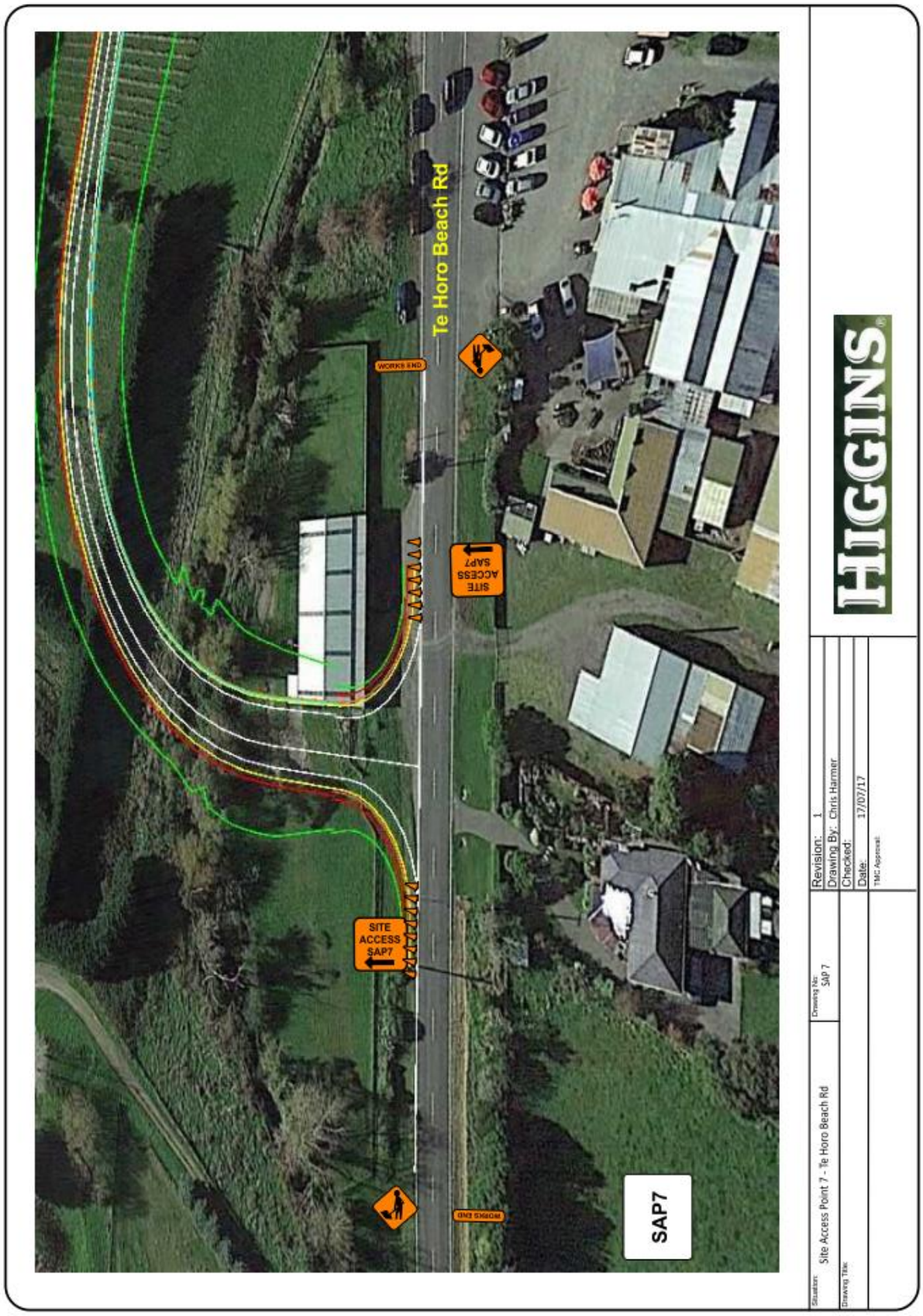
SAP 5


SITE ACCESS SAP5S
Gear Rd
SITE ACCESS SAP5N
SH1
SAP5
HIGGINS
Site Access Point 5 - Gear Rd
Drawing No: SAP 5
Revision: 1
Drawing By: Chris Harmer
Checked:
Date: 17/07/17
TMC Approval:

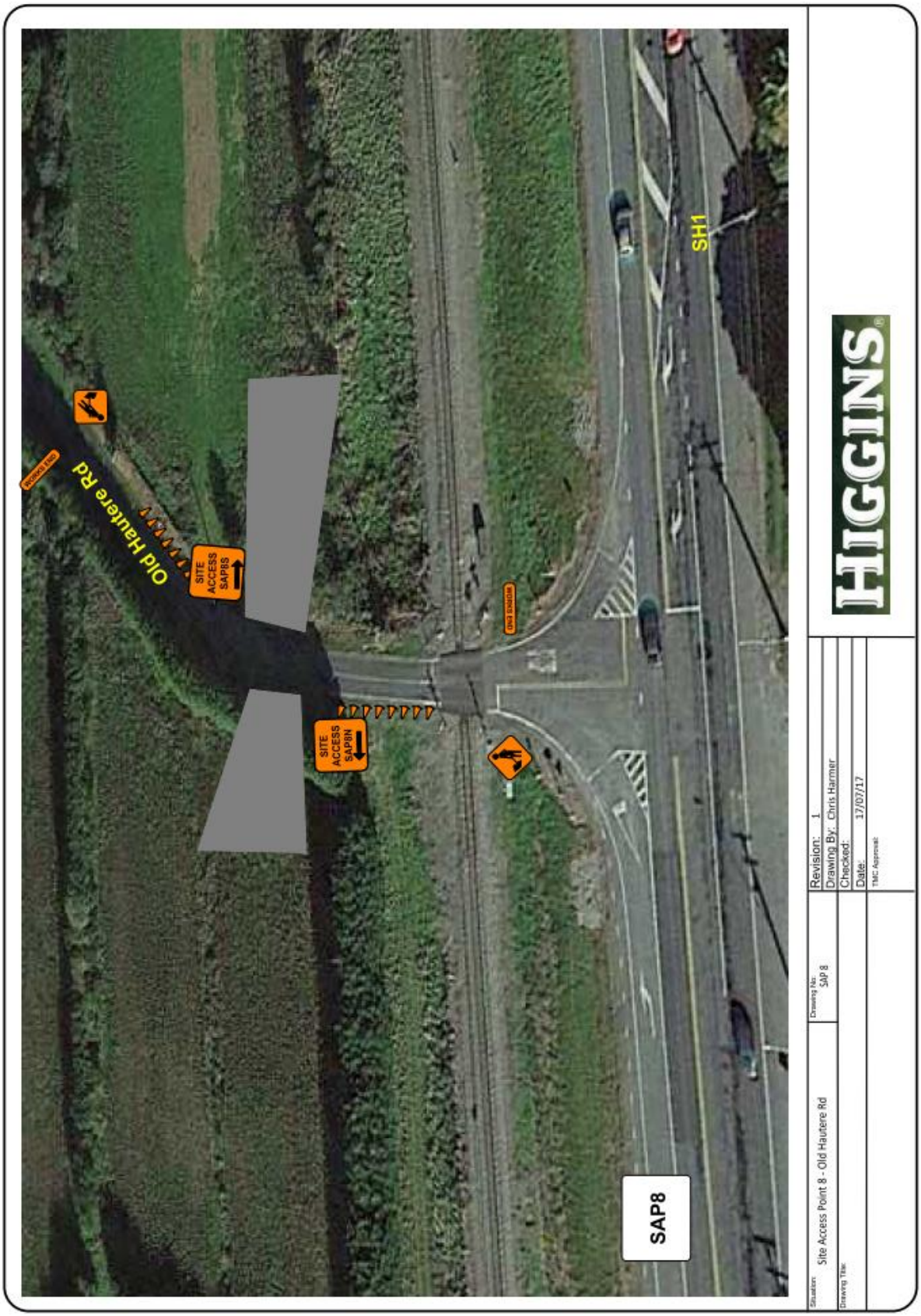
SAP 6


School Rd
SH1
WORKS END
SITE ACCESS SAP6
SITE ACCESS SAP6
WORKS END
SAP6
HIGGINS
Site Access Point 6 - School Rd
Drawing No: SAP 6
Revision: 1
Drawing By: Chris Harmer
Checked:
Date: 17/07/17
TMC Approval:

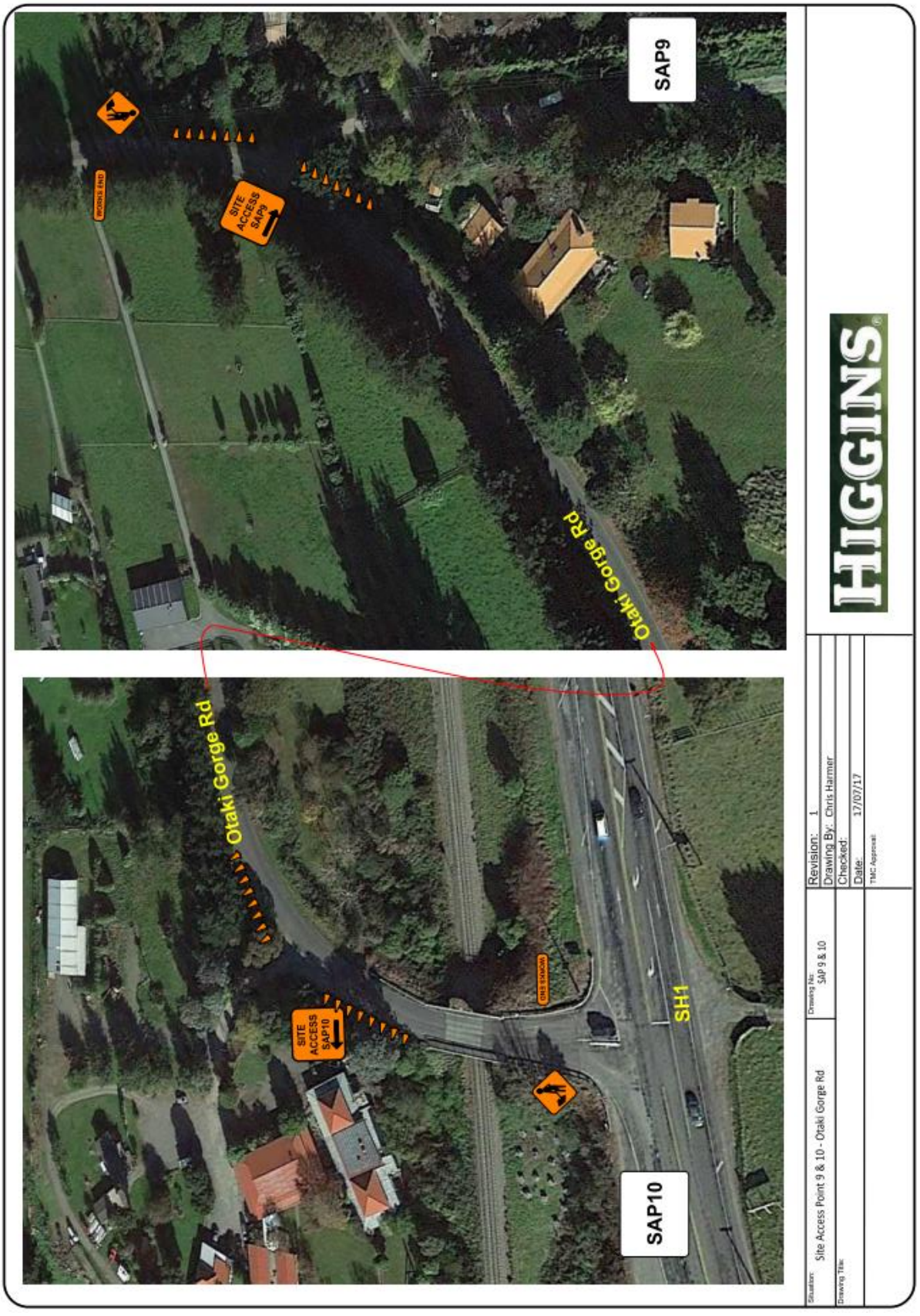
SAP 7


Te Horo Beach Rd
WORKS END
SITE ACCESS SAP7
SITE ACCESS SAP7
WORKS END
SAP7
HIGGINS
Situation: Site Access Point 7 - Te Horo Beach Rd
Drawing No: SAP 7
Drawing Title:
Revision: 1
Drawing By: Chris Harmer
Checked:
Date: 17/07/17
TMC Approval:

SAP 8


SH1
Old Hauture Rd
SITE ACCESS SAP8S
SITE ACCESS SAP8N
SAP8
HIGGINS
Site Access Point 8 - Old Hauture Rd
SAP 8
Revision: 1
Drawing By: Chris Harmer
Checked:
Date: 17/07/17
TMC Approval:

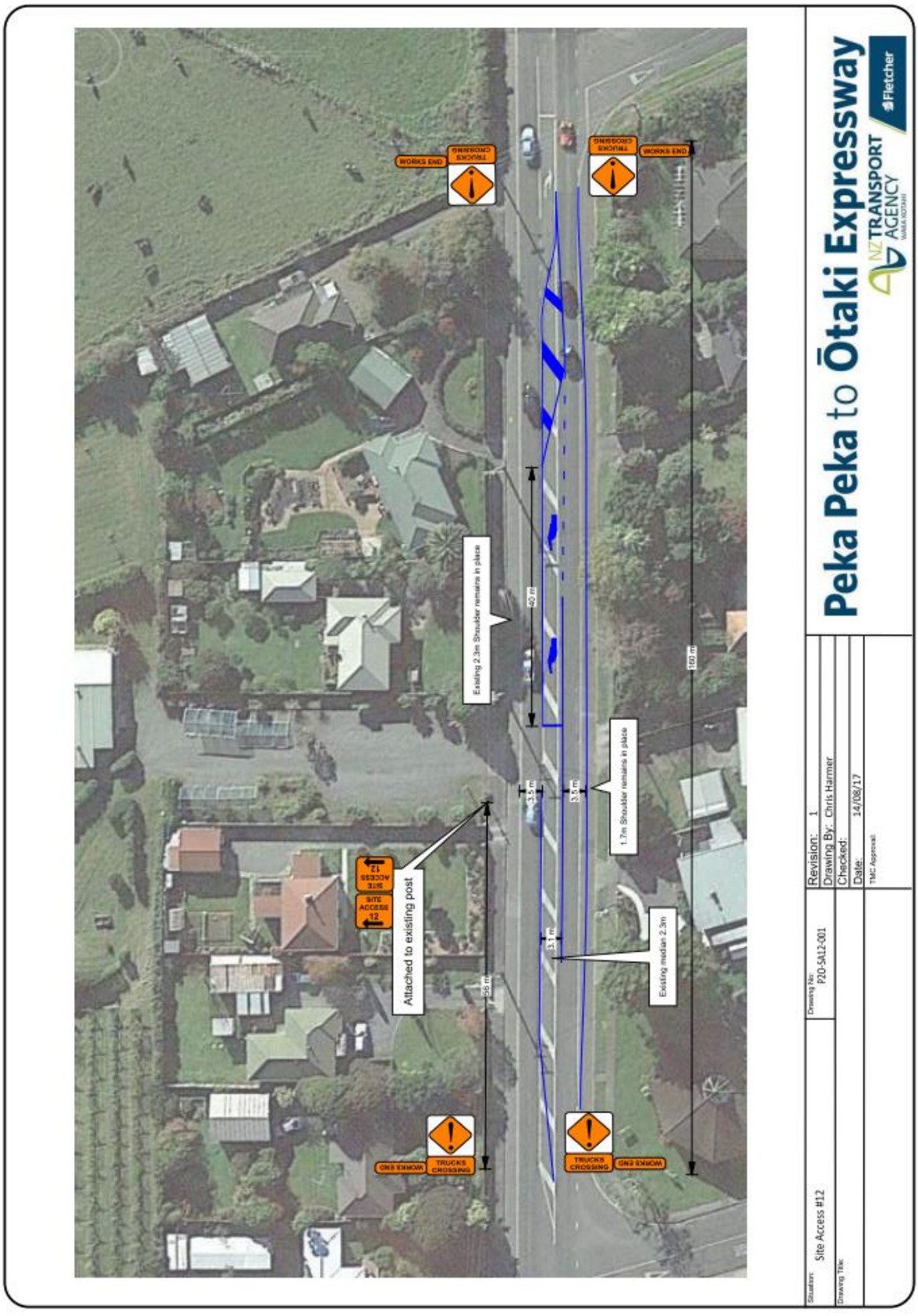
SAP 9 & SAP 10


SAP9
Otaki Gorge Rd
SITE ACCESS SAP9
WORKS END
SAP10
Otaki Gorge Rd
SITE ACCESS SAP10
SH1
HIGGINS
Situation: Site Access Point 9 & 10 - Otaki Gorge Rd
Drawing No: SAP 9 & 10
Drawing Title:
Revision: 1
Drawing By: Chris Harmer
Checked:
Date: 17/07/17
TMC Approval:

SAP 11


SITE ACCESS SAP11S
SITE ACCESS SAP11N
WORKS END
WORKS END
Rahui Rd
SAP11
HIGGINS
Situation: Site Access Point 11 - Rahui Rd
Drawing No: SAP 11
Drawing Title:
Revision: 1
Drawing By: Chris Harmer
Checked:
Date: 17/07/17
TMC Approval:

SAP 12


Peka Peka to Ōtaki Expressway
NZ TRANSPORT AGENCY
Fletcher
Site Access #12
P20-SA12-001
Revision: 1
Drawing By: Chris Harmer
Checked:
Date: 14/08/17
TMC Approval:
Existing 2.3m Shoulder remains in place
1.7m Shoulder remains in place
Existing median 2.3m
Attached to existing post
SITE ACCESS 12
TRUCKS CROSSING
WORKS END
50 m
103 m
56 m
3.5 m
3.5 m
3.1 m