

NORTHLAND CORRIDOR – BRYNDERWYN HILLS SECTION TO THE ALTERNATIVE TO THE BRYNDERWYN HILLS – PROPOSED REGIONAL RESOURCE CONSENT CONDITIONS

Draft as at 13 July 2026

These resource consents authorise the Consent Holder to undertake the following activities for the purposes of the construction, operation, maintenance and improvement of the Brynderwyn Hills section of the Alternative to the Brynderwyn Hills project.

The resource consents granted authorise the following activities:

(a) Land disturbing activities (including earthworks, vegetation clearance, vegetation planting, roading, tracking, stockpiling and disposal of fill) under section 9 of the Resource Management Act 1991 (RMA) and associated discharges of contaminants to land and into water and air under section 15 of the RMA (RC01).

(b) Works in, on, under or over Watercourses under section 13 of the RMA (RC02). including:

(i) The use, placement and erection of structures (including bridges, culverts, discharge outlets and associated erosion control structures);

(ii) Reclamation of the beds of Watercourses; and

(iii) Any associated bed disturbance.

(c) The taking, damming and diversion of water under section 14 of the RMA (RC03).

(d) The discharge of stormwater under section 15 of the RMA during operation of the Project (RC04).

(e) Activities under the Resource Management (National Environmental Standards for Freshwater Management) Regulations 2020 (NES-FW) (RC01-RC05).

These activities may occur in, on or over land designated by the New Zealand Transport Agency for the construction, operation and maintenance of a State Highway near the intersection of SH1 and Baldrock Road, and through the Brynderwyn Hills to Waipū.

Definitions

Term	Definition
Consents	Consents RC01 – RC05 (unless otherwise specified).
Consent Holder	New Zealand Transport Agency Waka Kotahi.
Council	Northland Regional Council.
Designation(s)	The designation(s) for the Project included in the Kaipara District Plan and the Whangārei District Plan.
ESC	Erosion and Sediment Control.

Term	Definition
First Gas	First Gas Limited.
Gas Pipeline	First Gas Maungaturoto Gas Mainline.
GD05	Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region; June 2016; Guideline Document 2016/005 (incorporating Amendment 3).
Hapū	Representatives authorised by Te Uri o Hau, Patuharakeke Te Iwi Trust Board and Te Parawhau ki Tai
Highly Sensitive Receptors	Locations where there are activities that are sensitive to dust effects, such as dwellings, schools, marae, hospitals, child-care and aged-care facilities.
Major Cut	The excavation or installation of a structure greater than 2m below the water table.
Management Plan(s)	The management plans and reports required by Conditions [RCX], [RCX].
National Grid Transmission Assets	Henderson to Marsden A (220kV high voltage transmission line) (HEN-MDN-A).
Existing Wetland(s)	Wetlands identified in Appendix [A] .
NZTA STWS	NZ Transport Agency <i>Stormwater Treatment for Road Infrastructure</i> (May 2010).
Project	The construction, operation, maintenance and improvement of the Brynderywn Hills section of the Alternative to the Brynderwyn Hills project.
Project Works	Activities undertaken to construct the Project.
RMA	Resource Management Act 1991.
Site	The area defined by the boundary of the Designation(s).
Suitably Qualified Person	A person (or persons) who can provide sufficient evidence to demonstrate their suitability and competence in the relevant field of expertise.
Transpower	Transpower New Zealand Limited.
TSS	Total Suspended Solids.

Term	Definition
Trigger Event	An event in which there is (or is forecast to be) rainfall intensity of 25mm in any 24 hour period or 15mm in any 1 hour period.
Watercourse(s)	Perennial and intermittent rivers and streams but not overland flow paths, conveyance channels or Wetlands.
Wetland(s)	Includes permanently or intermittently wet areas, shallow water, and land water margins that support a natural ecosystem of plants and animals that are adapted to wet conditions (excluding constructed wetlands).
Wildlife Approval	The approval issued by the Expert Panel under the Wildlife Act 1953 for the Project (Reference WA#).
Working Day(s)	Has the same meaning as s2 of the RMA.

GENERAL

Consent lapse and expiry

These conditions apply to all Consents, unless otherwise specified.

- RC1 The Consents shall lapse 20 years from the date of their commencement unless they have been given effect, surrendered or been cancelled at an earlier date.
- RC2 Consent RC01 shall expire 20 years from the date of its commencement.
- RC3 Consents RC02-RC05 shall expire 35 years from the date of their commencement.
- RC4 Following Completion of Construction, Conditions [RCX]-[RCX] cease to have effect and do not apply to any subsequent work associated with the ongoing operation and maintenance of the Project.

MANAGEMENT PLANS

- RC5 The Management Plans listed in **Table 1** shall be prepared in accordance with the relevant conditions of the Consents.

Table 1

Management Plan	Certification requirements	When to submit to Council for certification	Implementation period
Dust Management Plan	RC6(d), RC[17]-RC[18]	20 Working Days before the start of Project Works	For the duration of Project Works.

Management Plan	Certification requirements	When to submit to Council for certification	Implementation period
Erosion and Sediment Control Plan	RC6(d) and RC[20]-RC[22]	40 Working Days before the start of Project Works	For the duration of Project Works.
Construction Erosion and Sediment Control Plans (CESCP)	RC[27]	At least 10 Working Days before starting land disturbing activities in a specific area of the Site	For the duration of Project Works in the area of the Site subject to the CESCP
Stormwater Detailed Design Report	RC6(d), RC[50] and [51]	40 Working Days before construction of the permanent stormwater management system.	For the duration of construction of the permanent stormwater management system.
Wetland Management Plan (WMP)	RC6(d), RC[40]-[47]	20 Working Days before the start of Project Works	Until 2 months following Completion of Construction.

RC6 A Management Plan(s) shall be:

- (a) Prepared by a Suitably Qualified Person(s);
- (b) Submitted to Council for certification that the Management Plan(s) satisfies the requirements of the conditions identified in **Table 1**;
- (c) Implemented for the period in **Table 1**, for the specific activities and / or stage to which it relates; and
- (d) Prepared in consultation with relevant Hapū. Where a Management Plan(s) is provided for certification, it shall:
 - (i) include a summary of consultation undertaken with Hapū in the preparation of the Management Plan(s); and
 - (ii) outline either how feedback has been incorporated, or if not, the reasons for that.

RC7 A Management Plan(s) may be updated at any time by submitting the amendment to the Management Plan to Council for information. However, where an update to a Management Plan shall result in more than minor adverse effects, the amendment to the Management Plan must be submitted to Council for certification prior to implementation of the amendment.

- RC8 If a Management Plan(s) (or amendment) has been submitted to Council for certification, and the number of Working Days specified in the “When to submit for certification column in **Table 1** has passed and Council has not provided certification or advised that and why the Management Plan or amendment does not meet the requirements in the “Certification requirements” column in **Table 1**, the Management Plan shall be deemed to have been certified.
- RC9 A Management Plan(s) may be prepared in stages to reflect any proposed staging (i.e. activity, location or timing) of the Project Works, and if submitted in stages, the scope is to be commensurate with the nature, scale and effects of that stage of the Project Works.

CULTURAL CONDITION

Condition RC9A is an Augier condition.

RC9A If a Cultural Values Management Plan (CVMP) has been prepared in accordance with the conditions of the Designations, the Consent Holder must implement the CVMP for the duration of the Project Works as it relates to activities authorised by the Consents.

CONSTRUCTION METHODOLOGY

Conditions RC10-RC15 apply to Consent RC01-RC03 and RC05.

RC10 Where a haul road crosses:

(a) The following Watercourses shown on **Appendix [B]**: Waihoihoi main stem, Piroa main stem, Mayflower tributary main stem, Wairau north tributary and Pine north main tributary, a temporary bridge shall be installed if practicable, or otherwise a temporary culvert; or

(b) In all other Watercourses, a temporary culvert shall be installed.

All temporary bridges and culverts shall be removed as soon as practicable following completion of Project Works. The morphology of the Watercourse (including depth, width, gradient pattern, substrate and bank form) shall be reinstated as far as practicable to what it was prior to installation of the temporary bridge or culvert.

RC11 All temporary culverts in a Watercourse in place for more than two weeks during the period November to December shall provide fish passage in accordance with best practice, unless a Suitably Qualified Person deems it unnecessary to do so because:

(a) There is no viable upstream fish habitat at the time the culvert is installed; or

(b) There are existing barriers to fish passage; or

(c) There is no (or expected to be no) flow of water sufficient to allow a fish to pass within the Watercourse while the temporary culvert is in place.

RC12 All machinery that is used for Project Works in or near freshwater environments shall be checked and cleaned for freshwater pests (in accordance with the Check, Clean,

Dry' method and the National Pest Control Agencies A series, best practice guidelines 'A16 Keep it Clean – Machinery and Vehicle Hygiene Guidelines and Logbook to Prevent the Spread of Pests and Weeds' (2015 (minor revisions April 2020)) before it is brought onto the Site.

RC13 Prior to any dewatering or diversion in a section of Watercourse deemed by a Suitably Qualified Person to support a viable population of indigenous freshwater fish, a Suitably Qualified Person shall salvage and transfer such fish to a suitable Watercourse.

RC14 Procedures must be implemented:

(a) To avoid concrete leachate discharges to Watercourses or Existing Wetlands, including:

(i) No concrete batching or preparation within 50m of any Watercourse or Existing Wetland;

(ii) That pouring concrete occurs only in dry areas outside running water;

(iii) That new concrete surfaces are covered for a sufficient period after pour to prevent run off; and

(iv) Using prefabricated concrete pipes and structures where practicable).

(b) For the storage of fuels, lubricants, hazardous and/or dangerous materials to avoid discharges to, or to land in circumstances that could lead to, Watercourses and Existing Wetlands; and

(c) For operating machinery to ensure spillages of fuel, oil and similar contaminants are prevented, particularly during refuelling and machinery services and maintenance (which shall be carried out away from any surface water).

RC15 Where practicable, no instream crossing devices (i.e. Bridges or culverts) shall be placed in the [X] Watercourse identified on the map in **Appendix [B]**.

LAND DISTURBING ACTIVITIES

Conditions RC16-RC27 apply to Consent RC01.

Dust management

RC16 A **Dust Management Plan (DMP)** shall be prepared. The purpose of the DMP is to outline measures so that Project Works shall not, as far as practicable, cause objectionable or offensive dust effects beyond the Site.

RC17 The DMP shall include:

(a) A description of the main potential sources of dust emissions from the Project Works and the proximity of Highly Sensitive Receptors to these sources;

(b) Measures to minimise dust emissions from Project Works, including any specific measures to manage dust-generating works in proximity to Highly Sensitive Receptors;

(c) Contingency methods for responding to any identified objectionable or offensive dust effects beyond the Site; and

(d) Measures to manage dust adverse effects on National Grid Transmission Assets.

RC18 Transpower shall be consulted during preparation of the DMP regarding [RC17(d)]. The DMP shall include a summary of consultation undertaken with Transpower, and outline how feedback has been incorporated into the DMP, and if not, the reasons for that.

Erosion and Sediment Control

Erosion and Sediment Control Plan

RC19 An **Erosion and Sediment Control Plan (ESCP)** shall be prepared. The purpose of the ESCP is to set out the measures to be implemented during construction to minimise erosion and the discharge of sediments from the Project Works.

RC20 The ESC outcomes that shall be achieved as far as practicable through implementation of the ESCP are:

(a) Minimising erosion and sediment discharges from earthwork and works within Watercourses to protect receiving environments;

(b) Maximising the use of non-structural ESC measures;

(c) Monitoring all ESC measures (both structural and non-structural) and associated sediment discharges to allow for ongoing continuous improvement of ESC implementation and effectiveness; and

(d) Minimising exposed earthworks through the implementation of progressive stabilisation.

RC21 The ESCP shall be prepared:

(a) In accordance with GD05 (except as otherwise provided in these conditions); and

(b) To require all ESC measures to be designed, constructed and maintained to comply with the ESC Standards outlined in **Appendix [C]** (unless ESC Standards provide for alternatives in a certified CESC).

RC22 The ESCP shall include the following information:

(a) A description of structural and non-structural ESC measures to be installed prior to and during all Project Works for representative parts of the Project;

(b) Procedures for:

(i) Ensuring advance warning of a Trigger Event;

(ii) Decommissioning ESC measures;

(iii) Determining the staging and sequencing of earthworks; and

(iv) Establishing and defining minor changes to ESC measures, which would not require further certification by the Council prior to implementation.

- (c) Incident management protocols;
- (d) Details of a Suitably Qualified Person who will be contactable at all times to manage the ESC measures and all other staff who have responsibilities and decision-making roles in relation to ESC measures (including chemical treatment systems) and associated works;
- (e) A Chemical Treatment Management Plan (ChemTMP) which shall include the details outlined in **Appendix [C]**.
- (f) A Continuous Improvement Programme (CIP) to plan for continuous improvement as to the effectiveness of the ESC measures employed on Site, which must include the requirements outlined in **Appendix [C]**.

Stabilisation

RC23 Earthworks shall be subject to stabilisation in a progressive manner as earthworks are completed. If an area is not subject to earthworks activities for a maximum 14-day period it shall be stabilised. This stabilisation shall include all earthworks activities, spoil sites and completed sections of vertical cut faces and fill batters.

Winter works

RC24 Earthworks may be carried out during the winter period 1 May to 30 September inclusive provided that a winter application has been submitted to Council for certification that the application outlines:

- (a) The nature of the proposed winter works, including the proposed locations;
- (b) Identification of higher risk activities and locations;
- (c) The proposed ESC methodologies and any additional ESCs required to manage the higher risk associated with working during the wetter winter period (e.g. chemical treatment of sediment retention ponds); and
- (d) The proposed monitoring and maintenance schedule of the proposed ESC methodologies.

RC25 Unless earthworks during the winter periods been certified by the Council monitoring team in a particular area in accordance with Condition [RC24], all areas shall be stabilised in accordance with Condition [RC25].

Construction Erosion and Sediment Control Plans

RC26 A CЕСCP shall be prepared before starting land disturbance activities in any area of the Site. The purpose of the CЕСCP shall be to demonstrate how compliance with the ESCP will be achieved in relation to the specific Project Works being undertaken on the relevant area of the Site.

RC27 The CЕСCP shall be prepared taking into account the ESCP and the ESC standards in **Appendix [C]**. Where practicable, the CЕСCP shall be in a plan format and align with the associated risk of the specific area of works or the specific activity to which the CЕСCP applies. The CЕСCPs shall include the following information:

- (a) Earthwork and streamwork construction methodologies (taking account of any unexpected conditions such as changes in geology);
- (b) Identification of all discharge points to land or surface water;
- (c) Identification of high risk areas for sediment generation and implementation of ESC measures appropriate to the identified-risk area;
- (d) Details of the proposed work sequence and procedures to prioritise non-structural ESC elements that promote the reduction of sediment generation and yield;
- (e) Identification of any specific non-structural elements to be implemented including identification of specific personnel responsible for the ESC measures for the specific SSES CP area and/or activity;
- (f) Design specifications for all ESC measures including supporting calculations where appropriate, contributing catchment area, retention volume of structure (dead storage and live storage measured to the top of the primary spillway); shape of structure (dimensions of structure); safety and access, position of inlets and outlets; stabilisation of the structure, and maintenance provisions;
- (g) A plan showing contours, cut and fill operations, the location of all ESC measures, and the location of catchment boundaries relevant to the ESC measures on the Site; and
- (h) Chemical treatment design and details specific to the stage, consistent with the ChemTMP.

GROUNDWATER

Conditions RC28-RC31 apply to Consent RC03.

Existing water users

RC28 The Project shall be designed to minimise, as far as practicable, groundwater drawdown at any consented water supply well that exists prior to the commencement of this consent. If groundwater drawdown exceeds 1 m at any consented water supply well, the Consent Holder shall offer an alternative water supply to the landowner where the existing water supply is located.

Settlement

RC29 The design and construction of the Project shall ensure settlement effects on National Grid Transmission Assets and the Gas Pipeline (where operational) are:

- (a) No more than 50mm total settlement; and
- (b) Within 1/200 and 1/300 differential settlement.

RC30 Compliance with Conditions [RC28] and [RC29] shall be demonstrated by a numerical groundwater model as required by Condition [RC31].

RC31 At least 40 Working Days before the start of any Major Cuts, a report prepared by a Suitably Qualified Person shall be provided to Council for certification that it:

- (a) Includes detailed design drawings of any Major Cut; and
- (b) Demonstrates (through use of a numerical groundwater model and a settlement model, where applicable) that:
 - (i) The requirement in Condition [RC28] has been met. If an alternative water supply is offered, records of any consultation undertaken with the relevant well owner shall also be provided; and
 - (ii) The requirements in Condition [RC29] have been met. Records of any engagement undertaken with Transpower or First Gas must also be provided.

WORKS IN WATERCOURSES, FRESHWATER AND WETLAND ECOLOGY

Conditions RC32-RC49 apply to Consent RC02 and RC05.

RC32 The Waihoihei main stem Watercourse shown on **Appendix [Bx]** must either be:

- (a) Bridged; or
- (b) Realigned or culverted in accordance with Conditions RC[35] to RC[37].

RC33 For any loss of length of perennial Watercourse identified on **Appendix [Bx]** (ie. a length of Watercourse that is not realigned or culverted in accordance with Conditions [RC36] and [RC37]), the Consent Holder must undertake riparian enhancement works outlined in Condition [RC35] where:

$(SEV-ImpEx - SEVImpPost) \times \text{length of perennial Watercourse to be lost}$

must equal

$(SEVPostRip - SEVPreRip) \times \text{length of permanent Watercourse where riparian works are to occur}$

Where:

- SEV-ImpEx is the habitat functionality (SEV) value before Project Works of the perennial Watercourse to be lost (as discussed in Condition [RC34]).
- SEV-ImpPost is the predicted SEV value after Project Works of the perennial Watercourse to be lost.
- SEV-PreRip is the SEV value of the permanent Watercourse where riparian works are to occur.
- SEV-PostRip is the predicted SEV value for the permanent Watercourse where riparian works are to occur following those works.

For the purpose of this condition, SEV value is to be calculated in accordance with Technical Report 2011/009 Stream Ecological Valuation: a method for assessing the ecological functions of Auckland Streams (Stream SEV method).

- RC34 For the purpose of Condition [RC33], a perennial Watercourse will be considered “lost” where a Suitably Qualified Person determines that the depth or wetted width can no longer support existing fish and macroinvertebrate communities.
- RC35 The riparian works required by Condition [RC33] must be determined by a Suitably Qualified Person and include:
- (a) Planting of indigenous vegetation for a width of 10 m on each side of the Watercourse;
 - (i) Be of a suitable species composition;
 - (ii) Be sourced from the ecological district in which it is to be planted or be otherwise eco-sourced, except where it is not practicable to do so;
 - (iii) Have spacing between 0.5 and 1.5 m; and
 - (iv) Be maintained for a period of 5 or until 80% indigenous canopy cover is achieved (whichever is earlier); and
 - (b) Be fenced off or subject to some other method to exclude stock.

Watercourse realignment and culvert design

Watercourse realignment design requirements

- RC36 All Watercourses realigned as part of Project Works must be designed by a Suitably Qualified Person to achieve, as far as practicable, the following outcomes:
- (a) The dimensions of each realigned Watercourse (depth, width, and gradient pattern) must be similar to the reclaimed Watercourse that it replaces to achieve similar velocities, depth profiles and wetted widths;
 - (b) Each realigned Watercourse must have hydrological heterogeneity (pools, runs, riffles, etc) that is similar or better than the reclaimed Watercourse that it replaces. The realigned Watercourses must not have a homogenous run system;
 - (c) Each realigned Watercourse must have the same or better mosaic of substrates and riparian planting as the reclaimed Watercourse that it replaces;
 - (d) Where a Watercourse is realigned at a spoil site, the realignment shall be situated at the juncture between the spoil and natural ground; and
 - (e) Subject to achieving (a) – (d) above, the realigned Watercourses should provide for the conveyance of a 100-year ARI event, including adaptation for 100 years of climate change (from the date that the Project becomes operational).

Permanent culvert design requirements

RC37 Where permanent culverts are installed, they must be designed and constructed to provide fish passage and benthic habitat substrate where there is intermittent or perennial habitat above the culvert:

(a) In the following Watercourses shown on **Appendix [B]**: Waihoihoi main stem, Piroa main stem, Mayflower tributary main stem, Wairau north tributary and Pine north main tributary;

(b) In all other Watercourses, unless fish passage is considered unnecessary by a Suitably Qualified Person because, prior to the Project Works commencing, there is:

- (i) Limited upstream fish habitat;
- (ii) Limited fish populations that require fish passage; or
- (iii) There are other existing barriers to fish passage.

RC38 The permanent culverts shall be designed by a Suitably Qualified Persons to achieve, as far as practicable, the following outcomes:

- (a) The width of the culvert must be wider than the Watercourse it has replaced;
- (b) The gradient of the culvert and the velocity of water flow in the culvert must be the same or similar as in the Watercourse it has replaced;
- (c) Retention of appropriate in-pipe substrate;
- (d) No obstructions to fish passage at the entrance or exit;
- (e) Provide for the conveyance of a 100-year ARI event, including adaptation for 100-years of climate change (from the date that the Project becomes operational); and
- (f) Incorporate energy dissipation and erosion control to minimise the occurrence of bed scour and bank erosion downstream.

Any culvert that complies with the conditions in regulation 70 of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 shall be deemed to comply with this Condition [RC38].

Information relating to structures, fish passage and culverts

Advice Note: The following information listed in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 will be provided to Council for information within 20 Working Days of construction of any culverts being completed:

- (a) Regulation 62(3) Requirements for all activities: information about structures and passage of fish; and
- (b) Regulation 63(3) Requirement for culvert activities: information about culverts.

WETLANDS

Conditions RC39-RC49 apply to Consent RC01 and RC05.

Wetland outcomes

RC39 The loss of any extent of the following Existing Wetlands shall be replaced at the following loss to gain ratios:

- (a) Existing Wetland(s) [8], [16], [Q08/066] and [24]:
 - (i) 1:2 (where the replacement Wetland(s) is Established within 2 to 5 years of the loss); or
 - (ii) 1:1.5 (where the Wetland(s) is Established within 1 year of the loss); or
 - (ii) 1:1 (where the replacement Wetland(s) is Established 3 years prior to the loss).
- (b) Existing Wetlands 11, 12, 13 and 14:
 - (i) 1:1 (where the replacement Wetland(s) is Established prior to the loss and created as contiguous habitat); or
 - (ii) 1:1.5 (where the replacement Wetland(s) is Established prior to the loss but not created as contiguous habitat); or
 - (iii) 1:2 (where the replacement Wetland(s) is Established after the loss and not created as contiguous habitat).

Advice note: *Temporary loss of an Existing Wetland that is remediated is not loss of an Existing Wetland for the purpose of this condition.*

Wetland Management Plan

RC40 A **Wetland Management Plan (WMP)** shall be prepared. The purpose of the WMP is to identify measures that will be implemented to achieve the outcomes in Condition [RC39] to manage any effects of the Project Works on the:

- (a) Extent and values of Existing Wetlands that are lost; and
- (b) Habitat of Australasian bittern (*Botaurus poiciloptilus*), spotless crane (*Porzana tabuensis*), and North Island Fernbird (*Poodytes punctatus vealeae*) (together, Cryptic Marsh Bird Species).

RC41 For the purpose of the WMP, the timing of loss is to be fixed as follows:

- (a) Where due to vegetation removal and / or earthworks, at the point of the relevant soil disturbing works; and
- (b) Where there is a permanent fall in groundwater level or loss of saturation that results in the water table being more than 30cm below the soil surface during the growing season where wetland hydrology is not remediated (to be shown through a numerical groundwater model or by monitoring of the water table at the Existing Wetland).

Offsetting Wetlands [8], [16], [Q08/066] and [24]

RC42 The WMP shall include:

- (a) Identification of the extent of any Existing Wetlands [8], [16], [Q08/066] and [24] that will be lost due to the Project Works, and the timing of such loss;
- (b) The amount of Wetland to be created, as calculated in accordance with Condition [RC39(a)];
- (c) Methods for the creation of Wetland(s) that achieve the following requirements:
 - (i) Be located:
 - (A) Within the same catchment, or otherwise within the same Ecological District as the Existing Wetland lost; and
 - (B) In an area that a Suitably Qualified Person determines is (or can be made) free from persistent ecological weed and pest species;
 - (ii) Provide a mix of Wetland hydrology and a majority of shallow water suitable for raupō;
 - (iii) Include raupō in large and solid stands;
 - (iv) Include fencing to prevent stock access;
 - (v) Include edges of Carex sedgelands and rushland and have a dry land riparian buffer of 10m width; and
 - (vi) Be setback an appropriate distance determined by a Suitably Qualified Person from the operational carriageway of the Project to avoid adverse effects on Cryptic Marsh Bird Species.

Habitat creation for Cryptic Marsh Bird Species

RC43 The WMP shall include:

- (a) Identification of the extent of any Existing Wetlands 11, 12, 13 and 14 that will be lost due to the Project Works, and the timing of such loss in accordance with Condition [RC41];
- (b) The amount of wetland to be created, including whether it will be contiguous, as calculated in accordance with Condition [RC39(b)];
- (c) Methods for the creation of Wetland(s) that meet the following requirements:
 - (i) Contain the same or better habitat features than what has been lost (including the replacement of the open water habitat, such as that within Existing Wetland [Q08/066]);
 - (ii) Be setback an appropriate distance determined by a Suitably Qualified Person from the operational carriageway of the Project to avoid adverse effects of Cryptic Marsh Bird Species; and

- (iii) Be contiguous (where the extent of habitat to be created has been calculated in accordance with Condition [RC39(b)(i)]).

Compensation

RC44 Where it is not practicable to comply with [RC42] or [RC43], in whole or in part, the WMP shall include details of wetland compensation funds the Consent Holder will pay to a conservation group or organisation to undertake wetland creation or restoration works within the appropriate (affected) catchment). The purpose of the payment will be to improve hydrological function and indigenous biodiversity cover within the Wairau catchment. The details shall include:

- (i) The group or organisation the wetland compensation funds will be paid to, and when it will be paid;
- (ii) The wetland creation works that the Consent Holder will stipulate the wetland compensation funds are to be used for; and
- (iii) The quantum of the payment that the Consent Holder will make, which must be calculated as follows:

The extent of wetland required to be created under Condition RC[42] and RC[43] in hectares	-	The extent of wetland that will be created by the Consent Holder in hectares	=	Compensation extent
Compensation extent	x	Cost per hectare to Consent Holder of creating wetland under Condition RC[42] and RC[43]	=	Compensation amount

Groundwater monitoring

RC45 The WMP shall include:

- (a) Measures for installing piezometers and surveying vegetation composition at Existing Wetlands [8], [16], [Q08/066] and [24] within the Site to undertake the following monitoring:

- (i) Before the start of Project Works:

- (A) Groundwater monitoring between the 1 September until 31 March to determine the average dynamic low flow periods; and

(B) Baseline surveys to determine the vegetation composition in a representative plot of the Existing Wetland; and

(ii) During, and up to 6 months after, any Major Cuts to determine:

(A) If there has been a reduction in groundwater levels greater than [x] below the average dynamic low flow period; and

(B) A change in the vegetation composition such that the Existing Wetland no longer meets the definition of natural inland wetland.

(b) Requirements for review of the WMP following completion of the monitoring referred to in (a) if the monitoring identifies that any of Existing Wetlands [8], [16], [Q08/066] and [24] have experienced a decline in groundwater levels and no longer meet the definition of natural inland wetland.

Monitoring and maintenance of created Wetlands

RC46 The WMP shall outline methods and measures to monitor and maintain the Wetland(s) created in accordance with [RC42] and [RC43] (including measures to control persistent ecological species that the Suitably Qualified Person determines is an invasive weed and / or pest) until they have Established.

RC47 If the WMP is prepared for Wetland creation works only, then only the requirements of Conditions RC[42(b) and (c)], [RC43(b) and (c)], [RC44] and [RC45] need to be certified under RC[6(b)].

RC48 A Suitably Qualified Person shall provide a report to Council confirming:

(a) That Wetland(s) have been created in compliance with Condition [RC42(b)] and [RC43(b)] within 2 months of Completion of Construction; and

(b) Any ongoing maintenance that will be undertaken at these created Wetlands until the requirements of [RC42(b) and RC43(b)] have been achieved.

RC49 For the purpose of Conditions [RC39] to [RC46], “Established” means the Wetlands have:

(a) Achieved 80% vegetation cover at vegetation assemblages;

(b) No persistent ecological weeds that the Suitably Qualified Person preparing the WMP considers is an invasive weed and would compromise the value of the Existing Wetlands and

(c) Have typical hydrology (ie. do not have exacerbated dry periods).

OPERATIONAL STORMWATER

Conditions RC50-RC58 apply to Consent RC04.

Stormwater Detailed Design Report

RC50 A **Stormwater Detailed Design Report (SDDR)** shall be prepared by a Suitably Qualified Person. The purpose of the SDDR is to outline the detailed design of the stormwater management system for the Project achieves the following requirements:

- (a) Treatment of stormwater run-off from the State Highway carriageway during operation of the Project;
- (b) Constructed wetlands and wetland swales shall be designed in accordance with NZTA STWS; and
- (c) Constructed wetlands shall be located offline from Watercourses.

RC51 The SDDR shall include:

- (a) A description of the receiving environment;
- (b) Measures to achieve the stormwater management requirements outlined in [RC50] above; and
- (c) Design drawings, planting plans (where relevant to the stormwater design) and design methodologies and that demonstrate how compliance with the stormwater management requirements outlined in [RC50] has been achieved.

Operational stormwater - construction

RC52 A stormwater management system shall be constructed in general accordance with the SDDR certified in accordance with Condition [RC6(b)].

RC53 Stormwater management devices used for:

- (a) Stormwater treatment shall be fully operational before Completion of Construction; and
- (b) Extended detention, where required, shall be fully operational prior to the discharge of water from any sealed area identified any device.

Operational stormwater maintenance

RC54 The stormwater management system constructed in accordance with Condition [RC52] shall be operated and maintained to meet the requirements of [RC50] for the duration of this consent.

Flooding

RC55 Before the start of Project Works, a report shall be provided to Council demonstrating that at the time of construction the Project will not, as far as practicable, increase water levels in the 100 year ARI event (including allowance for RCP6 climate change to the year 2110):

- (a) By more than 100mm vertically in areas that are outside the Site at the time of construction and outside the banks of a Watercourse, Wetland or flood plain; and
- (b) Above floor level of any habitable building in areas outside the Site.

RC56 The report required by Condition [RC55] shall demonstrate compliance with [RC55] by a hydraulic and hydrological model with the level of detail and reporting to be confirmed by a Suitably Qualified Person. The peak flood levels for the without-Project and with-Project scenarios (both considering maximum probable development) shall be compared upstream and downstream at the Site boundary.

APPENDIX A – Existing Wetlands

APPENDIX B – Watercourses referenced in conditions

APPENDIX C – Earthwork Details

ESC Standards

- S1 All ESC measures shall be located outside the 20 year ARI flood level, unless no other viable location exists.
- S2 Clean and dirty water diversion channels shall be sized to accommodate the flow from a 100 year ARI storm event where practicable, and at a minimum, the flow from a 20 year ARI storm event and an additional 300 mm freeboard.
- S3 All silt and super silt fences shall be designed with a return upslope at the base of the fence to ensure robustness of the device.
- S4 Whenever practicable, streamworks activities and associated works shall be undertaken with stream diversions in place to accommodate up to the 20 year ARI rain event. All stream flows above the 20 year ARI rain event shall be diverted, via systems (such as overland flow paths) capable of conveying the 100 year ARI rain event flow around the works area or through the works area in a stabilised flow path.
- S5 Unless otherwise specified in a certified CЕСP, all SRP volumes shall be designed based on 3% of the contributing catchment area and shall contain reverse slopes in the base of ponds, baffles and decant pulley systems and a forebay with a volume of 10% of the pond volume.
- S7 The ESC shall include the installation of a last line of defence, which shall include measures to protect freshwater receiving environments from erosion and sediment discharges (such as additional bunding, silt fences, super silt fences or alternative as defined in the CЕСP for that particular CЕСP area or activity).
- S8 All dirty water diversion channels shall be designed and constructed with sediment sumps at locations specified in the CЕСP with a minimum volume of 2m³ per sump.

Chemical Treatment Management Plan Requirements

The Chemical Treatment Management Plan required by Condition [RC22(e)] shall include the following details:

- (a) Specific design details of the chemical treatment system (including locations where this is necessary) based on a rainfall or flow activated and manual batch dosing methodology for the site's sediment retention ponds (SRPs), decanting earth bunds (DEBs) and any impoundment systems and any other sediment detention or flow device system as may be employed on Site;
- (b) Monitoring, maintenance (including post storm) and contingency programme (including a record sheet);
- (c) Details of flocculant and optimum dosage (including assumptions);
- (d) Results of initial chemical treatment trial; and
- (e) A spill contingency plan of relevance to the flocculant used and the associated material safety data sheet.

Continuous Improvement Programme Requirements

The CIP required by Condition RC[22(f)] shall identify how the ESC outcomes in [RC20(c)] are to be achieved and include:

(a) A description of:

- (i) TSS and / or NTU thresholds that trigger management responses; and
- (ii) The qualitative monitoring outcomes required following each Trigger Event.

(b) Procedures for:

- (i) Monitoring ESC measures (including flocculation) and upstream and downstream of discharge location;
- (ii) Monitoring discharges from SRPs and DEBs to confirm the effectiveness of flocculation, and that pH levels of any discharge are not less than 5.5 (unless otherwise approved in a CЕССР);
- (iii) Automatic rainfall monitoring using at least 2 rain gauges located on Site;
- (iv) Sampling to measure TSS and NTU of discharge points of a selection of identified 'high risk' sediment retention devices, at the time of a discharge and as a result of a Trigger Event;
- (v) Establishing a relationship between TSS and NTU to enable the determination of sediment yields for the Project;
- (vi) Ongoing monitoring (measured in m³/sec) of the discharges out of four SRPs, with at least two SRPs representing 'high risk' locations;
- (vii) Automatic sediment sampling at the same four selected SRPs to measure outflow of TSS and / or NTU; and
- (viii) responding to exceedances of TSS and / or NTU thresholds (including reporting to Council, investigating possible causes and effects, identification of potential linkages between on-site practices and these effects, assessing the effectiveness of on-site practices and remedial actions (where necessary)).