



## 18 Consultation

This Section should be read in conjunction with Support Document No. 41 – Consultation Record.

### 18.1 Introduction

The Resource Management Act (RMA) encourages consultation as part of the resource consent process. The Fourth Schedule of the RMA states that any AEE that must accompany resource consent applications should include:

- h) An identification of those persons interested or affected by the proposal, the consultation undertaken, if any, and any response to the views of those consulted.*

Section 6 of the RMA sets out the ‘matters of national importance’ that must be recognised and provided for by all persons exercising functions and powers under the RMA and includes:

- e) The relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu and other taonga.*
- f) The protection of historic heritage from inappropriate subdivision, use, and development*

The definition of “historic heritage” includes the “sites of significance to Maori, including waahi tapu”.

Section 7 of the RMA sets out ‘Other Matters’ those persons whom exercising functions and powers under the RMA shall have particular regard and includes:

- a) kaitiakitanga*
  - (aa) the ethic of stewardship*
  - (b) the efficient use and development of natural and physical resources*
  - (ba) the efficiency of the end use of energy*
  - (c) the maintenance and enhancement of amenity values*
  - (d) intrinsic values of ecosystems*
  - (f) maintenance and enhancement of the quality of the environment*
  - (g) any finite characteristics of natural and physical resources*
  - (h) the protection of the habitat of trout and salmon*
  - (i) the effects of climate change*
  - (j) the benefits to be derived from the use and development of renewable energy.*

Section 8, Treaty of Waitangi of the RMA requires that:

*“In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).”*



This Section of the AEE provides information on the consultation undertaken in respect of this Project in accordance with the requirements of the Fourth Schedule of the RMA.

## 18.2 Consultation Approach

To ensure that the consultation on this Wastewater long-term Consent Project was carried out effectively, in accordance with the RMA, and in a manner that actively engaged those persons and organisations interested in or affected by the Project, a Consultation Approach (strategy) was developed. A full copy of this document entitled 'Ruakaka Wastewater Stage 2, Consultation Approach and Programme Update' is contained in the Consultation Record (Support Document No. 41). The Approach was provided to the Northland Regional Council, Patuharakeke Te Iwi Trust Board (Inc), Department of Conservation (DoC) and the Northland Medical Officer of Health for review and confirmation.

The Consultation Approach set consultation objectives for the Project, outlined how consultation with tangata whenua was to be managed, identified potential parties to be consulted, best practice tools and approaches, set a consultation programme and determined the outcomes that were to be achieved from the consultation process.

The desired outcomes of this consultation approach and programme are identified as follows:

- All people and organisations interested in or affected by the project given the opportunity to actively and fully participate in the consultation process;
- All legislative requirements for tangata whenua consultation are met;
- All participants in the process have sufficient understanding of the project to enable informed and useful responses;
- All participants are satisfied that consultation has been undertaken in a genuine and open minded manner;
- All participants are satisfied that their responses, feedback and advice has been carefully considered;
- All participants have a full understanding of how the consultation output has been treated;
- The consent authorities – NRC and DoC (for Minister of Conservation) are satisfied that the consultation has been undertaken in accordance with the RMA and their requirements;
- WDC has a full record and an audit trail of a comprehensive consultation process to support any future actions.

## 18.3 Who Was Consulted?

### 18.3.1 Tangata Whenua

In the local area, Ruakaka, WDC has identified Patuharakeke, Ngati Wai, Ngati Hine, Ngati Whatua, and Ngapuhi as Tangata Whenua.

There are a number of iwi that have manawhenua status in Te Tai Tokerau namely, Ngati Wai, Ngati Hine and Nga Puhi etc, however it should be noted that Patuharakeke are recognised as the tangata whenua in the Te Poupouwhenua area and therefore considered an affected party to this proposal.

The key tangata whenua representatives for this project are:

- Te Patuharakeke Te Iwi Trust Board (Inc) (PTB)

Consultation with Patuharakeke has been ongoing since December 2006. In addition to this Iwi from Te Tai Tokerau that have been engaged throughout the life of the Ruakaka Long Term Wastewater Consents Project include;



- Ngati Whatua
- Ngati Wai
- Ngati Hine
- Nga Puhi

The applicant has undertaken to ensure that iwi engagement is inclusive and copies of the Consultation Draft AEE (October 2010) were provided to the Patuharakeke Te Iwi Trust Board (Inc), Ngati Wai / Ngati Hine and Nga Puhi for their comments.

### **Tangata Whenua Consultation Objectives**

Whangarei District Council has been engaging with local iwi to gather feedback and ascertain their cultural perspectives and issues that may arise from the proposal to manage and dispose of wastewater in Te Poupuwhenua.

It was provided that the objectives for consultation would be:

To provide balanced and objective information to tangata whenua on:

- The project;
- The decisions to be made in determining options for wastewater management and disposal in Ruakaka/One Tree Point;
- Tangata whenua role in providing inputs to those decisions;
- The role of tangata whenua in the statutory decision making process;
  - To provide tangata whenua opportunities to discuss information so to better understand the projects complexity.
  - To listen, with respect, to the aspirations, concerns and issue tangata whenua may have with the project, and consider them with an open mind.
  - To encourage tangata whenua to respond to information in a way that could be summarised usefully.
  - To provide accurate, reliable and useful summary information to the Project Team and decision makers so that it could inform decisions on the selection of a preferred option.
  - To meet the requirements of the RMA.

### **Tangata Whenua Consultation Issues**

The key issues that have presented challenges to the advisory and management team have included:

- The nature of the proposal and the high level iwi concern in respect of wastewater impacts on cultural values;
- The complexity of the proposal and the sharing/delivery of information to iwi stakeholders;
- The need to satisfy the requirements of the RMA, yet permit a high level of flexibility to adequately mitigate impacts on cultural values.

Other issues identified in relation to iwi consultation included:

- Iwi philosophical opposition to mixing of waters (impacts on wai maori (pure water) through mixing with wai kino (contaminated water));
- Engagement with all iwi groups that have an interest in the proposal;
- A key imperative around consulting with iwi is that the consultation is initiated at an early stage in the Project, with careful records kept.

### **Tangata Whenua Consultation Strategy – RMA Principles**

The Environment Court's statement of principles for consultation are:



- (i) The nature and object of consultation must be related to the circumstances.
- (ii) Adequate information of the proposals is to be given in a timely manner so that those consulted know what is proposed.
- (iii) Those consulted must be given a reasonable opportunity to state their views.
- (iv) While those consulted cannot be forced to state their views, they cannot complain, if having had both time and opportunity, they for any reason fail to avail themselves of the opportunity.
- (v) Consultation is never to be treated perfunctorily or as a mere formality.
- (vi) The parties are to approach consultation with an open mind.
- (vii) Consultation is an intermediate situation involving meaningful discussions and does not necessarily involve resolution by agreement.
- (viii) Neither party is entitled to make demands.
- (ix) There is no universal requirement as to form or duration.
- (x) The whole process is to be underlain by fairness.

These principles can be further drawn on from other decisions of the Court to include that:

- there is an overall duty on the part of both parties to act reasonably and in good faith, because consultation is not a one-sided affair;
- consultation has overlapping requirements of reasonableness, fairness, open mind, freedom from demands, and the need to avail oneself of the consultation opportunity;
- consultation is as much about listening as it is about imparting information, and is more about the quality of information imparted than it is about the quantity;
- consultation is not an end or an obligation in itself; it is just one possible method of gathering views from those affected so that they can be taken account of in the decision-making process. The primary obligation is to ensure that the decision-maker has sufficient material before it to make the necessary decisions about Part 2 issues.

The following types of activity may be of concern or interest to tangata whenua:

- disturbance or modification of traditional and ancestral sites, such as battle sites, particularly in Greenfield areas;
- any activities near marae or kainga (settlement);
- activities near or on urupa (burial ground) (such as house building, earthworks etc);
- discharges (particularly of waste) to water;
- other activities potentially compromising the purity or mauri (spirit / life-force) of waters (inland, coastal or offshore);
- any activities potentially compromising the integrity of or access to food resources (mahinga kai) and food gathering areas such as dredging near shellfish beds, discharges into harbours, the placement of structures or subdivision in the coastal marine area, and discharges to air;
- any activities potentially compromising access to natural resources, such as timber, stones, flax, and fish;
- any activities that disturb indigenous flora and fauna, such as the clearance of bush or damming or diversion of waterways.



### **Tangata Whenua Consultation – Methodology**

A number of conceptual issues arise in cross-cultural collaborative consultation, including the importance of adopting a culturally appropriate consultation methodology, the role of the facilitator, participation in the consultation process, and rights to recognise ‘traditional’ indigenous knowledge.

Tikanga Maori or Tribal practices centre on maintaining the mauri or life force in all parts of the natural world. While kawa or Maori beliefs were reasonably entrenched, tikanga was an evolving component that essentially reflected the ethics and exercise of Kaitiakitanga or guardianship.

For Maori, the major objective of managing its resources was in the way it holistically sustained the mauri in relationship to the resources it had Kaitiakitanga over. However, mauri can only be retained if there is an acknowledgement of the tikanga or practices that have been developed over time. This system utilizes a combination of traditional wananga, teaching, Hui, meetings as well as appropriate technologies and teaching frameworks. Many Iwi consider that they have inherited a duty to know about the significant events, people, places, relationships and cultural values that give rise to their World View and provide for their ability to give effect to the longstanding and enduring heritage our being and actions represent.

When Maori act as Kaitiaki in their rohe, they assess proposed human activities and identify mitigation measures that will minimise adverse environmental effects, including those that may adversely affect places of cultural significance to Hapu and iwi. They are then demonstrating tino rangatiratanga, secure in the knowledge of their rights to speak of their longstanding relationships and knowledge and thereby ensuring that they endure for a further thousand years.

During the communication process tangata whenua will be recognised as having a special status as kaitiaki of resources in areas affected by the project. While this project potentially affects iwi, hapu and Marae organisations, it is anticipated that more formalised consultation will not be required. However, as part of the overall engagement methodology, those iwi groups identified to be most affected by this project will be consulted during the project through Information hui, updating them on the Project. The primary method for presenting to Maori communities of interest should be face to face. This is consistent with tikanga Maori and in general practice relating to consulting Tangata Whenua.

The Tangata Whenua engagement methodology addressed these objectives and issues through the use of Anthony Olsen to (a certified IAP2 public consultation specialist -Boffa Miskell Ltd) to facilitate the hui a iwi (20 August 2009).

### **Pre-Consultation Hui**

The process of pre-consultation hui is premised on the principle of kawa and tikanga (protocols). “Kanohi ki te Kanohi” (face to face) meetings are an important part of the consultation process with tangata whenua.

Adapting this traditional tikanga to deal with contemporary consultation allows for a range of outcomes to be achieved in the first round.

- Face to face meeting, relationship building, and information sharing. The key to this phase of the consultation framework is in agreeing with tangata whenua how they wish to be consulted; and what further information may be required in order to make the consultation meaningful for both parties.
- Maps [GIS] of the historic environment and Maori place names will be completed if required and at least one site visit will be completed to enhance the value and depth of the information gathered.
- At regular agreed times information will be circulated back to the participants to ensure validation of the data collected and outcomes agreed.

What could be termed formal consultation is not undertaken during this phase.



### **Consultation Hui**

The formal consultation phase is undertaken once the tikanga (protocols) of engagement have been agreed, and tangata whenua are satisfied that they have any necessary information that they may require to provide meaningful input into both the engagement process, and have identified a way in which the outcomes from the hui are disseminated to all parties to the consultation.

### **Post Consultation**

This is the final phase of the consultation process.

- Any information gleaned from the consultation, as well as the agreed outcomes, is circulated back to all parties for final agreement.
- Any alterations to minutes are also circulated back to all parties, who participated in the consultation, to ensure a transparent process.
- What can be agreed is formalized through accepting and signing the minutes.
- Anything not agreed then re-enters the next consultation round. This ensures that any outstanding issues are dealt with independently.
- An exchange of documentation between Corrections and tangata whenua will be the final outcome. This exchange will indicate either (a) support for the project or (b) an agreement to not oppose the project, with or without mitigation outcomes.

### **Consultation Evaluation**

This project presents a significant opportunity for the Whangarei District Council to work with local iwi to develop an ongoing working relationship for the benefit of all parties, and in addition to this for the enhancement of the existing relationship which was expressed as a key priority by one iwi representative at the hui a iwi (20 August 2010).

Key issues for tangata whenua include retaining and protecting the natural character of the coastal landscape, as well as wider cultural landscape features i.e. maintain a high level of water quality to support the continuation of customary activities (mahinga kai) in Ruakaka/One Tree Point. Ensure that marine and shellfish life is not adversely affected by the proposed discharge scheme. Seek to reuse treated wastewater for industrial and other purposes (reduce as much as possible discharge to Papatuanuku and Tangaroa). Continue to explore alternative options through the life of the short term consents programme for reuse of wastewater and bio-solids. Ensure a robust programme of long term cultural health monitoring is established (ref: cultural monitoring frameworks:

- Cultural health (water quality, ecology, mahinga kai)
- Cultural heritage (archaeology)
- Cultural development (economic activities)

Provide for the continuing recognition of the mana whenua status of Patuharakeke and wider iwi interests through ongoing engagement throughout the life of the project and the provision of mitigation options for monitoring and protection of cultural values.

### **18.3.2 Wider Community**

A number of consultation approaches were taken to encourage the wide community, public and organisations interested in, or potentially affected by the 'Ruakaka Wastewater Scheme' to become involved in the consultation process. These included advertising in the local and community newspapers, holding Open Days and regular project updates on the Whangarei District Council website and in the Whangarei District Council community newsletter 'Ruakaka – One Tree Point Wastewater Treatment and Disposal Scheme' and articles in local media including the Bream Bay News, Whangarei Leader and the Northern Advocate.



A database of potential stakeholders including local residents, Bream Bay recreational and commercial users and the conservation/environmental groups was developed. Invitations to the Open Day and request to register an interest in the development of the 'Ruakaka – One Tree Point Wastewater Treatment and Disposal Scheme' were also undertaken.

### **18.3.3 Key Stakeholders**

The key stakeholders consulted in respect of this Project included the following:

- Members of the Project Advisory Group (PAG),
- Patuharakeke Te Iwi Trust Board Inc (PTB),
- Ngatiwai, Ngati Hine and Ngapuhi,
- Attendees of the Open Days at the Ruakaka Community Centre, and the Forum North, Whangarei
- Stakeholder Communities / organisations and individuals associated with the consultation, including:
  - Bream Bay Action Group
  - Bream Bay Coastal Care Trust
  - Bream Bay Land Owners Association (BBLOA)
  - Commercial Fishing Organisations
  - Mighty River Power
  - New Zealand Refining Company
  - NIWA Bream Bay Aquaculture Centre and their commercial tenants (which includes OCEANZ Blue Ltd)
  - Northern Branch of Forest and Bird Society
  - Northland Chamber of Commerce and Industry
  - Northland Port Corporation
  - Northland Scallop Enhancement Company
  - Private Individuals
  - Local recreational fishing and boating organisations
  - Ruakaka Ratepayers and Residents Association
  - Members of Save our Harbour
  - Waipu Ratepayers and Residents Association
  - Whangarei Heads Citizens Association
  - Whangarei Racing Club

Initial discussions were undertaken with the key stakeholders from September 2007 to March 2008 to introduce the Project. As the 'Ruakaka Wastewater Scheme' has developed, further meetings and discussions have been held with these key stakeholders. Copies of all recorded minutes are contained in Support Document No. 41.

### **18.3.4 Statutory Bodies**

The key statutory bodies consulted in respect of this Project included the following:

- Department of Conservation (who also represented the Conservation Board)
- Ministry of Fisheries



- Northland District Health Board, Medical Officer of Health & staff of the Public Health Unit
- Northland Regional Council

Initial discussions were undertaken with the statutory bodies from September 2007 to March 2008 to introduce the Project. As the 'Ruakaka Wastewater Scheme' has developed, further meetings and discussions have been held with these statutory bodies. Copies of all recorded minutes are contained in Support Document No. 41.

## **18.4 Consultation Activities**

The following Table 18.1 is a consultation register that lists the main consultation activities that have been undertaken through the course of the project and in the development of the 'Ruakaka Wastewater Strategy', 'Proposed Scheme', this AEE and the 41 Support Documents. It is stressed however, that this is not a complete list of consultation activities as there were a number of discussions / phone calls and other emails that were considered intermediary and / or logistic matters relating to the main consultation activities. Support Document 41 further records this Table 18.1 list of consultation activities.



**Table 18.1 - Consultation Register**

Number of Consultation Activity	Date	Who was consulted	Description of Consultation Activity
1.	December 2006 to June 2007	Various	Consultation Register and Summary Stage 1
2.	On-going from 13 December 2006 to 5 May 2008	Project Advisory Group (PAG)	Meeting Records 1 to 8 (overheads not included)
3.	27 September 2007	PAG	Minutes from project briefings (presentation available on request)
4.	28 September 2007	Patuharakeke Trust Board Inc	Minutes from project briefings (presentation available on request)
5.	4 October 2007	Marsden Point Oil Refinery	Meeting
6.	11 October 2007	Medical Officer of Health (MoH)	Letter in respect of qualitative assessment
7.	(intentionally blank)	(intentionally blank)	(intentionally blank)
8.	20 November 2007	Harbour Master	Meeting
9.	4 December 2007	Patuharakeke Trust Board Inc	Letter from WDC in respect to draft consultation strategy for comment
10.	14 December 2007	Patuharakeke Trust Board Inc	First Hui
11.	15 December 2007	General Public	Consultation Open Day, Bream Bay News and Whangarei Leader Articles
12.	18 January 2008	General Public	Consultation Open Day
13.	24 January 2008	NIWA, OceaNZ, Sealord	Site Meeting
14.	4 March 2008	NIWA	Letter regarding proposed outfall
15.	12 March 2008	Department of Conservation	Meeting on land disposal options
16.	14 March 2008	Patuharakeke Trust Board Inc	Second Hui
17.	26 March 2008	Medical Officer of Health (MoH)	Letter on the approach to quantitative public risk health assessment
18.	1 April 2008	NIWA	Letter on proposed process treatment



Number of Consultation Activity	Date	Who was consulted	Description of Consultation Activity
19.	2 May 2008	Patuharakeke Trust Board Inc	Third Meeting (Hui)
20.	6 May 2008	Mighty River Power	Letter
21.	19 May 2008	Dr Walker at Auckland University	Letter regarding offer of Cultural Impact Assessment
22.	21 May 2008	DoC, Ruakaka Residents and Ratepayers Association, Whangarei Heads Residents and Ratepayers Association, Bream Bay Coastal Care Trust, Bream Bay Action Group, Todd MacDonald, W.J. Daniel, Peter Harding, Waipu Residents and Ratepayers Association	Letter
23.	29 May 2008	Patuharakeke Trust Board Inc	Wastewater Hikoi
24.	13 June 2008	Department of Conservation	Meeting
25.	26 June 2008	New Zealand Refining Company	Letter
26.	10 July 2009	Department of Conservation	Letter
27.	23 July 2008	Mighty River Power	Meeting on project update (no record)
28.	2 October 2008	NIWA	Meeting on project update
29.	24 September 2008	Medical Officer of Health (MoH)	Meeting to seek responses on the approach to quantitative public health risk assessment
30.	20 October 2008	Ministry of Fisheries	Letter
31.	November 2008	NorthPort	Site Meeting (no record)
32.	3-4 December 2008	Ruakaka Community Meeting, Margaret Hicks	Community meeting (presentation available if required), and follow-up from Margaret Hicks
33.	4 December 2008	Patuharakeke Trust Board Inc	Fourth Hui
34.	December 2008 and January	General Public	Update on Whangarei District Council website,



Number of Consultation Activity	Date	Who was consulted	Description of Consultation Activity
	2009		Bream Bay News, Council Connection, Newsletter No. 3
35.	13 February 2009	Department of Conservation	Letter re Progress update from WDC
36.	26 February 2009	NIWA	Meeting on outfall investigations
37.	3 March 2009	Northland District Health Board	Minutes of meeting
38.	6 March 2009	Patuharakeke Te Iwi Trust Board	Minutes of meeting
39.	12 March 2009	Northland Regional Council	Minutes of meeting
40.	13 March 2009	Department of Conservation	Minutes of meeting
41.	30 April 2009	Ruakaka Surf Lifesaving Patrol Inc Bream Bay Coastal Care Trust Bream Bay Action Group Waipu Boat and Fishing Club Marsden Yacht & Boat Club NZ Federation of Commercial Fisherman, Northland Port Corporation, NZ Refinery Company	Letter from WDC updating progress and reference to website information
42.	30 April 2009	Northland Scallop Enhancement Co Ltd	Letter
43.	12 May 2009	Ngatiwai and other Iwi groups	Meeting on project
44.	17 August 2009	Patuharakeke Trust Board Inc	Meeting on wastewater reuse by NZRC and outfall location
45.	19 August 2009	NIWA	Meeting on project update, North Holding Wetland Discharge Consent Application, NIWA overview, dispersion and dilution modelling, NIWA eco toxicity and endocrine disrupting compound reports, treatment at seawater at NIWA pump station, outfall location options analysis and general RMA issues.



Number of Consultation Activity	Date	Who was consulted	Description of Consultation Activity
46.	26 March 2010	NIWA	Meeting regarding project update
47.	9 April 2010	Patuharakeke Trust Board Inc	Meeting regarding project update
48.	25 June 2010	Northland Regional Council	Meeting regarding project update
49.	16 July 2010	Patuharakeke Trust Board Inc	Meeting to introduce Amos Kamo, Tangata Whenua Advisor for the AEE
50.	(intentionally blank)	(intentionally blank)	(intentionally blank)
51.	20 August 2010	Patuharakeke iwi	Hui a Iwi in respect to the tangata whenua section of the AEE with Amos Kamo and Anthony Olsen (Boffa Miskell)
52.	24 September 2010	Patuharakeke iwi	Second Hui a Iwi in respect to the tangata whenua section of the AEE with Amos Kamo(Boffa Miskell)
53.	26 October 2010	Northland District Health Board, Medical Officer of Health	Meeting regarding project update and AEE
54.	4 November 2010	NIWA	Meeting regarding project update and AEE
55.	5 November 2010	Patuharakeke Trust Board Inc	Meeting in respect to the tangata whenua section of the AEE with Amos Kamo (Boffa Miskell)
56.	4 and 5 December 2010	General Public	A&P Show update on project
57.	16 December 2010 – 6 January 2011	General Public	Advertisement of Open Day on 8 January 2011 in Bream Bay News, Northern Advocate and WDC website
58.	15 December 2010	Department of Conservation	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and confirmation of meeting to discuss update on project
59.	15 December 2010	Waipu Ratepayers and Residents Association	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and option of meeting to discuss



Number of Consultation Activity	Date	Who was consulted	Description of Consultation Activity
			update on project
60.	15 December 2010	Ruakaka Ratepayers and Residents Association	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and option of meeting to discuss update on project
61.	15 December 2010	Whangarei Heads Citizen Association	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and option of meeting to discuss update on project
62.	15 December 2010	Northland Scallop Enhancement Company	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and option of meeting to discuss update on project
63.	15 December 2010	Te Runanga o Ngati Hine	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and option of meeting to discuss update on project
64.	15 December 2010	Te Runanga A Iwi O Ngapuhi	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and option of meeting to discuss update on project
65.	15 December 2010	Ngatiwai Trust Board	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and option of meeting to discuss update on project
66.	15 December 2010	Patuharakeke Te Iwi Trust Board	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and suggested date of meeting to discuss update on project
67.	(intentionally blank)	(intentionally blank)	(intentionally blank)



Number of Consultation Activity	Date	Who was consulted	Description of Consultation Activity
68.	15 December 2010	NIWA	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and offer of a meeting with NIWA Board to discuss project
69.	15 December 2010	Northland Health (Medical Officer of Health)	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and offer of a further meeting to discuss update on project
70.	15 December 2010	Northland Regional Council	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and option of meeting to discuss update on project
71.	15 December 2010	New Zealand Refining Company	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and offer of meeting to discuss update on project
72.	15 December 2010	Bream Bay Landowners Association	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and details of meeting to discuss update on project
73.	15 December 2010	OceaNZ Blue	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and confirmation of meeting to discuss update on project
74.	15 December 2010	Northland Port Corporation	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and option of meeting to discuss update on project



Number of Consultation Activity	Date	Who was consulted	Description of Consultation Activity
75.	15 December 2010	Mighty River Power Limited	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and option of meeting to discuss update on project
76.	22 December 2010	Save our Harbour	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and offer of further information the project – see item 72
77.	January 2011	General Public	Newsletter 4 provided in the Bream Bay News dated 13.01.11 and posted to Ruakaka ratepayers not living within area
78.	8 January 2011	General Public	Public Open Day at Ruakaka Recreation Centre from 10.30am to 2.30pm, including display boards
79.	13 January 2011	General Public	Bream Bay News Article on resource consent and project
80.	13 January 2011	OceaNZ Blue Ltd	Meeting with Rodney Roberts to discuss and provide update on project
81.	27 January 2011	Ngatiwai Trust Board	Letter from Ngatiwai Trust Board
82.	12 February 2011	General Public	Public Open Day at Ruakaka Recreation Centre from 10.30am to 2.30pm. See 8 <sup>th</sup> January meeting for display boards
83.	17 February 2011	Bream Bay Landowners Association	Meeting to provide update on project and discuss Consultation Draft AEE (no record)
84.	16 February 2011	Patuharakeke Trust Board Inc	Meeting to provide update on project and discuss Consultation Draft AEE
85.	21 February 2011	Save Our Harbour	Project update meeting for some Save our Harbour members and follow-on email
86.	12 March 2011	General Public	Public Open Day at Whangarei from 8.30am to



Number of Consultation Activity	Date	Who was consulted	Description of Consultation Activity
			1.30pm. See 8 <sup>th</sup> January meeting for display boards
87.	March 2011	Onerahi Yacht Club, Outboard Boating Club at Parua Bay and Kissing Point Cruising Club	Email providing project information and WDC website details on Project
88.	March 2011	Northland Chamber of Commerce and Industry	Letter with copy of Consultation Draft AEE, Companion Volume and December 2010 report to I&S Committee and offer of meeting to discuss update on project
89.	March 2011	CHH Wood Products Ltd	Letter with copy of Consultation Draft AEE Executive Summary and December 2010 report to I&S Committee and reference to WDC website.
90.	March 2011	Marsden Yacht and Boat Club	Letter with copy of Consultation Draft AEE Executive Summary and December 2010 report to I&S Committee and reference to WDC website – see item 89
91.	March 2011	NZ Federation of Commercial Fishermen	Letter with copy of Consultation Draft AEE Executive Summary and December 2010 report to I&S Committee and reference to WDC website – see item 89
92.	March 2011	Waipu Boat and Fishing Club	Letter with copy of Consultation Draft AEE Executive Summary and December 2010 report to I&S Committee and reference to WDC website – see item 89
93.	March 2011	Bream Bay Action Group	Letter with copy of Consultation Draft AEE Executive Summary and December 2010 report to I&S Committee and reference to WDC website – see item 89
94.	March 2011	Bream Bay Coastal Care Trust	Letter with copy of Consultation Draft AEE Executive Summary and December 2010 report to I&S Committee and reference to WDC website –





Number of Consultation Activity	Date	Who was consulted	Description of Consultation Activity
			see item 89
95.	March 2011	Ruakaka Volunteer Surf Lifesaving Patrol	Letter with copy of Consultation Draft AEE Executive Summary and December 2010 report to I&S Committee and reference to WDC website – see item 89
96.	March 2011	Ministry of Fisheries	Letter with copy of Consultation Draft AEE Executive Summary and December 2010 report to I&S Committee and reference to WDC website
97.	13 April 2011	Members of Save our Harbour and a number of other Stakeholders and 2 community individuals	Meeting and associated Meeting Record and correspondence pre and post the Meeting
98.	15 April 2011	Ian McLelland (private individual) interested in the project and Jeff Griggs (member of Save our Harbour)	Correspondence from and to following 13 April 2011 Meeting
99.	2 May 2011	Northland Scallop Enhancement Company	Correspondence pre and post Meeting



The main items of consultation material including information used in the Open Days, and newsletters are included in the Support Document 41 – Consultation Record. This support document contains copies of the minutes from the various hui and meetings with statutory bodies, key stakeholders and Patuharekeke Trust Board Inc, and responses from these various parties.

## **18.5 Consultation Input to the Development of the Proposed Scheme and Ruakaka Wastewater Strategy Up to the Issue of the Consultation Draft AEE**

As evident in the above parts of this section including from Table 18.1 a wide range of consultation activities have been undertaken with the public, key stakeholders and statutory organisations, community groups and the community at large during the many technical and scientific studies, the alternatives assessment and the overall development of the 'Ruakaka Wastewater Strategy' and the 'Proposed Scheme' that WDC decided to put in place and the identification and implementation of a 'Ruakaka Wastewater Strategy'.

The output from this consultation has assisted WDC formulate the Proposed Scheme and associated Ruakaka Wastewater Strategy along with the resource consent approach and the set of resource consent conditions offered by WDC (as included in Section 19 of Application Version of the AEE).

Consultation with the Patuharekeke Te Iwi Trust Board Inc has been ongoing from a number of years in respect to the development of the 'Ruakaka Wastewater Scheme'.

Table 18.2, Table 18.3 and Table 18.4 summarise some key matters that arose throughout the consultation up until the issue of the consultation draft AEE and the consultation based on that document as is recorded in Section 18.6 following.

Table 18.2 provides a summary of the key issues raised by Patuharekeke Te Iwi Trust Board Inc through the consultation process in respect to this Project.

**Table 18.2 Key Issues Raised by Tangata Whenua**

<b>Key Issues</b>	<b>WDC's Responses</b>
What is the likely life of the oxidation ponds and when is a new "in tank" modern treatment plant would be operative?	Approximately 2018, when the wastewater volume is projected to be around 1500-1800m <sup>3</sup> /day. The timing to construct and commission a new treatment plant would typically take at least two years.
If wastewater was to be discharged via an ocean outfall how would that standard compare with other outfalls?	The high standard of treated wastewater proposed by WDC for Ruakaka would make it the highest of any marine discharge in NZ to open coastal waters. WDC's reasons for adopting such a high standard are an acknowledgement of Council's importance they place on the Bream Bay environment and activities undertaken within this environment.
PTB advised that land application and recycling (reuse) of treated wastewater to take preference over discharges to water.	WDC preferred option is a staged approach with land disposal and beneficial reuse until growth requires ocean outfall to be constructed. It is intended that beneficial reuse continues when/if an outfall is required.



<b>Key Issues</b>	<b>WDC's Responses</b>
PTB indicated interest in having a cultural health indexing as a consent condition.	WDC agree that special conditions, such as cultural health indexing are proposed alongside more numerically based I consent conditions.
PTB concerned about the use of coastal dune land for land based disposal.	WDC advised that this was a significant negative weighting factor with this option and lead to concerns re its suitability as a long term option.
PTB advised of importance of an ongoing monitoring programme to assess the effects of discharges and that PTB play a key role in the programme.	WDC agree and are to include suggested conditions in the AEE re provision of grant to include capacity building of the iwi in this area.
PTB have indicated strong support for beneficial reuse of treated wastewater by the New Zealand Refinery Company (NZRC) and other industries.	WDC has worked closely with NZRC to facilitate reuse at the Refinery, and also have included (other) industrial reuse in the Ruakaka Wastewater Strategy. It is proposed that industrial reuse is periodically reviewed as part of the review process.

Support Document No. 41, Consultation Record, contains the minutes taken of the various hui. Section 16 of this AEE Report provides a more comprehensive assessment of the tangata whenua issues in respect of the 'Ruakaka Wastewater Scheme'.

As set out above in this Section, on-going consultation has been undertaken with statutory bodies and key stakeholders as the 'Ruakaka Wastewater Scheme' has also developed. Copies of the Consultation Draft AEE were provided to statutory bodies and key stakeholders for comment.

Table 18.2 and Table 18.3 are summaries of the key issues raised by the key stakeholders and statutory bodies respectively. These responses have been used in the preparation of the Consultation Draft AEE Report and the associated Ruakaka Wastewater Strategy and draft Proposed Scheme. Please note this table excludes the tangata whenua issues which are summarised in Table 18.2.

**Table 18.3 Key Issues Raised by Other Stakeholders**

<b>Key Issues</b>	<b>WDC's Responses</b>
Concern re treated wastewater being discharged into the waters of Bream Bay near an area from which one key stakeholders draws water from.	The proposed discharge into the Bream Bay will be of wastewater treated to a high standard. The proposed ocean outfall is intended to be sited approximately 3km of the shore line – well separated from the water take. The environmental effects have been assessed as being no more than minor. There are currently other contaminants entering the Bream Bay via Ruakaka River and Whangarei Harbour from a range of other sources.
Sensitivity of the MCA (Multiple Criteria Analysis) used as part of the proposed ocean outfall selection process.	WDC advised that the MCA had been run with an adjustment to the weighting used for cost attribute and the outcome was that Point 22 had a higher overall score than Point 17.
Concern over predicted Climate Change effects and projected sea level rise and sustainability of discharge to land.	WDC acknowledged the negative and concerning impact that projected sea level rise and thus groundwater levels would have on discharges to ground near the coast line.
Concern about using the coastal strip for land disposal re the effect on coastal stability and	WDC accepts that year round disposal of treated wastewater to Crown owned coastal strip was not



changing vegetation and ground cover.	acceptable. However WDC was open to opportunities for wastewater to be used if required for coastal dune restoration (assist with vegetation establishment), such use probably being on a water deficient basis.
Desire to have a proposed scheme that utilised beneficial reuse and land disposal before an ocean outfall was utilised.	WDC developed proposed scheme with a range of options and sought 15 year lapse periods for consents associated with the proposed ocean outfall to provide for flexibility with the implementation of the proposal.
Concern about the poor quality of the Ruakaka River and if any treated wastewater was to be discharged into it, its quality would deteriorate further as would the quality of the Ruakaka Estuary.	WDC accepted these concerns and took them into account when the PAG and WDC decided not to pursue the Ruakaka River discharge option.
Questions about how WDC could control future industrial / tradewaste discharges into the Scheme. Also how could the planning for the Scheme be undertaken as the nature and extent of such future discharges is not known at this time?	WDC have in place their Trade Waste Bylaw. This allows them to manage trade waste inputs by both determining what it permits can be received and also by setting monitoring conditions. Also the treatment plant type and the resource consent conditions issued would further control trade waste contaminant levels in the final treated wastewater.

**Table 18.4 Key Issues Raised by Statutory Organisations**

<b>Key Issues</b>	<b>WDC's Responses</b>
Were WDC considering going straight to the Environment Court regarding this application?	No, WDC considered it was better to go through the usual submission/ hearing process at a local level so that issues could be more easily resolved.
Had WDC considered taking Whangarei City catchment wastewater to the proposed new ocean outfall?	This option was briefly considered but not pursued as there would be a significant cost to connect the City to any outfall. Work is being undertaken now to improve the quality of the treatment facilities within Whangarei City to manage the effects of that discharge.
Had WDC considered taking treated wastewater back to the catchment of Wilson Dam in order to supplement the water supply source.	Not a viable option/alternative to consider at this time but is included in the Task 2B Part 2 Report (Support Document No. 10). Felt there would be significant negative community perceptions of such an option. Preference is being given to reuse of treated wastewater to reduce the demand on the potable.
Need to explore other reasonable alternatives before going for an ocean outfall.	The draft Proposed Scheme and the Ruakaka Wastewater Strategy provides for a range of options for which consents are being applied for. These include beneficial reuse, land disposal and an ocean outfall. An extensive investigation and assessment of alternatives was undertaken as part of the project. Section 6 of the AEE summarises these investigations and references the key support documents that report on the alternatives assessment.



Need to take into account cultural health in undertaking overall health risk assessment.	The Tangata Whenua AEE section has a specific focus on this matter.
Need to look specifically at the viral levels and impacts on commercial shellfish in public health risk assessment.	The Quantitative Public Health Risk Assessment included viral, protozoan and bacterial pathogens. A section was added to the AEE that took into account the NZ Food Safety Authority specifications relating to bivalve molluscan shellfish.

Table 18.2, Table 18.3 and Table 18.4 are only a summary of some key matters that arose in the Consultation up to the issue of the Consultation Draft AEE in November 2010. Reference to the Consultation Register (Table 18.1) and the Consultation Record (Support Document 41) highlights the extensive nature of this consultation and the matters covered and output from it.

Support Document 41 for example included a record of many of the consultation meetings, hui and other activities and consultation information made available. Sections 18.6 and 18.7 following includes a listing of key questions raised at the open days and Table 18.5 records key issues raised by a number of stakeholder parties and also records WDC's response to those issues.

## 18.6 Pre-lodgement Consultation Based on the Consultation Draft Assessment of Effects on the Environment

Pre-lodgement consultation of the Draft AEE included two public open days at the Ruakaka Recreation Centre on the 8 of January 2011 and the 12 February 2011 and the Whangarei District Council Whangarei Forum North foyer on the 12 March 2011. These open days were publicly advertised in the Bream Bay News, The Advocate, and Newsletter 4 and on various public noticeboards around Ruakaka Town Centre, Ruakaka Reserve Motor Camp and One Tree Point.

The Ruakaka public open days attracted between 20 to 30 attendees with less at the Forum North venue. Display boards were presented on each day to cover the Project in a summary format. The attendees viewed the posters and asked questions, which were discussed with the Project Team members. The Consultation Draft AEE and all 41 Support Documents were all available for discussion with attendees, as required.

A list of hand-out material was also available for all attendees. This included the following:

- January 2011, Newsletter No. 4
- December 2008, Newsletter No. 3
- Copies of display posters on A4 size paper
- Open Day information from 2007
- Executive Summary of the Consultation Draft version of the Assessment of Effects on the Environment
- Whangarei District Council, Infrastructure and Services Committee December 2010 report and decision
- Copies of the AEE and Companion Volume were available

The key questions raised by the public on the three open days included the following:

- What trade waste will be accepted at the Ruakaka Wastewater Treatment Plant?
- How much sludge is there at the moment in the plant?
- What is the proposed timing of the upgrade?
- What is the cost of the proposed upgrade to ratepayers?
- Why was the Ruakaka Location 17 Outfall location be considered given the south beach is where most people swim, not to mention it is the longest route out of all the options?
- What is the timing of the connection and associated costs to ratepayers in respect to the Ruakaka South Wastewater Reticulation Project, and what are the links to this project?



- Why did the original project programme slow down, and what were the resulting changes/costs?
- What are the growth rates based on from a residential/business/industrial perspective i.e. what is the ratio?
- When does the Waipu area become connected to the Ruakaka Wastewater Scheme?
- What is the consent status of the Waipu now?
- What is the difference between the high and expected growth rates?
- How have the implications of the planned infrastructure allowed for the difference between the high and expected growth rates?
- What are the mercury levels in the ocean water and the sediment?
- How has the modelling taken account of any build up of contaminants in the Bream Bay area?
- The range of strategies and options to match the growth allows for flexibility of what WDC has depending on growth and associated wastewater flows and loads?
- Impressed on the high standard of treated wastewater proposed by WDC and also the extensive work which has been undertaken.
- What is the third pond being proposed in the upgrade of the WWTP?
- There are issues regarding drainage from the Keith block into Drain K that the WDC is unaware of.
- When is the reuse of the treated wastewater at the Refinery happening and what are the benefits?
- Are WDC expecting opposition from the recreational fishermen regarding the proposed ocean outfall?
- The dunes in front of the Rama Road block are different than those adjacent the WWTP site and that dune system is fragile in respect of dune stability.
- Have WDC looked at the wetland option which Drain K runs down to the Ruakaka River?
- What happens to the screenings from the WWTP?
- Aren't the screenings horrible?
- Support for the treated wastewater reuse regarding the refinery options.
- Mair Road is the worst area for dune stability due to the development at the Port which has changed the current ocean erosion,
- Are there are effects on the dune stability from the groundwater levels?
- What is the ocean outfall treated wastewater standard of treatment and how well does it disperse into the Bream Bay?
- Why did you ever consider an ocean outfall near the Ruakaka Surf Club?
- Is there faecal matter in the screenings?
- What about predicted sea level rise?
- What is the latest update on gaining Government Subsidy for South Ruakaka?
- Support for sewerage reticulation in South Ruakaka.
- Promotion of a (Coastal) Regional Park in the Ruakaka area and using treated wastewater to assist vegetation / tree establishment (on a water deficient irrigation basis).
- Comments on the contamination of the Ruakaka River and Estuary.
- Why apply for ocean outfall consents now when the outfall may not be required for 15 years?

The pre-lodgement consultation based on the Consultation Draft AEE also included WDC sending letters and copies of the Draft AEE and Companion Volume to the various ratepayers and residents association, key stakeholders such as NIWA, BBLOA and, DOC. Table 18.1 includes this as item 86 and cross references to the list of those organisations which is included in the May 2011 report to the WDC's Infrastructure and Services Committee. The invitation to request meetings with the WDC's Project Manager, Fraser Campbell was also taken up by key stakeholders such as NIWA and Oceanz Blue, BBLOA, members of Save our Harbour and the Northland Scallop Enhancement Company.

## **18.7 Issues and Responses from Prelodgement Consultation of Draft Assessment of Effects on the Environment**

Section 18.6 above summarises a number of the issues raised in the pre-lodgement consultation. Many of the issues particularly those raised at the open days were responded to by WDC personnel with



straightforward answers and in many cases, references to where in the Consultation Draft AEE and the Support Documents these matters are covered.

A significant number of the matters raised by different stakeholder parties and individuals were similar and in some cases the same. This allowed grouping of such issues. The following Table 18.5 sets out the key issues raised as they are grouped (as assessed by WDC's Project Management Group) and the WDC response to those issues. These responses include not only reference to the background and project documentation where they are covered, but also to where in this Application Version of the AEE the matter has been specifically addressed.

WDC's Group Manager Infrastructure and Services Report to the Infrastructure and Services Committee May 2011, titled 'Ruakaka Wastewater – Proposed Scheme and Final AEE for Lodgement' includes this table and discusses the extent and output of the pre-lodgement consultation.

**Table 18.5 Key Issues Raised and Whangarei District Council Responses – Pre-Lodgement Consultation**

Key Issues Raised	Whangarei District Council Response
<p>1. <b>Proposed Ruakaka South Sewerage (Wastewater) Scheme installation</b> – at the open days a number of Ruakaka residents raised this and highlighted the need for it and their support of it.</p>	<p>WDC is acutely aware of the need for this Scheme from a public health protection viewpoint, as well as an environmental enhancement and protection including that associated with the nearby Ruakaka River. Accordingly, WDC has proactively promoted and investigated this scheme which is to be based on a pressure sewer household grinder pump collection system.</p> <p>WDC currently awaits Central Government's final approval of the subsidy for this Scheme before commencing with detailed design and installation.</p>
<p>2. OceanNZ Blue Ltd raised the need for: -</p> <ul style="list-style-type: none"> <li>• more specific description of <b>monitoring of the ocean outfall treated wastewater discharge</b></li> <li>• the need for <b>trade waste discharge information</b></li> </ul>	<ul style="list-style-type: none"> <li>• WDC has suggested a comprehensive set of monitoring conditions for proposed Resource Consent No. 7 being the Coastal Permit for Discharge of Treated Wastewater into Bream Bay (refer Section 19.2.7 of the AEE). This set of conditions can be further expanded if agreed between the parties and NRC as the consenting authority. WDC will further dialogue with OceanNZ Blue Ltd and NIWA (in terms of the Bream Bay Aquaculture Park) on this matter.</li> <li>• As set out in the AEE, WDC has a trade waste bylaw and trade waste consent approval process that is in accordance with Local Government Act procedures. WDC will further review trade waste management. It is noted however, that the set of treated wastewater discharge parameters should be developed to ensure that (any) residual contaminant levels from trade waste discharges are included in the treated wastewater discharge monitoring.</li> </ul>



Key Issues Raised	Whangarei District Council Response
<ul style="list-style-type: none"> <li>the need for a <b>notification system for 'events'</b> such as treatment plant failures and requests such as a procedure be put in place</li> </ul>	<ul style="list-style-type: none"> <li>This matter has previously been discussed with NIWA in terms of the Bream Bay Aquaculture Park seawater intake. As set out in the suggested resource consent condition (AEE Section 19.2.1) in respect of NIWA and their commercial tenants, it is proposed that a reporting system relating to WDC's new WWTP operation / performance is put in place once the Ocean Outfall is commissioned.</li> </ul>
<p>3. Bream Bay Land Owners Association (BBLOA) raised the issue of <b>projected growth of residential and business / industrial development as compared to actual growth over time</b>. BBLOA suggested regular reviews, and the need to ensure justification of new infrastructure components (e.g. modules of the wastewater treatment plant and the ocean outfall) before each programme step is committed to ensure that it was the most cost effective solution.</p>	<p>WDC have expanded the Consultation Draft AEE suggested condition on "Technology and Environmental / Monitoring Review Conditions" to include review of Development. This expanded suggested resource consent condition is included in the Application Version of the AEE (Section 19.2.1). It will require the periodic review of the growth of development and the associated wastewater volume generation and liaison with BBLOA in undertaking these reviews. (Refer item 13 below). WDC will work closely with the BBLOA when deciding on the provision of any further treatment and reuse/ disposal works.</p>
<p>4. A number of parties highlighted the need to ensure that the <b>resource consent review conditions</b> make it clear as to responsibilities, accountabilities and reporting requirements of respective parties.</p>	<p>WDC's suggested conditions set out respective responsibilities. Subject to consents being granted by Northland Regional Council (as Consent Authority), these responsibilities will be further spelt out in the conditions proposed by the Consent Authority. It is noted that it is not possible to place responsibilities on a third party by way of a resource consent condition. The conditions must be between the Consent Holder (WDC) and the Consent Authority.</p>
<p>5. One member of the community <b>promoted a Coastal Regional Park Concept</b> in the Bream Bay area and suggested that irrigation of treated wastewater could be used for assistance to establish vegetation / trees. It was further suggested such irrigation would be on a water deficient basis.</p>	<p>WDC referred to the Task 2B Part 2 Report (Support Document No 10) where irrigation of treated wastewater on Crown land and / or WDC Reserves is identified and included in the short list of 13 options for treated wastewater reuse that should be periodically reviewed for possible future use. Such an approach is in accordance with the Ruakaka Wastewater Strategy as outlined in the AEE and the ongoing implementation of that Strategy.</p> <p>WDC highlighted that such use of treated wastewater fits very well with beneficial reuse techniques as included in the Ruakaka Wastewater Strategy and furthermore would reduce the reliance on an ocean outfall and / or other reuse/disposal means during the dry periods of the year.</p>





Key Issues Raised	Whangarei District Council Response
	<p>WDC’s now suggested “Development, Technology and Environmental / Monitoring Review Conditions” as set out in the Application Version of the AEE are framed in a way that will ensure periodic review of the possible use of treated wastewater for irrigation on Crown land and WDC Reserves. (Refer item 13 below).</p>
<p>6. Patuharakeke Te Iwi Trust Board and members of Save our Harbour raised the need to ensure that when <b>new opportunities arise for beneficial reuse</b> of treated wastewater that these be factored into the Ruakaka Wastewater Strategy and Scheme and the review consent conditions.</p> <p>Furthermore, these parties highlighted that where appropriate such opportunities should be implemented.</p>	<p>The Ruakaka Wastewater Strategy provides for WDC to identify and investigate opportunities for beneficial reuse.</p> <p>The approach used to ensure this is to underpin the Ruakaka Wastewater Strategy with WDC’s suggested “Development, Technology and Environmental / Monitoring Review Conditions”. These conditions are further discussed in response to item 13 below.</p>
<p>7. Two members of the community raised the question as to <b>why does WDC need to apply for Resource Consents for the ocean outfall now</b>, when the proposed ocean outfall may not be required for up to 15 years?</p>	<p>WDC has highlighted it has a statutory duty to plan for agreed development as set out in their District Plan Zoning requirements. This includes the provision of wastewater for development that can take place under the provisions of the land use zoning as shown in the Ruakaka Structure Plan 2008 – Plan C Land Use Proposal. (This plan is included as Figure 1-3 in the AEE).</p> <p>In summary, WDC have a need to prudently plan for the future in accordance with their legislative requirements. This means providing appropriate wastewater infrastructure for planned and approved future development. This infrastructure requires a means of reuse and discharge / disposal of appropriately treated wastewater to the receiving environments selected for disposal of treated wastewater.</p> <p>This procedure requires WDC to plan ahead and ensure development can take place for the maximum consent duration as allowed under the Resource Management Act, namely a 35-year resource consent duration. It is further noted that in planning the physical infrastructure itself, that a 50-year plus planning horizon is adopted in accordance with Local Government infrastructure planning procedures.</p> <p>In addressing this question, WDC further highlighted that the adoption of the Ruakaka Wastewater Strategy and suggested review conditions, along with a resource consenting approach encompassing nine different consents</p>



Key Issues Raised	Whangarei District Council Response
	provides a road map, yet future flexibility to the approach adopted. It was also noted that the suite of nine consents includes land application and when required, use of an off shore ocean outfall along with the proposed beneficial reuse of treated wastewater at the NZ Refinery and other possible reuse.
8. A number of stakeholders were of the opinion that the WDC suggested <b>“Technology and Environmental / Monitoring Review Conditions”</b> (as set out in section 19.2.1 of the Consultation Draft AEE) need to be more specifically developed and refined. This should also include a review of the extent of residential and business / industrial development over time and comparison of projected against measured wastewater generation. (This concept is similar to that raised by BBLOA – item 3 above).	This matter was raised by a number of stakeholders. Item 13 below sets out WDC’s suggested approach of expanding the earlier suggested “Technology and Environmental / Monitoring Review Conditions” to become the “Development, Technology and Environmental Monitoring / Review Conditions”. The Application Version of the AEE includes the expanded terms of reference for these review conditions. It is anticipated that these may be further refined during the resource consenting statutory process.
9. NIWA Matter – Need to <b>refine the wording in the suggested resource</b> consents condition in section 19.2.1 of the Consultation Draft AEE and further develop the concepts included in that suggested wording.	WDC have agreed to change the wording in the Application Version of the AEE to that suggested by NIWA. The wording includes the concept of notification of events as raised by OceanNZ Blue Ltd (refer item 2 above).  WDC has also agreed to continue ongoing dialogue with NIWA regarding suggested consent conditions.
10. One member of the community questioned <b>why the proposed off shore ocean outfall needs to be 3km long</b> when the wastewater treatment wastewater is to be so high?	WDC highlighted that Councillors had proactively decided to adopt this high standard of treatment along with an appropriate off shore ocean outfall location. This was to ensure a high degree of environmental protection and to acknowledge the special nature of Bream Bay and its environs. This high level of protection is based on a precautionary approach for protection of the waters and ecology of Bream Bay and also to those areas that were identified as important considerations in the oceanographic studies, in particular the NIWA Bream Bay Aquaculture Park seawater intake, the Mair Bank shellfish areas and the Ruakaka South Beach area.  WDC further highlighted that the regional importance of Bream Bay for recreation and commercial fishing/shellfish activities along with the overall image of the area as part of the beauty of Northland, were important considerations in adopting the Proposed Scheme and associated Ruakaka Wastewater Strategy. (This approach is consistent with the Objectives that the Project



Key Issues Raised	Whangarei District Council Response
	Advisory Group (PAG) set for the project and in the development of the Ruakaka Wastewater Strategy and the associated integrated development approach followed. (Refer Sections 2 and 4.1 of the AEE).
11. A number of parties highlighted the <b>importance of Resource Consent Review Conditions</b> and need to undertake reviews at appropriate times and <b>obtain appropriate stakeholder input</b> .	This matter is encapsulated in a number of the stakeholder comments. WDC had suggested review conditions in the consultation Draft AEE. Following the consultation on this Draft AEE, WDC have responded to these comments and now propose an expanded and more defined review process that is set out in Section 19.2.1 of the Application Version of the AEE under the now suggested “Development, Technology and Environmental / Monitoring Review Conditions”. (Refer item 13 below).
12. Mighty River Power raised the matter of <b>possible cumulative effects</b> of the proposed treated wastewater discharge from the proposed ocean outfall into Bream Bay on their consented seawater take(s) and discharge(s) for the Marsden sites A and B intakes and outfalls.	WDC have further discussed this matter with Mighty River Power and referenced the appropriate investigations and studies that show that any adverse effects associated with the exercising of these proposed consents will be localised and be no more than minor. The Application Version of the AEE has been expanded on this matter. (Refer section 8.6.17).
<p>13. Members of Save our Harbour raised:</p> <ul style="list-style-type: none"> <li>• Concern that if consents are granted construct and operate an ocean outfall that <b>WDC will construct an outfall in preference to land application and beneficial reuse</b></li> <li>• How can the community be assured that WDC continue to give <b>emphasis to land application and beneficial reuse of treated wastewater</b> once the proposed ocean outfall is constructed and in use?</li> </ul> <p>The point was also raised that the proposed land application of treated wastewater on the Rama Road Block is shown in the proposed consent schedule (Figure 4.12 Consultation Draft AEE) is to end in 2031.</p>	<p>WDC has consistently advised stakeholders that whilst consents are being sought for an ocean outfall there are also significant advantages in pursuing reuse and land application alternatives to delay an outfall construction as long as possible. There are considerable financial costs associated with building an outfall with current estimates being of the order of \$26 million plus ongoing operating costs.</p> <p>WDC’s approach is to ensure their suggested “Development, Technology and Environmental / Monitoring Review Conditions” along with the liaison with key stakeholders is sufficiently robust to ensure appropriate emphasis is given to ongoing review of future/ further land application and beneficial reuse of treated wastewater. This suggested condition (as set out in the Application Version of the AEE, Section 19.2.1) is a further development of the review condition set out in the Consultation Draft AEE. The new suggested condition includes review of the development and growth of wastewater generated and further defines those matters that will be reviewed as indicated in the WDC response to the BBLOA item 3 above. . The suggested review clause records that these</p>



Key Issues Raised	Whangarei District Council Response
	<p>reviews be carried out prior to any final commitment to the design and installation of an ocean outfall and major expenditure associated with a new treatment plant.</p> <p>The Application Version of the AEE includes the expanded terms of reference for these review conditions. It is anticipated that these terms of reference may be further refined during the statutory resource consenting process.</p> <p>The stakeholders as identified in the suggested conditions in the Application Version of the AEE include the Patuharekeke Te Iwi Trust Board Inc, a Ruakaka Wastewater Stakeholder Liaison Group, NIWA and their Commercial Tenants (the Bream Bay Aquaculture Park), and the Bream Bay Land Owners Association (BBLOA).</p>
<p>14. Members of Save our Harbour highlighted the need to <b>ensure that treated wastewater beneficial re-use systems and techniques are reviewed periodically</b> as over time new technology develops. Where appropriate such new technology should be included in the Scheme as it is progressively implemented.</p>	<p>Refer to WDC response as for item 13 above.</p>
<p>15. One member of the community suggested that there was a need for a resource condition that would <b>tie WDC to achieving a certain preset volume, or percentage, of reuse of treated wastewater.</b></p>	<p>WDC have suggested rigorous review conditions that will require periodic review of reuse of treated wastewater (both by WDC itself and third parties) in accordance with the Ruakaka Wastewater Strategy.</p> <p>Furthermore, WDC will, in accordance with the Strategy facilitate reuse options, and where appropriate it will include physical infrastructure works in their Long Term Plan (LTP) and Annual Plan processes.</p> <p>From a legal viewpoint it would not be appropriate for WDC to accept a resource condition that tied third parties or WDC itself to achieving a pre-set volume, or percentage, of treated wastewater reuse where they did not have the ability to achieve such a condition where they were reliant upon such a third party.</p>
<p>16. The Northland Scallop Enhancement Company (NSEC) has concerns re <b>the effects of an ocean outfall may potentially have on their commercial shellfish</b> harvesting operations. They specifically said that WDC should</p> <ol style="list-style-type: none"> <li>a. Look at land disposal options &amp; reuse in preference to an ocean outfall</li> <li>b. Discharge to the Rama Rd block long term</li> </ol>	<p>WDC advised that the Proposed Scheme has a focus on industrial reuse (NZRC), disposal to land Rama Rd block and summer deficit irrigation to Ruakaka Reserve. They also stressed need to have long term capacity such as an ocean outfall when land and reuse options had been utilised.</p> <p>Advised of the intention to sell off the Rama Road</p>



<b>Key Issues Raised</b>	<b>Whangarei District Council Response</b>
<p>rather than just until an outfall was built.</p> <p>c. Advise what effect the addition of buoyant treated wastewater would have on the marine environment in outfall vicinity.</p> <p>d. Consult with other fishing industry groups involved in fin- fish, paddle crabs and cockles.</p>	<p>land to help fund the outfall construction.</p> <p>The treated wastewater would rise to the surface and then mix with the seawater. Depending on wind and current conditions, it is unlikely that there would be a detectable change in seawater concentrations at bed level outside the suggested mixing zone.</p> <p>Hally Toia to provide contact details of other industry groups to consult.</p>



## 19 Conclusions and Suggested Resource Consent Conditions

**Note:** *This section is still in draft format and shall be completed once all pre-application consultation has been undertaken. It is possible that some additional suggested conditions may be added to and/or modified by WDC as a result of matters raised in the consultation on this draft AEE.*

### 19.1 General Conclusion

This AEE Report has described Ruakaka – One Tree Point’s present wastewater treatment and disposal system and the proposed improvements and expansions that will make up a new scheme to cater for extensive growth taking place and further planned for the area. This new Scheme is referred to as the ‘Proposed Scheme’. This is the Scheme for which nine new resource consents and other approvals are being applied for.

The ‘Proposed Scheme’ is underpinned by the ‘Ruakaka Wastewater Strategy’ that also forms a fundamentally important part of the proposal.

The ‘Proposed Scheme’ is a critically important and significant part of the infrastructure of the Ruakaka area as it contributes significantly to health, safety and well-being of the Ruakaka, One Tree Point and wider Bream Bay residents, visitors to the area and business. It will support and underpin the area’s growth and economic development. Accordingly, there are very many positive or beneficial effects associated with both the existing ‘Ruakaka Wastewater Scheme’ and the ‘Proposed Scheme’.

There are number of minor adverse effects of the ‘Proposed Scheme’ have been outlined and evaluated associated with the construction, and operation of the components of the ‘Proposed Scheme’. These include the wastewater treatment plant and the land application areas in the short to medium term and the offshore ocean outfall into the Bream Bay in the medium to long-term.

Tangata Whenua have identified a number of potential adverse effects most of which are considered to be mitigated to a reasonable level. During the consultation with tangata whenua it became apparent that whilst many of the adverse effects can be mitigated, the effects on the mauri of the air and water may not be so easily addressed. It is acknowledged that there are adverse cultural and spiritual effects on the tangata whenua associated with the discharge to the Coastal Marine Area of the Bream Bay.

The minor adverse physical effects are greatly outweighed by the substantial benefits of the ‘Proposed Scheme’. Key components of the ‘Proposed Scheme’ that are important parts of the mitigation include:

- Development and on-going implementation of the Ruakaka Wastewater Strategy.
- The beneficial reuse of wastewater by industry, for irrigation of WDC’s Roger Hall Memorial Park and other possible purposes.
- The land application of treated wastewater for the short and medium term until the limited of consented land disposal capacity is reached and/or consents in place and further approvals expire.
- The physical (infrastructure) components of the Scheme in terms of their proposed design and operation including:
  - the high standard of treated wastewater and odour management that WDC has decided on that will require a best practice secondary treatment plant with UV disinfection and probably filtration, and
  - the long offshore ocean outfall into Bream Bay (approximately 3,000m long) located to ensure protection of sensitive shoreline and other areas in the Bay; and



- the use of present oxidation ponds once decommissioned when the new wastewater treatment plant is commission, as contingency storage ponds on the treatment plant site.
- The sequencing of infrastructure implementation that both future proofs the growth of Ruakaka and One Tree Point area and also spreads the large financial requirements out over time.
- The suggested suite of monitoring, reporting and review provisions as WDC propose are included in the nine new resource consents.
- Use of management plans for the treatment plant, contingency storage ponds, Roger Hall Memorial Park treated wastewater sub-surface irrigation and Rama Road irrigation.
- Suggested resource consent conditions that will assist tangata whenua, other stakeholders and the community at large in protecting, managing and enhancing the natural environment and Bream Bay environs, and also in the capacity building of tangata whenua and the community.

## 19.2 Suggested Consent Conditions

This Section is intended to assist the reader by setting out the suggested resource consent conditions that WDC envisages being placed on the new resource consents, should they be issued. These would formalise WDC's undertaking in accordance with the RMA to avoid, remedy, or mitigate any adverse effects associated with the 'Proposed Scheme'.

These suggested conditions are still in draft form particularly those that relate to iwi or NIWA. Refer to Section 16 for some suggested conditions that are designed to remedy or mitigate any adverse effects on tangata whenua matters. A considerable amount of time has been spent to date with the Patuharakeke Te Iwi Trust Board Inc and NIWA on matters of specific concern to them individually. It has been agreed with both parties that further work will be required to develop these draft suggested conditions further to address their specific concerns.

### 19.2.1 General and Special Resource Consent Conditions

#### a) General Conditions and Consents Packaging

This Section does not include suggested general conditions or advice notes that would be part of the suite of resource consents being sought by WDC, as this is considered to be a matter for the consent authority, NRC.

In addition, it is considered that the general conditions shall include conditions on iwi liaison for specific consents, technology reviews when appropriate and for the establishment of a community liaison group.

Furthermore, the approach taken in the AEE is to follow the provision of the RMA and identify each resource consent(s) separately. In this respect, NRC may, in issuing resource consents, elect to combine some of these resource consents together. In line with the current resource consents 20040415501 (01) and (02), NRC may well combine the three resource consent associated with the wastewater treatment plant site, namely Resource Consents 1, 2 and 3 and Rama Road Block Resources Consents 5 and 6 as numbered in this AEE. Previous discussion with NRC Officers has indicated that combining the erection, placement and occupation of the ocean outfall structure in the CMA into one resource consent.

WDC's requested duration for the various consents and the time to exercise are set out in the application forms and also indicated diagrammatically on Figure 4.12. These make up part of the general conditions for each consent.

Review conditions following the provisions in the RMA and NRC's own procedures also are not included below in the suggested specific conditions that WDC propose be applied for each of the resource consents should NRC decide to issue the following resource consents.

#### b) Suggested Resource Consent Conditions

WDC are currently working with the following stakeholder parties to develop some suggested special resource consent conditions that would apply to the relevant consents. The objective of such conditions is



to provide these parties with an ongoing involvement with WDC in the development of the 'Proposed Scheme' and the associated 'Ruakaka Wastewater Strategy'. A number of these conditions relate to the ongoing involvement, others can be considered to be a form of offset mitigation, directed at concerns that the stakeholder party may have.

#### **Patuharekeke Te Iwi Trust Board (Inc)**

With Patuharekeke Te Iwi Trust Board (Inc) two types of conditions are being considered in dialogue with the Board. These are:

- A Patuharekeke Te Iwi Trust Board (Inc) Liaison role with Council. Such a condition would set out the function of such a liaison role and include, meeting frequency and procedures. Such a condition is frequently included in resource consents where tangata whenua has been closely involved in the development of the strategy, scheme and consent applications, and also in the ongoing development of the scheme once consented.
- The provision of a grant to assist the Board to undertake environmental monitoring. This may include capacity development of their members to undertake the monitoring. Discussions to date have highlighted that the monitoring of shell fish stocks and health in the Mair Bank and Marsden Bank areas could be appropriate.

#### **Bream Bay Land Owners Association (BBLOA)**

In the last round of pre-application consultation (based on the Final Consultation Draft AEE, 16 November 2010), the BBLOA raised the issue of projected growth of residential and business / industrial development as compared to actual growth over time. BBLOA suggested regular reviews, and the need to ensure justification of new infrastructure components (e.g. modules of the wastewater treatment plant and the proposed ocean outfall) before each programmed step of new infrastructure is committed. The objective of this approach is to ensure that it was the most cost effective solution and that where appropriate other options should be considered.

In response to the matter raised by BBLOA, WDC's ongoing planning approach is to include such ongoing periodic reviews of the rate and extent of development against projected wastewater growth. In view of the BBLOA's position and also in response to the similar matters raised by some other stakeholders, WDC has expanded its earlier suggested Technology and Environmental / Monitoring Review Conditions to include review of Development and associated wastewater generation as compared to projected generation.

The Development, Technology and Environmental / Monitoring Review Conditions as discussed below now includes for such a review procedure. The output of this review would be included in the Ruakaka Wastewater Strategy and Ruakaka Wastewater Scheme Review Reports as they are periodically produced. Dialogue would be undertaken with BBLOA during preparation of this report and the report would be issued to BBLOA along with other stakeholder parties as set out below.

#### **Ruakaka Wastewater Stakeholder Liaison Group**

A multi-party Stakeholder Liaison Group with WDC could be established. Such a group would comprise local iwi, community groups, recreation and environmental groups and research and commercial entities that have an interest in the Ruakaka/ One Tree Point area and the waters of Bream Bay and maybe affected in some way or other by the 'Scheme' and the implementation of the 'Ruakaka Wastewater Strategy'. Such a condition would include the roles of the group and WDC, the membership, meeting frequency and procedures. Stakeholder groups who may be appropriate to be on such a Liaison Group could include representatives from the Patuharekeke Te Iwi Trust Board, Bream Bay Land Owners Association (BBLOA) Ruakaka Residents and Ratepayers Association, the Ruakaka Surf Club, the Bream Bay Action Group, Bream Bay Coastal Care, the NIWA Bream Bay Aquaculture Park, the Medical Officer of Health and the Department of Conservation.

#### **NIWA and Their Commercial Tenants – the Bream Bay Aquaculture Park**

NIWA and their commercial tenants at the Bream Bay Aquaculture Park are important Stakeholders particularly in respect to their seawater intake in Bream Bay. Dialogue has been ongoing throughout this project with NIWA representatives who hold the resource consent for the seawater intake and have water





supply agreements with and obligations to their commercial tenants. Without committing NIWA and their commercial tenants to any particular position with respect to the lodgement by WDC of the consent applications for the 'Proposed Scheme', suggested conditions have been discussed in general terms. These could, for example, include:

- Some form of financial grant and / or other assistance by WDC to NIWA for the purposes of researching specific seawater quality effects on the type of fish / shellfish or other marine life associated with the Aquaculture Park. With the expected long lead time. (up to 15 years) before the ocean outfall would be commissioned, such an approach would provide ample time to research specific topics before discharge of the treated wastewater out the outfall.
- Some form of financial assistance by way of an offset mitigation if required towards the treatment of sea water that is undertaken at the Aquaculture Park site. This type of condition would probably be tied to the timing of the installation and operation of the outfall.
- A reporting system relating to WDC's new WWTP operation / performance once the Ocean Outfall is commissioned.

Alternatively or additionally, WDC could enter into a Memorandum of Understanding or some other form of agreement with NIWA.

### **WDC Development, Technology and Environmental / Monitoring Review Conditions**

WDC is also offering a suggested condition(s) that would require their Council to periodically review the 'Ruakaka Wastewater Scheme' and the associated 'Ruakaka Wastewater Strategy' as it is implemented and as the residential and business / industrial development takes place. The reviews would include not only the review of the rate and further projected development and associated wastewater generation, but also technology developments in relation to wastewater generation and projections, treatment and re-use systems and techniques. Land Application techniques including water deficient irrigation would all form part of the reviews.

The reviews would also include consideration of advances in assessment of environmental effects and the review of monitoring conditions set in the consents. Such reviews would be required to be undertaken by suitably qualified independent specialists.

The scope of the reviews would be outlined in the resource consent condition, and the report setting out the findings would be made available to NRC the Consent Authority, the Patuharakeke Te Iwi Trust Board (Inc), BBLOA, NIWA and their commercial tenants and other members of the proposed Stakeholder Liaison Group. The review conditions would set out when such reviews were undertaken. As a minimum they would be required, prior to any commitment to the design and construction of a new WWTP and any subsequent modular stages of that new WWTP and before final commitment to the design and construction of the Ocean Outfall.

The periodic reviews and the findings would be set out in a report titled 'The Ruakaka Wastewater Strategy and Scheme Review Report'.

## **19.2.2 Suggested Specific Consent Conditions**

### **19.2.2.1 Resource Consent No. 1: Discharge Permit for the Discharge (via Seepage) of Wastewater to Land and Water from Contingency Storage Ponds at the Ruakaka Wastewater Treatment Plant Site**

1. The consent holder shall prepare an Operations and Management Plan for the wastewater treatment plant and the associated contingency storage ponds. The Plan shall be prepared by a suitably qualified and experienced person in wastewater treatment and shall set out in general terms how the wastewater treatment system is to be operated and maintained to ensure compliance with the conditions of this consent and other resource consents particularly those related to treated wastewater and air discharges. The Plan shall be reviewed and updated by the consent holder at least every two years that this consent is operative.



2. The Operations and Management Plan shall address but not be limited to, the following matters:
  - (a) A description of the entire wastewater treatment plant and sampling points;
  - (b) A description of routine maintenance procedures to be undertaken to ensure compliance;
  - (c) An outline of the methods used to monitor the wastewater treatment plant operation and performance and process oriented influent monitoring;
  - (d) Measures to deal with high influent flows under excessively wet weather conditions and contingency measures that will be put in place if the wastewater treatment system is overloaded;
  - (e) Specific management procedures for ensuring the efficient functioning of the wastewater treatment system and any odour control equipment or technology;
  - (f) Procedures for recording routine maintenance and all repairs that are undertaken;
  - (g) Contingency measures in place to deal with unusual events such as any process failures;
  - (h) Maintenance and monitoring of the discharge structure;
  - (i) Specific management procedures for receiving and responding to odour complaints;
  - (j) Other actions necessary to comply with the conditions of this resource consent;
  - (k) Procedures for improving and/or reviewing the Management Plan.
3. The consent holder shall manage the treatment plant and discharge in accordance with the Management Plan outlined in the condition above. The consent holder, following consultation with the Northland Regional Council, shall confirm any changes to the Management Plan in writing.
4. The consent holder shall notify the Northland Regional Council of the use of the contingency storage ponds and include with this notification the following information:
  - (a) Reasons for the use;
  - (b) Duration of use and approximate volume stored;
  - (c) Quality of volume stored;
  - (d) If appropriate means to eliminate or reduce future use of the contingency ponds for a similar purpose; and
  - (e) Any other relevant information.

This notification shall be made as soon as practical after commencement of the use of the contingency storage ponds with full information being submitted not later than seven working days after completion of the use of the contingency storage ponds.

#### **19.2.2.2 Resource Consent No. 2: Discharge Permit for the Discharge (via Soakage) of Treated Wastewater to Land and Water from the Ruakaka Wastewater Treatment Plant at the Plant Site**

It is suggested that these conditions be the same as the existing resource consent no. CON 20040415501 with the inclusion of specific provisions to measure any additional effects from the inclusion of the RO reject water. These specific provisions will include additional monitoring in the existing bores for sodium and chloride ions and also boron.

#### **19.2.2.3 Resource Consent No. 3: Discharge Permit for the Discharge of Contaminants to Air from Activities Associated with the Ruakaka Wastewater Treatment Plant and the Site**

##### **Odour**

1. The Consent Holder's operation shall not give rise to any discharge of contaminants at or beyond the boundary of the area legally occupied by the wastewater treatment plant and disposal system, which is deemed by a suitably trained and experienced Enforcement Officer of the Regional Council to be noxious, dangerous, offensive or objectionable to such an extent that it has, or is likely to have, an adverse effect on the environment.



2. In the event of non-compliance with the above condition 1 the consent holder shall commission a suitably qualified and independent expert, to the approval of Northland Regional Council, to undertake an investigation into the source of the odour or airborne contaminants, and make recommendations to remedy and mitigate those effects sufficient to ensure compliance with the above condition 1. The consent holder shall implement those recommendations as soon as it is practicable.
3. All odour control equipment shall be designed by an appropriately experienced wastewater treatment specialist and maintained and monitored in accordance with standard industry practice. Evidence of maintenance and monitoring shall be recorded and provided to the Northland Regional Council upon request.

#### **Requirement to Prepare an Odour Management Plan**

4. The Consent Holder shall prepare an Odour Management Plan to the satisfaction of Northland Regional Council. This Plan shall be lodged with the Northland Regional Council within three calendar months of the exercising of this consent and shall be reviewed and updated as a minimum of every three years that this consent is operative. Any changes to the Plan shall be confirmed in writing by the Consent Holder following consultation with the Northland Regional Council. The Consent Holder shall undertake the treatment and disposal of treated wastewater generally in accordance with the Odour Management Plan. The Odour Management Plan shall detail the methods and operational procedures that the Consent Holder will adopt to ensure that Condition 1 of this consent is met at all times.

The Odour Management Plan shall include, but its contents shall not be limited to:

- (a) The details of the operating and maintenance regimes for all of the odour management system;
- (b) The details of the operating and maintenance regime for any biofilter(s) including specification of the optimal operating range for pH, moisture content and back pressure; the monitoring regime for these parameters; the action that will be taken in the event of the filter becoming 'out of range' for any of these parameters; and
- (c) The details of sludge biosolids management at the sludge dewatering building including ingress, egress and covering of trucks, and covering of any stored sludge or biosolid piles; and
- (d) The details of the odour complaints procedure, record keeping and response procedure.

#### **Complaints Register**

5. The consent holder shall maintain and keep a complaints register for all complaints made about the treatment plant and discharge site received by the consent holder. The register shall record:
  - (a) The date, time and duration of the event/incident that has resulted in the complaint,
  - (b) Weather conditions at the time of the event/incident was detected by the complainant,
  - (c) The location of the complainant when the event/incident was detected,
  - (d) The possible cause of the event/incident,
  - (e) Any corrective action taken by the consent holder in response to the complaint.
  - (f) The register shall be available to the Northland Regional Council at all reasonable times. Details of all complaints received by the consent holder that may indicate non-compliance with the conditions of this resource consent shall be forwarded to the Northland Regional Council within 5 working days of the complaint being received unless agreed upon in writing by the Northland Regional Council.

#### **Notification of Odour Event**

6. The consent holder shall notify the Northland Regional Council of any incident, including mechanical or power failures, leading to significant emission of odour from the treatment plant site or land disposal area, within 24 hours of the incident occurring. A written report shall be forwarded to the Northland Regional Council within seven working days of the event occurring describing the incident,



the reasons for it occurring, any complaints received, measures taken to avoid, remedy or mitigate its effects and measures (if any) undertaken to prevent a reoccurrence of the event.

#### **19.2.2.4 Resource Consent No. 4: Discharge Permit for the Discharge (via Subsurface Irrigation) of Treated Wastewater to Land on the Roger Hall Memorial Park**

##### **Purpose**

1. To discharge (via subsurface irrigation) secondary treated and disinfected wastewater from Ruakaka treatment plant to land in the Roger Hall Memorial Park on a water deficient.

##### **Activity**

2. The location, design, implementation and operation of the treated wastewater irrigation system shall be in accordance with the consent application and its associated plans and documents lodged with the Northland Regional Council on xx, but subject to any modifications required to comply with any of the conditions of this consent.

##### **Discharge Location**

3. The discharge shall occur by subsurface irrigation on up to 5.95 ha of land at the Roger Hall Memorial Park, as shown in Figure 10-1 of the AEE (WDC 2010).

##### **Quantity and Loading Rate**

4. The permit holder shall install and maintain a meter in the pipe prior to the discharge to the disposal area that has a measurement error of  $\pm 5\%$  or less. This meter shall be used to determine compliance with condition 5.
5. The volume of the discharge shall not exceed a maximum of 260m<sup>3</sup> per day during the period from October to March, inclusive, or 123m<sup>3</sup> per day during the period from April to September inclusive.
6. The permit holder shall ensure that irrigation is only be used to control soil moisture deficits. The irrigation system shall be used on a turf demand basis. Water will only be applied to areas which are in moisture deficit and applications must not increase moisture levels above field capacity.

##### **Discharge Quality**

7. The permit holder shall only discharge secondary treated and disinfected wastewater from the Ruakaka wastewater treatment plant, which has a median faecal coliform content of less than 10 cfu per 100ml measured as set out in the resource consent for treated wastewater discharge through the proposed ocean outfall into Bream Bay.

##### **Irrigation Management Plan**

8. The permit holder shall prepare an Irrigation Management Plan for Roger Hall Memorial Park. This management plan shall address but not be limited to:
  - (a) The management of the timing and volume of wastewater application;
  - (b) A method for ascertaining the soil moisture status during the wastewater irrigation season;
  - (c) A system to log the daily applications including application area, duration, time and volume irrigated.
  - (d) How the system will be operated and maintained to meet the requirements of this consent

The Irrigation Management Plan shall be submitted to, and accepted as satisfactory by, the Northland Regional Council, not less than three months prior to commencement of installation of the irrigation system on the site.

9. The irrigation system shall be operated, maintained and managed by the consent holder in accordance with the Irrigation Management Plan required by the condition above.



### **Irrigation Monitoring Plan**

10. The permit holder shall prepare an Irrigation Monitoring Plan which shall include, but not be limited to:
- (a) Monitoring records of days of use of the irrigation scheme and wastewater volumes irrigation on these days.
  - (b) Location of soils to be monitored,
  - (c) The frequency of monitoring events,
  - (d) The range of parameters to be measured, and
  - (e) A methodology for sample collection and analysis.
  - (f) A record of any complaints associated with the irrigation procedures.

The Irrigation Monitoring Plan shall be submitted to, and accepted as satisfactory by, the Northland Regional Council, not less than three months, prior to commencement of installation of the irrigation system on the site.



### 19.2.2.5 Resource Consent No. 5: Discharge Permit for the Discharge (via Irrigation) of Treated Wastewater to Land and on the Rama Road Block

#### Purpose

1. To discharge treated wastewater from Ruakaka oxidation pond and, after its upgrade, from the Ruakaka wastewater treatment plant, and of reverse osmosis reject water derived from Ruakaka treated wastewater, to land on the Rama Road Block being located at Lot 4 DP 419151.

#### Activity

2. The location, design, implementation and operation of the treated wastewater irrigation system shall be in accordance with the consent application and its associated plans and documents lodged with the Northland Regional Council on xx, but subject to any modifications required to comply with any of the conditions of this consent.

#### Discharge Location

3. The discharge shall occur by low or medium pressure irrigations systems and by perforated pipe on up to 20 hectares of land near Rama Road, as shown in Figure 11-1 of the Assessment of Effects on the Environment (WDC 2010). No spray irrigation shall be undertaken within 30m of the property boundary for oxidation pond and wetland treated wastewater, nor 20m of the property boundary for the high standard 5.5.10.10 treated wastewater (BOD, SS, TN, FC).

#### Quantity and Loading Rate

4. The permit holder shall install and maintain a meter in the pipe prior to the discharge to the disposal area that has a measurement error of  $\pm 5\%$  or less. This meter shall be used to determine compliance with condition 5.
5. The volume of the discharge shall not exceed an average of 1,700m<sup>3</sup> at an average application rate per ha, per day during the period from October to March, inclusive, or an average of 1,030m<sup>3</sup> per day during the period from April to September inclusive.

#### Discharge Quality

6. The permit holder shall only discharge treated wastewater from the Ruakaka wastewater treatment facility, including reverse osmosis treatment plant reject water, which meets the following irrigation water quality standards:

Parameter	Standard
Sodium	<460 mg/L
Chloride	<700 mg/L
Fluoride	<2 (STV)
Sodium Absorption Ratio	<46
ECse	<4.5 dS/m

#### Irrigation Management Plan

7. The permit holder shall prepare an Irrigation Management Plan for the Rama Road Block. This Management Plan shall include but not be limited to:
  - (a) A detailed description of the irrigation systems to be used;
  - (b) Specifications for buffer zone distances from the site boundary and from water bodies within the boundary;
  - (c) The management of the timing and volume of wastewater application;
  - (d) A method for ascertaining the soil moisture status during the wastewater irrigation season;



- (e) A system to log the daily applications including application depth, duration and the block irrigated, and
- (f) How the system will be operated and maintained to meet the requirements of this consent.

The Irrigation Management Plan shall be submitted to, and accepted as satisfactory by, the Northland Regional Council, not less than three months prior to commencement of irrigation of the site.

8. The irrigation system shall be operated, maintained and managed by the consent holder in accordance with the Irrigation Management Plan required by the condition above.

#### **Irrigation Monitoring Plan**

9. The permit holder shall prepare an Irrigation Monitoring Plan which shall include, but not be limited to:
- (a) Location of groundwater and surface waters to be monitoring,
  - (b) The frequency of monitoring events,
  - (c) The range of parameters to be measured, and
  - (d) A methodology for sample collection and analysis.

The Irrigation Monitoring Plan shall be submitted to, and accepted as satisfactory by, the Northland Regional Council, not less than three months prior to commencement of installation of the irrigation system on the site.

10. The permit holder shall monitor these consents in accordance with the Irrigation Monitoring Plan required by condition 9. If the monitoring results for inland groundwater show that the exercise of these consents results in the exceedences of the specified median concentration for the following determinants, the permit holder shall forward to the Regional Council Monitoring Programme Manager a report that assesses the environmental effects of the discharge on the water quality of Berich Drain and of Ruakaka Beach. The report shall identify any actions required to address any adverse effects.

<b>Seaward Bores</b>	
Determinant	Median concentration
Faecal coliform	35 per 100ml
Total Ammoniacal Nitrogen	20 milligrams per litre
<b>Inland Bores</b>	
Faecal coliform	50 per 100ml
Total Ammoniacal Nitrogen	2 milligrams per litre
Nitrate + Nitrite	3 milligrams per litre
Dissolved reactive phosphorus	0.6 milligrams per litre

11. The permit holder shall, prior to exercising this consent, install signs at regular intervals along the perimeter of the Rama Road Block that advise the use of the area and warn unauthorised persons not to enter. The signs shall be in accordance with New Zealand Standard 1319:1994, Safety Signs for the Occupational Environment. Written confirmation of the signage wording, size and placement shall be provided to the Northland Regional Council within three months of commencement of these consents.

#### **19.2.2.6 Resource Consent No. 6: Discharge Permit for the Discharge of Contaminants to Air Associated with Treated Wastewater Irrigation on the Rama Road Block**

##### **Odour**

1. The Consent Holder's operation shall not give rise to any discharge of contaminants at or beyond the boundary of the area legally occupied by Lot 4 DP 419151, which is deemed by a suitably trained and experienced Enforcement Officer of the Northland Regional Council to be noxious, dangerous, offensive or objectionable to such an extent that it has, or is likely to have, an adverse effect on the environment.



2. In the event of non-compliance with the above condition 1 the consent holder shall commission a suitably qualified and independent expert, to the approval of Northland Regional Council, to undertake an investigation into the source of the odour or airborne contaminants, and make recommendations to remedy and mitigate those effects sufficient to ensure compliance with the above condition 1. The consent holder shall implement those recommendations as soon as it is practicable.
3. All odour control equipment shall be designed by an appropriately experienced wastewater treatment specialist and maintained and monitored in accordance with standard industry practice. Evidence of maintenance and monitoring shall be recorded and provided to the Northland Regional Council upon request.
4. Irrigation of wastewater shall be with equipment such that aerosols and spray drift are minimised, such that there shall be no detectable spray drift beyond the boundaries of the property. To this end, there shall be no effluent irrigation on the site when the wind speed exceeds 12 metres per second for more than 10 minutes.

#### **Requirement to Prepare an Air Discharge Management Plan**

5. The Consent Holder shall prepare an Air Discharge Management Plan to the satisfaction of Northland Regional Council. This Plan shall be lodged with the Northland Regional Council within three calendar months of the installation of the irrigation system and shall be reviewed and updated as a minimum of every three years that this consent is operative. Any changes to the Plan shall be confirmed in writing by the Consent Holder following consultation with the Northland Regional Council. The Consent Holder shall undertake the treatment and disposal of treated wastewater generally in accordance with the Air Discharge Management Plan. The Air Discharge Management Plan shall detail the methods and operational procedures that the Consent Holder will adopt to ensure that Condition of this consent is met at all times.

The Air Discharges Management Plan contents shall include, but not be limited to:

- (a) The details of the operating and maintenance regimes for all odour management systems, and
- (b) The operating procedures to minimise as far as practical aerosols and spray drift. These shall include procedures that limit the time of operation, and
- (c) The details of the odour complaints procedure, record keeping and response procedure.

#### **Complaints Register**

6. The consent holder shall maintain and keep a complaints register for all complaints made about the treatment plant and discharge site received by the consent holder. The register shall record:
  - (a) The date, time and duration of the event/incident that has resulted in the complaint,
  - (b) Weather conditions at the time of the event/incident was detected by the complainant,
  - (c) The location of the complainant when the event/incident was detected,
  - (d) The possible cause of the event/incident,
  - (e) Any corrective action taken by the consent holder in response to the complaint.
  - (f) The register shall be available to the Northland Regional Council at all reasonable times. Details of all complaints received by the consent holder that may indicate non-compliance with the conditions of this resource consent shall be forwarded to the Northland Regional Council within 5 working days of the complaint being received unless agreed upon in writing by the Northland Regional Council.

#### **Notification of Odour Event**

7. The consent holder shall notify the Northland Regional Council of any incident, including mechanical or power failures, leading to significant emission of odour from the treatment plant site or land disposal area, within 24 hours of the incident occurring. A written report shall be forwarded to the





Northland Regional Council within seven working days of the event occurring describing the incident, the reasons for it occurring, any complaints received, measures taken to avoid, remedy or mitigate its effects and measures (if any) undertaken to prevent a reoccurrence of the event.

### **Warning Signage**

8. The permit holder shall, prior to exercising this consent, install signs at regular intervals along the perimeter of the Rama Road Block that advise the use of the area and warn unauthorised persons not to enter. The signs shall be in accordance with New Zealand Standard 1319:1994, Safety Signs for the Occupational Environment. Written confirmation of the signage wording, size and placement shall be provided to the Northland Regional Council within three months of commencement of these consents.

### **19.2.2.7 Resource Consent No. 7: Coastal Permit for the Discharge of Treated Wastewater to the Coastal Marine Area via an Ocean Outfall into the Coastal Marine Area at Bream Bay**

#### **Purpose**

1. To discharge secondary treated and disinfected wastewater from Ruakaka Wastewater Treatment Plant into the Coastal Marine Area.

#### **Activity**

2. The location, design, implementation and operation of the Ruakaka Wastewater Treatment Plant shall be in general accordance with the consent application and its associated plans and documents lodged with the Northland Regional Council three calendar months prior to construction commencement, but subject to any modifications required to comply with any of the conditions of this or other related consent.

#### **Quantity and Rate**

3. The average daily dry weather volume of treated wastewater to be discharged shall not exceed 16,000 cubic metres per day, with a maximum peak wet weather discharge rate of 740 litres per second.

(Note: NRC Advice note needed to define average daily dry weather volume).

#### **Discharge Location**

4. The discharge shall be into Bream Bay through an offshore ocean outfall extending approximately 3000 metres from the shore and terminating at grid reference NZTM East 1736025.00; North 6028848.00.

#### **Outfall Diffuser**

5. The outfall shall terminate in a multiport diffuser that shall be configured to maximise initial dilution.

#### **Operations and Maintenance**

6. The wastewater treatment and disposal system shall be operated and maintained at all times to ensure that the treatment is in accordance with sound engineering practices.

#### **Treated Wastewater Monitoring**

7. The permit holder shall continuously monitor and record the flow rate and volume of treated wastewater entering the outfall pipeline.



8. The permit holder shall provide a suitable wastewater sampling station for the monitoring required by condition 29 of this consent. This location shall be to the satisfaction of the Northland Regional Council.
9. All monitoring methods, procedures and analyses undertaken in connection with this consent shall be appropriate for wastewater monitoring.
10. The permit holder shall take grab samples (between the hours 10am and 4pm) and 24-hour flow proportioned samples of treated wastewater on at least four days each week from the sampling location specified in condition 8. The samples shall be analysed for the constituents and at the frequencies and detection limits listed in Schedule 1 of this consent.

### Discharge Quality Standards

11. The permit holder shall ensure that the quality of treated wastewater entering the outfall pipeline at the wastewater treatment plant site shall comply with the following concentration standards, based on 15 samples collected over each 13-week period (commencing on the 1<sup>st</sup> February, 1<sup>st</sup> May, 1<sup>st</sup> August and 1<sup>st</sup> November):

<i>Constituent</i>	<i>Units</i>	<i>Sample type</i>	<i>Sample Frequency</i>	<i>Standard</i>
cBOD <sub>5</sub>	mg/L	24-hour flow proportioned composite	1 sample every 6 days	Over each 13-week period no more than 10 exceedences above 5, and no more than 2 exceedences above 20
Suspended solids	mg/L	24-hour flow proportioned composite	1 sample every 6 days	Over each 13-week period no more than 10 exceedences above 5, and no more than 2 exceedences above 30
Total nitrogen	mg/L	24-hour flow proportioned composite	1 sample every 6 days	Over each 13-week period no more than 10 exceedences above 10, and no more than 2 exceedences above 30
Faecal coliforms	cfu/100ml	Grab	1 sample every 6 days	Over each 13-week period no more than 10 exceedences above 10, and no more than 2 exceedences above 1000

Notes: 1 – Sampling need not be strictly on a 6-day cycle but will need to total 15 samples in each 13 week period

2 – Up to 10 exceedences out of 15 samples are permitted to meet a 50-percentile (median) discharge standard and up to 2 exceedences of 15 samples are permitted to meet a 95-percentile discharge standard, based on a dischargers risk of no more than 10% (New Zealand Municipal Wastewater Monitoring Guidelines, NZWERF/MfE 2002)

### Benthic Ecology Survey

12. The permit holder shall undertake a broad spatial study of the benthic biota and sediments in the vicinity of the outfall (comparable to that carried out by Golder Associates 2010) before commencement of any physical works within the Coastal Marine Area, before 12 months of operation and in the third and thirteenth years after commencement of the discharge through the offshore ocean outfall.

### Receiving Water Quality

13. The discharge of wastewater authorised by this permit shall not cause any of the following effects beyond a distance of 100m from any part of the diffuser section of the outfall:



- (a) The production of conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
- (b) Any conspicuous changes in colour or visual clarity; or
- (c) Any significant adverse effects on aquatic life.

**SCHEDULE 1**

Analysis	Monitoring Frequency				Sample Type	Units	Detection Limit
	1 every 6 days (on average)	Monthly	Quarterly	Annually			
CBOD <sub>5</sub>	✓				composite	mg/L	1
Total suspended solids	✓				composite	mg/L	1
Faecal coliform	✓				grab	cfu/100ml	10
Enterococci		✓			grab	cfu/100ml	10
Total Nitrogen	✓				composite	mg/L	0.1
Ammonia-Nitrogen		✓			composite	mg/L	0.1
Nitrate-Nitrogen		✓			composite	mg/L	0.1
Nitrite-Nitrogen		✓			composite	mg/L	0.1
Total Phosphorus		✓			composite	mg/L	0.1
Dissolved Reactive Phosphorus		✓			composite	mg/L	0.1
pH		✓			composite	pH	0.1
Alkalinity		✓			composite	mS/m	0.1
Arsenic (Total)			✓		composite	mg/L	0.005
Cadmium (Total)			✓		composite	mg/L	0.0001
Chromium (Total)			✓		composite	mg/L	0.0005
Copper (Total)			✓		composite	mg/L	0.0002
Lead (Total)			✓		composite	mg/L	0.0001
Mercury (Total)			✓		composite	mg/L	0.00008
Nickel (Total)			✓		composite	mg/L	0.0005
Zinc (Total)			✓		composite	mg/L	0.001
VOC				✓	composite	mg/L	trace
SVOC				✓	composite	mg/L	trace
Whole effluent toxicity testing				✓	composite	mg/L	n.a.

**Schedule Notes:**

- (i) A 'composite sample' is defined as a 24-hour flow weighted sample of the discharge.
- (ii) A 'grab sample' is defined as a random sample taken from the discharge flow.
- (iii) The routine faecal coliform grab sample is to be taken between the hours of 9am and 4pm.
- (iv) The timing of metals, VOC and SVOC sample collection shall be the same as for Whole Effluent Toxicity Testing.
- v) Whole Effluent toxicity Testing – a 24-hour flow weighted composite sample of the discharge shall be taken annually and tested for acute toxicity, using no less than 3 different trophic levels. The tests shall follow internationally accepted protocols, including a reputable method for Projecting chronic toxicity. Test procedures and choice of test organisms shall be approved by Northland Regional Council.



**19.2.2.8 Resource Consent No. 8: Coastal Permit for the Erection and Placement of an Ocean Outfall Structure in the Coastal Marine Area at Bream Bay and Any Associated Deposition of Materials on and Disturbance of the Foreshore or Seabed**

1. Construction Management Plan
  - (a) The consent holder shall submit to the Northland Regional Council within three calendar months prior to commencement of construction of the offshore outfall within the coastal marine area up to mean high water springs, a Construction Management Plan which shall outline the following as a minimum:
    - i) Pipeline(s) profile and design concept;
    - ii) Type of construction method being adopted and material types;
    - iii) Hydrostatic and any other testing of the pipeline(s);
    - iv) The proposed timeframe for construction (including contingency);
    - v) The proposed mitigation measures that will be put in place to minimise potential adverse effects, including measures to be used to minimise effects on marine ecosystems.
    - vi) Health and safety and access matters relating to general public accessing and use of the coastal area;
    - vii) Minimising as far as is reasonable practical the footprint of the disturbed area;
    - viii) A vegetation restoration and maintenance programme
    - ix) Incorporating requirements of a Department of Conservation Concession and other requirements that may be agreed to
    - x) Fuel storage and machinery refuelling procedures and storage and handling of other hazardous materials and any drilling fluid;
    - xi) Signage during the physical works; and
    - xii) The risk management procedures that will be in place.
    - xiii) Other matters pertinent to the proposed method(s) of construction and associated material types.
  - (b) The consent holder shall ensure that outfall construction is undertaken generally in accordance with the Construction Management Plan.
2. The erection of structures shall be limited to pipeline(s) to convey treated wastewater and any temporary structures associated with the installation, repair and maintenance of the pipeline(s).
3. On completion of the works, all disturbed areas shall be returned to a state generally consistent with the surrounding seabed and foreshore.
4. All practicable measures shall be undertaken to ensure that the works do not exacerbate erosion.
5. In the event of erosion occurring as a direct result of the works, the consent holder shall, in consultation with the Northland Regional Council undertake all practicable measures to remedy any damages caused and minimise the potential for future erosion.
6. In the event of the detection of any system failure of the pipeline, the Northland Regional Council shall be notified within 24 hours and provided with details of:
  - (a) The nature of any failure; and
  - (b) Any remedial works to be carried out.
7. The consent holder shall provide to the Northland Regional Council every five years a report prepared by a suitably qualified and experienced person(s) to demonstrate that the pipeline is:
  - (a) In sound repair and that there are no significant losses occurring from the system; and
  - (b) The pipeline is not exposed.

In the event that the consent holder is aware that the pipeline is identified as having become exposed, either as a result of an inspection carried out or at any other time, the Northland Regional Council shall be notified immediately and provided with a report providing an assessment of effects and any proposed remediation or risk management to be undertaken within ten working days.



**19.2.2.9 Resource Consent No. 9: Coastal Permit for the Occupation and Use of an Ocean Outfall Structure in the Coastal Marine Area at Bream Bay**

1. The occupation of the Coastal Marine Area of the Bream Bay shall be limited to pipeline(s) to convey treated wastewater and any temporary structures associated with the installation of the pipeline(s).
2. Occupation shall only extend from a point adjacent to the Ruakaka Wastewater Treatment Plant Oxidation Pond 1, across the Ruakaka Beach to extending approximately 3000 metres from the shore and terminating at grid reference NZTM East 1736025.00; North 6028848.00.
3. The use of the ocean outfall structure shall be limited to the discharge of wastewater from the Ruakaka Wastewater Treatment Plant.



## Acknowledgements

Whangarei District Council, Campbell Consulting Ltd (WDC's Project Managers) and Principal Consultant MWH wish to acknowledge the valued input of the following:

- Members of the Project Advisory Group (PAG),
- Patuharakeke Te Iwi Trust Board Inc (PTB),
- Ngatiwai, Ngati Hine and Ngapuhi,
- Attendees of the Open Days at the Ruakaka Community Centre, and the Forum North, Whangarei
- Stakeholder Communities / organisations and individuals associated with the consultation, including:
  - Bream Bay Action Group
  - Bream Bay Coastal Care Trust
  - Bream Bay Land Owners Association (BBLOA)
  - Commercial Fishing Organisations
  - Mighty River Power
  - New Zealand Refining Company
  - NIWA Bream Bay Aquaculture Centre and their commercial tenants (which includes OCEANZ Blue Ltd)
  - Northern Branch of Forest and Bird Society
  - Northland Chamber of Commerce and Industry
  - Northland Port Corporation
  - Northland Scallop Enhancement Company
  - Private Individuals
  - Local recreational fishing and boating organisations
  - Ruakaka Ratepayers and Residents Association
  - Members of Save our Harbour
  - Waipu Ratepayers and Residents Association
  - Whangarei Heads Citizens Association
  - Whangarei Racing Club
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  - Department of Conservation (who also represented the Conservation Board)
  - Ministry of Fisheries
  - Northland District Health Board, Medical Officer of Health & staff of the Public Health Unit
  - Northland Regional Council
- Specialist Sub Consultants:
  - Boffa Miskell Ltd – Tangata Whenua assessment of effects
  - Cawthron Institute – Endocrine Disrupting Compounds and Microbiological Pathogens
  - DHI Water and Environment (DHI) – Oceanographic and Nutrient Modelling
  - Golder Associates – Bream Bay Benthic Survey
  - NIWA – Oceanographic Information - Endocrine Disrupting Compounds and Ecotoxicity



Whangarei District Council



- NRC – Water Quality Laboratory
- OCEL – Outfall Constructability Assessment
- Voss Infrastructure Consulting – Hydro-Geotechnical Land Disposal Investigations
- WDC – Water Quality Laboratory
- Wild Earth Media and Coastline Consultants – Coastal Vegetation Assessment



# Glossary of Terms and Abbreviations

## Glossary

**Acute Toxicity:** The toxicity associated with short term exposure in relation to the typical life span of the species.

**Activity Site:** a separate area of land on which the activity is undertaken. The activity site may be either a single continuous area or comprise several adjoining blocks, sections, paddocks or compartments that together make up a single continuous area.

**Benthic:** Living at the soil-water interface on the sea-bed and river-bed.

**Biosolids:** The term used to refer to appropriately treated sludges that can be beneficially used on land.

**Best Practicable Option (BPO):** In terms of the Resource Management Act 1991 and in relation to a discharge of a contaminant or an emission of noise, means the best method for preventing or minimising the adverse effects on the environment having regard, among other things, to -

- a) The nature of the discharge or emission and the sensitivity of the receiving environment to adverse effects; and
- b) The financial implications, and the effects on the environment, of that option when compared with other options; and
- c) The current state of technical knowledge and the likelihood that the option can be successfully applied.

**CANNIBAL®:** A patented sludge treatment process that reduces sludge amounts compared to most other processes.

**Chronic Toxicity:** The toxicity associated with long-term exposure in relation to the typical life span of the species.

**Contaminant:** In terms of the Resource Management Act 1991 it includes any substance (including gases, liquids, solids, and micro-organisms) or energy (excluding noise) or heat, that either by itself or in combination with the same, similar, or other substances, energy, or heat -

- a) When discharged into water, changes or is likely to change the physical, chemical, or biological condition of water; or
- b) When discharged onto or into land or into air, changes or is likely to change.

**Consultation:** the communication of a genuine invitation to give advice, feedback and a genuine consideration of that advice and feedback.

**Criteria:** standards by which something may be judged or assessed.

**Cultural Heritage:** the collective value of traditional culture.

**Culture:** the total of the inherited ideas, beliefs, values, and knowledge which constitute the shared basis of social action.

**Discharge:** includes emit, deposit and allow to escape.

**Domestic Sewage:** The discharge from household and other toilets, showers, sinks, washing machines, baths and other household discharges.

**Earthworks:** any activity that exposes, disturbs, places or deposits land and soil. Such activities include, but are not limited to, tracking, roading, cleanfill sites, cut and fill operations, quarrying, mining, and re-contouring. Excludes area-wide treatment (pavement overlay and strengthening) and road resealing (pavement rehabilitation) of existing roading, normal domestic gardening practices, maintenance of roads and tracks (including railway tracks), the formation of walking tracks, cultivation (except where re-contouring is involved), maintenance of linear network utility support structures, and maintenance (including minor realignment) of existing foot tracks within public reserves and the conservation estate.





**Ecology:** the study of the interrelationships between organisms and their natural environment, both living and non-living (Dictionary of Biology 1985).

**Ecosystem:** a dynamic system made up of a group of living organisms (plants, animals and micro-organisms) and its physical environment, and the relationship between them. A pond, a lake, a forest, or an ocean may be an ecosystem. An ecosystem includes such factors as food supply, weather and natural enemies.

**Effect:** *“Effect means - In this Act (Resource Management Act 1991), unless the context otherwise requires, the term “effect”...includes -*

- a) *Any positive or adverse effect; and*
- b) *Any temporary or permanent effect; and*
- c) *Any past, present, or future effect; and*
- d) *Any cumulative effect which arises over time or in combination with other effects - regardless of the scale, intensity, duration, or frequency of the effect, and also includes -*
- e) *Any potential effect of high probability; and*
- f) *Any potential effect of low probability which has a high potential impact.*

**Effluent:** liquid discharged as waste (treated wastewater).

**Enterococci:** Enterococci bacteria being an indicator micro-organism for pathogenic micro-organisms measured as number of n/100ml of water or wastewater sample.

**Environment:** *Environment, in terms of the Resource Management Act, includes -*

- a) *Ecosystems and their constituent parts, including people and communities; and*
- b) *All natural and physical resources; and*
- c) *Amenity values; and*
- d) *The social, economic, aesthetic, and cultural conditions which affect the matters stated in paragraphs (a) to (c) of this definition or which are affected by those matters.*

**Erosion:** the processes of the wearing away of the lands surface by natural processes and human activities, and the transporting of the resulting sediment.

**Fauna:** all the animal life of a given place or time.

**Field Capacity:** is the amount of soil moisture or water content held in soil after excess water has drained away and the rate of downward movement has materially decreased, which usually takes place within 2–3 days after a rain or irrigation in previous soils of uniform structure and texture.

**Flora:** all the plant life of a given place or time.

**Geology:** the origin, structure and composition of the earth.

**Gravel:** a collective term for the material in a bed of a river. It includes sand, silt, shingle, rocks and boulders.

**Greywacke:** an indurated, poorly sorted sandstone or mudstone.

**Groundwater:** water that occupies pores, cavities, cracks and other spaces in crustal rocks.

**Guidelines:** principles to be used when undertake an activity. They are designed to minimise the activity's negative effects on the environment.

**Habitat:** the place or type of site where an organism or population normally occurs.

**Hazardous Substances:** unless expressly provided otherwise by regulations, any substance:

- a) with one or more of the following intrinsic properties:
  - i. Explosiveness
  - ii. Flammability
  - iii. A capacity to oxidise
  - iv. Corrosiveness Toxicity (including chronic toxicity)



- vi. Eco-toxicity with or without bioaccumulation
- vii. Infectious and pathological wastes
- viii. Radioactivity

**Indigenous:** in relation to species means plants and animals found naturally in New Zealand.

**Indicator organisms:** The bacteria (E.Coli, faecal coliforms and enterococci) that are used to indicate the possible presence of pathogens (disease causing micro organisms).

**Infrastructure:** networks, links and parts of facility systems, as in transport infrastructure (roads, rail, parking, etc) or water system infrastructure (the pipes, pumps and treatment works, etc).

**Iwi:** tribe or grouping of Maori.

**Iwi Authority:** the authority which represents an Iwi and which is recognised by that Iwi as having authority to do so.

**Kaitiakitanga:** the exercise of guardianship by the tangata whenua of an area in accordance with tikanga Maori in relation to natural and physical resources; and includes the ethic of stewardship.

**Land and Soil Disturbance:** the excavation, drilling, tunnelling, disturbance, placement, exposure, or deposition of land or soil by an activity. Also refer to the definitions of Earthworks,

**Maintenance:** regular activities which retain a structure, asset or a location to its original authorised standard and purpose, and where the character, intensity and scale of the structure, asset or site remains the same or similar. Excludes alteration, extension or reconstruction of structures or assets, or change in location.

**Mauri:** the essential life force or principle. A metaphysical quality inherent in all things, both animate and inanimate.

**Mitigate:** in relation to an effect means to lessen or eliminate the severity or incidence of an effect, and includes compensation both before and after the effect.

**Natural Character:** the qualities of the environment that give recognisable character to an area. These qualities may be ecological, physical, spiritual, cultural or aesthetic in nature. They include modified and managed environs.

**Natural Hazard:** any atmospheric or earth or water related occurrence (including earthquake, tsunami, erosion, volcanic and geothermal activity, landslip, subsidence, sedimentation, wind, drought, fire or flooding) the action of which adversely affects or may adversely affect human life, property, or other aspects of the environment.

**Pathogens:** Disease causing micro-organisms.

**Reclaimed Water:** Means treated wastewater (effluent) treated to the appropriate quality for a specific reuse technique.

**Residuals:** The by-products from wastewater treatment such as screenings, sludge, biosolids, noise, odour and other air emissions.

**Riparian Area and Margin Land:** a strip of land adjacent to a water body which generally extends from the perceived change in contour of the flood plain to the water body itself. This is also called riverside management land.

**River:** a continually or intermittently flowing body of fresh water; and includes a river and modified watercourse; but does not include any artificial watercourse (including an irrigation canal, water supply race, canal for the supply of water for electricity power generation, and farm drainage canal).

**Sediment:** soil or earth particles suspended in water.

**Sedimentation:** the settling out of particles (sediment) that have been transported by water.

**Sewerage System:** Same as Wastewater Scheme or Wastewater System, the system of pipes, pump stations, treatment and disposal facilities which convey wastewater. These are the component parts of a Wastewater Scheme.



**Slope:** the steepness of the land measured in degrees or as a gradient.

**Septage:** the waste content found in septic tanks or on-site sewage treatment facilities, and is made up of three parts being scum, effluent and sludge.

**Soil:** the top most layer of weathered rock, ash, sand and organic matter, which usually contains air, moisture and nutrients, and can therefore support life.

**Stormwater:** short-term run-off associated with rainfall events.

**Structure:** any building, equipment, device, or other facility made by people and which is fixed to land; and includes any raft.

**Surface Waterbody:** freshwater in a river, lake, river, pond, or wetland, that is not located within the coastal marine area.

**Tangata Whenua:** in relation to a particular area, the Iwi, or hapu, that holds mana whenua over that area.

**Taonga:** treasure or property. Taonga are prized and protected as sacred possessions of the tribe. The term carries a deep spiritual meaning and taonga may be things that cannot be seen or touched. Taonga include waahi tapu, waterways, fishing grounds and mountains.

**Tikanga Maori:** Maori customary values and practices.

**Tino Rangatiranga:** chiefly authority, chieftainship, full tribal authority to tribal self-management. In the context of resource management this means the right of Iwi and hapu to manage and control their resources in accord with their customary preferences.

**Total Suspended Solids:** Fine solids in wastewater as determined by a standard test (TSS = SS)

**Trade Waste:** Those liquid wastes discharged by trade premises industries that produce wastewater as a result of their processes. These industries are commonly called 'wet' industries. Trade waste is the terminology used in the Local Government Act 1974

**Turbidity:** is a cloudiness or haziness of water caused by individual particles (suspended solids) that can be invisible to the naked eye, similar to smoke in air.

**Wastewater:** The mix of domestic sewage, trade waste (industrial wastewater) and unfortunately particularly at rainfall times rain water and groundwater.

**Wastewater System:** Same as Sewerage System. The system of pipes, pump stations, treatment and disposal facilities which convey, treat and discharge wastewater.

**Water Body:** fresh water or geothermal water in a river, lake, river, pond, wetland, or aquifer, or any part thereof, that is not located within the coastal marine area.

**Water Quality:** the physical, chemical and biological attributes of water that affect its ability to sustain environmental values or uses.

**Water Table:** the level at which land becomes saturated with groundwater.

**Zone 6A and Zone 6B:** Zone 6.

**Zone 6A:** Whangarei District Council known as designated site DW4 under the Whangarei District Plan.

**Zone 6B:** Crown land managed by Department of Conservation known as DW3 under the Whangarei District Plan.



### **Abbreviations**

<b>ADF</b>	Average daily flow
<b>ADWF</b>	Average dry weather flow
<b>AEE</b>	Assessment of Effects on the Environment. The document to support new Resource Consents
<b>ANZECC</b>	Australian and New Zealand Environment and Conservation Council
<b>ARMCANZ</b>	Agriculture and Resource Management Council of Australia and New Zealand
<b>AS</b>	Activated Sludge
<b>ASP</b>	Activated sludge plant
<b>AST</b>	Activated Sludge Treatment
<b>BBLOA</b>	Bream Bay Land Owners Association
<b>BMS</b>	Bivalve Molluscan Shellfish (as defined in the NZ Food Safety Authority Animal Products (Specifications for Bivalve Molluscan Shellfish) Notice 2006
<b>BNR</b>	Biological Nutrient Removal (reference to wastewater treatment plant process)
<b>BOD<sub>5</sub></b>	Carboneous biochemical oxygen demand (BOD <sub>5</sub> ) (measured as 5 day standard test) this is a measure of the organic strength or load of wastewater, BOD = BOD <sub>5</sub> = c BOD <sub>5</sub> in this Report and the associated references
<b>cBOD<sub>5</sub></b>	Five day carbonaceous biochemical demand; BOD <sub>5</sub> and BOD also have the same meaning in this project.
<b>BPO</b>	Best Practicable Option – as per the RMA interpretation. Refer to Glossary.
<b>BTF</b>	Biological Trickling Filter – a type of secondary wastewater treatment plant
<b>cDIN</b>	Chromium dissolved inorganic nitrogen = ammonia nitrogen + nitrate nitrogen
<b>cfu/100ml</b>	Colony forming units (of micro-organisms) per 100ml of liquid sample
<b>Chla</b>	Chlorophyll a
<b>CIA</b>	Cultural Impact Assessment
<b>CMA</b>	Coastal Marine Area as defined in Section 2 of the RMA
<b>COD</b>	Chemical oxygen demand being a measure of the organic strength of the waste measured chemically
<b>CP</b>	Chemical Precipitation for Phosphorous removal using Alum or Iron Salts
<b>CS</b>	Contact stabilisation secondary wastewater treatment process
<b>DIN</b>	Dissolved inorganic nitrogen = ammonia nitrogen + nitrate nitrogen
<b>DO</b>	Dissolved oxygen
<b>DoC</b>	Department of Conservation
<b>DRP</b>	Dissolved Reactive Phosphorus (about 80% of TP in domestic wastewater)
<b>DS</b>	Dry Solids used in characterising sludge
<b>E.coli</b>	Escherichia Coli, A species of bacterium normally present in the intestinal tract of humans and other animals used as an indicator of faecal contamination
<b>EDC's</b>	Endocrine disrupting chemicals
<b>E &amp; M</b>	Electrical and Mechanical (relates to these components of wastewater facilities)
<b>FC</b>	Faecal coliform (FC) bacterial being an indicator micro-organism for pathogenic



	micro-organisms measured as number or n/100ml of water or wastewater sample
<b>FOG</b>	Fats, Oils and Grease
<b>g/m<sup>3</sup> = mg/L</b>	Concentration – grams per cubic meter = mg/l
<b>GHD</b>	Consultants who along with URS involved in the Stage 1 Ruakaka Wastewater Study,
<b>GHD/URS</b>	Joint consultant team involved in the Stage 1 Ruakaka Wastewater Study
<b>GHG</b>	Greenhouse Gas
<b>GIS</b>	Geographical Information Systems
<b>GPS</b>	Global positioning system
<b>GST</b>	NZ Goods and Services Tax
<b>ha</b>	Hectare (Ha) – land area unit (10,000 m <sup>2</sup> )
<b>HAZOP</b>	Hazard Analysis
<b>HDPE</b>	High Density Polyethylene – a high density plastic material used for pipelines
<b>H<sub>2</sub>S</b>	Hydrogen Sulphide (odour, poisonous gas)
<b>IANZ</b>	International Accreditation New Zealand (formerly Telarc)
<b>I &amp; I</b>	Infiltration and Inflow
<b>IDAL</b>	Intermittent Decanting Aerated Lagoon –an SBR wastewater treated system
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>Iwi</b>	Maori tribe
<b>ISQG</b>	Interim sediment quality guidelines from ANZECC (2000)
<b>kg/d</b>	Kilograms per day
<b>\$kpa</b>	Thousand dollars per annum
<b>KPI</b>	Key Performance Indicator
<b>LGA</b>	Local Government Act 2002
<b>L/s</b>	Litres per second, a flow rate
<b>LTCCP</b>	Long-Term Council Community Plan – a procedure and document required under the Local Government Act 2002 – now LTP as below
<b>LTP</b>	Long Term Plan as defined under the Local Government Act – replaces the LTCCP
<b>\$M and \$m</b>	Dollars Million (NZ Dollars)
<b>m</b>	Metre as a measure of length
<b>m<sup>3</sup> per day and m<sup>3</sup>/d</b>	A flow rate in cubic metres per day
<b>m<sup>3</sup>/sec</b>	Cubic metres per second (a measure of flow rate)
<b>m/sec</b>	Metres per second (a measured speed)
<b>MAC</b>	Microbial Assessment Category
<b>MBR</b>	Membrane Bio Reactor
<b>MCA</b>	Multi-Criteria Analysis – A decision analysis tool used in Stage 2 Project
<b>METSAMP</b>	Data sets from the New Zealand Metrological Services.
<b>MfE</b>	Ministry for the Environment
<b>MLE</b>	Modified Ludzack-Ettinger – an anoxic aerobic activated sludge/BNR type wastewater



	treatment process
<b>mg/kg</b>	Milligrams per kilogram being a concentration measure of a contaminant in solids, is the same as parts per million (ppm)
<b>mg/L</b>	Milligrams per litre being a concentration measure of a contaminant in liquid, is the same as mg/l is the same as g/m <sup>3</sup> and is in effect the same as parts per million (ppm)
<b>Milliscreen</b>	A fine mechanically screening device for wastewater treatment
<b>'Mix &amp; Match'</b>	Scheme involving both land disposal and direct discharge to water
<b>MoH</b>	Ministry of Health
<b>MRP</b>	Mighty River Power
<b>MWH</b>	- Principal Consultants for the Stage 2 Project Formerly known as Montgomery Watson Harza
<b>N</b>	Nitrogen
<b>NA or N/A</b>	Not Applicable
<b>NCRL</b>	No Calculable Risk Level
<b>NES</b>	National Environmental Standard
<b>NH<sub>3</sub></b>	Ammonia
<b>NHMRC</b>	National Health and Medical Research Council, Canberra
<b>NIMBY</b>	Not in my back yard (a synonym relating to location near someone)
<b>NIWA</b>	National Institute of Water and Atmospheric Research
<b>NOR</b>	Notice of Requirement
<b>NPV</b>	Nett present value
<b>NRC</b>	Northland Regional Council
<b>NZCPS</b>	New Zealand Coastal Policy Statement
<b>NZRC</b>	New Zealand Refinery Company
<b>O&amp;M</b>	Operational and Maintenance – usually refers to O&M costs
<b>OD</b>	Outside Diameter
<b>OSH</b>	Occupational Safety and Health
<b>OU</b>	Odour Unit
<b>P</b>	Phosphorous
<b>PAG</b>	Project Advisory Group for this Ruakaka Wastewater Project
<b>PAH</b>	Polycyclic aromatic hydrocarbon (an organic chemical)
<b>pe</b>	Population equivalent (hat is equivalent to the domestic wastewater from one person)
<b>PE</b>	Polyethylene (pipeline material)
<b>PET</b>	Potential evapotranspiration
<b>Percentile</b>	Division of a frequency distribution into one hundredths
<b>PCB</b>	Poly-carbonated biphenol (an organic chemical)
<b>PF</b>	Peak Flow on an hourly basis (m <sup>3</sup> /h)
<b>pH</b>	Measure of acid or base nature of liquid
<b>PHB</b>	Poly hydroxyl butyrate



<b>PS</b>	Pump station
<b>PTB</b>	Patuharekeke Te Iwi Trust Board (Inc)
<b>PWWF</b>	Peak wet weather flow
<b>QBLA</b>	Quadruple bottom line assessment
<b>RAS</b>	Return Activated Sludge
<b>RBC</b>	Rotating Biological Contactor
<b>RCA</b>	Restrict Coastal Activity
<b>RCP</b>	Northland Regional Coastal Plan
<b>RL</b>	Reduced Level (height above a sea level datum point)
<b>RMA</b>	Resource Management Act 1991 and subsequent amendments
<b>RMZ</b>	Riparian Management Zone
<b>RPS</b>	Regional Policy Statement for Northland
<b>RRC</b>	Resource Recovery Centre
<b>SBR</b>	Sequential batch reactor of which using IDAL is one arrangement
<b>SRI</b>	Slow Rate Irrigation
<b>SS</b>	Total suspended solids, equivalent to SS and suspended solids
<b>t</b>	tonne
<b>TBA</b>	To Be Advised
<b>TCLP</b>	Toxicity Characteristic Leading Procedure
<b>TDH</b>	Total dynamic head
<b>TF</b>	Trickling filter
<b>TKN</b>	Total Kjeldahl Nitrogen
<b>TN</b>	Total Nitrogen
<b>TP</b>	Total Phosphorus
<b>TSS</b>	Total Suspended Solids = Suspended Solids (TSS = SS)
<b>URS</b>	Consultants who along with GHD were involved in the Stage 1 Ruakaka Wastewater Study
<b>USEPA</b>	United States Environmental Protection Agency
<b>UV</b>	Ultra violet light irradiation used in a wastewater disinfection technique
<b>µg/l</b>	Microgram per litre. Equal to 0.001 mg/l
<b>VAR</b>	Vector Attraction Reduction e.g. birds, rats etc
<b>VOC</b>	Volatile Organic Compound
<b>WAS</b>	Waste Activated Sludge
<b>WDC</b>	Whangarei District Council
<b>WETT</b>	Whole effluent toxicity
<b>WW</b>	Wastewater
<b>WWTP</b>	The proposed (new) Ruakaka Wastewater Treatment Plant
<b>ZID</b>	Zone of Initial Dilution



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**Note:** The following references are in addition to the Support Documents 1-41 as listed in the contents page and elsewhere in this document.

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# Appendices

**Appendix A: Whangarei District Council, Works and Services Committee Report dated 30 July 2008 and Committee Meeting Resolution dated 13 August 2008**

**Appendix B: Whangarei District Council, Infrastructure and Services, Committee Report, December 2010 and Resolution of Draft Proposed Scheme**

**Appendix C: Project Objectives**

## **Appendix D: Existing Resource Consents**

**Appendix E: Ruakaka Wastewater Consent 0415501  
Monitoring Reporting**



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**Appendix F: CH2M Beca High Level Peer Review Stage 2  
Study June 2008**

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**Appendix G: Whangarei District Council, Infrastructure and Services Committee Report dated 21 April 2011 titled Proposed Scheme and Final AEE For Lodgement, and Committee Meeting Resolution dated 11 May 2011**

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