

Project Manukau Audit Group Annual Audit Report



1 July 2013-30 June 2014

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1. BACKGROUND TO AUDIT GROUP

Watercare Services Limited (“Watercare”) has undertaken Project Manukau, a major upgrade of the Mangere Wastewater Treatment Plant (MWTP). This is in accordance with resource consents issued in March 1998. As required by these consents, the Audit Group was established in 1998 to monitor technical aspects of the project and associated environmental performance within a cultural context. It may also carry out milestone reviews of the project.

2. ROLE OF THE AUDIT GROUP

The purpose of the Audit Group is to ensure that the outcome of the project is in accordance with the consents, in terms of technical effectiveness and public acceptability.

The Group's activities include the review of monitoring of the environmental effects of the project as well as the management of regulatory matters, to ensure compliance with the resource consents.

The role of the Audit Group is to provide expert, independent advice to Watercare, to the Auckland Council, and to those community groups that have a continuing interest in the operation of the MWTP.

The Audit Group is required to provide an overview and reports on the MWTP in terms of its:

- Programme
- Design and Construction
- Commissioning
- Consent Compliance

The Audit Group's review may cover aspects of:

- Design
- Operations
- Alternative Technology
- Air Quality
- Marine Biology
- Water Chemistry
- Water Quality and
- Tangata Whenua concerns

The full description of the function of the Audit Group is described in the resource consent conditions.

In undertaking its function the Group has noted that the stated commitment of Watercare in respect of MWTP is:

- Full compliance with the resource consents.
- Full observance of health and safety requirements.
- Public acceptance of the environmental outcome.

The work of the Group was initially focused on the design and construction of the MWTP, and the extent to which the proposed (and actual) design and construction complied with the various consents. Following completion and commissioning of the MWTP, the Group became more focused (but not exclusively) on the plant's operational compliance.

3. REPORTING PROCEDURES

By 30 September of each year, the Audit Group is required to deliver an annual report as at 30 June of that year. It can also deliver special reports at any time. This report covers the period from 1 July 2013 to 30 June 2014. The Report is required to be delivered to:

- Watercare
- Auckland Council
- Community Liaison Group

The Audit Group reports through Watercare. The reporting track is through the MWTP Manager, Operations, who arranges and facilitates liaison with the report recipients.

The Audit Group is required by the resource consent conditions to forward detailed minutes of the Audit Group meetings to the Auckland Council, the Community Liaison Group and the Neighbourhood Liaison Sub Group, within two weeks of any meeting.

4. COMPOSITION OF THE AUDIT GROUP

Andrew Ball tendered his resignation after the meeting in March 2012. Andrew rejoined the Audit Group after September 2013.

Andrew has continued to take an interest in the project in his absence through his involvement in the Microbiological Review Group.

Mavis Roberts tendered her resignation after the meeting in December 2013. Janice Roberts was nominated by the Makaurau Marae as her replacement.

John Fitzmaurice tendered his resignation in December 2013. He has been replaced by Ian Gunn who will join the group in September 2014.

Details of the composition of the Group during 2013-2014 are described in Appendix 1.

5. ACTIVITIES OF AUDIT GROUP 2013-2014

At each of the four quarterly meetings, issues relating to management plans, consent compliance, operations, midge control, complaints, and current and future consenting issues, were considered. The key activities of each of the four Audit Group meetings are listed below. Details are available in the minutes of each of the meetings.

5.1. Audit Group Meeting No.71 – 18 September 2013

Full compliance of the effluent parameters was noted in the last reporting period. Nine periods of flows greater than 9m³/second were reported, which lead to bypasses of the BNR units. The shellfish monitoring following these events did not detect any viruses in the shellfish.

A variation to the air discharge consent was granted to provide for more reactive and effective odour monitoring.

The Contingency Management Plan Issue 4 was reviewed at this meeting and referred to the Council for approval.

Progress and related problems were reported to the group on the Digester 8, new BNR units and Puketutu Island projects.

Influent data for the reporting period was listed for the first time as requested by the group.

A review of results from the completed Pond Recovery Monitoring Programme (2002-2010) recommended a reduction in shellfish monitoring going forward, raising some concern in the group. It was recommended that Dr Shane Kelly be consulted on the need for further monitoring stations.

5.2. Audit Group Meeting No.72 – 11 December 2013

Full compliance of the effluent parameters was noted in the last reporting period. Four periods of flows greater than 9m³/second were reported, which lead to bypasses of the BNR units. The shellfish monitoring following these events detected adenovirus after two of the events. The numbers were just above the detection limit. The viruses were not detected by the second and third round of monitoring following the two events.

New odour monitoring data was reported as part of the quarterly operations reporting. This reporting included weekly odour scout walk over findings, monthly neighbourhood odour monitoring and biofilter monitoring data.

Shane Kelly reviewed the need for additional shellfish monitoring stations, as raised by the Audit Group in Meeting No 71. He recommended that mud snail densities and DDT tissue concentrations be monitored at six monthly intervals until the DDT readings are below the appropriate food safety

guideline for eight consecutive readings (for four years). This sampling is to be continued at an existing site near the mouth of Oruarangi Awa, at a site in the old Pond 3 and 4 area, and at a new site at Nga Kuia e Toru.

Shane Kelly also presented on the results of the harbor monitoring being undertaken. It was reported that sediment contaminant concentrations were well below guidelines and were low by regional standards. Several sensitive species are now growing in the old pond areas and biodiversity is increasing.

5.3. Audit Group Meeting No.73– 14 March 2014

It was reported to the group that during this summer period, full compliance with the effluent parameters was achieved. Pre chilling of air before the blowers and addition of sugar as a source of carbon helped improve the nitrogen and ammonia removal over this period. Three periods of flows greater than 9m³/second were reported, which lead to bypasses of the BNR units. The shellfish monitoring following these events did not detect any viruses in the shellfish.

The Midge Technical Advisory Group report was presented at the meeting. The report contained 16 recommendations.

The group inspected the Oruarangi Awa and reported on the significant recovery of invertebrate life in the sediments in the estuarine section of the awa. Recovery from the pollution event in 1 July 2013 was evident.

5.4. Audit Group Meeting No.74 – 30 June 2014

Full compliance of the effluent parameters was noted in the last reporting period, except for the maximum ammoniacal nitrogen on 16th March. This was a result of ongoing issues with the blowers for the reactor clarifier units.

One period of flows greater than 9m³/second was reported, which lead to bypasses of the BNR units. The shellfish monitoring following this event did not detect any viruses in the shellfish.

An update was given on the proposed new BNR units and solids stream process upgrades, and on the state of the environment of the Oruarangi awa.

Concern about the requirement for a variation to the existing air discharge consent for the new BNR upgrade was raised.

A response to the group's letter to the Minister for the Environment was received regarding progress on the preparation of guidelines for beneficial reuse of organic waste. Watercare is a member on the steering committee for this project and is giving some financial support over the two years of the project.

5.5. Site Inspections

On 18 September 2013 (Audit Group Meeting No.71) the group inspected the blowers and air controls for the BNR units. The findings of the group were reported in Document 13/12/1.

On 11 December 2013 (Audit Group Meeting No.72) the group visited various known odour sources and several biofilters. The findings of the group were reported in Document 14/3/2.

On 14 March 2014 (Audit Group Meeting No.73) the group inspected the Oruarangi Awa. This is reported in Audit Group Document 14/6/1.

On 30 June 2014 (Audit Group Meeting No.74) the group visited Digester Eight that was nearing completion.

5.6. Subgroups of the Audit Group

Odour Subgroup

The Odour Subgroup (T Brady and J Fitzmaurice) continued to be involved with odour issues from the treatment plant and biosolids operations.

For the whole reporting period there twenty two verified complaints for odour.

The Odour Subgroup made recommendations regarding the conditions for the amended air discharge consent that was granted as consent number 41392 on 20th June 2013. This changed the olfactometry monitoring from six monthly to once every two years and has introduced the requirement for weekly walk overs of the plant and monthly walk overs of the neighbourhood. These walk overs are providing useful information for identifying sources of odour, and are now reported to the group on a quarterly basis.

Midge Control Subgroup

The Midge Nuisance Subgroup (J Fitzmaurice and M Kelly) continued to monitor how Watercare is controlling the midge nuisance arising from the effluent transfer channel and discharge storage basin.

The continued use of methoprene and salt water flushes has kept the midges under control. In December the numbers increased which resulted in eight midge complaints being received over the summer period. Nine midge complaints were received over the year reporting period.

The Midge Technical Advisory Group made recommendations to Watercare for further improvement of midge control. This was reported to the Audit Group as Document 14/3/9.

6. DOCUMENTS REVIEWED DURING 2013-14

A list of the documents reviewed by the Audit Group is in Appendix 2.

7. COMPLIANCE WITH RESOURCE CONSENTS

Topic	Issue	Status	Recommendation
Plant Compliance	Effluent discharge was compliant except for one day in March when the maximum ammonia concentration limit was exceeded as a result of problems with the blowers for the BNR units	The final effluent met the resource consent parameters this year except as noted The improved operational strategy for the BNR units resulted in full compliance of the final effluent over summer Failed parts of the blowers have been replaced and a complete blower kept on site for spares	That these events continue to be logged and reported to the group
Insect Nuisances	Methoprene application and salt water flushes have kept the midges under control this year	The midge numbers have been higher this year. This resulted in nine midge complaints	That midge numbers and their control continue to be logged and reported to the group
Complaints Report	The WTP is operated at a level where many of the odour and insect nuisances are minimal	Reports received. A low level of complaints received, 22 for odour and nine for midges	Reporting to continue

8. OTHER ISSUES

Topic	Issue	Status	Recommendation
Plant Operations	Maintain consent compliance of WTP plant operations	Plant generally operating well	Continue to focus on minimizing any incidents where the plant may malfunction and risk non-compliance
Midge Monitoring & Control	Control midge numbers to reduce effects on neighbours	All monitoring sites recorded midges under numbers that are considered to be a public nuisance; control appears to have been adequate over the year	That a close watch on control continue to be maintained
Odour Monitoring Programme Report	Odour control to reduce the effects on neighbours	Odour Subgroup is in the process of investigating areas for improvement	That the Odour Subgroup continue to investigate possible areas for improvement
Harbour Monitoring	Overall harbour quality has improved. DDT and copper continue to be monitored as these remain slightly elevated	An ongoing programme of monitoring continues	That the ongoing monitoring results be brought to the group for their information and consideration
Bird roost restoration and management	Maintaining and promoting the diversity, distribution and abundance of birds in the WTP area	Maintenance of the roosts is ongoing	Continue good maintenance programmes to ensure bird roosts remain weed and predator free
Puketutu Island Rehabilitation	Site being prepared for rehabilitation with biosolids	Works for the island nearly complete	Not within the jurisdiction of the Audit Group
Biosolids re-use field trials	Opportunities to reuse biosolids limited by legislation and cost	Trials using biosolids from MWTP as a fertiliser shows significant growth of plants	The group wishes Watercare to progress with the reuse of biosolids
Effluent Reuse	Utilise treated effluent for off-site beneficial industrial and commercial use	Watercare has considered developing a pilot plant for further treatment of effluent so it would be suitable for reuse. A pipeline for recycled water to industry in Otahuhu has also been considered	The group continues its interest in seeing progress with effluent reuse
Coastal and Foreshore Restoration	Restoration considered very successful	Need for ongoing maintenance and weed control, and removal of structures that encourage vandalism	The group continues its oversight of the coastal restoration

9. PROJECT MANUKAU ACTIVITY

9.1. Progress Summary, 1 July 2013 - 30 June 2014

The following is reported from Watercare:

Process Area

The Audit Group is satisfied that the plant operates effectively, and is aware of efforts made to address one-off and recurrent problems such as partial plant bypass events during periods of peak flow and of the difficulty in achieving nitrogen compliance in the summer holiday period. Full compliance over the summer was achieved. The use of air pre-chilling and use of sugar helped this summer. Watercare is progressing with the construction works for two new reactors with separate blowers which will provide greater capacity for treatment.

Ongoing problems with the existing blowers this year is being alleviated by blower replacement and the carrying of spares on site.

The trade waste section of Watercare is monitoring sewers to endeavor to detect any incidents of toxic discharges. Education with industrial dischargers is ongoing.

Coastal Restoration Area

The regeneration and establishment of coastal bush, scrub and wetlands continues unabated, as does the dynamic re-establishment of marine life in the old pond areas. Attention to weed control is an ongoing need.

Oruarangi Awa

Since the Oruarangi Awa was opened to the sea in April 2005 the estuarine environment had been gradually improving especially in the upper reaches, previously dominated by freshwater habitat. The upper sediment flat areas became dominated by coastal estuarine crustacea, molluscs, and marine algae.

On 1 July 2013 there was an accidental large spill of concentrated dye into the upper reaches of the awa. This resulted in a significant degradation of the area and kill of fauna. The Auckland Council is prosecuting the polluter. An inspection of the area by the Audit Group on 14 March 2014 revealed that the estuarine environment is gradually improving again in terms of biodiversity.

Management Plans

The Audit Group reviewed the Contingency Management Plan Issue 4, and the Landfill Post Closure Care Management Plan Issue 3. These were referred to the Auckland Council for approval.

9.2. **Expected Activities 1 July 2014 – 30 June 2015**

Meetings

The Audit Group will continue to meet quarterly to monitor the MWTP operations and compliance against resource consent conditions, and when relevant, to improve its understanding of any reported non-compliance with a specific site visit. The proposed Audit Group meetings are as follows:

Audit Group Meeting No. 75 and site visit– September 2014

Audit Group Meeting No. 76 and site visit – December 2014

Audit Group Meeting No. 77 and site visit – March 2015

Audit Group Meeting No. 78 and site visit – June 2015

Management Plans

The Audit Group will continue to review the adequacy of the management plans and amendments; in particular the group will focus on the review of the Operations Management Plan and addressing additional issues as they arise.

Matters of Interest and Site Visits

The Audit Group will revisit the operational activities of the MWTP as they affect effluent quality and potential for nuisance, in order to maintain a long-term focus on these areas of the group's responsibilities. These include:

1. Sludge train process
2. Liquid process stream

However, particular ongoing interest and importance to the Audit Group includes:

1. Future management of nitrogen discharges
2. Effluent disinfection
3. MWTP odour sources, control and reduction where appropriate
4. Midge monitoring and control
5. Coastal and foreshore restoration including the Oruarangi Awa
6. Beneficial reuse of effluent and biosolids
7. Central Interceptor development
8. Plant processing 'bottlenecks'
9. Digester and gas systems
10. Plant energy optimisation

Further site visits and presentations are planned for 2014-15 and in the future. These reflect current initiatives or projects that are being implemented by Watercare and the MWTP. These include:

Meeting No. 75 (September 2014):

Presentation: Solid stream update

Site visit: Proposed BNR units.

Meeting No. 76 (December 2014):

Presentation: Harbour Monitoring update.

Site visit: Odour sources and biofilters .

Meeting No. 77 (March 2015):

Presentation: Update on BNR operation over summer.

Site visit: Coastal and foreshore restoration

Meeting No. 78 (June 2015):

Presentation: Yet to be determined.

Site visit: Yet to be determined .

Progress Monitoring

The Audit Group will continue to monitor and assess progress towards completion of the coastal and foreshore restoration programme, including the Oruarangi Awa, midge monitoring and control around the MWTP site.

Technical Appraisals

The Audit Group will continue to note technical proposals, scientific information and reports pertaining to reviews of compliance with the resource consents and monitoring of the harbour environment.

Consideration will be given to proposals for further harbour environmental monitoring, particularly with respect to Watercare's proposed upgrades of the MWTP, and the public health risk associated with bypass events.

Recommendations from other Groups

The Audit Group will continue to be appraised of any recommendations by the Microbiological Review Group and Disinfection Review Group, in particular the assurance of minimization of public health risk from treated effluent by UV disinfection, the Bird Roost Advisory Group, and the Community Liaison Group.

Odour Subgroup

The Odour Subgroup will conduct a review of odour monitoring methodology, with particular reference to compliance conditions and limitations imposed by the odour boundary, and continue to conduct separate site visits and review of sources of potential odour in relation to complaints reporting.

10. FUTURE ACTIVITIES OF THE AUDIT GROUP

The group will continue to be briefed at least annually on developments with implications for the MWTP and the group's own work, and for the broader region including the Manukau Harbour.

11. PROGRESS TOWARDS WASTEWATER 2000 AND WAIKATO TAINUI OUTCOMES

The key outcomes of the Wastewater 2000 and Waikato Tainui consultation process are summarized below. A brief update on progress towards each broad goal follows:

Manukau Harbour environment—To restore as much as possible of the former harbour to its natural marine estuary condition, and to support the progressive improvement and restoration of the Manukau Harbour towards a healthy natural state without the proliferation of undesirable biological growth as a result of discharge of nitrogen.

- An inspection of the Oruarangi Awa was carried out on 14 March 2014 by the Audit Group, and personnel from Watercare and the Council, after the pollution event on 1 July 2013.
- The Pond 2 Landfill rehabilitation project is well underway following consultation regarding post-closure use options. The Landfill Post Closure Care Management Plan has been revised, commented on by the Audit Group and then approved by Council.
- Watercare is continuing monitoring to assess the effects in the harbour due to the MWTP, using the approved monitoring programme.

Public health— To treat effluent to the best practicable standards, recognizing that it may not be possible to avoid having an adversely impacted area in the vicinity of the shoreline discharge, and to seek to ensure that effluent will not prevent the harbour outside the designated areas from meeting recognized standards for swimming, surface recreation, and the free breeding and safe human consumption of fin fish and shellfish. To develop protocols to ensure that the on-site handling and use of sludge and sludge-derived product, for landforming and landscaping does not produce adverse odour effects or health hazards.

- Ongoing investigation into the impact of secondary treatment bypass events is continuing and is being evaluated by the Microbiological Review Group (MRG). The Disinfection Review Group Audit of the UV dose system for 2013 considered that the performance of the UV dosing had been acceptable. Following the MRG meeting on 14-16th May 2012, the MRG recommended further changes to reduce monitoring following the ongoing successful operation of the treatment plant. These changes are still being discussed with the Council.

Odour and midge nuisance—To upgrade and operate the MWTP so as to avoid offensive, noxious and objectional odours, air emissions that are injurious to health or property, and insect nuisances.

- There were twenty two odour complaints and nine insect complaints attributable to the operation of the MWTP this year. The MWTP has an effective complaints follow-up system. Methoprene and salt water flushes have been effective at keeping midge numbers down in the last year.

Beneficial re-use of effluent and biosolids—To mitigate the effects of the discharge until such time as alternative effluent discharge and beneficial reuse disposal options are developed. Operate the MWTP in such a way as to preserve possibilities for future options to maximize economically sustainable beneficial reuse of treated effluent

- The design and preparative works for the Puketutu Island rehabilitation using biosolids, is nearly complete. Biosolids placing is expected to commence in late 2014 as the Pond Two Landfill nears completion.

Waikato Tainui as tangata whenua and kaitiaki—To recognize Waikato Tainui as tangata whenua and kaitiaki of the environment of the Manukau Harbour, and to consult with tangata whenua in good faith, and to acknowledge the status and responsibility of kaumatua to protect wāhi tapu and give appropriate cultural consideration and access to such wāhi tapu.

- The Huakina Development Trust appointed Patience Te Ao of Waikato/Ngati Wai, to represent the interests of tangata whenua.
- Makaurau Marae have appointed Mavis Roberts and following her resignation Janice Roberts to the represent their interests on the Audit Group. Mavis is of Waiohuria and Waikato descent and from 2002-2007 was the Chairperson of the Makaurau Marae. Janice has been the Chairperson of the Makaurau Marae since 2007.
- Watercare officers carried out several site visits with representatives of Watercare, the Auckland Council and Makaurau Marae to discuss progress on rehabilitating Oruarangi Awa environs. However the accidental spill of dye by a company on 1 July 2013 resulted in significant mortality to the biota of the awa. The Auckland Council is considering what action is to be undertaken to enhance remediation from this spill.



P East
Convenor

APPENDIX 1 – COMPOSITION AND DEPLOYMENT OF THE GROUP

This year has seen the reinstatement of Andrew Ball. Andrew moved to new employment and resigned from the group until he was certain of the commitment required from him. He has rejoined the group after meeting No 70.

The composition of the Audit Group is:

RT HON PAUL EAST, CONVENOR

Area of Expertise

Overall management & chairmanship of Audit Group and coordination of its activities.

Experience

Raised in Rotorua, Paul East was educated in Auckland where he gained his law degree. Awarded the Du Pont Fellowship, he went on to study law at the University of Virginia in the United States.

Paul commenced practice as a lawyer in 1971. He was first elected to Parliament in 1978. During his political career he held a variety of Cabinet posts including Minister for State Services, Defence, Corrections and Crown Health Enterprises. He was Leader of the House and served as the country's Attorney-General for seven years. Upon leaving Parliament in 1999 he was appointed the New Zealand High Commissioner to the United Kingdom.

A company director and Queen's Counsel, he has also been involved in a wide range of organisations and became a Companion of the New Zealand Order of Merit in the 2005 Queen's Birthday Honours for his services to Parliament and the law

Paul is a director of Aon Benfield Ltd and Radio New Zealand. He is also a trustee of the Antarctic Heritage Trust, the Rotorua Museum Centennial Trust and the Energy Charitable Trust.

JOHN FITZMAURICE (DEPUTY CONVENOR)

Area of Expertise	Wastewater Design/Wastewater Operations/Alternative Technologies
Experience	Graduated Bachelor of Engineer (Civil) from University of New Zealand and later was awarded a Fulbright Travel grant to the USA, was a Teaching Fellow at Harvard University in the Department of Applied Science, and obtained a Master of Science in Sanitary Engineering from Harvard University. He has had extensive experience in public health and environmental engineering in both the municipal and industrial areas; first as Design Engineer (Special Works) with the Auckland Metropolitan Drainage Board, responsible for all contract works at the Manukau Wastewater Treatment Plant; then in private practice as a principal of Steven and Fitzmaurice, later Steven Fitzmaurice & Partners, planning a number of major municipal sewerage schemes throughout New Zealand including detailed design of wastewater treatment plant for Invercargill, Hamilton, Taupo, Whangarei, Hutt Valley and New Plymouth; as well as wastewater treatment plants for meat works and milk processing plants. Later Executive Director of Beca Carter Hollings and Ferner Limited directing regional sewerage studies, treatment plant design and oceanographic surveys for disposal of treated wastes. A Deputy Commissioner of the Environment Court from 1995-2001.

DR TERRY BRADY

Area of Expertise	Air Pollution and Control
Experience	Graduated PhD in Chemistry from Canterbury University, carried out post doctoral research followed by 8 years as Air Pollution Control Officer for the Department of Health in Christchurch. The following 8 years were spent at Woodward – Clyde, rising to the position of Principal. Since 2002 has been Director of his own consulting business. Has been responsible for the monitoring of and design recommendations and assessments for many industrial installations including boilers, incinerators, chemical works, quarries and aggregate plants, waste processing plants and composting operations. Has designed and commissioned fully automated ambient air monitoring systems and headed research into visibility impairment and aerosol characterization.

DR MICHELLE KELLY

Area of Expertise

Marine Biology

Experience

Currently Marine Biologist and Project Leader Marine Invertebrate Taxonomy at the National Institute of Water and Atmospheric Research (NIWA) Limited, Auckland. Graduated PhD in Zoology in 1991 and DSc(Science) in 2013, carried out postdoctoral research at Harbour Branch Oceanographic Institution, Florida, followed by 6 years at the Natural History Museum, London as a Senior Zoologist. She has over 30 years' experience of research in the fields of marine biology and resource management, specifically in coastal and deep sea biodiversity, marine invertebrate biodiversity, conservation, and the sustainable management and utilization of marine resources. She has special skills and experience in community based research and training, particularly in developing countries.

DR ANDREW BALL

Area of Expertise

Marine Water Quality

Experience

Microbiologist with over 30 years experience in the water and health industries, presently the Principal Scientist for Sydney Catchment Authority. Between 1996 and 2011 he was a water microbiology consultant for ESR and provided the national drinking and recreational water microbiology advisory services for the Ministry of Health.

Manager of the public health laboratory in Hobart for several years.

Managed the Environmental Pathogens Research and Development group of Australian Water Technologies and conducted research on microbiological method development, wastewater treatment and environmental monitoring programmes for Sydney Water.

Member of Australian/New Zealand Standards committees for water microbiology methods and swimming pool water quality.

Technical assessor for NATA / IANZ for over ten years.

MAVIS ROBERTS

Area of Expertise

Advocate of Maori Progress and Development

Experience

Of Waiohua and Waikato descent, with strong professional affiliations to her wider community within Tamaki Makaurau. From 2002 – 2007, held the Chairperson position for Makaurau Marae

Has held a number of roles, which have included, being a member of the South Auckland Mana Whenua Forum,

and a member of the Makaurau Marae Health Committee.

Has an established background in public health and informs local council on environmental resource issues, by providing a cultural perspective across issues relevant to whanau and urban communities.

Has spent a significant part of her early years participating and coaching sports, which have included netball, basketball and tennis. Her enthusiasm for life has influenced her drive to support community development and believes that community wellness can only be achieved through intergenerational cohesion, assuring whanau quality of life.

Family is important to her, and when she takes time out, if she is not gardening or reading, spends quality moments with friends and mokopuna.

PATIENCE TE AO

Area of Expertise

Tangata Whenua - Huakina Development Trust

Experience

Patience Te Ao is of Waikato/Ngati Wai descent and has been involved with the governance of Māori entities for many years. This includes marae development, trust boards, statutory boards and joint committees involving central and local government.

JANICE ROBERTS

Area of Expertise

Advocate of Maori Progress and Development

Experience

Janice Roberts from Ngati Te Ahiwaru hapu and from 2007 has been the Chairperson of the Makaurau Marae Committee.

Deployment of the Group is:

Secretarial services to the Group are provided by Alistair Shanks from Watercare.

To expedite the work of the Audit Group, individual members of the group have been allocated different areas of responsibility with respect to the management plans, and are expected to lead discussion on issues arising. Where necessary the group seeks further professional and expert advice and if required, establishes sub groups, to review and report to the group on particular issues.

APPENDIX 2: DOCUMENTS CONSIDERED BY THE AUDIT GROUP IN 2013-14

Meeting No 71 18th September 2013

13/9/1 and 1a	Influent Monitoring Data March – May 2012	Emailed 25/6/13
13/9/2	Heavy Metals Data in Biosolids 1998-2012	Emailed 25/6/13
13/9/3	Contingency Management Plan Issue 4, Draft4	Emailed 29/8/13
13/9/4	Amended Air Discharge Consent	Emailed 29/8/13
13/9/5	Minutes CLG Meeting 13 June	Emailed 29/8/13
13/9/6	Consent Summary	Emailed 29/8/13
13/9/7	Management Plan Summary	Emailed 29/8/13
13/9/8	Outline Plan of Works for New Road	Emailed 29/6/13
13/9/9	Compliance Report June- August	Emailed 10/9/13
13/9/10	Notes from Site Visit to Digesters and Engines July 2013	Emailed 10/9/13
13/9/11	Comments from Andrew Ball	Tabled at meeting
13/9/12	Watch List 4 November 2013	Tabled at meeting

Meeting No 72 11th December 2013

13/12/1	Site Visit Report	Emailed 25/11/13
13/12/2	Minutes CLG Meeting 12 September 2013	Emailed 25/11/13
13/12/3	Consent Summary	Emailed 25/11/13
13/12/4	Management Plan Summary	Emailed 25/11/13
13/12/5	HEMP Data 2012-13	Emailed 25/11/13
13/12/6	MWH Report on Digester Toxicity	Emailed 25/11/13
13/12/7	Compliance Report Sept- Nov	Emailed 9/12/13
13/12/8	Watch List December 2013	Emailed 9/12/13
13/12/9	Monitoring in Old Pond Area Review	Emailed 9/12/13

13/12/10	Landfill Post Closure Care Management Plan Issue 3, Draft 2	Tabled at meeting
13/12/11 and 12	Do not exist	
13/12/13	Odour Report for 3 months	Tabled at meeting
	Meeting No 73 14 March 2014	
14/3/1	Consent Summary	Emailed 25/2/14
14/3/2	Site Visit Report from Meeting 72	Emailed 18/12/13
14/3/3	DRG Audit Report 2013	
14/3/4	Management Plan Summary	Emailed 25/2/14
14/3/5	Monitoring Management Plan Issue 6 Draft 1	Emailed 25/2/14
14/3/6	CLG Minutes of meeting on 6 December 2013	Emailed 25/2/14
14/3/7	Audit Group letter to Minister for Environment re Biosolids	Emailed 25/2/14
14/3/8	Audit Group Annual Report 2012-13	Emailed 25/2/14 Final emailed 28/3/14
14/3/9	Midge Technical Advisory Group Report	Emailed 25/2/14
14/3/10	Compliance Report December 2013-February 2014	
	Meeting No 74 30 June 2014	
14/6/1	Site Visit Report from Meeting No 73	Emailed 16/6/14
14/6/2	Landfill Post Closure Care Management Plan Issue 7 - Approval Letter	Emailed 16/6/14
14/6/3	Letter from Minister of Environment re Biosolids	Emailed 16/6/14
14/6/4	Biosolids Building Ammonia Reduction - SKM Report	Emailed 16/6/14
14/6/5	Consent Summary	Emailed 16/6/14
14/6/6	Management Plan Approval Summary	Emailed 16/6/14
14/6/7	Minutes of CLG Meeting 7 March 2014	Emailed 16/6/14
14/6/8	Operations Report: March- May 2014	Emailed 16/6/14
14/6/9	Pond Recovery Monitoring Data 2012-3	Tabled at Meeting
14/6/10	Background and Experience of Ian Gunn	Tabled at Meeting

14/6/11	Internal Walkover Odour Results	Tabled at Meeting
14/6/12	Photos of Works on Puketutu Island	Tabled at Meeting