Rotoiti / Rotoma Sewerage Project – RRSSC
Technical Advisory Group Meeting #2
30 May 2015

Meeting Minutes

Draft – To be confirmed/ amended at the next TAG meeting.

Meeting Name	RRSSC TAG #2		
Meeting Venue	MWH Hamilton office, 468 Tristram Street, Hamilton		
Date Of Meeting	30 May 20154	Time Of Meeting	10:00am – 5:30pm
Chairperson	Jim Bradley	Recorder	Celia Schofield

Project Details

Client Name RRSSC / RDC
Project Name Rotoiti / Rotoma Sewerage Project
Project Number

Attendees	Initials		Organisation
Alison Lowe	AL		Rotorua District Council
Riaan Rossouw	RR		Rotorua District Council
Greg Manzano	GM	Core TAG	
David Hamilton	DH	Core TAG	Waikato University
Christopher Mc Bride	CMB		Waikato University
Andy Bruere	AB	Core TAG	Environment BOP
Terry Long	TL		Environment BOP
Craig Brown	CB		CBC Wastewater
Kepa Morgan	KM	Core TAG	
Jim Bradley	JB	Core TAG	MWH
Celia Schofield	CS		MWH – minute taker

Please note: Actions are shown as below, highlighted yellow and further included in the summary list at the end of the minutes.

- **All actions are marked in this style**

Agenda Item 1 – Welcome and Introductions

Approximate time started: 10:30am

JB welcomed the group and ran through the fire drill.

KM gave a said a prayer and welcomed the group.

All attendees are invited to participate in all items on the agenda

Agenda Item 2 – Draft agenda – Review and Adjust

Approximate time started: 10:40am

Reference Documents

- Draft Agenda
- RRSSC project – TAG#2 Suggested Meeting Process

Discussion

The agenda was approved by the attendees and the tight schedule was acknowledged.

TL enquired as to the status of attendees as “core TAG” and “invited”. It was clarified that as with the previous meeting, only core TAG members have voting rights but the comments of all attendees will be recorded for in the minutes.

Agenda Item 3 – TAG#1 Draft Minutes – Review / Modify and Approve – TAG TOR Matter

Approximate time started: 10:45am

Reference Documents

- TAG #1 Draft Minutes
- KM’s email dated 26/05/2014 to AL cc JB
- JB’s cover email dated 28/05/14

Discussion

The key item from Kepa’s email in regards to TAG TOR as below was discussed:

KM is concerned that if he disagrees on a cultural issue then he may not be able to discuss it with the TAG group as they do not have the depth of cultural knowledge.

AL stated that she did not recall the “in person” reporting back. She understood that all reporting would be through the minutes.

It is decided that he RRSSC need to discuss this issue at their next meeting and decide the procedure.

The chairs of the RRSSC and RPSC decided on the following wording prior to TAG #2:

> “Minority opinions shall be recorded in TAG minutes and reported to the RPSC through the TAG Chair. Supplementary reports of minority views shall be by agreement with the RRSSC Chair”

TAG #1 minutes accepted with KM’s change to “in person” to be added to the notes recording his request, and then minutes will be approved.

Agenda Item 4 – Lakes Action Plan, Land Use, Rotoiti Diversion Wall Scenarios etc

Approximate time started: 11:15am

Reference Documents

- Lakes programme slides
- Action Plans
- AB RRSSC workshop slides 14/04/14

Discussion

AB presented the Lakes programme as a presentation- see attached.

DH noted that there is a problem with low TN:TP ratios where the level of algae and bacteria is increased.

Rotoma:

Direction of groundwater flow for Lake Rotoma questioned.

- Information on ground water to be gained from Paul White
- AB to also get advice and raw data on groundwater from Paul White

It was noted that the flow from the forest is inconsequential as RDC only owns 10ha.

KM noted that the soil in the area of RDC land previously had large amounts of superphosphates applied which is slowly leaking out.

- AB to find farming information to provide more information

DH, in response, noted that by foresting the land the risk of phosphorous leaking to the lake is significantly reduced. DH suggested that erosion by clearfall harvesting may have caused the spikes seen [in monitoring data].

DH discussed phosphorous coming from springs and noted that the phosphorous from springs is geological phosphorous.

AB questioned whether we actually have enough N in the lake. The N levels in Rotoma do not need to be restored to previous levels, they only need to be protected. The P in the lake is limited but rising, there is a need to deal with the P coming from septic tanks.

It is noted that the option chosen needs to achieve the optimum TN:TP ratio.

KM suggested supplying dishwashing powder to deal with the P source rather than fixing the problem.
AL, in response, noted that if you reduce what you put into the system you don't necessarily get the same reduction in the treated wastewater. The treatment process reduces the nutrient to a concentration, it does not provide a percentage reduction.

KM suggested urine separation combined with supply of dishwashing powder, spreading faeces from the septic tank, and then planting lupin to uptake the nutrient.
AL, in response, noted that KM's suggestion will not achieve a large reduction in P; a higher reduction in P could be gained from more advanced wastewater treatment systems.

- The item was parked for further consideration at a later TAG meeting.

JB – cost difference between N removal in a WWTP, P removal in a WWTP and N&P ratio are significant. This is important in the treatment scheme assessment.

KM requested that the presentation slide that mentions "reticulation" changes to "intervention", that the $25,000 for P is removed, and that it is clarified that the reduction in algal blooms at Okawa Bay is likely from multiple actions.

- AB to clarify date of reticulation and wall installation at Okawa Bay

It is noted that without wall in place in Lake Rotoiti the septic tank nutrient source is a relatively low contributor.

It is noted that the Rotorua nutrient level has reduced, therefore the load from Ohau channel to Rotoiti has reduced. The overall load from septic reduced as assumed occupancy has reduced.

It is noted that the load to Rotoiti from septic tanks is low but not insignificant.

KM questioned whether costs from Waitangi scrubbing of P from geothermal springs could be used to work out the cost of purchasing P.

CMB noted that Lake Rotoiti is a big lake with few properties and the problem is unlikely to be fixed by only fixing septic tanks.

It is noted that CMB's model assumed N is attenuated in the soil, and P is assumed to have 50% attenuation in the soil.

AB noted that there is still a lot of work to do with the data, to get below 0.02. AB cautioned against using the numbers.

AL questioned what will happen if the wall comes down in the future, are there any other future actions planned for Rotoiti.

RR questioned the reason for the Ohau channel, what provides the biggest gain for the lake? Septic tanks seems to provide the lowest return, so why is it targeted? Does it give the fasted gain?
AB, in response, noted that the reason for targeting septic tanks is around the certainty of gaining change. Land use gains are uncertain, changing things right next to the lake gives more certainty of gains.
DH added that aspects of land use change have been highly contested, septic tank changes are easier to make.

CB asked if anyone has looked at the cost of purchasing land instead of buying P?
AB replied that the cost of buying land and keeping it is 4-5 times more expensive. It is also very hard to work out gains from buying land.

- AB will return to TAG with the numbers

Further Actions

- CMB to look at Joe Butterworth's monitoring of geothermal springs

Agenda Item 5 – Updated Residual nutrient tables and Graphs by Kevan Brian & Phosphorous Washing Powders

Approximate time started: 12:00pm

Reference Documents

- Residual Nutrient, emailed by JB 15/05/14
- Email from AL 21/05/14

Discussion

AL noted that the average loads should be used for comparative purposes and the peak loads for design purposes. Figures for option '5' came from CB.

The relativity of the bar heights was questioned and it was further questioned how the HUE were reached.

JB noted that TAG needs to refer back to Kevan Brian's original memo with the first issue.

- Denitrification bars to be added to complete mass balance on graph – AL to check logic, Action Plan numbers and related HUE's they were based on. Check with Kevan Brian.
- RR and GM to confirm numbers, especially if the HUE numbers for Rotoma are to change

Agenda Item 6 – Septic Tanks, Public health On-Site Considerations / Soil Removal, OSET Financial Contribution

Approximate time started: 12:15pm

Reference Documents

- BOP RC 12/5/14 Advice to R&R WW TAG
- BOP RC 21/5/14 / Toi Te Ora Public Health Service R&R WW Health Assessment
- NIWA Reports April 2000
- Memo from FRD 20/05/2014 – RDC and BOPRC Data On Costs of High Tech OSET Installations
- Phosphorous email from AL 21/05/2014
- University of Florida Onsite Sewage Treatment and Disposal Systems: Phosphorous, JB emailed 28/05/2014
- Various emails on phosphorous / nutrients from CB, AL, KM, CMB

Discussion

TL noted that OSET is frequently seen as an alternative to reticulation.

TL noted that since 2000 a septic tank database has been maintained and septic tanks are reported on by the contractor who pumps them out. Some systems are listed in the database as having failed. TL explained the grading system which gives penalties for field size, tank size and soak hole locations. Accumulation of 10 points is a fail. For elevated sites, where it goes to soak hole and there is separation between bottom of soak hole and ground water they may not be penalised. Stormwater being directed into septic tanks gives penalties as well.

KM is concerned that the number of real fails compared to the number of administrative fails is not known.

TL noted that 80% of people will have to do something to their septic tank in order to meet OSET. For some it is a possibility that they will never have a compliant wastewater system on their property. RRSSC has to consider what to do with those people. May have to remove every third house in some areas, which will result in people leaving the community.

AL asked for clarification – 20% of properties have OSET compliant systems? Ones that don't need to do much, what do they need to do? Do they not need to meet N concentration limits?
TL responded – yes, some have new, modern systems. Others may just need to replace soak hole and get a new septic tank. They do need to meet N conc but they could instead get consent and pay fee.

CB questioned the number of people who wouldn't be able to install nutrient reducing systems.
TL responded – they require a minimum of 250m^2, for small sites this is a problem. People will not be amenable to moving things to achieve this.

CB noted, focusing on feasibility, that TP58 allows for a 20% reduction of wastewater.

JB mentioned public health and effectiveness matters.

TL noted that it is very important to realise that there are some properties in the community who will not be able to achieve OSET.

KM and CB disagreed with TL and said that people/properties can find ways to work around and achieve OSET.

21 May Report – MoH:

TL had raised the issue of the Environment Court Judge's statement that there was no necessity for reticulation. In a recent meeting called by the RDC Deputy Mayor Dave Donaldson, EBoPRC were requested to further investigate, as a reuslt a different assessment tool was used to see if there was a need for reticulation. RRSSC Chairman Ian asked TL (BoPRC) to complete it. TL and Annaka Davis completed it, to show how tool could be applied to Rotoiti Rotoma. Has a lot of information from site visits about sewer types, site sizes, connection to reticulation.

KM argued that only 11 properties were surveyed and guidelines require 100 and methodology required survey of property owners which was not done, therefore the report would not stand up in the Environment Court.

TL noted that given time restraints, the report was only to demonstrate that there is a tool that can be used to assess the requirement for reticulation.

KM stated that the recommendation for reticulation in the paper is irresponsible as the proper procedure was not followed.

TL accepted that the full procedure was not followed but stated that it was due to time constraints as it would take weeks to get a full result.

AL suggested that TAG make a decision on whether TAG should recommend that an assessment needs to be made on whether reticulation is required.

KM suggested that TAG makes a statement that the report should not be given to RRSSC as it misleads them.

TL requested that the statement from the Judge that reticulation is not required not be repeated as it may not be true.

JB stated that TL has acknowledged that and TAG need to come to an agreement with a combined statement for the RRSSC.

GM stated that TAG should leave to RRSSC to decide whether to go back to the beginning on looking at whether or not reticulation is required.

GM suggested that TAG receive the report, noting Kepa's comments, report to RRSC, within the context that it has been written. Comment on the recommendation, saying that the recommendation should be taken within the context of the limited procedure undertaken.

KM reiterated that he thinks the recommendation is irresponsible and that something that has been asked for under time restraints is not acceptable.

TL reiterated that it is only an illustration of what could be done. Dr Phil Shoemack's work around assessing risk is important, discussion on measures to get to risk are valid. The method that was used cannot be wholly discounted. The report can be used to draw out indicators of risk.

AL asked if it was possible to re-write the report.
TL responded that it may be possible for him to add a brief addendum.

AL suggested that the sample number is too limited to make recommendation but it is very useful as an approach that could be taken forward.

JB suggested that TAG receives the report acknowledging that it is an indicative investigation on a very small sample number, intended for the purposes of indicating how the full study could apply. In this respect is could be considered a pilot of how a full scale investigation could be made.

KM stated that it should be said that it is a draft and no recommendations should be made.

RR suggested that TAG states that the recommendation cannot be endorsed by the TAG based on the small sample size and lack of surveys.

TAG agreed on the following statement:

> TAG receives the report acknowledging that it is an indicative investigation on a very small sample number, intended for the purposes of indicating how the full study could apply. In this respect it could be considered a pilot of how a full scale investigation could be made. Recommendations made by the report cannot be endorsed by the TAG based on the small sample size and lack of surveys.

BREAK FOR LUNCH AT ARROXIMATELY 1:00PM

Agenda Item 7 – Memo title "Rotoma Rotoiti is Do Nothing An Option"

Reference Documents

- Rotoma Rotoiti: is do nothing an option 28/05/2014

Not discussed due to lack of time.

Agenda Item 8 – DRASTIC Option – RDC / CB Update, RDC Memo and Subsequent Considerations

Reference Documents

- Memo from RDC 22/05/14 – DRASTIC Urine Diversion Option Review Results and Comments
- CB's paper at TAG#1

GM suggested the info be taken on board and TAG moves on - agreed

Not discussed due to lack of time.

(Note: But included in options/ shortlist assessment)

Agenda Item 9 – Conveyance to Rotorua – Pipeline Passing Rocky Output

Reference Documents

None

Not discussed due to lack of time.

Agenda Item 10 – Mapping of Houses – Areas of Potential Concern

Reference Documents

- Map with sensitive areas

Not discussed due to lack of time. Draft drawing not distributed

KM asked how RDC keeps a register of sensitive site information.

- GM to action

Agenda Item 11 – Population Growth for Rotoma

Reference Documents

- Feasibility report Jan 2010

Not discussed due to lack of time.

Agenda Item 12 – Glossary of Terms

Reference Documents

- Glossary of Terms

Not discussed due to lack of time, but copied made available.

Agenda Item 13 & 14 – Confirm / Adjust TAG #1 Document 'Must Haves to Cut Long List'

Approximate time started: 1:30pm

Reference Documents

- Long list table refined, sent 23/5/14

Discussion

GM noted that the table reflects discussion at TAG #1 and changes made are in the right hand column. Attaining subsidy has been changed to a desirable goal.

TAG to point out that OSET does not cover all possible solutions that could be used, Non-water bourne options should be considered, along with other modifications which could be considered at the time of reviews to OSET plan.

KM noted that NIWA report said that there is no indication of public health risk demonstrated by septic tanks.

RDC-1 goal 4 risk was changed from red to orange

Medium list left contains RDC1, RDC3, RDC4, RDC5b, CB6b/CB6c, OSET & Onsite, Mix/Match.

TAG agreed to draft Short List with four options to keep it a manageable size - RDC1, RDC3/4 CB6b/CB6c, CB6c, and OSET & Onsite. It was agreed to group RDC3 & RDC4 and CB6b & CB6c as they have a number of common features. In each case as the Short List is worked through towards a Preferred Option then either (or both) these grouped options could be further developed to determine the Preferred Option. (This approach was whiteboarded)

It was also decided to keep in reserve e a combination option, made up from the Short List.

Agenda Item 15 – Carry Out MauriOmeter Analysis on Short List

Approximate time started: 1:50pm

Reference Documents

- Presentation from KM at TAG#1
- KM email 9/05/14 with spreadsheet
- KM email 19/05/14

Discussion

KM gave a presentation to explain MauriOmeter – see attached.

KM took TAG through a rating exercise on at -3 to +3 scale.

KM notes that people are subjective rather than objective decision makers, biased based on background.

The MauriOmeter was run by KM for Rotoma.

Indicator descriptions:
Add Ecosystem Mauri 8 – Total phosphate
Change Ecosystem Mauri 1 to Total Nitrate only''

Could be an indicator on water quality elsewhere.

Options RDC3-4, assume disposal on trust land.

- Wording of "non-point source" needs to change.
- Need clarification on whether in house components of cluster scheme are covered under subsidy
- KM to take away and do retrospective
- KM to write notes for reporting to RRSSC and make slides for presentation to RRSSC

Agenda Item 16 – Carry Out MCA Analysis on Short List

Approximate time started: 4:15pm

Reference Documents

- Paper from JB 28/05/2014 MCA Decision Conferencing RRSSC TAG Rotoiti Rotoma 30 May 2014

Discussion

The RRSSC goals and associated evaluation criteria were presented, including the inclusion of a 9th technical goal suggested by JB for acceptance by RRSSC, goals accepted by TAG.

The criteria using the RRSSC goals were grouped into four well-beings and weighted with equal weight given to each of four well-beings. This approach followed KM's suggestion based on KM's context that under RMA all four well-beings are to be equally weighted.

JB queried this approach but he and TAG agreed to use it as a starting point for the first run of the MCA trial focussing on the Rotoma wastewater catchment only. Future sensitivity analysis would be used to further assess the weighting of the criteria and ranking of the options.

In view of time restraints (meeting already overtime) a very fast pilot run of the MCA was undertaken for Rotoma for TAG to see how the MCA worked.

There is a difference between RDC3 and RDC4 in terms of consentability, even though they have been grouped together

Agenda Item 17 – Compare output of MauriOmeter and MCA Outputs

Approximate time started: 4:50pm

Discussion

Little time to discuss.

- Rotoiti yet to be assessed as only Rotoma was considered in pilot exercises
- CS and JB to finish MCA
- KM to finish MauriOmeter

Agenda Item 18 – Closing Discussion and Next Meeting 16/06/14, 7/07/14 Venue TBC

Approximate time started: 5:00pm

Discussion

AL concerned that TAG has not given enough priority to reducing the phosphorous in the lakes

It is noted that the basis of the EBoPRC study is the same as the MoH subsidy, not on nutrient removal.

KM questioned in terms of CMB's modelling that P is increasing significantly, is the source known?

CMB noted that the dip in mid to late 2000s in phosphate levels exaggerates the trend.

KM questioned whether RDC had made a decision on the pervious PDP reports.

- GM to find out

JB highlighted sensitivity assessment including the criteria weighting will usefully show key features of importance.

Next TAG is to be 16th of June at the MWH Hamilton office.

Summary of Actions:

1. Information on ground water to be gained from Paul White
2. AB to get advice and raw data on groundwater from Paul White
3. AB to find farming history information to provide more information
4. Return to discussion of P at a future TAG meeting
5. AB to clarify date of reticulation and wall installation at Okawa Bay
6. AB will return to TAG with the numbers for buying land to offset P rather than buying P
7. CMB to look at Joe Butterworth's monitoring of geothermal springs
8. Denitrification bars to be added to complete mass balance on graph – AL to check logic, Action Plan numbers and related HUE's they were based on. Check with Kevan Brian.
9. RR and GM to confirm numbers, especially if the HUE numbers for Rotoma are to change
10. GM to report back on how RDC keeps a register of sensitive site information.
11. Wording of "non-point source" needs to change in MauriOmeter assessment
12. Need clarification on whether in house components of cluster scheme are covered under subsidy
13. KM to take away and do retrospective for MauriOmeter
14. KM to write notes on MauriOmeter assessment for reporting to RRSSC and make slides for presentation to RRSSC
15. GM to further check if RDC made a decision on the PDP report.

16. Rotoiti yet to be assessed as only Rotoma was considered in pilot exercises

17. CS and JB to finish MCA

18. KM to finish MauriOmeter