TLCCG
Tullamarine Landfill
Community Consultation Group

MEETING NOTES

WEDNESDAY

18 October, 2017

6:00pm for 6:30 – 8:30 pm

Hume Global Learning Centre
1093 Pascoe Vale Road, Broadmeadows

Facilitator – Jen Lilburn **Note taker** – Andrea Mason

MEETING PURPOSE

To provide an update on site rehabilitation.

ATTENDEES

Community: Ovi Clements, Graeme Hodgson, Peter Barbetti, Julie Law, Helen van den Berg, Jos van den Berg, Russell Nilsson, Helen Patsikatheodorou, Harry van Moorst, Lolita Gunning

EPA Victoria: Alistair Nairn (Advisor - Community & Environmental Partners)

Cleanaway: Kieren McDermott (Environment Specialist), Olga Ghiri (Stakeholder and Community Relations Manager), Lachlan James (Environmental Specialist), Stephanie Holland (Post Closure Technical Lead, Engineering)

Apologies: Alan O'Brien (Cleanaway Environment and Technical Manager), Mark Globan (Cleanaway Regional Manager Victoria Post Collections), Jeremy Settle (EPA Senior Environment Protection Officer), Cherine Fielder, Prue Hicks, Sam Cetrola, Kim Westcombe, Frank Rivoli

Facilitator: Jen Lilburn

Note taker: Andrea Mason

ABOUT THESE NOTES

Notes were taken and produced by Andrea Mason. We aim to provide detailed minutes that cover the key information that was provided in the meeting. However, these minutes are not intended to be a transcript of the meeting, and discussions, comments and questions have been summarised to reduce the overall length of this document.

Presenters were given the opportunity to review the notes relating to their item to ensure the discussion was accurately summarised, and that it details best available knowledge at the time of the meeting. Additional comments received after the meeting have been highlighted as such.

These notes will be posted on the Tullamarine Community Information page on the Cleanaway website http://www.cleanaway.com.au/community/major-project/tullamarine-closed-landfill-vic/ and will be available to the general public. Meeting participants should advise Andrea Mason or Jen Lilburn if they would like their name removed from this public document.

The intent of these meeting notes is to promote open communication between Cleanaway, local government, community and EPA Victoria. They are not to be used in a manner that compromises this objective.

AGENDA

1	Welcome, Introductions, Jen Lilburn
2	Update on Hume City Council Attendance, Olga Ghiri
3	Stormwater connection redesign, Kieren McDermott
4	Recently completed and planned activities, Kieren McDermott
5	Questions on notice, Kieren McDermott
6	Update on community-chosen consultant review, Alistair Nairn
7	Roadmap & Priorities for discussion in 2018, Kieren McDermott
8	Schedule of 2018 meetings, Olga Ghiri
9	Actions, Wrap Up, Next meeting, Jen Lilburn

ACTIONS FROM THE MEETING

Action 1017_1: *Helen Patsikatheodorou to make a new approach to Hume City Council councillors to invite representation on TLCCG.*

Action 1017_2: *Cleanaway to provide data sheets regarding water flow rates from the cap to TLCCG members.*

Action 1017_3: *Cleanaway to report to TLCCG on feedback received regarding the Stormwater connection design.*

Action 1017_4: *Cleanaway to consult Melbourne Water to see if they are 'wedded' to the concrete pipe outlet to the creek.*

Action 1017_5: *At the next TLCCG meeting, Cleanaway to explain the proposal to increase the extraction of landfill gases, and whether this will involve additional gas well/s and/or cap penetration*

Action 1017_6: *Cleanaway to distribute raw data from groundwater bore testing to TLCCG members.*

ITEM 1. WELCOME, JEN LILBURN

Jen Lilburn (Convenor) welcomed everyone and general introductions were conducted. Some community members represented Terminate Tullamarine Toxic Dump Action Group (TTTDAG), Western Region Environment Centre and Friends of Steele Creek and some have been involved in lobbying for clean air, groundwater and community health for over 20 years.

Helen Patsikatheodorou is no longer a councillor for Hume City Council and will be attending as a resident.

Staff changes at Cleanaway include the resignation of Alan O'Brien. Stephanie Holland has been appointed Post Closure Technical Lead, Engineering and will attend TLCCG meetings. Kieren McDermott and Lachlan James have joined a small team dedicated to compliance within EPA licenced sites and will slowly hand over responsibility for the Tullamarine landfill.

ITEM 2. UPDATE ON HUME CITY COUNCIL ATTENDANCE, OLGA GHIRI

Cleanaway have made several attempts to get a commitment for representation from Hume City Council including invitations to all councillors. Community members thought they had an indication from the Mayor that a councillor would be coming but have heard nothing further.

Action 1017_1: *Helen Patsikatheodorou to make a new approach to Hume City Council councillors to invite representation on TLCCG.*

ITEM 3. STORMWATER CONNECTION REDESIGN, KIEREN MCDERMOTT

Kieren presented the new design concepts for the stormwater connection, which have incorporated feedback from the Friends of Moonee Ponds Creek (FoMP).

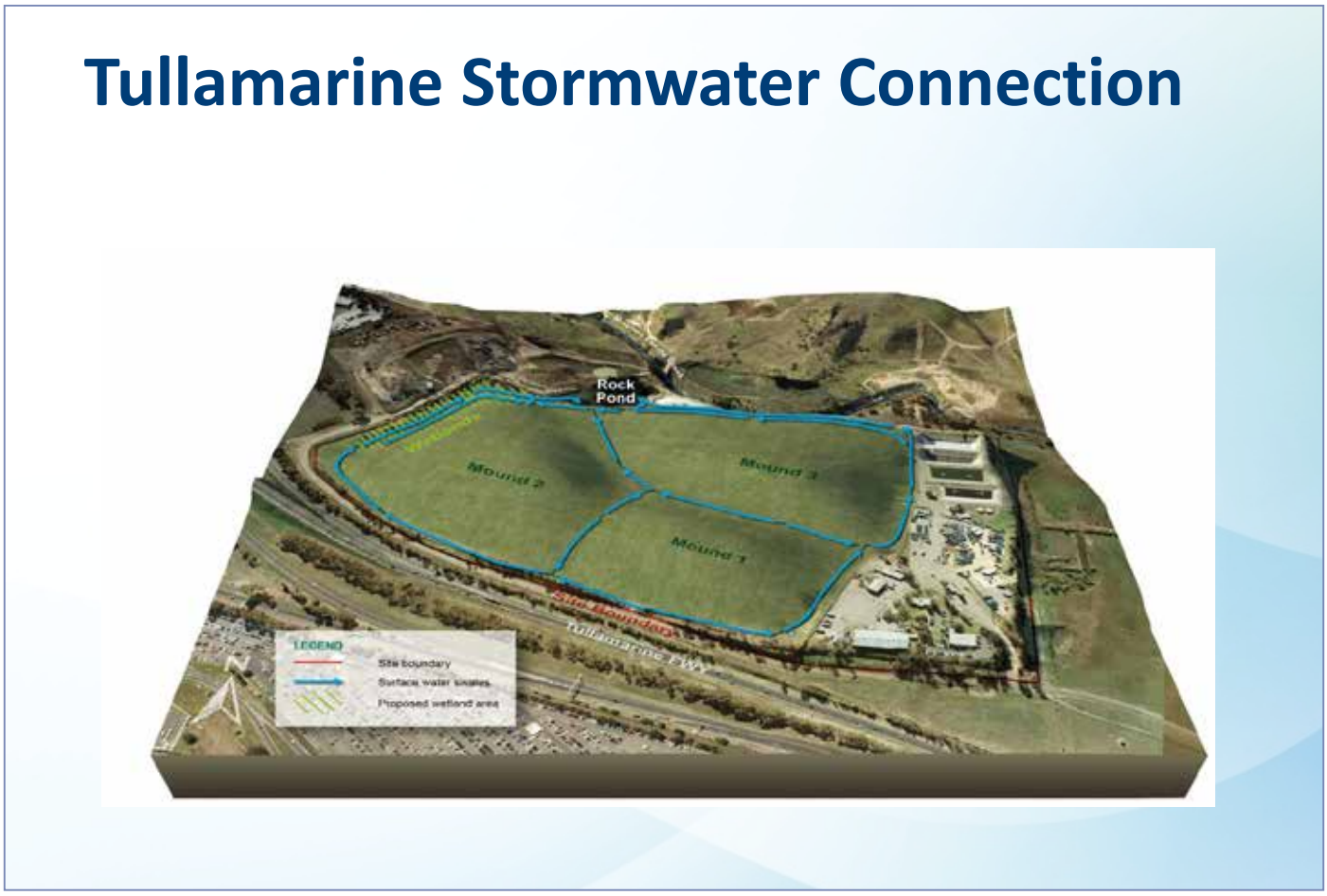


FIGURE 1

Currently the stormwater from the three mounds is collected as runoff into the grassy swales and flows towards the north-west corner of the site (as indicated by the blue arrows in Figure 1) before entering the rock pond. It is then pumped and stored in the four 4ML holding ponds. The new connection will enable water to be released into Moonee Ponds Creek.

In answer to questions, Kieren further explained:

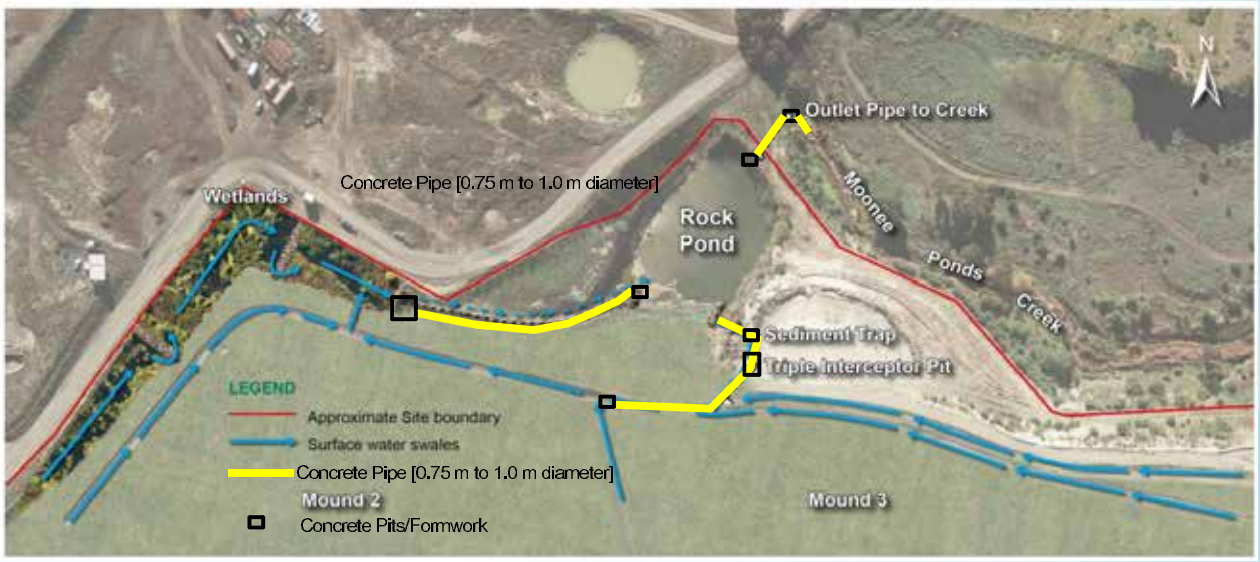
- The holding ponds are double-lined and the water is tested every year. The water is clean.
- All of the leachate previously held in the holding ponds was pumped into the sewer under a trade waste agreement. There is no leachate (or associated foam) in the ponds now.
- If the ponds fill in winter they can only be discharged into the sewer. The aerators are still there and are required as part of the trade waste agreement.
- The water is tested before it is batch released to sewer. It is a requirement that the aerators are switched on during batch release to sewer. Yarra Valley Water obtain a second check sample during batch release to sewer.
- A stormwater design was developed in 2013 with all stormwater from the cap flowing into the Rock Pond. The new proposal presented here incorporates feedback from the friends group. The new proposal will reduce the volume of water going into the Rock Pond.

IMAGE: MOONEE PONDS CREEK

IMAGE: GROWLING GRASS FROG

The new discharge into the creek is expected to be beneficial to the creek and hence the habitat of the growling grass frog.

Original Concept



The original concept was designed to cope with a 1:100-year flow rate so that 50% of the runoff water would travel through bunds, wetlands and a weir into the rock pond. The remaining water would flow through a triple interceptor concrete trap and sediment trap into the rock pond. The overflow from the rock pond would then pass into the 1m diameter concrete pipe to the creek.

In answer to questions, Kieren further explained:

- The interceptor traps sediment including heavy metals and contaminants. It is cleaned out once a year.
- The rock pond and the creek are tested twice a year for water quality including laboratory sampling and field parameters.
- The frequency of overflow is determined by rainfall.
- Natural filtering systems for the runoff include the grassed cap and swales plus the pits and wetlands which have been designed to the highest specifications.

New Concept

The latest concept has been designed by Golder, after consultation with Friends of Moonee Ponds Creek, to reduce the amount of concrete structures, capture all the runoff from the cap and create a 'softer' design. It includes the possible addition of a new pond near the flare. The final concrete pipe outlet from the rock pond will stay and some rock will be added to the creek at the discharge point.

There are also changes to the landscaping in three sites which will increase the water retention while extending the habitat area. The current gravel swales will be improved through establishment of grasses. The north wall has already been greatly improved by the landscaping. The following images show some examples from other sites that indicate how the final design might appear.

Existing Stormwater System

Defined Wetland

Pipe and Grass Swale

Wetland Example

Constructed Wetlands Handbook, Melbourne Water, July 2017

North Wall Landscaping

Designed by Western Plains Flora

May 2012

May 2013

Mound 1

Kangaroos on Mound 3

Echidnas near the Flare

Benefits

- Improved water quality
- Increased habitat
- Increased biodiversity
- Softer design
- Opportunity to work with Melbourne Water/Friends groups/Council
- Savings?

The concept is still open for further consultation in 2018 and it is hoped construction will begin in 2019.

In answer to questions, Kieren further explained:

- We have data showing runoff volumes in big rainfall events. Consultation with Friends of Moonee Ponds Creek, Hume Council and Melbourne Water is planned to start shortly.
- The flow into the soft edged wetland on the east will be properly engineered via an open channel or pipe after consultation with Melbourne Water.
- The run off needs to be piped away from the steep escarpment and most flow will go to wetland ponds. Some flow will make its way to Moonee Ponds Creek at no more than Pre- Development Greenfield flow rates as defined by Melbourne Water.

Action 1017_2: *Cleanaway to provide data sheets regarding water flow rates from the cap to TLCCG members.*

Action 1017_3: *Cleanaway to report to TLCCG on feedback received regarding the Stormwater connection design.*

Community members suggested several potential risks/negative aspects including:

- Poor visual amenity due to the concrete pipe being visible from the creek
- Pump failure, cracked pipes
- Increased flows (greater that 1:100) causing damage downstream
- Lack of a risk assessment
- Wetland failure and lack of filtration
- Is it a good idea to have a pond next to the flare where it might be contaminated from airborne chemicals?

KIEREN: The final plans must be endorsed by Melbourne Water. The design incorporates flow rates based on predevelopment calculations and according to engineering of the highest standards, including extra protection and more habitat for the growling grass frogs.

Action 1017_4: *Cleanaway to consult Melbourne Water to see if they are 'wedded' to the concrete pipe outlet to the creek.*

In answer to questions, Kieren, Lachlan and Olga further explained:

- The pipe will be underground where the soil is already compacted. The final design has not yet been developed. (Alistair added that this design, using gravity, includes less human intervention and therefore less risks from human errors than if mechanical solutions such as pumps were to be used.)
- Cleanaway is not planning to open the area for public access for the foreseeable future. Cleanaway has opened land for community access in other areas such as Clayton but it is not planned for this site yet.
- The creek is monitored for 500m either side of the landfill.
- The overflow pipe is designed to allow flow into the creek during a 1:100-year event. The main aim is to hold the water on site for as long as possible so that there is not a constant discharge into the creek. The current monitoring is building up a database of information which will inform future decisions.

Comments and suggestions by community members:

- Increase the monitoring of the wetland to four times a year in line with Waterwatch practices.
- Testing the outgoing water four times a year or after heavy rainfall would monitor any risk of Light Non-Aqueous Phase Liquid (LNAPL) getting into water.
- There are new underground storage options being developed by Melbourne University which capture extreme event flows and then allow it to be released slowly at a later date.

QUESTION: This new system will reduce water flowing into the holding ponds. What will happen to these old ponds? Can one be used for storage instead of building a new pond near the flare?

KIEREN: There are no plans developed yet for the old holding ponds, however they are too low to be used for gravity feeding the new system.

ITEM 4. RECENTLY COMPLETED AND PLANNED ACTIVITIES, KIEREN MCDERMOTT

Kieren provided an overview of the activities that have been undertaken at the landfill since the last TLCCG meeting in May:

- Groundwater sampling at new wells completed, letter report currently being prepared
- Snapshot of In Situ parameters on all groundwater boreholes completed, report currently being prepared
- Groundwater sampling, all boreholes, completed
- Review of Bore Network Depths, data sent to Auditor
- Stormwater connection design concept completed, consultations commencing

The Snapshot of In Situ parameters report on the groundwater boreholes is expected to be available to the community by 31 December 2017.

In relation to ***Action 0217_2 Cleanaway to provide Anthony Lane with the assessments of the ability of the current bore network to detect Dense Non-Aqueous Phase Liquids (DNAPL),*** all the data has been collated by Kleinfelder and forwarded to the auditor Anthony Lane for review. It is due back in around 4 weeks and will be distributed to TLCCG members as soon as available.

QUESTION: Does the review of the bore depths include the bores on the buffer land and residential area which are not part of the Pollution Abatement Notice (PAN)?

KIEREN: Yes, there are two reports - one for the DNAPL and one for the new wells.

Tullamarine Planned Activities:

- Ambient Air Testing (Underway) with testing to commence in the coming months
- Next technical groundwater review (Late 2018/early 2019), Technical Review for Auditor review (TRAR).
- Install Landfill Gas Extraction Wells on Mound 3 (Design Phase). [After the meeting: Between one and four wells]

In answer to questions, Kieren and Lachlan further explained:

- Currently there is a horizontal system (gravel blanket) installed under the cap membrane in all three mounds which collects the gas and feeds it into three manifolds at the top of each mound and sent to the flare for destruction.
- A new trial is proposed because the current gas extraction rates are dropping off and the flare has the capacity to take more gas. A vertical well with perforated pipes would be installed in mound 3 to extract gas and possibly be used for monitoring. It is hoped this will help to reduce LNAPL levels through volatilisation. The trial will assess if extra gas can be extracted with this method.

What machinery will be used, will it damage the cap and can you afford to take these risks?

- The proposal is still in the design phase but it will need to maintain the integrity of the cap.
- We are confident that there is sufficient expertise through our contractors available to put wells into the landfill caps and we are confident that the procedures used are rigorous. This proposal is in response to the dropping levels of gas and not in response to any other risk factors. It is an attempt at using the currently applied technology of landfill gas extraction more effectively.

Comments and suggestions by community members:

- In discussions with Steven Amter from Disposal Safety Incorporated last year, the community suggested that to increase the destruction of LNAPL, 350 wells might be installed to add enough microorganisms into the LNAPL. If it is possible and safe to penetrate the cap for gas extraction then perhaps our proposal could also be considered.

- It is hypocritical to now say you can penetrate the cap when the community has asked for this to extract LNAPL in the past and were told that cap penetration should be avoided as it is unsafe. The extraction method that was adopted by EPA and Cleanaway was not the community's first recommendation.
- Having more wells to extract gas is an improvement but there is still not full 99.99% destruction of the gas extracted. The only other thing to make it safe is to get rid of the LNAPL and if there are 3-4 different techniques available then these should be trialled concurrently.
- The community needs clarification as to why in this instance the cap can now be penetrated when it couldn't before.
- Cleanaway needs to continue to listen to community concerns.
- Is Cleanaway proposing one or many new wells? It is very unclear.

[After the meeting Kieren confirmed that between one and four wells are planned at this stage]

In response, Olga, Kieren and Lachlan further explained:

- Cleanaway has investigated other methods, including skimming, in the LNAPL trials conducted and reported to TLCCG three years ago and the results were not good. Just one well penetrating the one mound is not the same as installing lots of wells as outlined by the community. Cleanaway is guided by EPA and the Auditors and we have met our obligations.
- The extraction trials were based on US standards and other techniques were not considered acceptable at that time.
- Cleanaway is committed to community consultation, doing more than is required and responding to community concerns. In this instance we are being honest about what we are planning to do and what we have committed to. We should have prepared more information for this meeting to prevent any misunderstandings.
- The LFG extraction well is in design phase and the design can be provided to the community at the next meeting.

Kieren advised that the next technical groundwater review will consider whether there are improved and viable methods for LNAPL extraction.

The preliminary results of the groundwater testing in the residential area east of the landfill will be available in the next four weeks. Early analysis suggests that there are no unexpected or concerning issues.

Action 1017_5: *At the next TLCCG meeting, Cleanaway to explain the proposal to increase the extraction of landfill gases, and whether this will involve additional gas well/s and/or cap penetration*

ITEM 5. QUESTIONS ON NOTICE, KIEREN MCDERMOTT

Q1. In July 2105, at the invitation of Kieren, Julie Law and I attended the obtaining of water samples from bores on the Buffer land. To date the report arising from that testing has not, I believe, been presented to the community. When can the community expect to receive that report? Over two years is an inordinately long time.

RESPONSE: The groundwater results are assessed holistically every 3 years. The next assessment report will be completed in 2018 for all sampling completed in the period late 2014 to December 2017.

QUESTION: Were the results from the latest testing made available to TLCCG members?

LACHLAN: The results are currently with the Auditor. The raw data can be supplied but without any interpretation or trending information.

Action 1017_6: *Cleanaway to distribute raw data from groundwater bore testing to TLCCG members.*

Q2. In November 2016 a number of bores were installed in the housing area east of the dump. When can the community expect the preliminary results from that testing? It is nearly 12 months. Ample time to have results.

RESPONSE: The results have been incorporated into a letter report. The report is currently being reviewed and will be made available in the next four weeks.

ITEM 6. UPDATE ON COMMUNITY-CHOSEN CONSULTANT REVIEW, ALISTAIR NAIRN

Alistair reported that EPA Victoria and the community were still waiting on the report from the US consultant. They are actively pursuing the matter and hope to have some news before the next meeting.

ITEM 7. ROADMAP & PRIORITIES FOR DISCUSSION IN 2018, KIEREN MCDERMOTT

Kieren provided an update on the timeline for the Tullamarine Landfill site rehabilitation. Cleanaway will be entering a period of community consultation in 2018. The Groundwater Technical Review, Landfill Gas Management Plan, Ambient Air Monitoring on the buffer land are all expected to be completed by the end of 2018.

The design and construction of the Stormwater system is expected to be completed by the end of 2019. **See Table 1 Tullamarine Landfill Site Rehabilitation Roadmap (following page).**

ITEM 8. SCHEDULE OF 2018 MEETINGS, OLGA GHIRI

The next meeting of TLCCG was scheduled for April 18, 2018.

ITEM 9. ACTIONS, WRAP UP, JEN LILBURN

There were no outstanding actions.

Jen thanked everyone for attending.

Meeting closed 8.30pm

KISMET FORWARD
FACILITATING BETTER DECISIONS

TULLAMARINE LANDFILL SITE REHABILITATION ROADMAP

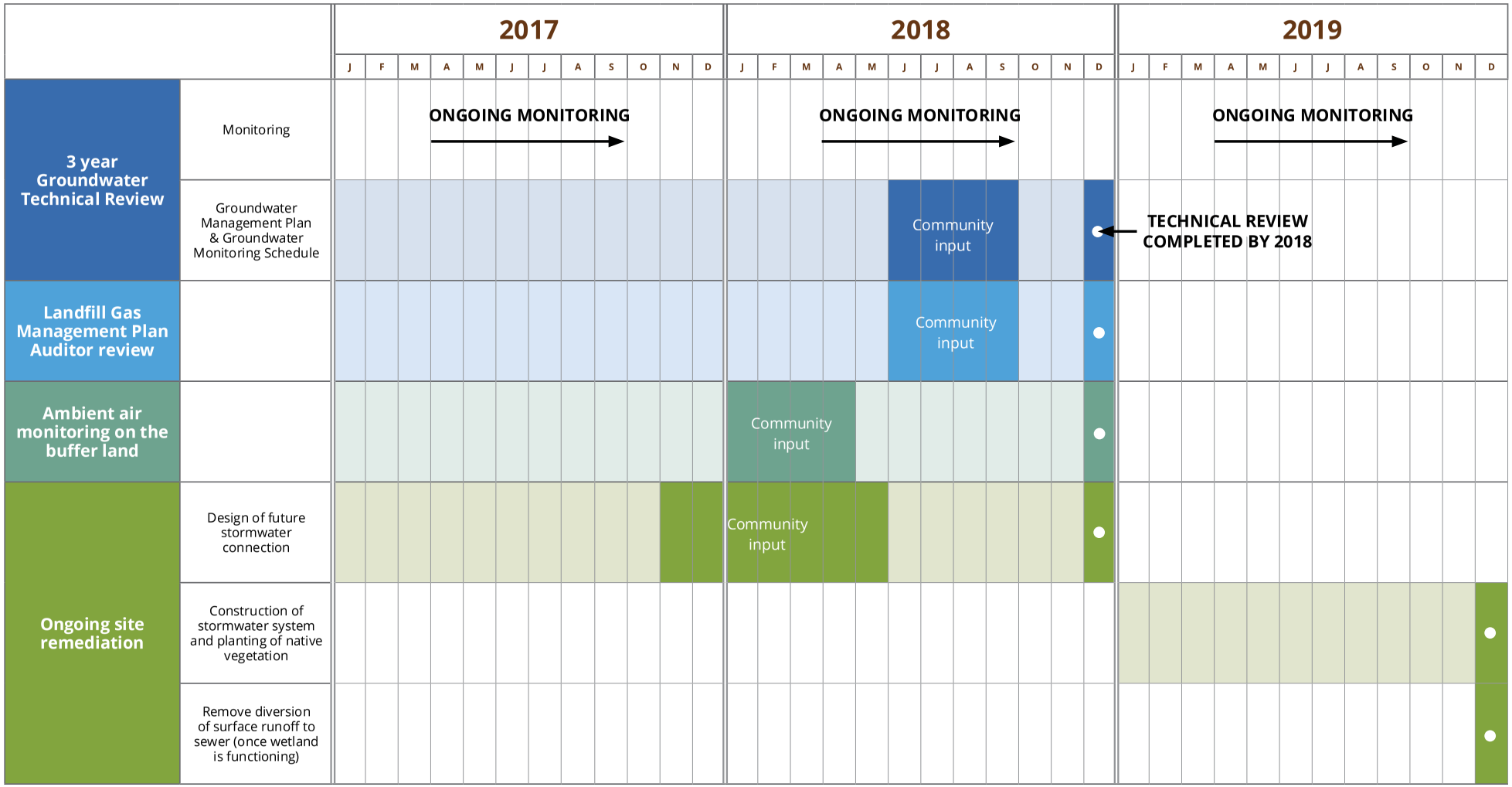


TABLE 1

○ : complete

The above schedule is based on information and plans as at 10 October 2017. Dates are indicative and are subject to change.