UNDER the Fast Track Approvals Act 2024

AND

IN THE MATTER Green Steel [FTAA-2506-1074]

JOINT WITNESS STATEMENT (JWS) IN RELATION TO:

MONOFILLS, EARTHWORKS AND RELATED GEOTECHNICAL ISSUES

22 January 2026

Expert Conferencing Held on: 22 January 2026

Venue: Online via Microsoft Teams

Panel Member and Acting Facilitator: Tim Baker

Scribe of JWS: Analeigh Pye

1 Attendance:

1.1 The list of participants is included in the schedule at the end of this Statement. It is noted that Panel Member Alethea Hikuroa is in attendance merely as an observer.

2 Basis of Attendance and Environment Court Practice Note 2023

2.1 All participants agree to the following:

(a) The Environment Court Practice Note 2023 provides relevant guidance and protocols for the expert conferencing session;

(b) They will comply with the relevant provisions of the Environment Court Practice Note 2023;

(c) They will make themselves available to appear before the Panel;

(d) This statement is to be filed with the Panel and posted on the Fast Track website.

3 Matters considered at Conferencing – Agenda and Outcomes

3.1 The monofills that form part of the Applicant's proposal remain a key focus in the Panel's consideration, as well as earthworks and related geotechnical issues. The Panel has directed expert conferencing to occur to assist in its consideration of these matters.

3.2 As per Appendix A to Minute 11 of the Expert Panel, dated 20 January 2026, this conferencing shall address the following matters:

Fire Risk

a. How floc waste should be covered to manage fire risk (daily and long term).

Matters of agreement

All parties agree that floc waste will be covered at the end of each operational day by a minimum of 100mm non-combustible material, or alternatives as approved by the Waikato Regional Council, in accordance with the Monofill Management Plan.

Commented [CS1]: GS has added a new condition 13(f) (in Authorisation for Monofill Activities **("AMA")** conditions) to achieve this matter of agreement.

b. Whether there is sufficient quantity of cover material and if this can be demonstrated by the Project's cut and fill balance.

LS and **AN** express confidence that there is sufficient material (20% set aside from earthworks (m^3) balance) available for constant soil cover. **AD** considers further detail (i.e., 3D modelling) would be beneficial. **LS** talked through the engineering report provided with the Application, including cut/fill estimates and balance. **AN** notes volumes are flexible as detailed design has not yet occurred and, as such, numbers can and may be amended.

AD has outstanding concerns regarding where the balance of earthworks material will be stored at the site and whether it will be accessible as / when is needed. Moreover, the extent of assessment being deferred to the detailed design stage. **AD** considers this ultimately creates uncertainty in being able to assess effects.

Matters of agreement

All parties agree that there is sufficient total quantity of cover material available.

Commented [CS2]: No further action needed

c. Effectiveness of alternative cover materials (spray on and tarpaulins) to mitigate fire risk and leachate production.

AN does not consider options to include 'intermediate cover', e.g., tarpaulins should be excluded. Both **LS** and **AN** seek for alternative options to be left open. **CS** reiterates the Fire Management Plan and related conditions

DF considers agreement on material (soil) cover volume per day would be a beneficial outcome.

JC suggests alternatives such as tarpaulins and/or spray may be acceptable as temporary solutions.

Matters of agreement

All parties are in agreement that soil cover will be predominantly used, with alternatives such as tarpaulins and spray on available for use in a limited exposed area of up to 200m² at any one time.

Moreover, the parties agree that, should technologies change, council approval should be sought for alternate cover options.

Leachate

a. Confirmation of volumetric leachate predictions (can assumptions / experience be substantiated and checked). Including whether seasonal variations in rainfall have been considered.

AN notes there is significant seasonable variability, especially within New Zealand and confirms storm events are always considered. **AN** confirms that the numbers provided are conservative for the Site.

This point is addressed further at 'b.' below.

b. Whether HELP modelling, or similar should be carried out.

AD considers there is a lack of evidence provided to justify volumes. **AN** does not consider further modelling would be beneficial and **LS** does not consider HELP modelling would assist when considering operational volumes.

AD considers the existing water balance modelling to be too simplistic and notes it does not provide enough details to adequately assess effects of seasonality, variable rainfall depths and rainfall infiltration rates. **AD** suggests an alternative assessment approach to be undertaken by the Applicant.

Actions decided

***LS** and **AN** are to undertake additional assessment on behalf of the Applicant, with **AD** to contribute to modelling parameters.*

c. Implications if leachate quantities are underestimated, particularly whether potential effects change, including cultural effects.

LS notes there is more than enough capacity at the Site to accommodate variable leachate quantities. **JC** raises potential issues with relying on contingency capacity. **AN** explains the available capacity is to accommodate a worst case scenario and not general operations.

DF shares concerns regarding leachate level impact on land stability either over time or upon monofill closure. **LS** to run numbers for 3m leachate head in response to these concerns.

Commented [CS3]: Existing proposed Condition 13(c) (AMA conditions) already achieves a maximum of 200m² at any one time.
Existing condition 9e) (in relation to discharges of airborne matter) requires "waste floc will be covered with either soil or tarpaulins to prevent dust emissions overnight"; additionally, 13(f) also requires "non-combustible material". So these conditions resolve the issue in the first part of this Matter of agreement.

Commented [CS4]: Part of Condition 13(f) ("or such alternative cover as certified by Waikato Regional Council"), in AMA conditions has been added to resolve this second part of this Matter of agreement

Commented [CS5]: See following under b.

Commented [CS6]: See the brief report and assessments/modelling provided to Panel from Envitech covering issues raised.

AH asks likelihood of discharge to groundwater exceeding te ture whaimana thresholds and requests information to understand any downstream impacts from contaminants in discharges (e.g., in storm events). **AN** states no liner is completely leakproof and notes the results of a standard leakage rate calculation was provided as part of the Application, as well as all the mitigation measures and design elements integrated to prevent either groundwater or surface water contamination. **CS** confirms that there is an existing condition requiring a monitoring programme be implemented to determine if any leachate contaminants are being discharged into the subsoil water below the liner of each monofill. If monitoring shows the presence of contaminants beyond agreed trigger levels, the condition also requires the Consent holder to remedy or mitigate any adverse effects. The subsoil water will be captured via the proposed subsoil drain and disposed at a trade waste facility, thus avoiding any discharges to the wider environment. Thus, Te Ture Whaimana can be complied with.

LS affirms all three depths of groundwater will be monitored. **CS** reiterates groundwater and discharge monitoring conditions and limits.

Matters of agreement

In addition to the outcome of the actions decided in response to 'b.' above, all parties are in agreement that the intent of detailed monofill design is for it to sit above an unsaturated zone. The further work required to determine depth of this zone is acknowledged by the parties.

Commented [CS7]: See condition 8a), AMA conditions

Liner selection

a. Whether liner selection process needs to follow NEMP 3.0 and implications.

JC acknowledges NEMP 3.0 was only available for a short time prior to the Application being lodged but notes the direction from NEMP 2.0 was sufficiently clear.

JC accepts the PFAS testing provided. **AD** considers further testing should be provided for by way of conditions – **JC** agrees.

AH considers adherence to NEMP 3.0 ecological criteria would work to satisfy cultural effects in this regard.

Matters of agreement

All parties agree to the following:

- *NEMP 3.0 is to be followed.*
- *Include condition on adhering to NEMP 3.0 (or subsequent equivalent), requiring detailed design to determine whether single or double composite will be needed, and ongoing testing of floc being received as per NEMP 3.0 on an ongoing basis (e.g., 6-monthly).*

Commented [CS8]: See condition 8b) AMA conditions

Commented [CS9]: See condition 8c) AMA conditions

b. Whether groundwater concentration assessments are adequately conservative, particularly with respect to conceptualisation of groundwater flow area.

Matters of agreement

All parties agree that, as soon as practicable, sensitivity analysis of the groundwater model and suitability of dilution factor, including potential environmental effects on boundary taking into account 99th percentile NEMP 3.0 ecological criteria should be undertaken.

c. Implications of underestimating contaminant concentrations at the boundary and how this could be managed.

This point is addressed further at 'b.' above.

d. Whether a double liner system would reduce potential contaminant losses

JC outlines how contaminant levels would determine whether a single or double liner is warranted. **AD** explains that based on groundwater modelling concerns, double lining has been suggested as a solution. **LS** notes the monofill design is very site-specific.

Matters of agreement

All parties agree to be guided by the outcome of sensitivity analysis of the groundwater (as outlined under 'b.' above) in the first instance and then at detailed design stage using information obtained from testing of the floc for PFHxS, PFOA and PFOS and any other relevant substances of potential concern.

Northeast (NE) monofill

a. Considerable uncertainty exists around the NE Monofill and ability to construct in a way that minimises leachate production, maintains stability and doesn't impact other site development. How can this uncertainty be managed and are the potential effects of the NE Monofill construction understood.

AN outlines the nature of the preliminary designs available and confirms further detailed design will occur and include material testing among other things. Moreover, liner interface stability analysis has been undertaken and will be reassessed, should detailed investigations uncover geotechnical issues requiring design amendments.

AD points out how stability of the NE monofill has not been assessed. **AN** states such assessment will be undertaken once further geotechnical investigations have occurred. At which time, design can be amended to remedy any stability issues. **AD** suggests further calculations and analysis is undertaken. **AN** does not consider this would not provide assistance to the panel and affirms any design will be in line with best industry practice while taking into account Site specific constraints.

Commented [CS10]: See Stantech report which concludes the effects of the predicted leachate leakage at the site border and Waipapa Stream will be within relevant guidelines for the protection of freshwater and predicted determinand concentrations are within the ecological and drinking water guidelines.

Commented [CS11]: Stantech

Commented [CS12]: See response to b. above. No further action needed.

Commented [CS13]: Condition 8b) in the AMA conditions allows, at the detailed design stage, for revisiting the liner design based on an assessment using NEMP 3.0.

DF suggests a consent condition to ensure side wall stability will be assessed at detailed design stage. **AN** does not consider there will be a distinguishable change in effects should design change by 1:2 vs 1:3. Suggests 1:3 for the back slope is accepted and volume is subsequently amended.

AD is uncertain whether the liner stability (as proposed) is sufficient and recommends that the applicant provide the Panel with the volume available for the NE monofill, should it need to have its excavated batter sloped to 1:3 to allow for a stable sidewall liner system.

Matters of agreement

All parties agree that a consent condition is required to address monofill slope and liner stability, as well as earthworks including stockpiles at the detailed design stage such that it is achieved for each monofill footprint.

Commented [CS14]: Condition 8d) of AMA conditions has been added

Monofill gas

a. Whether there is potential for the Monofills to produce harmful and/or explosive gases, whether typical 'landfill gases' or otherwise.

AD suggests monitoring of gasses within the fill is required by condition.

JC raises potential of methane gas generation – academic articles provided. **LS** accepts potential for monofill gas and supports monitoring.

Refer to outcome of 'b.' below.

Commented [CS15]: See b. following.

b. Whether some form of gas monitoring is required and what this would be.

CS suggests a condition requiring a monitoring programme to ascertain whether gasses are present within the fill area.

Matters of agreement

All parties are in agreement that a condition requiring the monitoring of monofill gas should be included.

Commented [CS16]: See conditions 32 -34 AMA conditions

c. Whether installation of a gas collection system is required as a form of redundancy/safeguard.

DF, **AD**, **LS** and **AN** confirm that retrofitting of monitoring system is possible.

Matters of agreement

All parties agree that the abovementioned condition should also require the Applicant to provide a plan for remediation if such gasses are recorded.

Commented [CS17]: See condition 34 AMA conditions

Monofill capping

a. Whether Monofill stability needs to be demonstrated (via modelling), in particular to determine if stability is impacted by leachate levels.

General discussion on permeability of monofill cap (10^{-7} proposed) and potential for cracking in summer months. Application based on 7% infiltration. **LS** notes that ponding can create issues and thus is to be avoided.

AD considers best option is a top layer synthetic cap. **BH** questions whether this is used in New Zealand. **LS** considers 'entombing' the fill causes problems and explains reasons for the proposed capping. **AN** and **LS** are concerned about long-term maintenance of a synthetic cap. With the proposed cap comprising natural materials, evaporation is enhanced and leachate strength will decline with time to the point where it can be safely discharged through an on-site wetland polishing system. With a synthetic cap, the leachate volumes will initially be significantly lower but leachate strength will remain high. A synthetic cap will require maintenance and if not carried out will lead to leakage through the cap, with the environmental risk of generating higher strength leachate later. **AD** points to the nature of a monofill rather than a more general landfill and corresponding leachate potential.

Matters of agreement

*The parties agree this matter is to be assessed further as part of the additional assessment on leachate water balance to be undertaken by the Applicant (with modelling parameters contributed to by **AD**).*

Commented [CS18]: See Envitech report and assessment under "Leachate" b.

b. Whether a maximum leachate level should be set as a consent condition and if so, what this level should be.

DF considers the only thing missing is assessment of potential elevated leachate levels.

Maximum leachate level to be 0.3m above the liner. **AN** suggests this can be exceeded during an extreme event (with appropriate time limit). **AD** suggests a reporting condition would be better to manage this. **JC** affirms this and notes information on actions to be taken would be required. **AN** confirms any Monofill Management Plan will cover these issues.

Slope stability modelling for monofills to be undertaken for sensitivity with a 3m leachate level above the liner.

Matters of agreement

All parties agree that maximum leachate level is to be conditioned at 0.3m above the liner and exceedances of this are best managed by way of a reporting condition linked to the Monofill Management Plan.

Commented [CS19]: See condition 7a) to d) AMA conditions.

Neighbouring land effects

a. The scale of off-site effects of fill loading, dewatering and settlement, and how they should be managed.

Matters of agreement

All parties agree to a consent condition and monitoring regime containing a settlement tolerance level (50mm trigger) where the onus is on the applicant to ensure settlement and potential groundwater migration does not have effect on neighbouring properties.

Commented [CS20]: See conditions 19-21 of the Earthworks and Overburden Placement set of conditions.

Earthworks balance and use of unsuitables

a. Consent conditions to address earthworks balance and the use of unsuitables, with reference to the geotechnical reports presented.

   AD points to inconsistencies in the monofill extraction versus input volumes provided. **LS** explains this is owing to the doming of the monofill and acknowledges earthwork volumes will be subject to change (hence approximations being provided).

   AD expresses concerns regarding where the balance of earthworks material will be stored at the site and whether it will be accessible as / when is needed. In particular, the degree of deferred assessment to detailed design.

   AN suggests consent condition is driven by erosion and sediment control. **CS** notes there is an existing draft consent condition requiring the Applicant to provide Waikato Regional Council with earthworks details, including cut/fill plans, erosion sediment control etc.

4 Participants to Joint Witness Statement

4.1 The participants to this Joint Witness Statement, as listed below, confirm that:

(a) They agree that the outcome(s) of the expert conferencing are as recorded in this statement; and

(b) They agree to the introduction of the attached information - Refer to para 4.1 above; and

(c) They have read the Environment Court's Practice Note 2023 and agree to comply with it; and

(d) The matters addressed in this statement are within their area of expertise; and

(e) As this session was held online, in the interests of efficiency, it was agreed that each expert would verbally confirm their position in relation to this para 4.1 to the Independent Facilitator and the other experts and this is recorded in the schedule below.

Confirmed via signature: **23 January 2026**