

Thursday, 30 January 2025

Paul Turner
Paul Turner Farm Trust
1633 Wreys Bush Mossburn Road
RD1
Otautau 9689

Client Name: Paul Turner Farm Trust
Supply Number: 35225
Authority Number: AUTH-20211674-01
Client Code: TUR20050-03

Subject: Visual Assessment report for assessment of twin weeping wall sludge beds.

Dear Paul,

Thank you for engaging RES Rural Environmental Solutions Limited (RES) to undertake visual assessments of facilities within your effluent system. The following areas have been assessed:

- Area 1: twin weeping wall sludge beds located at the dairy shed – **PASS**

A review of this report has been undertaken by a CPEng being, Heiko Franz (Lutra Ltd), with the review being supplied separately.

The visual assessment has been undertaken as per the requirements of Rule 32D(a)(ii)(2)(a) of the Proposed Southland Water and Land Plan, no other assessments against any other rules have been undertaken for the purposes of this report. Being:

having no visible cracks, holes or defects that would allow effluent to leak from the effluent storage facility

Photos for each facility are contained in Appendix 2.

This visual assessment is required by Rule 32D(a)(ii)(2)(a) of the Proposed Southland Water and Land Plan.

Paul Turner Farm Trust asks that Environment Southland accept these reports as demonstrating that the twin weeping wall meets the permitted activity requirements of Rule 32D of the Proposed Southland Water and Land Plan.

The following Visual Assessment only relates to: "Any cracks, holes or defects, that would allow effluent to leak from the facility". The visual assessment is based on what is reasonably visible to the naked eye and can be evaluated directly in the field. No evasive, exploratory or sampling tests or techniques are undertaken as part of this assessment.

RES use the following definition for defects: "what reasonably would not have been expected to be, or should not have been, part of the original design of the structure".

The assessments in this document are a visual assessment of the facility/s undertaken with the naked eye, no structural or design assessment has been undertaken. RES have not assessed the design, construction or suitability of the materials used, location of the facilities, as outlined, or expected as part of the original structure design. RES has assumed that this was undertaken by a suitably qualified person and has been certified after construction has been completed.

The assessments in the document only relate to an assessment of the structure, post design and construction, for any visual cracks, holes or defects that would allow effluent to leak from the structure (as per Rule 32D of the Proposed Southland Water and Land Plan).

No engineering standards or requirements have been applied to the visual assessment criteria. RES has applied the term "defects" as any faults or concerns within the facility; that would not have been expected to be there or should not have reasonably been part of the original design (where no designs are available).

Where remedial works, repairs or preventative maintenance has been undertaken and documents have been supplied to RES, RES has added them to the appendix of this report. However, RES has not reviewed or assessed these works and does not warrant any works undertaken by other people or companies. RES has accepted the information provided in good faith and has assumed that it has been undertaken in accordance with PN21 and/or PN27 and/or PN29.

These Visual Assessments are what could reasonably be seen with the naked eye only, with no warranties are given, or implied as a result of these assessments; no physical testing was undertaken during these assessments; any statements or comments included in this document; that have been given or supplied by clients, staff or other representatives of the farm, have not been verified by RES, RES does not warrant the accuracy of this information.

RES accepts no responsibility for any decisions made, alterations or changes based on the report that require consent variation or alterations, this is solely the responsibility of the consent holder.

RES has assumed that the facility was designed and constructed by a suitably qualified person and that the liner type was assessed during this process.

Under the operative Proposed Southland Water and Land Plan a visual assessment on this facility will be required every 3 years for its use to be considered a permitted activity. Based on this the next visual assessment will be required by January 2028.

Area 1: twin weeping wall sludge beds located at dairy shed (NZTM2000 1218964 mE, 4900073 mN)

| | | | |
|-------------------------|------------|--|---|
| <u>Inspection date:</u> | 27/01/2025 | <u>Construction Material:</u> | Clay like sludge beds with wooden weeping walls |
| <u>Shape:</u> | Rectangle | <u>Dimensions (estimate measure only):</u> | As per estimate measurements: north sludge bed: 34.7m long 10.5m wide 1.5m deep with a 1 to 1 internal batter south sludge bed: 35.7m long 10.6m wide 1.4m deep with a 1 to 1 internal batter |

This facility is over 35m³ in storage capacity.

The following was noted by Donna McBeath (nee Corbin) from RES during the assessment:

- RES was provided with a set of the original design drawings/design specifications for this facility.
- Facility location/setbacks:
 - The facility is; Not within 50m of a waterway. Not within 50m of the boundary. Not within 200m of dwelling not on the property. Not located on top of a drain/tile.
- Facility reasonably empty:
 - The facility was emptied as far as reasonably practicable with all of the floor visible for assessment. The floor of the facility was lightly scraped to reasonably expose as much of the junctions and seals as possible for the assessment.
 - RES recommends only lightly cleaning the weeping walls out for future visual assessments and leaving 100-200mm of sludge in the base and on the walls, during regular cleanings to avoid removal of the clay liner.
- Interior assessment:
 - Floor to side junctions:
 - The floor to side junctions that were visible appeared to be intact and undamaged.
 - Corner junctions:
 - The corner junctions that were visible appeared to be intact and undamaged.
 - Inflow/outflow pipes:

- A visual assessment of all incoming and outgoing pipe work did not show any damage to the pipe work or any missing sealant.
- RES recommends installing protection under the incoming pipes in both sludge beds.
- Interior damage:
 - A visual assessment of the interior of the facility was undertaken with no visual damage noted that would allow leakage from the facility.
- Interior assessment summary:
 - There did not appear to be any cracks, holes or defects in the interior of the facility that would allow leakage.
- Exterior assessment:
 - Exterior ground assessment:
 - The immediate ground around the facility appeared to be firm with no soft areas or shrinkage away from the structure.
 - Exterior structure:
 - No damage or areas of concern were noted around the exterior of the structure.
 - Exterior assessment summary:
 - There did not appear to be any cracks, holes or defects on the exterior of the facility that would allow leakage.
- Weeping wall:
 - The base of the facility had less than 200mm of sludge in the bottom and sides and was assessed has having no indications of any damage that would allow leakage from the facility.
 - The junction between the sludge beds and the weeping wall structure was visible at the time of the assessment.

A visual assessment to visually assess for cracks, holes or defects was undertaken on the structure by RES. This assessment did not note any cracks, holes or defects that would allow leakage from the facility.

RES has made recommendations (above) while there is no damage noted as a result of these areas and the facility has passed the visual assessment. RES recommends the following actions be undertaken within a reasonable timeframe:

- RES recommends only lightly cleaning the weeping walls out in for future visual assessments and leaving 100-200mm of sludge in the base during regular cleanings to avoid removal of clay liner.
- RES recommends installing protection under the incoming pipes in both sludge beds.

If you require further information or points clarified please direct all inquiries to RES Rural Environmental Solutions Limited, Donna McBeath (nee Corbin) either by phone, 027 890 1234 or email donna@res.kiwi.nz.

Yours Faithfully,



Donna McBeath (nee Corbin)
Environmental Consultant
RES Rural Environmental Solutions Limited

Appendices

Appendix 1 - Facility Layout



Figure 1 Layout of the facilities visually assessed.

Appendix 2 - Photos

Area 1 – twin weeping wall sludge bed located at dairy shed



Figure 2 South sludge bed.



Figure 3 South sludge bed.



Figure 4 South sludge bed.



Figure 5 South sludge bed.



Figure 6 South sludge bed.



Figure 7 South sludge bed.



Figure 8 South sludge bed.



Figure 9 South sludge bed.



Figure 10 North sludge bed.



Figure 11 North sludge bed.



Figure 12 North sludge bed.



Figure 13 North sludge bed.



Figure 14 North sludge bed.



Figure 15 North sludge bed.



Figure 16 North sludge bed.



Figure 17 North sludge bed.