Your Ref: 1003805

RESPONSE TO NOTICE TO SUPPLY FURTHER INFORMATION

TO: [redacted]

OF: **ENVIRONMENT PROTECTION AUTHORITY**

181 WILLIAM STREET
MELBOURNE VIC 3000

In accord with your Notice issued on 12 August 2020, please find attached information to address items 4 to 8 in Attachment A. Information is still being prepared for items 1 to 3, and will be submitted to EPA Victoria in about three weeks.

DATED: 8 September 2020

[redacted]
DELEGATE OF
SOUTH EAST WATER

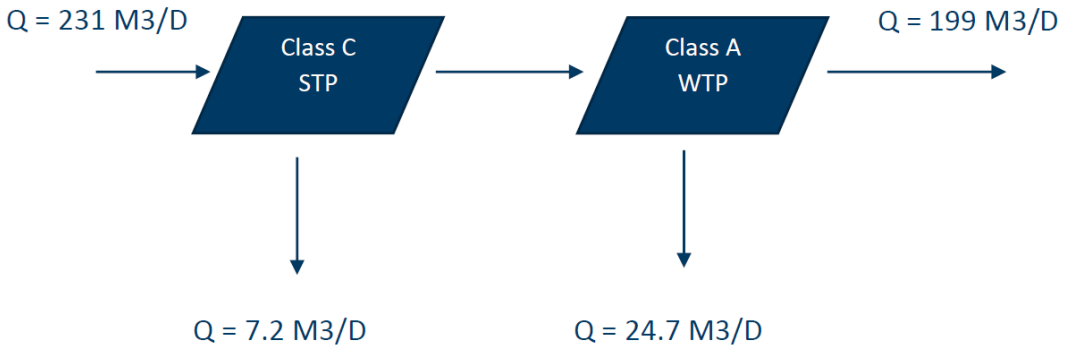
ATTACHMENT A

4. Water cycling can lead to increased salinity. Demonstrate how salinity levels in Class A water will be managed

The only contribution to increased salinity is the use of a metal salt for the removal of phosphorous. The dose rate for this will be under 50 mg/L and thus the increase to salinity would be under 10% per day.

As a solely residential estate, with no industrial waste and negligible groundwater infiltration to the pressure sewer system, the starting TDS for Class A recycled water will be relatively low. As the "closed loop" system would be expected to progressively increase the TDS of the recycled water, we shall build in the ability to flush the system from time to time, with either potable water or lower TDS recycled water from the Eastern Irrigation Scheme.

The sludge stream and backwash from the UF plant will be diverted to the trunk main.



5. High biosolid viscosities may be associated with the proposed treatment plant and result in higher chance of sewer blockage. Demonstrate the blockage mitigation strategies considered for the proposal.

The biosolids stream produced for this project will be very dilute as compared to a standard treatment plant. The free mixed liquor suspended solids within the Organica reactor is approximately 300 mg/L and is removed from the process using a disc filter. The discharge, or back wash from the disc filter, is approximately 3000 – 5000 mg/L, or 99.5% water. It will be fluid and easily merge with the raw sewage within the trunk main. The biosolids stream will be approximately 31.9 m^3/d, discharging into a 1200mm diameter sewer with a typical flow of 17,280 m3/d (Average Dry Weather Flow is 200 L/s). This equates to a greater than 500 times dilution factor. We believe the risk of the biosolids from the Aquarevo treatment plant causing a sewer blockage is negligible.

6. Odour modelling suggests that the proposed odour control technologies with achieve satisfactory odour levels with reference to PEA guidance. In relation to this:
a. Demonstrate how proposed odour removal technologies will reduce odour levels.
The odour control system within the water treatment plant consists of:

- Odour Control Unit (OCU) within the pre-treatment area that treats air from the Pre-Treatment Room and Headspace above the bioreactors, vented through the greenhouse
- Odour Control Unit within the greenhouse itself

The pre-treatment area is a source of odour and the equipment is located within a sealed room. The air within that room shall be treated through the OCU. The bio-reactors are fitted with odour covers and have seven extraction points that connect to this same OCU. The discharge of this OCU is then directed back to greenhouse.

A second OCU is fitted within the greenhouse to provide further treatment prior to discharge from the greenhouse.

The odour control units shall be of the activated carbon type and provided with standby mechanical equipment and additional columns to cater for treatment during carbon replacement.

b. Demonstrate the odour removal performance of each proposed control technology.
Both odour removal units have been designed to remove:

- Hydrogen Sulfide - >99.9%
- Dimethl sulfide >99%
- Mercaptans > 99%

7. The modelled night noise emission to the south of the proposal suggests noise levels at nearest sensitive receptor will be on the night time guidance limit.

a. Demonstrate why the proposed level of noise control measures has been selected given the result of the noise modelling.

Section 5.1 of the noise impact assessment report (see attached) provides an assessment of the facility 'as is' with no specific noise controls implemented in the building. This results in non-compliant night and evening noise levels at the nearest residential dwelling. In order to address this, specific noise control treatments are implemented and assessed in Section 5.2 of the report. The noise control was specifically designed to achieve the most sensitive noise limits. SLR Consulting advised that its assessments are typically conservative – and as such, designing to lower targets than the formal noise limits is not considered necessary.

b. Demonstrate how 6mm thick Perspex was selected as the material to construct the Glasshouse.

The 6 mm Perspex is the suppliers proposed construction material so SLR Consulting implemented the acoustic performance of 6 mm Perspex in its calculations. SLR nominated 6 mm Perspex as the minimum thickness required, to ensure the performance is not lower than allowed for in the calculations in Section 6 of the noise impact assessment report.

8. If noise verification tests results show non-compliance, demonstrate the design scope allowed in the proposal for additional noise controls to be integrated into the plant to meet guidance levels.

As SLR's noise impact assessment report showed compliance to the mandatory limits, further noise control options were not listed. However, the main aspect of noise control implemented is the acoustic duct between the internal shipping container and glasshouse. This could readily be extended or upgraded if deemed necessary to achieve higher acoustic performance. Given that it is mandatory to achieve the noise limits, and compliance testing will be undertaken as part of Plant Performance Testing, this would be a checkpoint for the supplier and operator to implement any further controls to ensure the acoustic requirements are met. It would be prudent for them to undertake appropriate review of additional noise controls during detailed design and construction.