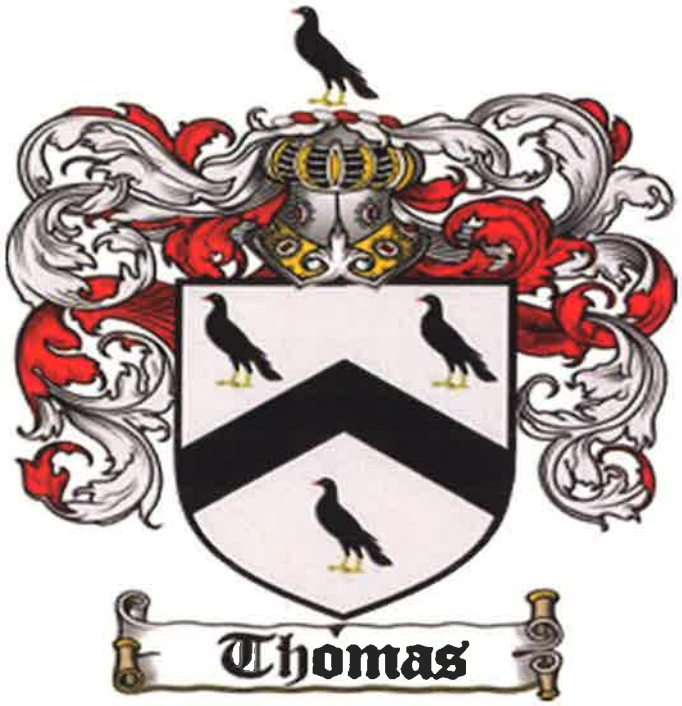
# Hefin Thomas

## Agri Contractors Ltd




# Plant Operations

# Hefin Thomas

# Operating Standards for Recycling Septic Tank waste

These operating methods are to ensure Hefin Thomas Agri ltd keep within the terms of the Natural Recourses Wales, Standard Rule Permit, Tier 2 OPRA code SR2017. This document along with the enclosed Contingency Plan are to ensure the plant is operated in a compliant manner at all times. The company is also working towards ISO15001 accreditation.

The Company is accredited and operates to ISO9001 and ISO14001 at all times. The company has CHAS Accreditation and all operating staff receive monthly Training and Updates. Operating staff hold CSCS cards are also trained in Jetting and confined space operations. Operators are first Aid trained specifically relating to Septic waste operations. Training is provided to operators for risk assessments and mission statements with regard to all works, Operating, Maintenance and Emergency Situations surrounding the plant.

All company Staff are funded and strongly advised to be inoculated against the pathogens that are present within Septic Tank Waste. A list is provided to each staff member and records kept in the employee personnel file. This Advice is based on the guide lines by the HSE for workers who may come into contact with Biosolids from septic tank recycling operations.

The Plant manager will be qualified through CIWM Chartered Institute of Waste Management having completed the EPOCH course allowing a twelve-month window to complete the WAMITAB qualification for septic tank waste recycling.

The permitted area highlighted in green on the enclosed map will contain all activities for recycling septic tank waste. The area will be bunded to contain all the contents of the process plant in the event of leakage or catastrophic failure.

A minimum of two operators will be present, at all times, when plant is running. Also, the plant manager and holder of the WAMITAB certification will be either on site or within an hour of site while operations are ongoing. At times of vacation or sickness, the post will be covered by a sub-contractor holding the necessary WAMITAB qualification. As part of staff development, it is proposed to train up further staff to gain the WAMITAB qualification.

The plant will operate on gravity through put with the first part containing mechanical separation and a de sanding unit. The next stage if for aeration to further the separation and reduce chemical oxygen demand. At the final stage, flocculation, liming and any further chemical treatment to meet the terms of the discharge permit to be issued by Welsh Water once they have upgraded their infrastructure. Below are the enclosed permit conditions from Welsh Water.

Chemical Oxygen Demand (COD) – 750 mg/L

Chemical Oxygen Demand Settled (sCOD) – 500 mg/L

Total Suspended Solids – 150 mg/L

Ammonia – 50 mg/L
Total Phosphorous – 5 mg/L
Sulphides – 1 mg/L

The treated effluent will then pass to a buffer tank which will be tested to ensure compliance with the terms of the discharge permit before final discharge to the sewer network.

The purpose of the buffer tank is twofold, to ensure compliance with the permit before discharge through the site monitoring equipment and any monitoring equipment installed by Welsh Water, to have the ability return the effluent back into the second stage of the system for further treatment to achieve the permit standards.

As the lorries discharge to a holding tank so the through put can be controlled to allow for a final discharge to the Welsh Water sewer at a controlled, steady rate to prevent surges in the system. This controlled rate is designed to be over a twenty-four-hour cycle which will greatly reduce the demand on the Welsh Water System, as shown by the calculation below.

Maximum Head feed of 300m2 per day equals 300,000 ltrs max per working shift. This can be discharged over a 24-hour period at 12.5m2 per hour equals 12,500 ltrs per hour/208ltrs per minute. This feed rate would be the absolute maximum in the worst-case scenario. In realistic terms on a daily basis and at present operating levels the discharge rate would be more like 50 – 100.000 ltrs per day five days a week. The extra capacity is requested on the permit is to allow for business development, as the demand for service increases.

The permitted area onsite on site has enough storage capacity to operate for a day without the need to discharge should a break down occur either on site or with any of the Welsh Water infrastructure.

The final operating document can only be produced once the plant is built and in place. Which can then take into account Layout, power distribution and control systems specific to manufacturers equipment. And also, any further requirements set by Natural Resources Wales, Welsh Water and Ynys Mon Council plus any other interested parties.

This information is provided in good faith and sets out to demonstrate that Hefin Thomas will operate the plant within the terms of the permits set by Natural Recourses Wales and Welsh Water.