Standard Operating Procedure
Effluent treatment plant

Objective / scope:

To ensure that the effluent is being managed and maintained

Responsibility:

Engineering/Technical Department

Safety Information

All necessary protective clothing must be worn for this task –

- Safety Footwear
- Gloves
- Hard hat
- Safety Goggles

All items must be worn at all times when in production.

- Yellow/Orange High Visibility vests to be worn outside of the building on company property at all times & when operating Forklift Truck

- **When in doubt inform your Manager or Supervisor.**

Procedure:

EFFLUENT TREATMENT PLANT (ETP) MANAGEMENT

a) Remove DAF filter (located at the front of DAF discharge area – ground level) and clean by taking filter to Dolav wash area to be pressure washed, then replace once cleaned
b) Ensure DAF is flocking effectively throughout the day
c) Put 1 clarifier to drain in preparation for cleaning
d) Brush channel on 'Open Bed' using a soft bristled floor brush
e) Next clean rotary arms on rotating 'Open Bed' to ensure that the holes are free flowing, this is done by using a stainless steel rod
f) Once clarifier has drained clean by rinsing with water from hose pipe. Sediment from clarifier sent to the reception pit
g) Drop second clarifier to drain in preparation to be cleaned
h) Make up polymer mix for DAF plant (see below notes on this process)
i) Put polymer into polymer tank on infeed side of DAF
j) Check levels of coagulant (Aquatreat 600) in IBC and top up as required (approx. once per month). If required close valve on empty IBC – disconnect and remove IBC -change IBC with new – reconnect - Open valve
k) Once second clarifier has drained clean by rinsing with water from hose pipe. Sediment from clarifier sent to the reception pit
l) Start plant up by opening manual valve at bottom of 'Lubeck'

m) De-sludge towers 3, 4, 5 & 6 by opening valve on bottom of each individual tower for 20 minutes approx. or until the water runs clear. This waster / sludge goes to the 'Lubeck'. Close valve to each tower when tower has been de-sludged
n) Monitor the quality and flow through the DAF and effluent discharge ('V'-notch) and adjust the plant equipment accordingly.
o) Keep the Effluent plant area in a tidy condition.
p) Report any faults to the Technical & Engineering Manager
q) Effluent sample to be collect once per day once plant has been running from the third chamber after 'V' – notch. Approx. 500ml sample is to be taken in a bottle which can be obtained from the lab. Sample then to go to the laboratory for testing

POLYMER PREPARATION

a) Polymer is to be mixed up in the engineers workshop
b) Take blue mixing container from DAF area to engineers workshop
c) Put 20 litres of water into container
d) Weigh out approx. 800g of polymer (MIDFLOC A258B) granules
e) Add 5 more litres of water and add the 800g of polymers granules at the same time to blue container
f) Mix contents with a pillar drill for 30 minutes approx.
g) Once mixed remove drill and take blue container of mixed polymer to the DAF unit using a sack trolley
h) Pour contents of drum into tank at infeed side of DAF unit (capacity of tank approx. 300 litres)

TANKER LOADING FOR SLUDGE DISPOSAL

a) Weighbridge to inform engineering when a tanker has arrived on site for the removal of sludge from the Effluent plant
b) Engineering to inform effluent operator to meet tanker at effluent plant and to open gate
c) Lorry to reverse down to sludge silo
d) Effluent operator connects lorries pipework to silo
e) Lorry drive then builds up a vacuum in tanker (this aids with the removal of the sludge from the silo)
f) Effluent operator to open the 3 way valve followed by the opening of the gate valve at the bottom of the sludge silo
g) Tanker starts to fill with sludge (Driver has a weigher in the cab of the lorry so that the driver knows when to stop filling)
h) Driver informs effluent operator to close gate valve
i) Effluent operator then closes 3 way valve secondly, this is to allow air to purge sludge through the pipe to the tanker
j) Effluent operator then to disconnect pipework and put back on lorry
k) Driver then sent back to weight bridge to reweigh
l) Weighbridge to fill out relevant paperwork including waste transfer document

HOUSEKEEPING / CLEANING

a) 'V'-notch to be cleaned daily with a soft brush ensuring both side of the 'v'-notch are cleaned along with the sidewalls and floors of the 3 chambers (lab sample NOT to be taken straight after the cleaning of the chambers as results may not be representative
b) DAF plant area to be cleaned with a brush and squeegee (weekly)
c) Other areas around the effluent treatment plant to be kept tidy by removing any rubbish and removal of weeds by strumming

ENVIRONMENTAL ASPECTS

Cambrian Pet Foods Ltd accepts an obligation to comply with all relevant environmental legislation, and statutory requirements.

The company regards the protection of the environment, and the prevention of pollution, as a mutual objective between management, employees, and all other interested parties.

a) In the event of a chemical spill, contain the spill as much as possible using "spill kit" and inform Production Manager.

b) The production manager will then oversee the clean-up operation, ensuring that if any product has reached drain the effluent engineer is informed to prevent discharge.

c) In the event of a chemical or other event (such as severe freezing) that renders the effluent plant inoperable discharge to the river shall be stopped immediately, the Operations Director shall be informed and organise a tanker from an appropriately licenced company to remove the waste until the contaminated effluent has been removed or the plant is in full operation.

"It is the individual's responsibility to take reasonable care for the health & safety of themselves and all others who may be affected by their actions or omission at work"

"It is the individual's responsibility to adhere to company procedures for securing a safe work place".

I confirm that I have read the SOP and fully understand all requirements:

Print Name: _____ Sign: _____
(Employee) (Employee)

Translation required? ☐ Yes ☐ No

If applicable:

Print Name: _____ Sign: _____
(Translator) (Translator)

Print Name: _____ Sign: _____
(Trainer) (Trainer)

Date training commenced:_____ Date training completed:_____