



Pattemore's Transport (Crewkerne) Ltd Environmental Management System Manual (EMS) Pattemore's Dairy

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Abbreviations

AMP	Accident Management Plan
AQIA	Air Quality Impact Assessment
AQMA	Air Quality Management Area
AW	Ancient Woodland
BRCGS	Brand Reputation through Compliance Global Standard
CIP	Cleaning in Place
CO ₂	Carbon dioxide
COSHH	Control of Substances Hazardous to Health
CQA	Construction quality assurance
DAF	Dissolved Air Flotation
DWSZ	Drinking Water Safeguard Zone
EA	Environment Agency
EMS	Environmental Management System
EN	European Standard
ETL	Earthcare Technical Limited
EWC	European Waste Catalogue
ETP	Effluent Treatment Plant
IBC	Intermediate Bulk Container
m AOD	Metres Above Ordnance Datum
MBR	Membrane Bioreactor
MCPD	Medium Combustion Plant Directive (2015)
MLSS	Mixed liquor suspended solids
MPH	Miles per hour
MWh	Mega watt hour
MWth	Mega watt thermal (unit for net rated thermal input)
NGR	National Grid Reference
NMP	Noise Management Plan
OMP	Odour Management Plan
PAC	Poly Aluminium Chloride



PHI	Priority Habitat Inventory
ppm	Parts per million
SCADA	Supervisory Control and Data Acquisition
SAC	Special Area of Conservation
SOP	Standard Operating Procedure
SPA	Special Protection Area
SPZ	Source Protection Zone
SSSI	Site of Special Scientific Interest
TPA	Tonnes per annum



1 Scope of the EMS

This Environmental Management System (EMS) Manual has been prepared by Earthcare Technical Ltd (ETL) to cover the scope of operations the Pattemore's Dairy site, Mosterton Road, Misterton, Crewkerne, Somerset, TA18 8NT (the Site) operated by Pattemore's Transport (Crewkerne) Limited (Pattemore's).

This version of the EMS Manual has been written to support the environmental permit application for the Site, which requires a bespoke installation permit (Permit ref: EPR/NP3127SX). It is a live document that will be updated accordingly throughout the operation and closure of the regulated facility.

The EMS is written with consideration to the Site Environmental Risk Assessment¹ which has been developed to:

- Assess the potential environmental risks from the operations;
- Determine if existing control measures are sufficient; and
- Propose additional site-specific control measures where appropriate.

The entire EMS comprises of a series of 'live' documents to assist and inform daily site operations. This document, the EMS Manual, is an overarching document providing a foundation structure to the EMS which then links to specific EMS documents including Standard Operating Procedures (SOPs), maintenance schedules and template forms used for record keeping.

All environmental management system documents are listed on the Master Document Control List (**PAT-OD-10**) which is used as a complete reference to all environmental management system documents relevant to the Site and includes version numbers and issue dates to ensure document control.

2 Environmental Policy

The environmental policy outlines the environmental commitments of Pattemore's with respect to its overall operations, activities, and environmental performance.

The Environmental Policy (**PAT-OD-02**) is a management system document.

¹ Environmental Risks at Pattemore's Site, Pattemore's Transport (Crewkerne) Limited, 28th December 2023



3 Organisation & Site Profile

3.1 Permitting

The operation requires an Installation permit for the following listed activities under Schedule 1 of the Environmental Permitting Regulations (England & Wales) 2016:

- Section 6.8 Part A(1)(e) - Treating and processing milk, the quantity of milk received being more than 200 tonnes per day (average value on an annual basis), namely the production of pasteurised milk, cream and concentrated skimmed milk from cream production.
- Section 5.4 Part A(1) (a) (i) - Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving biological treatment, namely the primary and secondary treatment of effluent produced on site with the treated effluent being discharged into the River Parrett.

The Directly Associated Activities are detailed in Table 1 below:

Table 1: Directly Associated Activities

Directly Associated Activity (DAA)	Description of Activity	Limits of activity
Packaging of plant-based milk	Pasteurisation and packaging of plant-based milk	Under 300 tonnes per day.
Steam supply	The operation of 4 No. Boilers fuelled by kerosene to produce steam for cleaning and pasteurisation.	From storage of fuel to emission of combustion gases.
Cleaning	Cleaning-in-place systems	The cleaning of storage and production areas, associated equipment and vehicles.
Use of refrigerants	Use of refrigerants in cooling, chilling and/or freezing systems at the installation.	The storage and handling of refrigerants and the operation of refrigeration plant
Storage of raw material	This activity relates to storing raw materials.	Raw materials will be stored securely, away from vehicle impact and with secondary containment as appropriate.



Directly Associated Activity (DAA)	Description of Activity	Limits of activity
Oils and chemicals storage	Storage of oils and chemicals on site in dedicated areas.	From receipt of raw materials to disposal of wastes arising.
Waste storage, handling and dispatch	Storage and handling of waste materials	The storage and handling of liquid and solid wastes associated with the processing of raw whole milk and production of pasteurised milk, skim, concentrate and cream and with the operation of the Effluent Treatment Plant.
Lorry wash	Lorry wash	The storage, handling and disposal of liquid wastes and cleaning chemicals associated with the cleaning of vehicles onsite.
Emergency back-up generator	Emergency back-up generator	Emergency back-up diesel generator operated for the purpose of testing for no more than 50 hours per year and no more than 500 hours operation in an emergency
Surface water collection, storage and discharge	Collection and discharge of clean surface water.	Collection of rainwater from building roofs and clean external concrete areas. Treatment of surface water via a reed bed and settling system where appropriate. Discharge of water to the tributary of the River Parrett and via Soakaway.

Basic pre-application advice was initially sought from the Environment Agency (EA) with respect to this permit variation application in July 2024 (Reference: EPR/NP3127SX/P001). The Nature and Heritage Conservation Screening Report provided by the EA are included as Appendix A.

3.2 Management Overview

The Site is operated by Pattemore’s under the direction of the Operations Director who is the line manager to the Factory Manager who in turn manages an Engineering, Facilities, Health and Safety Manager, a Production Manager, a Technical Manager and an Engineering Project Manager. The Engineering, Facilities & Health and Safety Manager is responsible for integrating the EMS within the business, ensuring its requirements are maintained and approving and



endorsing any amendments. The staffing structure is shown on the Staff Organogram (Appendix B).

3.3 Site Description

Address:	Pattemore's Dairy, Mosterton Road, Misterton, Crewkerne, Somerset, TA18 8NT
National Grid Reference (NGR):	ST 46007 07193
Local Authority:	Somerset Council

The Site Location is shown in Figure 1 - Site Location Plan.

The Site footprint (proposed permitted area) is approximately 6.3 hectares (15.5 acres).

The Site is in a rural location with the villages of Misterton approximately 1 km to the north west and South Perrott 1.3 km to the south east.

The southern boundary of the Site is bordered by a tributary of the River Parrett and the Dorset Area of Outstanding Natural Beauty. To the east of the Site there is a solar farm with an area of 2 hectares (5 acres) which is operated by Pattemore's Transport (Holdings) Ltd and which provides energy to the Site with any excess exported to the National Grid. Much of the Site boundary contains vegetation which provides a visual screen from the A3066 from which is accessed.



3.4 Infrastructure

The Site infrastructure comprises:

- Access road
- Weighbridge
- Lorry Wash Bay
- 2 No. Parking Areas
- Office Buildings
- 13 No. Milk Silos
- 16 No. Cream Silos
- 8 No. Skim Silos
- Milk Reception Building
- Separator Building (containing 4 No. centrifuges to separate milk from cream)
- Main Dairy Building including:
 - Lorry Loading Bay
 - Pasteuriser Room
 - Evaporator 1
 - Long Life Cream Area
 - Pergul Lines (filling machine for bags)
 - Cream Filling Room
 - Cold Storage
 - Pallecon Storage (clad IBC)
 - 2 No. Mains Water Storage on roof
 - 3 No. Air Conditioning Units
 - 3 No. Chillers
- 1 No. Chiller (on plinth)
- Tray Wash (tented structure)
- Mechanical Vapour Recompression (MVR) Building (Evaporator 2)
- 5 No. Cleaning in Place (CIP) systems
- 2 No. Bulk Storage Tanks for caustic (30%)
- 2 No. Bulk Storage Tanks for prime CIP (30% caustic)
- 1 No. Bulk Storage Tank for nitric acid
- IBC Storage Areas for chemicals
- Cooling Tower
- Mechanics Workshop including engine oil storage
- Maintenance workshop containing back-up generator
- 3 No. Kerosene Boilers for steam production (fixed)
- 1 No. Kerosene Boiler for steam production (mobile)
- 2 No. bunded Kerosene Tanks
- 3 No. bunded Diesel Tanks
- 1 No. bunded Ad Blue Tank
- 1 No. Back-up Generator (inside Maintenance Workshop)
- 1 No. Glycol Tank
- 3 No. Water Storage Tanks
- Effluent Treatment Plant including:



- 6 No. Back Tanks (for storage of effluent)
- 2 No. Stainless Steel Tanks (associated with the Back Tanks)
- Balance Tank
- Dissolved Air Flotation (DAF) Plant
- Biomass (BIO) DAF Plant
- Anoxic Tanks
- Sludge Tanks
- Screw Press for sludge in bunker
- Membrane Bioreactor (MBR)
- 1 No. Sewage Treatment Plant
- Borehole
- 1 No. Clean Water Storage Pit
- Site Drainage Containment
- Dirty Water Storage Pit & Tank (Emergency Overflow Pit & Emergency Overflow Tank)
- Reed bed and 3 No. Ponds for final polishing of effluent prior to discharge

Proposed additional infrastructure to be added comprises:

- New line for goat milk and associated:
 - 1 No. Goat Milk Silo
 - CIP system
 - Robotic Packaging Plant
- 2 No. Raw Milk Silos (140m³ each)
- 2 No. Skim Silos (140m³ each)
- Additional CIP to serve as an Upgrade to CIP set 1
- New development to the east of site including:
 - Dry store and Packaging Warehouse
 - 1 No. Sewage Treatment Plant
 - New Workshop
 - Fuel Storage
 - Waste Oil Store
 - Additional Effluent and Water Storage
 - 3 No. Concrete Surface Water Settlement Ponds with Clarifier, Dewatering Bag and Soakaway

3.5 Hours of Operation

The Site is operational 24 hours per day, 365 days out of the year, with the dairy operating throughout the night.

3.6 Site Security

The Site benefits from:

- Staffing 24 hours per day;



- Security fencing with controlled access gates requiring issued key fobs to open;
- Gates are locked between 1800 to 0600, requiring out-of-hour staff to grant access; and
- Access gates have Automatic Number Plate Recognition cameras

Staff shall be trained in site security procedures and encouraged to report unidentified or unknown visitors.



4 Environmental Sensitivities

4.1 Geology

The bedrock geology is Ooidal Limestone² with an overlying soil type classified as freely draining, shallow lime-rich soils o with a loamy texture.³

4.2 Hydrogeology

The entire site sits upon a bedrock aquifer which is classified as a principal aquifer; geology of high intergranular and/or fracture permeability, usually providing a high level of water storage which may support water supply/river base flow on a strategic scale.

The area of clay, silt, sand and gravel associated with the tributary of the River Parrett along the southern side boundary and extending east and north along the route of the tributary of the River Parrett are classified as a superficial Secondary A aquifer.

Both the superficial and bedrock aquifers are classified as high vulnerability.

The Site is not within either a Groundwater Source Protection Zone or a Drinking Water Safeguard Zones (Groundwater) (England).⁴

There is an onsite borehole used by the Operator in accordance with an Environmental Permit (Ref: 16/52/003/G/166) to abstract a maximum of 55m³ per day and 16,500m³ per year of water for cleaning down and mixing with polymers.

4.3 Surface Water

The Site lies to the north of a tributary of the River Parrett and the proposed southern boundary of the Site lies along the route of the watercourse. The Site drainage enters this tributary via two permitted emission points (emission points W1 and W2).

The catchment area is The Parrett - headwaters to Broad River Water Body and was classified in 2022 under the Water Framework Directive as follows:

- Ecological status – moderate
- Physico-chemical quality elements – high
- Hydromorphological Supporting Elements – supports good
- Chemical – does not require assessment.⁵

² <https://geologyviewer.bgs.ac.uk/> Accessed 12 September 2024

³ <https://magic.defra.gov.uk/MagicMap.aspx> Accessed 12 September 2024

⁴ Enviro Geo Insight Report, Groundsure (July 2024)

⁵ <https://environment.data.gov.uk/catchment-planning/WaterBody/GB108052015260> Accessed 30 July 2024



4.4 Flood Risk

The Site is in a Flood zone 1 which means that overall, there is a low probability of flooding from rivers or sea.⁶

4.5 Human Receptors

Human receptors within 1km of the Site are captured in Table 2 below and are shown in Figure 4 – Human Receptor Plan.

Table 2: Human Receptors within approximately 1 km

ID	Location	Type of receptor	NGR X	NGR Y	Distance from site boundary (m)	Direction from site
R1	Owls Barton	Residential	345843	107331	100 *	West
R2	Knowle Farm & NS Used Car Dealer	Residential & Commercial	345956	107494	220	North
R3	Houses off A3066 south of Misterton	Residential	346066	107563	275	North
R4	R V S Accident Repair	Commercial	345972	107666	385	North
R5	Bluntsmoor Farm	Residential	345479	106701	515	South west
R6	Chapel Court Farm including plant hire company	Residential & Commercial	345685	106433	640	South south west
R7	Misterton village	Residential	346011	107973	700	North and west
R8	Misterton Church of England First School	School	345820	108030	758	North north west
R9	Badgers Glory	Residential	345114	107152	772	West
R10	Tumberlands, Lecher Lane	Agricultural & Residential	346868	106844	717	South south east
R11	Downbarn Farm – Dairy Farm	Residential & Agricultural	344995	106602	979	South west

⁶ <https://flood-map-for-planning.service.gov.uk/> Accessed 30 July 2024



ID	Location	Type of receptor	NGR X	NGR Y	Distance from site boundary (m)	Direction from site
Notes: 100m from site boundary to property boundary, 120m from site boundary to property (dwelling).						

4.6 Ecological Receptors

Ecological receptors are shown in Figure 5 - Ecological Receptor Plan and in the EA Nature and Heritage Conservation Screening Report Appendix A.

4.6.1 Statutory Designated Sites

In accordance with the EA Nature and Heritage Conservation Screening Reports Appendix A there are two statutory designated sites within 10 km of the permitted boundary, namely:

- Bracket's Coppice Special Area of Conservation (SAC) is approximately east 4.2km from the Site at the nearest point.
- West Dorset Alder Woods SAC which is 8.9 km south east of the Site.

Both of these SAC sites are also designated as Sites Special Scientific Interest (SSSIs). There are a number of SSSIs within 10km of the Site but none within 2km.

4.6.2 Priority Habitats & Species

There are no Priority Habitats within 50m of the Site. The closest area of Priority Habitat is an area of Traditional Orchard 122m to the north below Knowle Farm.

There are 14 No. Local Wildlife Sites within 2km of the Site and these are listed and shown on a plan in the EA Nature and Heritage Conservation Screening Reports Appendix A.

There are no areas of Ancient Woodland within 2km of the Site.

4.7 Scheduled Monuments

There are no Scheduled Monuments within 1km of the Site.¹



4.8 Air Quality Management Areas

The Site is not within an Air Quality Management Area (AQMA). South Somerset District Council have declared an AQMA for nitrogen dioxide in Yeovil approximately 10km to the north east of the Site.⁷

⁷ <https://uk-air.defra.gov.uk/aqma/> Accessed 12 September 2024



5 Process Description

5.1 Overview

This section provides a summary of the processes on the Site which can be summarised as:

- Food and drink production processes utilising milk (the dairy);
- Cartoning of plant-based milks; and
- Waste water treatment processes (the Effluent Treatment Plant)

5.2 Food & Drink Production Processes

5.2.1 Overview

This section should be read in conjunction with the Process Flow for cream, homogenised cream, stabilised cream. (Appendix C).

All raw materials and services are purchased from reputable suppliers. Supplier approval is gained by a formal procedure which includes a written questionnaire and may include a site visit or audit of the premises dependent upon the risk associated with the type of ingredient or packaging supplied and in accordance with relevant legislation.

A list of approved suppliers is maintained which includes the products they have been approved to supply. Records of all approved suppliers are kept and reviewed regularly.

Raw materials are defined by a specification and then delivered to the Pattemore's Dairy. All deliveries are checked and recorded before acceptance and records of all purchases are retained. A rejection procedure is in place if any problems occur with the raw material at any stage and appropriate action is taken with the supplier.

Raw materials are stored under controlled conditions prior to use. The stores are regularly inspected, and maintenance requirements are captured within the Maintenance and Service Planner (**PAT-MP-01**). Raw materials are tested on the regular basis to ensure they are suitable for use in processing.



5.2.2 Raw Materials

Raw milk is accepted in bulk and stored within the Milk Silos which are detailed in Table 3 below.

Table 3: Silos for storage of raw milk

Milk Silo Reference	Storage capacity (m ³)
M1	96
M2	110
M3	120
M4	96
M5	130
M6	55
M7	120
M8	23
M9	120
M10	120
M11	120
M12	120
M13	120
M14	140
M15	140
Total raw milk storage capacity (m³)	1,630

5.2.3 Cows' Milk Processing

A proportion of the raw milk is diverted directly to the pasteurisation unit. The Pasteuriser uses heat from the steam Boilers (see Section below on steam production).

The pasteurised milk is then homogenised then either dispatched in bulk or packaged and sent off site.

The milk that is not pasteurised is routed via 3 No. lines to the 3 no. Separators which work using centrifugal force to separate the cream from the milk ('skim').

Depending on market demands, the resulting cream is either stored in the Cream Holding tanks (see Table 4 below), dispatched off site in bulk or packed for dispatch.

The resulting skim from the Separators is either:

- Dispatched off site in bulk; or
- Packaged and dispatched off site; or
- Piped to the Skim Silos for storage (See Table 5 below) and then to the Evaporators to produce concentrate, which is either dispatched in bulk or packaged.



Table 4: Silos for storage of cream

Cream Silo Reference	Storage capacity (m ³)
CT1	4.2
CT2	4.2
CT3	4.2
CT4	4.2
CT5	4.2
CT6	4.2
CT7	4.2
CT8	80
CT9	22
CT10	22
CT11	58
CT12	72
CT13	Tank reference not in use
CT14	26
CT15	26
CT16	25
Total cream storage capacity (m³)	360.4

Table 5: Silos for storage of skim

Skim Silo Reference	Storage capacity (m ³)
S1	72
S2	82
S3	96
S4	96
S5	85
S6	120
S7	120
S8	120
S9	140
S10	140
Total skim storage capacity (m³)	1,071

5.2.4 Goat Milk Processing

At the time of writing a new production line is proposed which will include the following steps:

- Acceptance of unpasteurised goat milk in bulk
- Pasteurisation
- Packaging into cartons



- Dispatch

5.2.5 Storage and Dispatch of Products

Qualified staff and appropriate equipment are used to ensure that products are properly handled during production and subsequent operations. Finished products are stored prior to dispatch in a designated and suitable area. The storage areas are secure and maintained in a condition to prevent damage of the product pending delivery. Products are stored within a controlled temperature range of 1-5°C.

5.2.6 Packaging of Plant- based Milks

This activity is proposed at the time of writing and will involve the following steps:

- Reception of plant-based milk from bulk tankers
- Pasteurisation
- Storage of plant- based milk in storage Silos
- Packaging of plant-based milk
- Storage of packaged plant-based milk prior to dispatch
- Dispatch

5.2.7 Steam Production & Use

There are 3 No. fixed Boilers and 1. No Mobile (standby) Boiler on site used for the production of steam. All the Boilers are fuelled by kerosene. The Boilers are detailed in Table 6 below:

Table 6: Boilers for steam production

Boiler number	Size (MWthi)	Grid reference (X, Y)	Fuel tank used
Boiler 1	3.34	346014, 107167	Fuel tank No. 27
Boiler 2	3.33	346004, 107176	Fuel tank No. 27
Boiler 3	0.72	345938, 107180	Fuel tank No. 46
Boiler 4 (standby)	3.27	345999, 107191	Fuel tank No. 27

The locations of each fuel tank used by each Boiler can be seen in Figure 7 - Raw Material Locations. The steam from the Boilers is used on site for pasteurisation of milk and for the cleaning in place (CIP) systems.

5.2.8 Cleaning in Place Systems

Automatic cleaning of dairy plant and equipment takes place via 6 No. Cleaning in Place (CIP) systems or 'sets' which are scheduled at certain intervals depending on production runs. The CIP sets utilise either a caustic or acid wash. This is dependent on the type of product run and



the piece of plant that is being cleaned along with the wash schedule. Caustic acid is used within the CIP to break down and remove any accumulated fat, whereas an acid wash is used to remove calcium buildup. CIPs serve designated areas as shown in Table 7 below:

Table 7: CIP systems

CIP reference	Areas which are cleaned
CIP1	All equipment in the factory that has contact with pasteurised products
CIP2	Milk Silos and Milk Pumps and at times also for cleaning tankers
CIP3	Tanker and Box Wash Stations
CIP4	Skim Silos
CIP5	Under commissioning for use on process lines within the dairy
CIP6	Operates as a contingency for CIP 1 during downtime or breakdowns

An additional 2 No. CIP sets are to be installed which will serve the proposed goat's milk (CIP7) and as an upgrade to CIP1 (CIP8).

Process monitoring undertaken across the CIP Sets its described in Section 12.2: Process Monitoring.

6 Control of Emissions to Water & Land

6.1 Primary Containment

Site primary containment measures are described below.

6.1.1 Storage tanks

Storage Silos are constructed of stainless-steel base, shell and roof as per the industry standard.

Skim Tanks benefit from high level sensors. On dispatching loads into the Silos, the pump will automatically shut off on reaching the high level, preventing overflowing. Within the Dairy Factory itself, the Planning Team will dictate the quantities to be dispatched to each production Silo for each production cycle. Flow meters are in place which allow operatives to input the correct amounts into each Silo.

The Effluent Treatment Plant (ETP) comprises 5 No. process tanks in addition to the Main DAF Plant and Bio DAF Plant as detailed in Table 8 below:

Table 8: ETP Tanks

ETP tank	Storage capacity (m ³)	Construction material
6 No. Back Tanks	60 (each)	Glass lined steel tanks



2 No. Silver Stainless Steel Tanks	20 (each)	Stainless steel
Balance Tank	250	Vitreous enamel steel tanks
Activated Sludge and Aerobic Tank (AS Tank)	493	Vitreous enamel steel tanks
Membrane Bio Reactor (MBR)	88	Vitreous enamel steel tanks
Anoxic Tank	25	Fibreglass
Sludge Tank	30	Fibreglass
Dissolved Air Flotation (DAF) Tank	25	Stainless steel
BIO DAF	35	Stainless steel
Total ETP storage capacity (m³)	1,346	

All ETP tanks, including the DAF and BIO DAF are located on concrete surfacing.

The integrity of the storage tanks is checked by daily visual assessment.

6.1.2 Fuel storage

All fuel is stored within two main bunded areas; located at the west of the top yard adjacent to the re-fuelling station and immediately to the north of the Maintenance workshop. Within each designated area, Kerosene and Diesel are stored within designated fuel tanks.

The Fuel Tanks benefit from high- and low-level sensors which trigger a flashing beacon and siren when activated, alerting staff to a potential issue.

6.1.3 Chemical storage

Chemicals are stored within a designated Chemical Storage Area, both within barrels housed on bunded pallets and within IBCs. The Chemical Storage Area is located on concrete impermeable surfacing; adjacent to the Vehicle Cleaning Station. The Vehicle Cleaning Station is served by CIP set 1, with all drainage directed to the ETP. Any chemical spillages would be captured within the CIP 1 drainage system and would enter the ETP.

6.2 Secondary Containment

The whole Site benefits from impermeable surfacing and drainage containment in the case of a spillage.

The Milk Silos benefit from breeze block bunding on three sides with a sump on the open side which directs any spillages to the ETP.

Emergency containment systems are in place, which utilise the Emergency Overflow Pit (Emergency Pit) and Emergency Silo for temporary storage of spillages prior to treatment within



the ETP. A series of three drain valves are located immediately adjacent to the Emergency Pit at the south of the Site.

In the event of a spill a notification board displayed in the area provides clear directions as to how to open and shut valves to divert and direct the spillage to the Emergency Pit, preventing contamination of the Ponds and ultimately the watercourse. As a further contingency, should any spillage reach the pond system, each of the three Ponds can be individually closed off and contents diverted to the ETP for treatment, preventing accidental discharge into the stream.

The drainage sump serving CIP set 2 benefits from an emergency pump which can be used to direct flow to the Emergency Tank.

All Engineering and ETP staff receive training on spill response and emergency preparedness.

6.3 Drainage Description

6.3.1 Overview

This section provides a summary of the drainage and should be read in conjunction with Figure 5: Site Wide Drainage System Plan.

The Site drainage system has evolved over the years as the Site has expanded. Where possible clean water is segregated from dirty water drainage to manage the flow through the dedicated ETP and to ensure that the ETP function is maximised.

6.3.2 Dirty Areas

All dirty areas of the Site drain to the Balance Tank and then to the ETP. Any concentrated effluent is temporarily stored within the 6 No. Effluent Storage Tanks (known as 'Back Tanks') (60m³ each) prior to treatment within the ETP.

Treatment within the ETP is described in the Overview of the Effluent Treatment Plant (ETP) (Appendix D) which may be read in conjunction with the Effluent Treatment Pipe Plan Layout (Appendix E). Inputs into the ETP comprise:

- CIP (Clean in Place) systems which serve production lines and equipment and the Tanker and Box Wash Stations;
- Water from the first stage evaporation process;
- Boiler blowdown water;
- Yard run off water; and
- Under abnormal operating conditions, any spillages within the dairy itself, via the to 6 No. Back tanks (each with a capacity of 60m³). This temporary buffer storage allows the controlled input of concentrated spills into ETP, at a rate that would not adversely impact its operation.



Effluent streams entering the ETP are treated by Dissolved Air Flotation (DAF) within the DAF Tank and then undergo secondary treatment within either the Membrane Bioreactor (MBR) or the secondary Biomass DAF (BIO DAF).

Within the DAF Tank, most solids are removed through a combination of adding Poly Aluminium Chloride (PAC), Sulphuric Acid and Polymer in conjunction with the white-water system and paddles which scrape off the sludge that has risen to the surface. The partially treated liquid component of the effluent is directed to the Anoxic Tank and subsequently the Activated Sludge and Aerobic Tank (AS Tank) before undergoing secondary treatment within either the MBR or the BIO DAF.

Within the MBR, 400 filter screens allow the flow of liquid across the membranes to filter out the Mixed Liquor Suspended Solids (MLSS) which are directed to the Anoxic Tank, with the clean water then discharged to the Ponds.

The BIO DAF system operates in parallel to the MBR, receiving liquid MLSS from the Activated Sludge and Aerobic Tank (AS Tank) and by adding Polymer in conjunction to the white water system, separating the MLSS from the liquid. The clean liquid can then be discharged to the Ponds and the majority of the MLSS sent back to the AS tank. The Sludge Tank receives the sludge from the Main DAF but also a percentage of the Bio DAF scrapings. Material from the Sludge Tank is sent to the Screw Press where by adding Polymer and then forcing it through a helicoid rotating screw and pressing it against the filter plates, the liquid is removed from the solid. The liquid is in turn fed into the Main DAF tanks under controlled conditions (as slowly as possible) and the solids are dispatched from Site to an Anaerobic Digestion (AD) plant for treatment and recovery.

All treated trade effluent is discharged from the pond to the tributary of the River Parrett via V-Notch at Emission Point W1.

There is approximately one tanker of wastewater per week that is sent off-site to local farms for storage and landspreading under an environmental permit and deployment. This consists of concentrated effluent. i.e. predominantly milk, which might otherwise overwhelm the ETP.

6.3.3 Condensate

There are 2 No. Evaporators on site. The condensate water is used within the process where possible however, the excess water is discharged and is cooled as it passes through the Ponds prior to discharge to the watercourse at Emission Point W1.

6.3.4 Clean Areas

The top yard area has separate clean water drainage which exits via a concrete settlement (60m³) tank prior to being discharged to the watercourse at Emission Point W2. An emergency shut off valve is located on the Surface Water Settlement Pit, which in the event of a spill is closed to prevent contamination of the watercourse.



The current surface water drainage system is being upgraded in line with the further development easterly adjacent to the 'top yard' which will comprise of a new Maintenance Workshop / Warehouse. The surrounding yard is to be concreted with rainfall directed to a series of three Concrete Settlement Tanks and a Clarifier to remove solids prior to the discharge of clean water via both the existing consent (emission point W2) and via Dewatering Bags and Soakaway located at fields within the south eastern corner of the Site.

There is an Oil Separator and Soakaway within the 'top yard' which serves the fuel tank bund. Rainwater collecting here is positively released to the interceptor following a visual check to confirm the absence of any spillages.

6.3.5 Pipework

All flexible hose pipework used around site is inspected every 6 months and replaced annually.

6.4 Control of Emissions to Land & Water under Abnormal Operations

Control of emissions to water and land under abnormal operating conditions are detailed in the Accident Management Plan (**PAT-OD-04**) and associated procedures including the Spillage Control Procedure.



7 Control of Emissions to Air

7.1 Overview

The emission points to air A1 to A5 inclusive are shown on Figure 2 – Permit Boundary & Emission Point Plan and are shown in Table 9 below:

Table 9: Emission Points to Air

Emission point reference	Source
A1	Boiler 1
A2	Boiler 2
A3	Boiler 3
A4	Boiler 4
A5	Standby generator

7.2 Control of Combustion Emissions

Emissions from combustion plant; Boilers (A1, A2, A3 and A4) and Standby generator (A5) are controlled through a planned preventative inspection and maintenance regime.

7.3 Control of Fugitive Emissions from ETP

Fugitive emissions from the ETP are controlled through ensuring that the ETP is operating optimally. This is achieved through a planned preventative maintenance schedule and through thorough process monitoring of the system and its inputs as described in Section 12.2: Process Monitoring.

7.4 Control of Emissions to Air under Abnormal Operations

Control of emissions to air under abnormal operating conditions are further detailed in the Accident Management Plan (**PAT-OD-04**) and associated procedures.



8 Control of Amenity Impacts

8.1 Odour

Odour emissions are minimised through:

- Controlled operation of the Screw Press. Sludge separation and storage being within an enclosed bunker with sliding door, openings controlled in accordance with the Odour Management Plan **(PAT-OD-03)**.
- Monitoring of the inputs into the Effluent Treatment Plant (ETP) to understand the characteristics of the effluent. This allows the ETP team to feed the ETP at a controlled rate that will not adversely impact its operation.
- Contingencies are in place to protect the functionality of the ETP, such that if high volumes of concentrated water require treatment, any quantities above which the ETP can process is diverted to appropriate contractors for landspreading for agricultural benefits.
- Process monitoring to ensure optimal operation of the ETP. All sampling results are documented on the ETP Water Dailys Sheet **(PAT-MP-06)** to facilitate the observation of trends by the ETP Team.
- Regular inspection and maintenance critical plant and infrastructure in accordance with manufacturers recommendations and the Maintenance and Service Planner **(PAT-MP-01)**.

Odour emissions will be controlled in accordance with the Odour Management Plan **(PAT-OD-03)**.

8.2 Noise

Noise emissions will be minimised through planned preventative maintenance for all equipment including the Boilers which are potential sources of noise emissions, in accordance with the Maintenance and Service Planner **(PAT-MP-01)**.

9 Control of Climate Change Impacts

Climate change impacts and mitigation controls are considered in a separate site-specific Climate Change Adaptation Risk Assessment **(PAT-OD-08)**.



10 Roles & Responsibilities

10.1 Overview

This section of the Manual sets out the management structure of Pattemore's relevant to site operations along with the roles and responsibilities placed on operational staff. Specific responsibilities are also set out in the accompanying operational procedures.

All members of staff should be clear on their role, responsibilities, and position within the management structure to facilitate effective environmental management. All roles and responsibilities will be reviewed no less than annually by the Operations Director.

An Organogram for Operational Staff is in Appendix B.

10.2 Operations Director

The Operations Director is responsible for:

- The overall management of the Site;
- Management of the Engineering, Facilities & Health and Safety Manager, a Production Manager, a Technical Manager and an Engineering Project Manager; and
- Undertaking an annual review of all roles and responsibilities.

10.3 Factory Manager

The Factory Manager is responsible for:

- The overall management of the production;
- Providing extra resources / contingency arrangements due to staff shortages; and
- Providing the Site Managers with such support and guidance as necessary to fulfil the requirements of the EMS within the organisation.

10.4 Engineering, Facilities & Health & Safety Manager

The Engineering, Facilities & Health & Safety Manager is responsible for:

- Approving and endorsing the EMS including any amendments;
- Ensuring the EMS requirements are operationally maintained through regular site visits;
- Checking that relevant training and competencies are maintained for operational staff, in particular emergency response procedures within the Accident Management Plan Manual (**PAT-OD-04**);
- Ensuring integration of the EMS within the business is achieved;
- Document control and record keeping in relation to the EMS including responsibility for editing, updating, or superseding of documents;



- Reviewing the EMS procedures and processes ensuring any changes to the EMS are planned and implemented;
- Ensuring the requirements Maintenance and Service Planner are adhered to;
- Retaining inspection and maintenance records;
- Managing external contractors carrying out planned or ad hoc maintenance tasks; and
- Implementing and overseeing emergency response procedures as required.

10.5 Technical Manager

The Technical Manager is responsible for activities relating to the Quality Manual (**QM3.1**), including:

- Maintaining and updating the Quality Manual as required;
- Ensuring the Quality Manual is readily available to key staff;
- ensuring that all HACCP team members are appropriately qualified;
- Ensuring the HACCP is regularly reviewed as and when deemed necessary by the company's requirements and all records appropriately retained; and
- Coordinating internal audits relating to the Quality Manual and HACCP Plan.

10.6 Production and Planning Manager

The Site Production and Planning takes day to day responsibility for the production process including:

- Management of Site Operatives including Planners, Dairy Supervisors and Production Staff;
- Checking that relevant training and competencies in relation to Standard Operating Procedures (SOPs) are maintained for operational staff;
- Ensuring the Site processes and procedures are implemented and upheld across all relevant areas of operation;
- Overseeing the implementation of corrective actions where required; and
- Reporting site issues or incidents to the Engineering, Facilities & Health & Safety Manager.

10.7 Effluent Treatment Plant Team Leader

The Effluent Treatment Plant Team Leader is responsible for:

- Management of the Effluent Treatment Plant Engineers and Operatives;
- Ensuring ETP engineers and Operatives have the correct training competencies required for the operation of the ETP and undertaking the associated sampling and monitoring;



- Maintaining training records for the ETP Team;
- Ensuring Process Monitoring of the ETP is undertaken in accordance with the relevant Standard Operating Procedures (SOPs) and recorded within the ETP Water Dailys Sheet **(PAT-MP-06)**; and
- Reviewing process monitoring data and seeking specialist advice where necessary to support the implementation of corrective action when required.

10.8 Site Operatives

The Site Operatives, which include Planners, Dairy Supervisors, Production Staff, Dairy Engineers and ETP Engineers and Operatives, Transport Drivers and Transport Mechanical Engineers are responsible for:

- Being fully aware of the EMS to:
 - Ensure that procedures and controls are upheld;
 - Understand and reduce the environmental impact of the organisation's activities;
 - Obtain and maintain the necessary professional skills, training and/or experience to deal with all issues relevant to their role in the facility; and
 - Fulfil the specific role requirements of individual procedures and reporting to the Site Manager.

11 Implementation & Operation

This section of the EMS Manual outlines the procedures and processes for identifying and delivering training requirements, communications, emergency preparedness and response, operation controls and documentation in relation to the EMS.

11.1 Document & Record Control

Pattemore's is committed to maintaining document and record controls to provide an audit trail of evidence in support of the company's activities.

11.1.1 Control of Documents

The EMS requires that all documents are clearly identifiable and traceable through their version history, and that only the current versions of documents are in circulation throughout the company. Pattemore's will ensure that documents are appropriately organised, stored and archived in a place (physical or electronic) that is easily accessible to staff who may need to consult or edit documents.

The Engineering, Facilities & Health & Safety Manager is responsible for document management including responsibility editing, updating, or superseding of documents.



The internally produced documentation associated with the EMS is presented in a consistent format including:

- Title of document
- Document reference of the format PAT-YYY-NN where:
 - 'YYY' is:
 - OD denoting an Overarching Document, for example a management plan.
 - SOP is a Standard Operating Procedure.
 - MP is a Monitoring and / or Maintenance Schedule.
 - FT is a Standard form template used to make records in relation to the EMS and associated procedures.
 - 'NN' is a unique number to identify the document.
- Document author / name of person who issued the document.
- Version number. (The Master Document Control File is the only document without version number and is controlled through a date format instead).
- Date of issue.

To prevent the loss of documents Pattemore's are upgrading to a cloud-based systems which will be protected and backed up.

The process for creating and reviewing documents is detailed in the Document Control Procedure (**PAT-SOP-01**). The status of all management system documents is recorded within the Master Document Control File.

11.1.2 Control of Records

Records are maintained to provide evidence of conformity with the requirements of the EMS.

All records are:

- legible;
- made as soon as reasonably practicable;
- if amended, amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval;
- retained for at least 6 years from the date when the records were made,
- or in the case of the following records until permit surrender:
 - off-site environmental effects; and
 - matters which affect the condition of the land and groundwater.



11.2 Competence, Training & Awareness

Pattemore's will ensure all persons performing tasks for the organisation or on its behalf are competent based on appropriate education, training and/or experience, to enable them to carry out the specific task safely.

Pattemore's has established and implemented procedures to identify the training needs associated with the EMS, the operation of the Site and the retention of staff competencies. Training requirements will be determined following the Training Procedure (**PAT-SOP-04**).

It is essential that all staff are fully aware of the EMS to ensure that procedures and controls are upheld. All new staff joining Pattemore's will receive appropriate training using the environmental permit for the Site and the EMS including documented procedures to understand and reduce environmental impact of the organisation's activities.

All formal training and Toolbox Talks received will be logged on manual recording sheets. Records of training on SOPs will be retained by the relevant department manager.

11.3 Communication

11.3.1 Communications & Reporting

For internal communication, the Engineering, Facilities & Health & Safety Manager ensures that information regarding the EMS such as the environmental policy, EMS manual, management plans and SOPs, including emergency response procedures, are readily available to all relevant employees and contractors.

It is essential that all personnel are fully aware of the EMS to ensure that procedures and controls are upheld. All new employees and contractors receive appropriate training using the EMS documents and procedures to understand and reduce environmental impact of the organisation's activities.

For external communication, the Environmental Policy (**PAT-OD-02**) will be made available upon request. Pattemore's seeks to proactively communicate with its external stakeholders about its EMS.

11.3.2 Complaints

Pattemore's understands the importance of addressing both internal and external complaints in a prompt and comprehensive manner to resolve any issue as quickly as possible. All complaints are dealt with according to the Complaints Procedure (**PAT-SOP-02**).



11.4 Operational Controls & Emergency Response

11.4.1 Operational Controls

Pattemore's has established and implemented operational controls relevant to the operational processes and the organisation's significant environmental risks.

The management system documents relevant to operational control are Overarching Documents (ODs), including the Environmental Policy and overarching management plans, SOPs, monitoring and maintenance schedules and the record keeping forms associated with the SOPs (Form templates).

The operational controls will be adhered to, by all employees and personnel working for or on behalf of the organisation. Pattemore's therefore ensures that all relevant management system documents are communicated to the personnel to whom they apply.

Management system documents are reviewed at planned intervals as stated within with the Master Document Control File (**PAT-OD-10**) and revised when necessary.

Table 10: below lists the management system documents relevant to operational control:

Table 10: Management System Documents (Operational Controls)

Document Reference	Document Title
Pattemore's Overarching Documents	
PAT-OD-01	Environmental Management System Manual (this document)
PAT-OD-02	Environmental Policy
PAT-OD-03	Odour Management Plan
PAT-OD-04	Accident Management Plan
PAT-OD-05	Staff Organogram
PAT-OD-06	Process Flow Diagram for cream, homogenised cream, stabilised cream
PAT-OD-07	Effluent Treatment Pipe Plan Layout
PAT-OD-08	Climate Change Adaptation Risk Assessment
PAT-OD-09	Skills, Competency and Training Records
PAT-OD-10	Document Control File
Pattemore's Overarching Procedures	
PAT-SOP-01	Document Control Procedure
PAT-SOP-02	Complaints Procedure



PAT-SOP-03	Change Control Procedure
PAT-SOP-04	Training Procedure
PAT-SOP-05	Milk Reception Procedure
PAT-SOP-06	Environmental Monitoring Procedure
PAT-SOP-07	Sampling & Analysis Procedure
PAT-SOP-08	Process Monitoring Procedure
PAT-SOP-09	Odour Monitoring Procedure
PAT-SOP-10	Procedure for Reporting Incidents & Accidents
PAT-SOP-11	Housekeeping Procedure
PAT-SOP-12	Spill Control Procedure
PAT-SOP-13	Fire Response Procedure
PAT-SOP-14	Main Power Outage Response Procedure
PAT-SOP-15	Mechanical Failure Procedure
PAT-SOP-16	Flood Response Procedure
PAT-SOP-16	Waste Handling Procedure
Pattemore's Form Templates	
PAT-FT-01	Accident and Incident Report Form
PAT-FT-02	Change Control Form
PAT-FT-03	Complaint Record Form
PAT-FT-04	Odour Monitoring Form
PAT-FT-05	Noise Test Assessment Form
PAT-FT-06	Odour Complaint Form
Site Specific Monitoring & Maintenance Schedules	
PAT-MP-01	Maintenance and Service Planner
PAT-MP-02	Site Diary
PAT-MP-03	Critical Spares List
PAT-MP-04	Daily Checks
PAT-MP-05	Weekly Checks
PAT-MP-06	ETP Water Dailys Sheet



11.4.2 Emergency Preparedness & Response

Pattemore's has established and implemented emergency procedures relevant to the operational processes and the organisation's significant environmental risks.

Emergency response procedures will always be adhered to, by all employees and personnel working for and on behalf of the organisation. Pattemore's therefore ensures that all emergency response procedures are communicated to personnel to whom they apply. Emergency response procedures are reviewed at planned intervals as stated within with the Master Document Control File (**PAT-OD-10**) and revised when necessary.

Table 11 below lists the Management System documents relating to Emergency Response that have been implemented.



Table 11: Management System Documents (Emergency Response)

Document Reference	Document Title
Pattemore's Overarching Documents	
PAT-OD-03	Odour Management Plan
PAT-OD-04	Accident Management Plan
PAT-OD-06	Process flow for cream, homogenised cream, stabilised cream
PAT-OD-07	Effluent Treatment Pipe Plan Layout
PAT-OD-09	Skills, Competency and Training Records
Pattemore's Overarching Procedures	
PAT-SOP-09	Odour Monitoring Procedure
PAT-SOP-10	Procedure for Reporting Incidents & Accidents
PAT-SOP-11	Housekeeping Procedure
PAT-SOP-12	Spill Control Procedure
PAT-SOP-13	Fire Response Procedure
PAT-SOP-14	Main Power Outage Response Procedure
PAT-SOP-15	Mechanical Failure Procedure
PAT-SOP-16	Flood Response Procedure
Pattemore's Form Templates	
PAT-FT-01	Accident and Incident Report Form
PAT-FT-04	Odour Monitoring Form
PAT-FT-05	Noise Test Assessment Form



12 Monitoring

12.1 Environmental Monitoring

Pattemore’s monitors, on an ongoing basis, the environmental performance of the Site through environmental monitoring as required to determine environmental performance and control environmental risks, as determined through the Environmental Risk Assessment.

Environmental monitoring procedures will always be adhered to, by all employees working for or on behalf of the organisation. Pattemore’s therefore ensures that all environmental monitoring procedures are communicated to personnel to whom they apply. Environmental monitoring schedules and procedures will be reviewed at planned intervals as stated within with the Master Document Control File (**PAT-OD-10**) and revised when necessary.

Table 12 below lists the environmental monitoring procedures and check lists that will be implemented.

Table 12: Management System Documents (Environmental Monitoring)

Document Reference	Document Title
Pattemore’s Overarching Documents	
PAT-OD-03	Odour Management Plan
Pattemore’s Procedures	
PAT-SOP-06	Environmental Monitoring Procedure
PAT-SOP-07	Sampling & Analysis Procedure
PAT-SOP-08	Process Monitoring Procedure
PAT-SOP-09	Odour Monitoring Procedure
PAT-SOP-11	Housekeeping Procedure
Pattemore’s Monitoring & Maintenance Schedules	
PAT-MP-01	Maintenance and Service Planner
PAT-MP-02	Site Diary
PAT-MP-03	Critical Spares List
PAT-MP-04	Daily Checks
PAT-MP-05	Weekly Checks
PAT-MP-06	ETP Water Dailys Sheet
Pattemore’ s Form Templates	



Document Reference	Document Title
PAT-FT-04	Odour Monitoring Form
PAT-FT-04	Noise Test Assessment Form

12.2 Process Monitoring

Process monitoring is key to ensuring the effective operation of critical components of the Site, including the ETP and the CIP sets. Product sampling is also undertaken to ensure products produced are safe for consumption and meet the required quality.

12.2.1 Effluent Treatment Plant

Daily monitoring is undertaken at various points within the ETP process, including:

- the Balance Tank;
- outfall of the DAF;
- the outfall of the MBR;
- the outfall of the Bio DAF;
- the outfall of the ETP, and,
- the outfall from the V-Notch

Samples are analysed daily within the on-site laboratory using Hach test cuvettes. Parameters tested include:

- pH
- Total Suspended Solids
- Ammonium
- Total nitrogen
- COD

This data informs the ETP Manager and team on the performance of the ETP. The contents of the Balance Tank are monitored daily to provide information on the characteristics of the waste inputs into the ETP. Contingencies are in place to protect the functionality of the ETP, such that highly concentrated effluent at quantities above which the ETP can process is diverted to appropriate contractors for landspreading for agricultural benefits.

Monthly validation analysis is undertaken at Eurofins Laboratories where Samples from both the MBR outlet and the V-Notch (emission point W1) are analysed for:



- pH
- Total Suspended Solids
- Ammonium as N
- Ammonium as NH₄
- Total Phosphorus
- Visible fats, oils and grease.

All sampling results are documented on the ETP Water Dailys Sheet (**PAT-MP-06**).

Process monitoring results are reviewed to identify data trends to inform decisions about managing the ETP process. By reviewing trends in the data rather than individual results, changes in the balance of the whole system are more easily identified.

Further process monitoring may be required to confirm findings. Specialist expertise may be used as necessary to help inform process management decisions made by the ETP Manager.

12.2.2 CIP Sets

Parameters considered as part of the CIP process monitoring includes the following:

- Conductivity
- Temperature
- Caustic or acid strength, measured as a percentage
- Quantity of chemicals used each day
- No. washes undertaken each day
- Visual assessments of the valves, pipework and pumps to check for any defects

Process monitoring results as well as visual assessments on each CIP are recorded daily on manual logs. CIP 4 which is the newest CIP system does have an associated SCADA system and benefits from automatic process monitoring logging.

Every product run also undergoes microbiological testing to ensure that CIPs are effective.

12.2.3 Product Sampling

As part of the broader Quality Manual (**QM3.1**) a documented programme of product sampling is in place and is consisting of microbiological, chemical, nutritional and organoleptic testing.

The programme considers all raw materials and finished products from receipt to end of shelf life. The programme considers In House Laboratory testing and UKAS accredited Laboratory for pathogen testing, nutritional and environmental testing.



This programme enables Pattemore’s to meet customers specifications and ensure all products produced are safe, legal, authentic.

12.3 Inspection & Maintenance of Equipment

Pattemore’s will ensure that all process plant and equipment is commissioned, operated, and maintained in accordance with the manufacturers recommendations and is documented and recorded.

Pattemore’s will ensure that all monitoring and measuring equipment is fit for purpose, maintained, and calibrated to appropriate standards (UKAS approved where applicable).

The following procedures and processes listed in Table 10 have been implemented to ensure continued maintenance of the Site’s infrastructure. A suitably qualified person undertakes all maintenance and calibration work.

Table 13: Management System Documents (Monitoring & Maintenance)

Document Reference	Document Title
Pattemore’s Overarching Documents	
PAT-OD-09	Skills, Competency and Training Records
Pattemore’s Monitoring & Maintenance Schedules	
PAT -MP-01	Maintenance & Service Planner
PAT -MP-02	Site Diary
PAT -MP-03	Critical Spares List
PAT -MP-04	Daily Checks
PAT -MP-05	Weekly Checks

A documented (paper based) preventative maintenance program for plant and machinery is in place. There is an annual service plan broken down into months covering all plant and equipment except items under contract. Planned and preventative maintenance tasks are issued to the Site engineers. The relevant supervisor signs off on the completion of maintenance tasks.

Plant maintained under contract includes the following:

- Boilers; maintained by Steam Pickets; and
- Refrigerant gas equipment maintained by KJR



Figures

Figure 1: Site Location Plan, Earthcare Technical Limited (ETL886/2024/EPR01)

Figure 2: Permit Boundary & Emission Point Plan, Earthcare Technical Limited (ETL886/2024/EPR02)

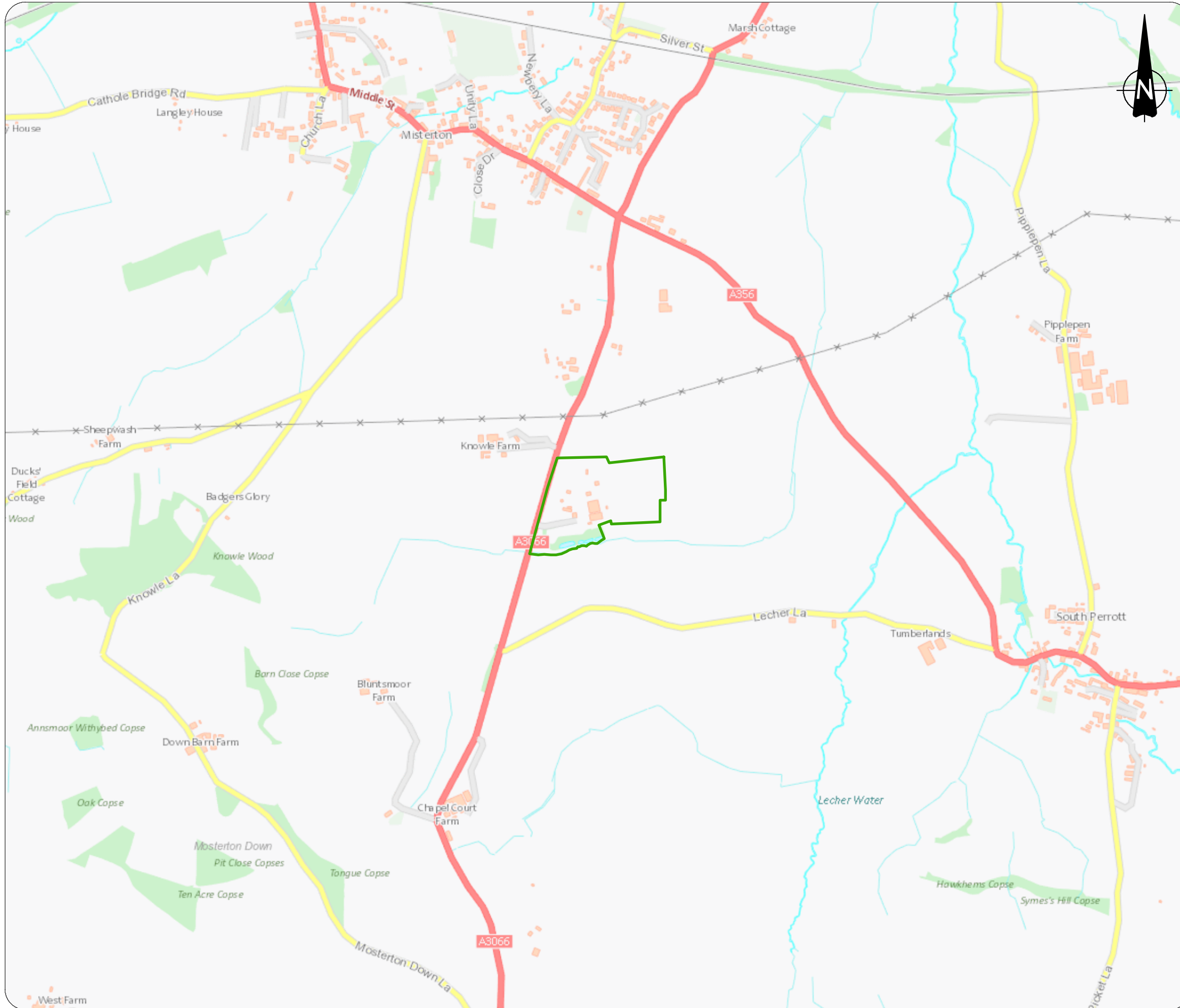
Figure 3: Site Layout Plan, Earthcare Technical Limited (ETL886/2024/EPR03)

Figure 4: Human Receptor Plan, Earthcare Technical Limited (ETL886/2024/EPR04)

Figure 5: Site Wide Drainage System Plan

Figure 6: Ecological Receptor Plan , Earthcare Technical (ETL886/2024/EPR05)

Figure 7: Raw Material Locations, Pattemore's (ETL886_Raw Material Locations_V1.0_Nov 24)



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REV	DATE	DESCRIPTION	DWN	CHK	APP
-	15/11 2024	First Issue	JJ	MF	MF

LEGEND

Permit boundary

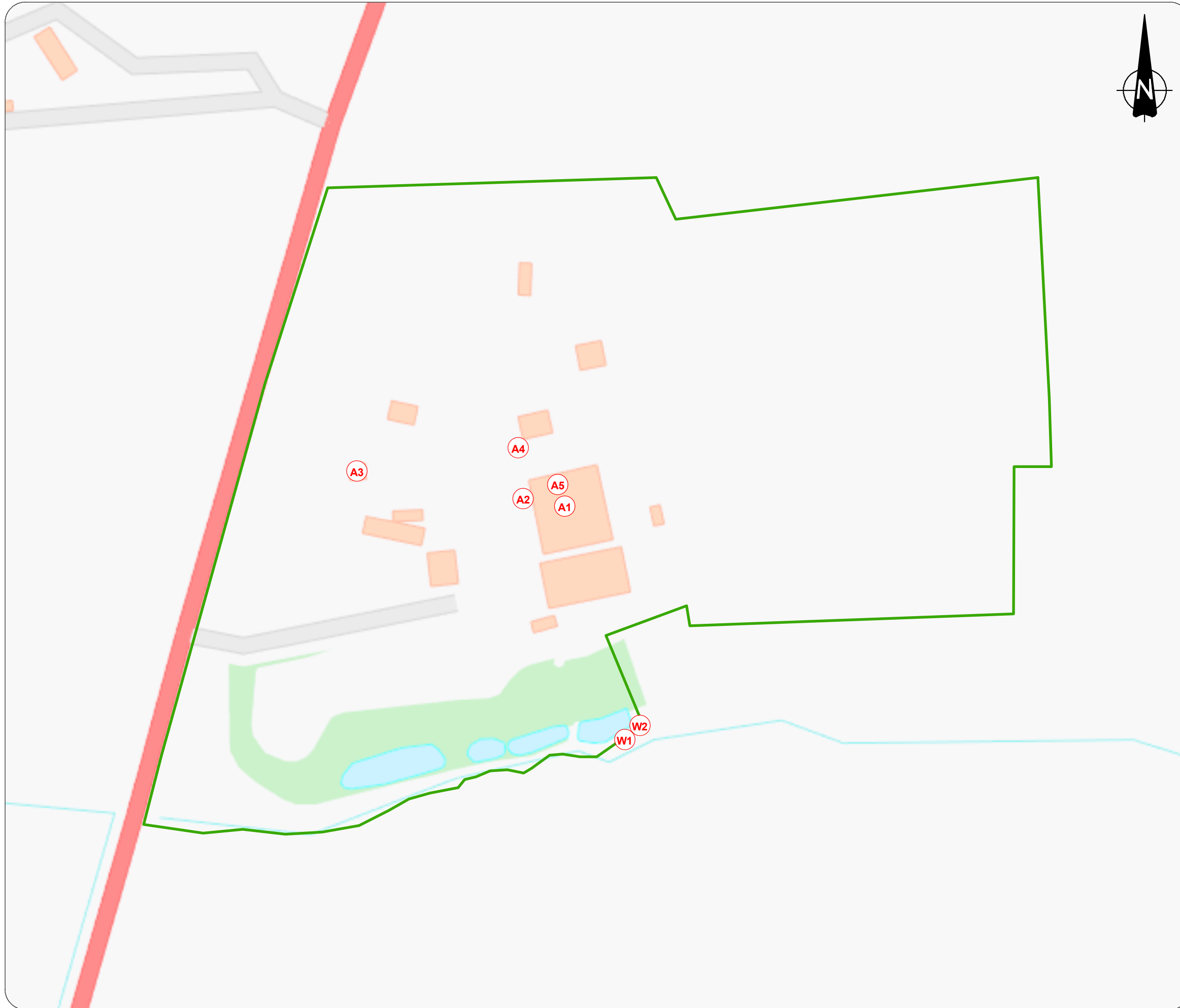
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Client Pattmore's Transport (Crewkerne) Ltd
Project Environmental Permit Application
Title Site Location Plan

Earthcare
TECHNICAL

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enquiries@earthcaretechnical.co.uk
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Drawn JJ	Checked MF	Approved MF	Revision
Date November 2024	Scale 1:10,000	Sheet Size A3	
Drawing Number ETL886/2024/EPR01		File Reference ETL886/2024.mxd	



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-	15/11 2024	First Issue	JJ	MF	MF

LEGEND

- Permit boundary
- R Emission point

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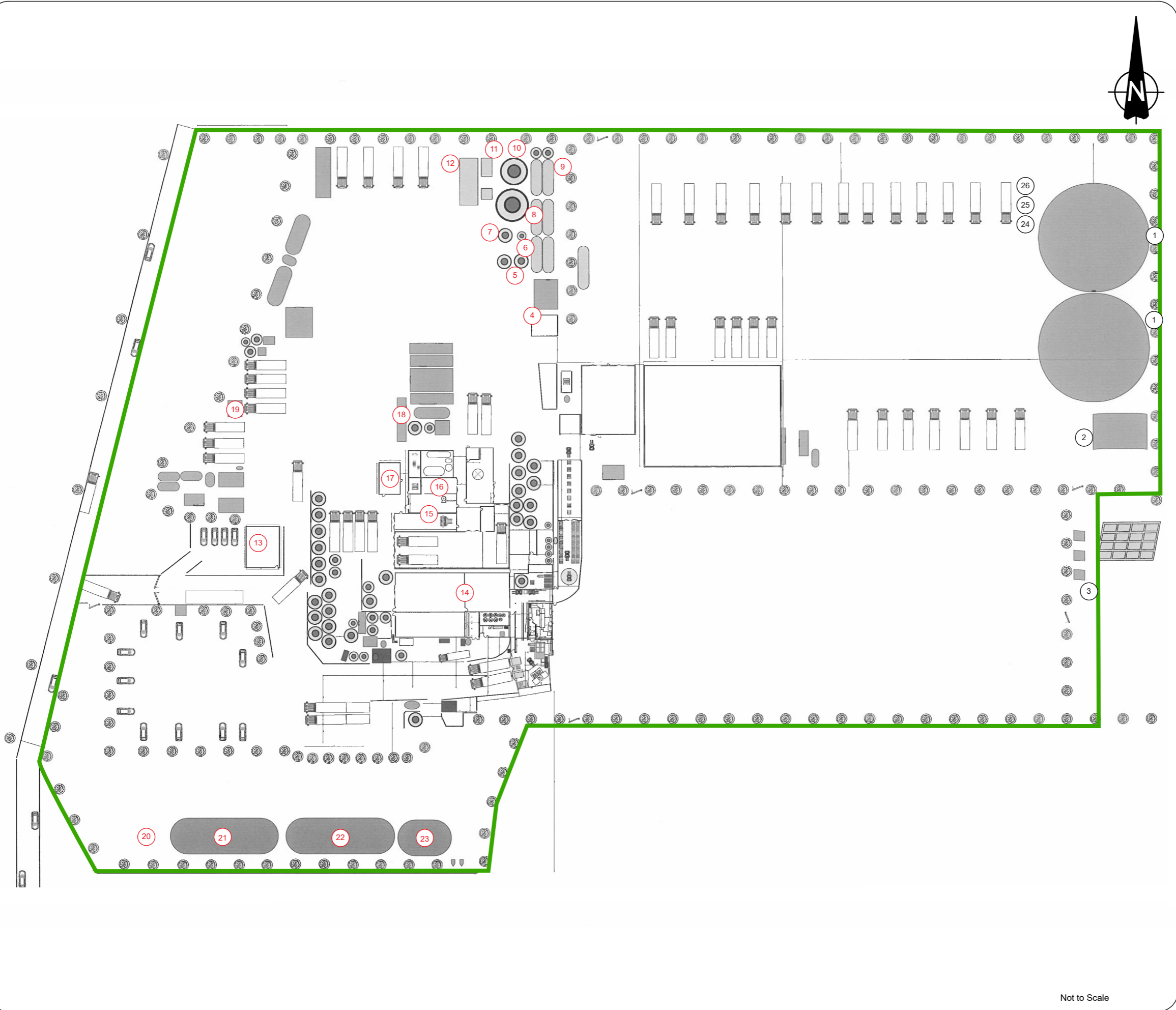
Client Pattmore's Transport (Crewkerne) Ltd
Project Environmental Permit Application
Title Emission Point Plan

Earthcare

TECHNICAL

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Date November 2024	Scale 1:1,500	Sheet Size A3	
Drawing Number ETL886/2024/EPR02		File Reference ETL886/2024.mxd	



REVISIONS					
REV	DATE	DESCRIPTION	DWN	CHK	APP
-	09/01 2025	First Issue	JJ	MF	MF

- LEGEND**
- Permit boundary
 - 1 Existing
 - 24 Proposed
- 1) New Effluent / Water Storage
 - 2) Surface Water Settlement Ponds and Clarifier
 - 3) Dewatering Bag
 - 4) Dissolved Air Flotation (DAF) Plant
 - 5) Sludge Tank
 - 6) Anoxic Tank
 - 7) Membrane Bioreactor (MBR)
 - 8) Activated Sludge and Aerobic Tank
 - 9) 6 No. Back Tanks
 - 10) Balance Tank
 - 11) Biomass (BIO) DAF Plant
 - 12) Screw Press
 - 13) Admin Office
 - 14) Dairy Building
 - 15) Boiler 1
 - 16) Back-up Generator
 - 17) Boiler 2
 - 18) Boiler 4
 - 19) Boiler 3
 - 20) Reed Bed
 - 21) Pond 1
 - 22) Pond 2
 - 23) Pond 3
 - 24) Proposed new location for the Bio DAF
 - 25) Proposed new location for the Screw Press
 - 26) Proposed new location for the Sludge Tank

Client
 Pattemore's Transport (Crewkerne) Ltd

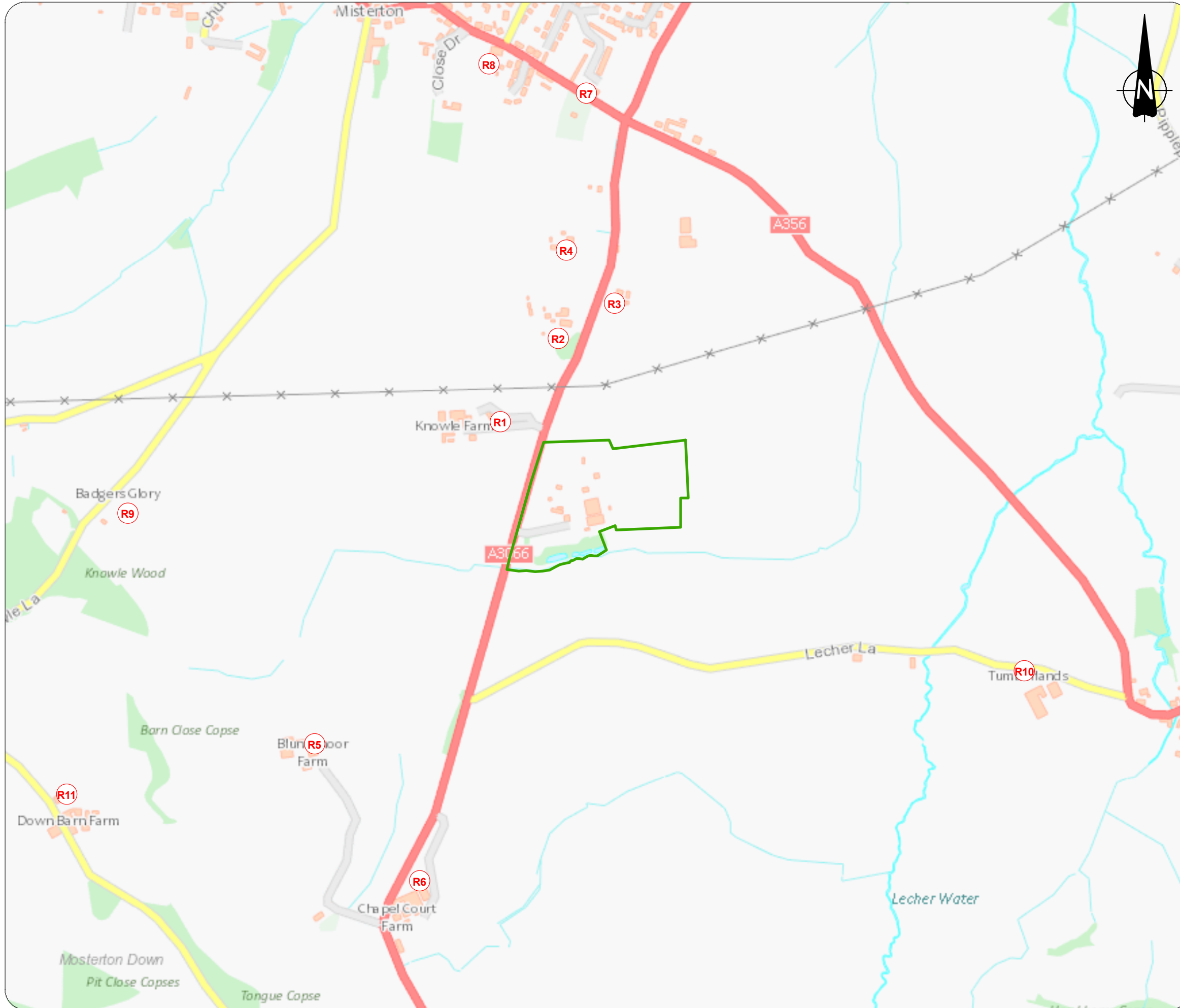
Project
 Environmental Permit Application

Title
 Site Layout Plan

Earthcare
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 enquireies@earthcaretechnical.co.uk
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Date January 2025	Scale NTS	Sheet Size A3	
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Not to Scale



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-	15/11 2024	First Issue	JJ	MF	MF

LEGEND

- Permit boundary
- R Human receptor point

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Client Pattmore's Transport (Crewkerne) Ltd
Project Environmental Permit Application
Title Human Receptors Plan

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Drawn JJ	Checked MF	Approved MF	Revision
Date November 2024	Scale 1:7,500	Sheet Size A3	
Drawing Number ETL886/2024/EPR04			File Reference ETL886/2024.mxd


Site Wide Drainage Diagram

Site Block Diagram


Drawing Not to Scale


 Oil/Water Separator (Soak Away)

 Rain, Yard Run Off Water


 Trade Effluent


 Boiler


 Foul Water Drainage

 Over Flow Pipe Work

 6' Discharge to Effluent Plant

 CIP2 Emergency Pump Out to Brown Silo

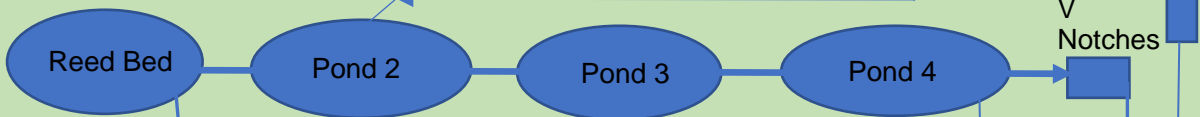
 Divert Penstock to Emergency Pit

 Pollution Control Devices (shut-off Valves/Penstocks)
Close All Valves to Prevent Pollution Reaching the Pond and River System

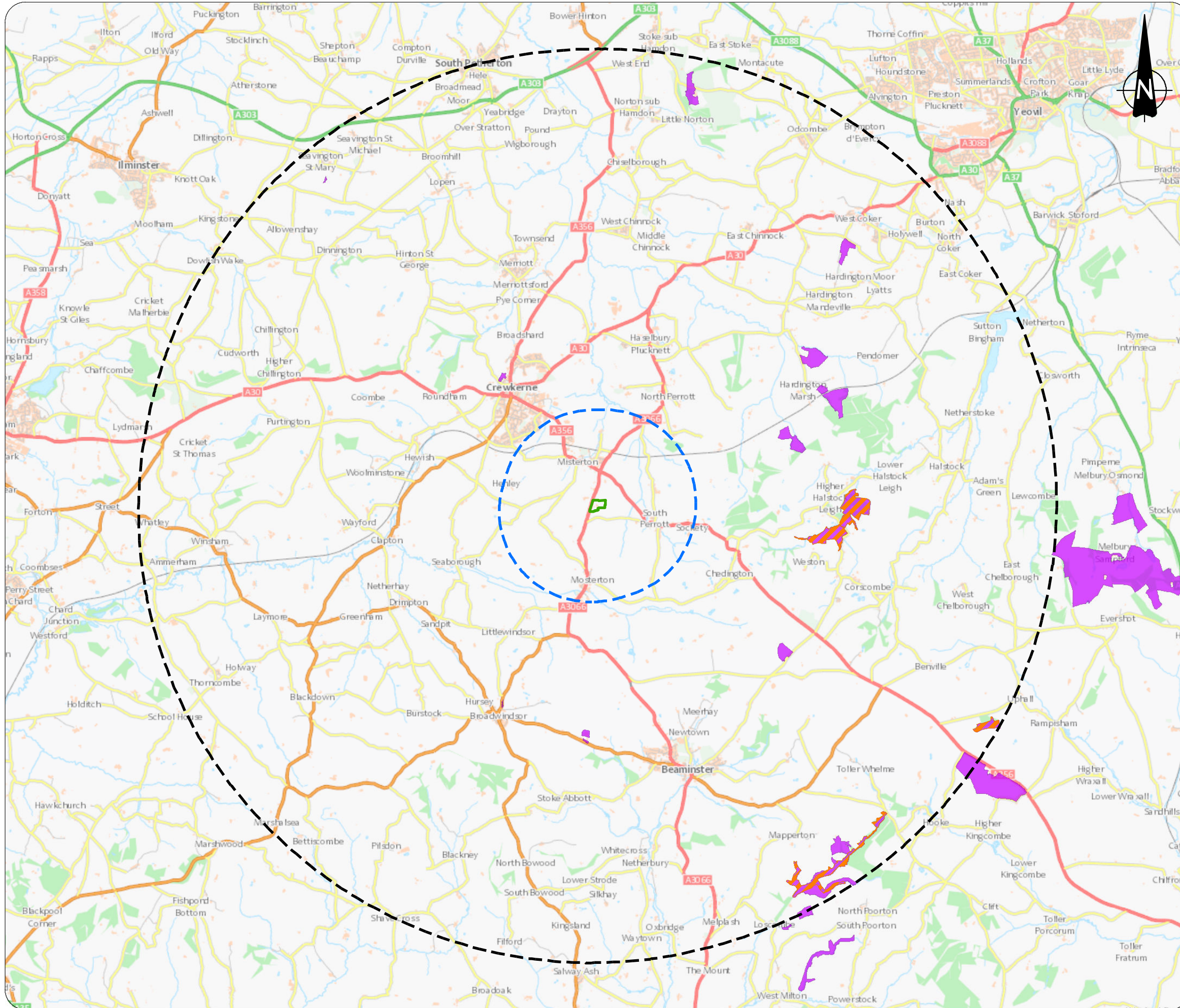
Any None Arrowed Ground Pipe Work Feeds Direct to CIP2

Emergency Shut Off Valves

Emergency Shut Off Valves



River



REVISIONS					
REV	DATE	DESCRIPTION	DWN	CHK	APP
-	15/11 2024	First Issue	JJ	MF	MF

LEGEND

- Permit boundary
- 2km buffer
- 10km buffer
- Site of Special Scientific Interest (SSSI)
- Special Areas of Conservation (SAC)

0 1,000 2,000 3,000 4,000 m
Scale at A3: 1:85,000

Client Pattmore's Transport (Crewkerne) Ltd
Project Environmental Permit Application
Title Ecological Receptors Plan

Earthcare
TECHNICAL

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Site Block Diagram

This Drawing is not to scale,

Water, Milk, CIP and ETP liquid storage locations on site





Appendix A – Nature and Heritage Conservation Screening Report

Nature and Heritage Conservation

Screening Report: Bespoke installation

Reference	EPR/NP3127SX/P001
NGR	ST 46028 07159
Buffer (m)	90
Date report produced	03/07/2024
Number of maps enclosed	1

This nature and heritage conservation report

The nature and heritage conservation sites, protected species and habitats, and other features identified in the table below **must be considered in your application**.

In the further information column, there are links which give more information about the site or feature type and indicate where you are able to self-serve to get the most accurate site boundaries or feature locations.

Most designated site boundaries are available on [Magic map](#). Using Magic map allows you to zoom in and see the site boundary or feature location in detail, Magic map also allows you to measure the distance from these sites and features to your proposed boundary. [Help videos](#) are available on Magic map to guide you through.

Where information is not publicly available, or is only available to those with GIS access, we have provided a map at the end of this report.

Sites and Features within screening distance

Screening distance (km) Further Information

Special Areas of Conservation (cSAC or SAC)

10

[Joint Nature Conservation Committee](#) and [Magic map](#)

Bracket's Coppice

West Dorset Alder Woods

Local Wildlife Sites (LWS) (see map below)

2

[Appropriate Local Record Centre \(LRC\)](#)

New Bridge Meadows

Ten Acre Copse

Langmoor Lane

Hawkhems Copse Meadow

Picket Farm Cops

Ten Acre Field

Misterton Plantation

Picket Plantation

Cronde Hill Plantation

Kithill

Cathole Bridge Meadow

Cronde Hill Coppice

River Parrett

Cronde Hill Field

Where protected species are present, a licence may be required from [Natural England](#) to handle the species or undertake the proposed works.

The relevant Local Records Centre must be contacted for information on the features within local wildlife sites. A small administration charge may also be incurred for this service.

The following nature and heritage conservation sites, protected species and habitats, and other features have been checked for, where they are relevant for the permit type requested, but have not been found within screening distance of your site unless included in the list above.

Special Areas of Conservation (cSAC or SAC), Special Protection Area (pSPA or SPA), Marine Conservation Zone (MCZ), Ramsar, Sites of Special Scientific Interest (SSSI), National Nature Reserve (NNR), Local Nature Reserve (LNR), Local Wildlife Sites (LWS), Ancient Woodland, relevant species and habitats.

Please note we have screened this application for features for which we have information. It is however your responsibility to comply with all environmental and planning legislation, this information does not imply that no other checks or permissions will be required.

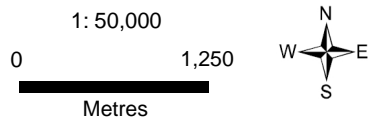
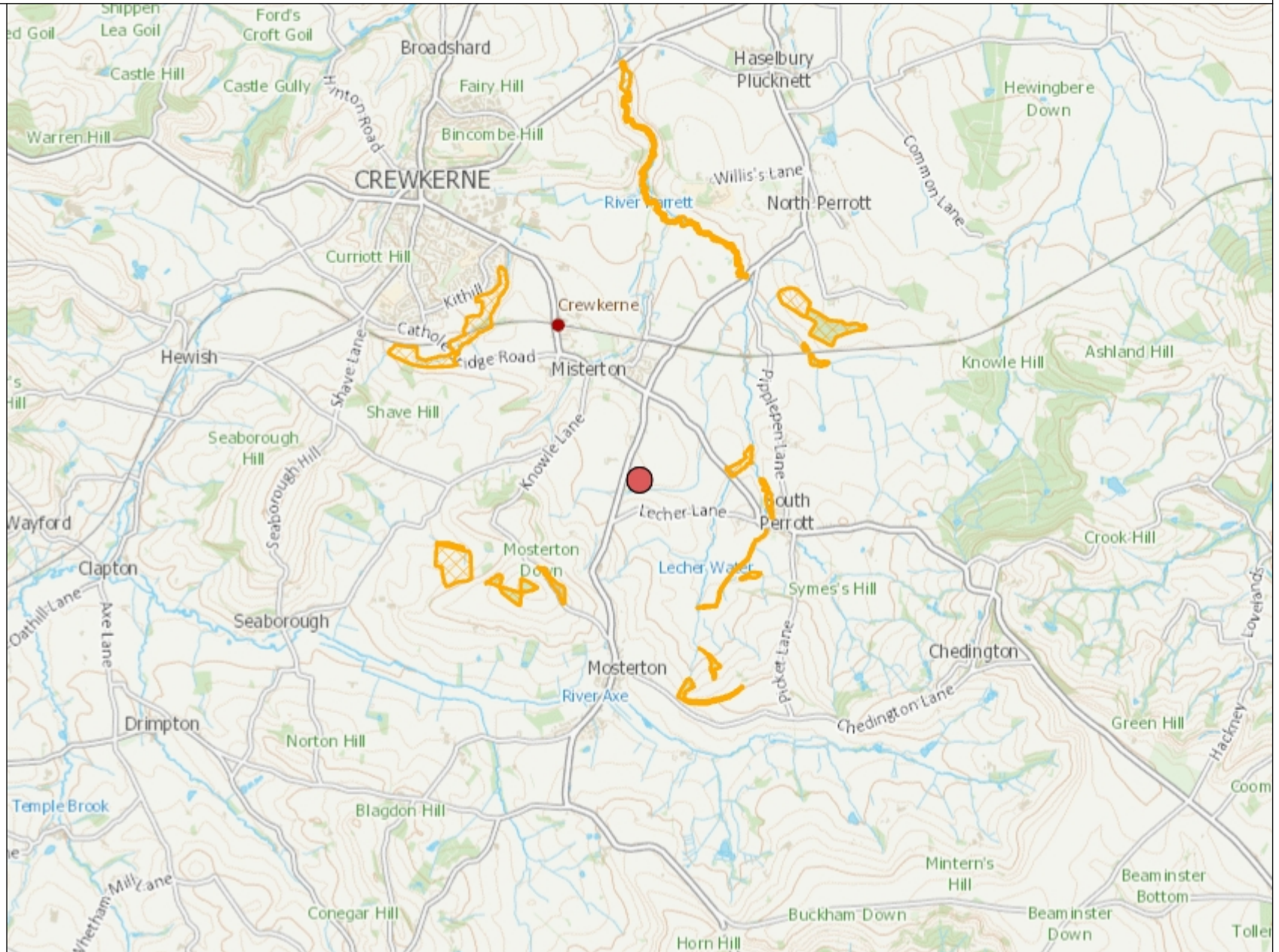
The nature and heritage screening we have conducted as part of this report is subject to change as it is based on data we hold at the time it is generated. We cannot guarantee there will be no changes to our screening data between the date of this report and the submission of the permit application, which could result in the return of an application or requesting further information

Local Wildlife Sites



Legend

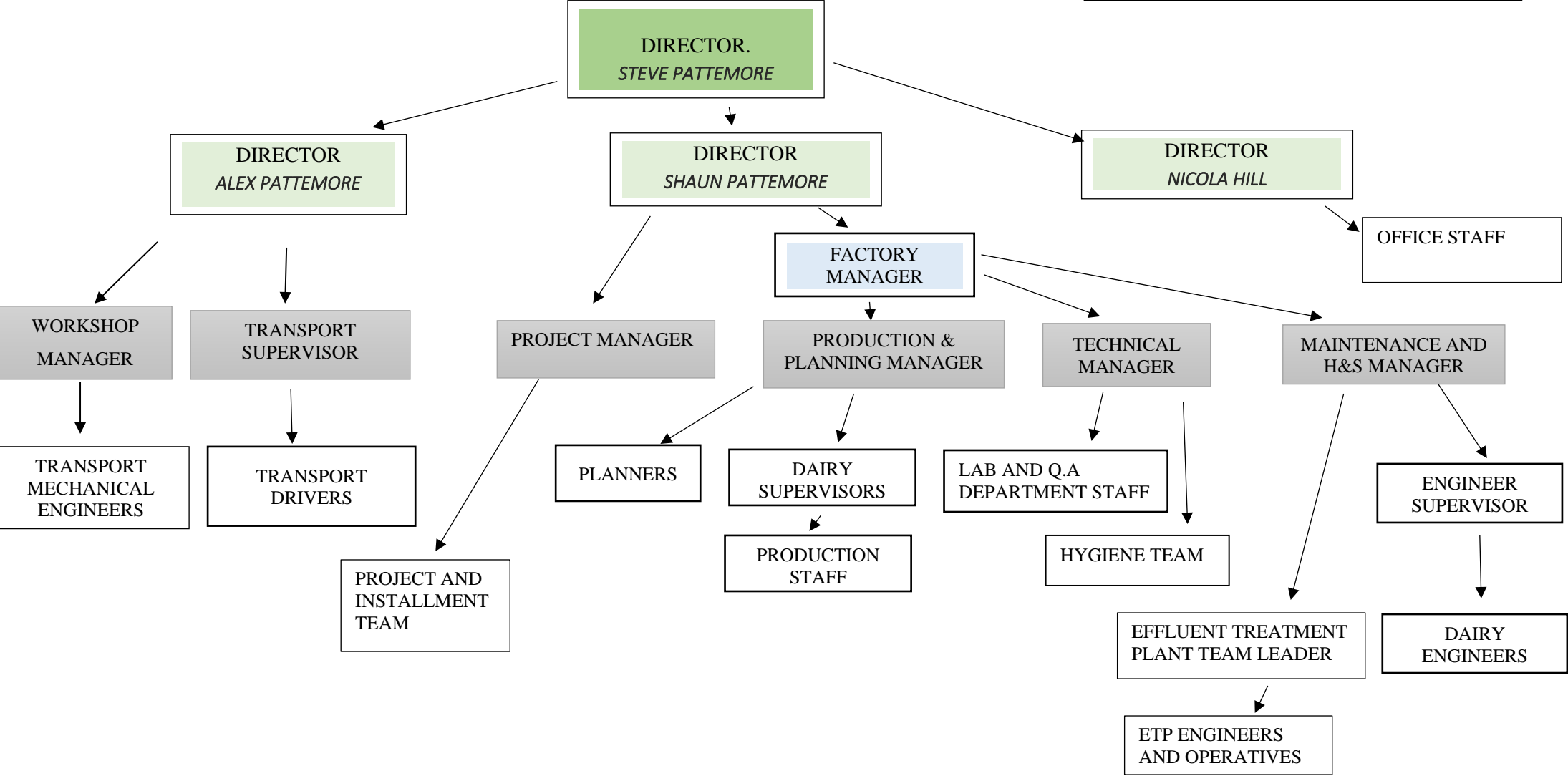
 Local Wildlife Sites





Appendix B – Company Organogram

COMPANY STRUCTURE



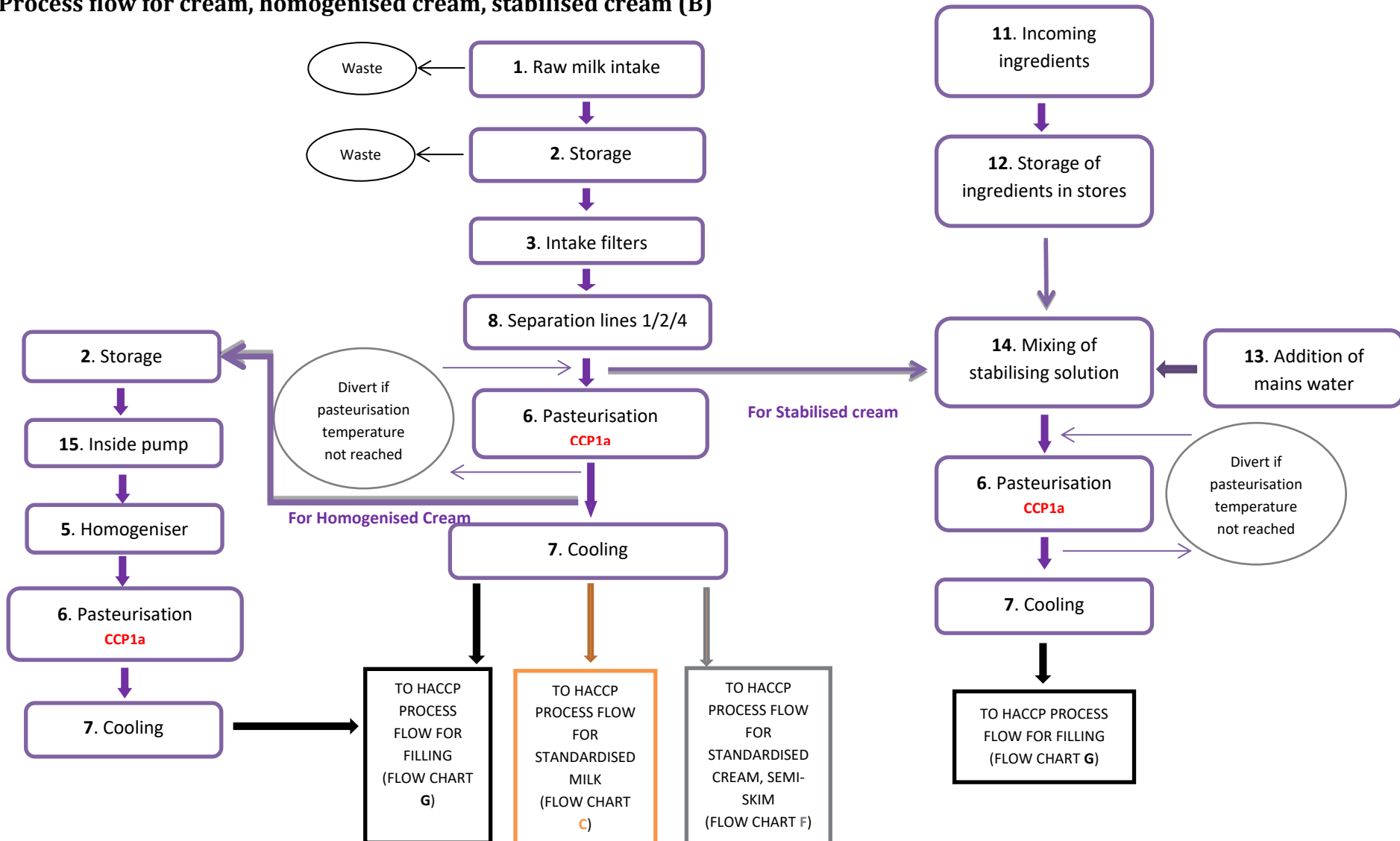
Document Number	Issue number	Issue date	Issued by	Authorised by	Page
QMP 08	06	10.10.24	A. Jelonek	P. Williams	3 of 4



Appendix C – Process Flow Diagram

Hazard Analysis Critical Control Points

Process flow for cream, homogenised cream, stabilised cream (B)



Document Number	Issue number	Issue date	Issued by	Authorised by	Page
QMP09 HACCP	20	15.01.2024	A. Jelonek	P. Williams	1 of 1



Appendix D - Overview of the Effluent Treatment Plant

A Brief Overview of the Effluent Treatment Plant

The main inputs to the ETP are from CIP (Clean in Progress) which comes from Tanker wash bays, Lorries, All the Dairy lines, Silo cleaning and associated pipework. We also get water from the Evaporation process but only the first stage and also the yard run off water.

Divert Valves and Washdown Screen

The washdown screen removes large solids like gloves, cable ties leaves etc and monitors for high solids and will divert to the back tank if solids levels become unacceptable i.e. cream and milk. Acceptable levels are pumped into the Balance tank.

Balance Tank

Takes all CIP washings and some rainwater and balances out spikes in pH and Solids. Where caustic is added to maintain an acceptable pH for the DAF to operate

D.A.F Tank (Dissolved Air Filtration)

Removes the majority of the solids through a combination of adding PAC, Sulphuric Acid and Polymer in conjunction with the white-water system and paddles to scrape the sludge off. The sludge then gets pumped to the sludge tank leaving the cleaner liquid to be fed into the Anoxic Tank.

Anoxic Tank

Takes inlet flow from the DAF and also receives the flow of MLSS from the MBR Tank allowing the 2 to mix and then overflow to the AS Tank. This also helps to remove the nitrogen from the system

AS Tank (Activated Sludge and aerobic Tank)

This tank is kept to a DO level of 2, a pH level of 7.9-8.2 where the bugs eat and thrive.

MBR Tank (Membrane Bio Reactor)

Is where there are 400 filter screens that allow the flow of liquid across the membranes to filter out all the MLSS and which then allows clean water to be discharged to ponds.

RAS (Recirculation Active Sludge) Pumps

These pump the MBR MLSS back to the anoxic tank where the bugs process restarts. These also control the amount of MLSS concentration to keep the MBR Tank approx. 33% thicker than the AS tank.

Sludge Tank

This tank receives the scraped off sludge from the Main DAF but also a % of the Bio DAF scrapings

Screw Press

This takes its feed from the Sludge Tank and by adding Polymer and then forcing it through a helicoid rotating screw and pressing it against the filter plates, removes the liquid from the solid. The solid is sold for AD food and the liquid goes back into the SS round tanks. This in turn is fed into the Main DAF under controlled conditions (as slowly as possible)

Bio DAF

Similar to the Main DAF, it is a secondary system to the MBR tank to allow more discharge to the river. It takes liquid MLSS from the AS tank, by adding Polymer and white water here you can separate the MLSS from the liquid, the clean liquid can then be discharged to the ponds and the majority of the MLSS sent back to the AS tank, with a % sent back to the Sludge Tank, to maintain the MLSS level in the AS tank

The Ponds

The ponds act as a secondary catchment to prevent accidental contamination to the waterways. The Reed bed is also a natural filtration process.

C:\spare disk copy\AMT\Earthcare\Pattemores\Permit application\A Brief Overview of the Effluent Treatment Plant.docx



Appendix E - Effluent Treatment Pipe Plan Layout

ETP Pipe Plan Layout Diagram

