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Arla Taw Valley Containment Risk Assessment

A CIRIA C736 Containment Risk Assessment conducted as a technical appendix to the variation of EPR/NP3638NN

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Contents

1	Introduction	1
1.1	Appointment and Purpose	1
1.2	Scope of the Report	1
1.3	Significant Assumptions	1
1.4	User Reliance	2
2	Site and Environmental Setting	2
2.1	Site Location	2
2.2	Site Description	2
2.3	Surrounding Area	3
2.4	Geology	3
2.5	Hydrogeology	3
2.6	Hydrology	4
2.7	Sensitive Land Uses	4
2.8	Summary of Land Sensitivity	4
3	Risk Assessment and Classification	4
3.1	General	4
3.2	Sources	5
3.3	Pathways	6
3.4	Receptors	6
3.5	Site Hazard Rating	7
3.6	Likelihood of Loss	7
3.7	CIRIA C736 Containment Classification	8
4	Containment	9
4.1	Primary Containment	9
4.2	Secondary & Tertiary Containment	9
5	Conclusion	11
	Appendix 4i – ABDA Containment Risk Assessment Arla Taw Valley	13

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1 Introduction

1.1 Appointment and Purpose

EHS Projects (EHS) have been commissioned on behalf of Arla Foods Limited (the 'Client') to undertake a Containment Risk Assessment of the planned expansion of the Taw Valley Creamery Installation (hereafter referred to as the 'site'). This report was commissioned as a supporting technical assessment to the wider substantial variation application. The assessment methodology follows the containment risk assessment guidance set out in *CIRIA Containment systems for the prevention of pollution (C736) – Secondary, tertiary, and other measures for industrial and commercial premises*.

The aim is to perform a review of the proposed site layout, liquid inventory storage and effluent treatment operations. This report provides an appraisal of the proposed containment infrastructure and pollution prevention devices that are described in the wider application.

1.2 Scope of the Report

The most recent permit variation, EPR/3638NN/V005, was issued with an Improvement Condition (IC23) to assess site alignment to CIRIA C736, and to agree an improvement plan with the local Environment Agency (EA) inspector. The principal finding of IC23 determined that the existing effluent treatment plant (ETP), particularly the lagoon, was not contained sufficiently to meet the expectations of CIRIA C736. This deficiency forms part of the rationale for the construction of a new ETP to receive all effluent from the whole expanded site. Once the new ETP is fully operational, the old lagoon and all associated legacy infrastructure will be decommissioned, dismantled, and infilled under notification and agreement from the local EA inspector.

This report is scoped to assess and verify the CIRIA C736 alignment of the site configuration that is proposed by the wider variation application documents. This report therefore updates the IC23 containment risk assessment based on the planned post-variation final site layout and material inventory. This report presents the findings of a containment risk assessment based on the following scope and information:

- Appraisal of the containment strategy proposed for the manufacturing site footprint following the completion of the mozzarella plant construction and rearrangement of the existing bulk storage.
- Appraisal of the containment designs for the proposed new effluent treatment plant.
- This report assumes that the existing ETP footprint is decommissioned (as described in the wider variation documentation) and that only the proposed new ETP is operational.
- Consideration is given to all materials containment services including buildings, bulk tanks, mobile storage containers, bunds, hardstanding, curbing, drainage channels and any pollution mitigation devices within drainage.
- The management and maintenance of site, including procedural pollution prevention controls.
- Environmental setting in terms of geology, hydrogeology, hydrology, and surrounding land uses, based on publicly available environmental records.

1.3 Significant Assumptions

This report presents EHS's observations, findings, and conclusions as they existed on the date that this report was issued. This report is subject to modification if EHS becomes aware of additional information after the date of issue of this report that is material to its findings and conclusions.

The reliability of information provided by others to EHS cannot be guaranteed to be accurate or complete. Performance of this report is intended to reduce, but not eliminate, uncertainty of conditions associated with the subject site; therefore, the findings and conclusions made in this report should not be construed to warrant or guarantee the subject site, or express or imply, including without limitation,

warranties as to its marketability for a particular use. EHS found no reason to question the validity of information received unless explicitly noted elsewhere in this report.

1.4 User Reliance

This report was prepared for Arla Foods Limited. Reliance on the Report by any other third party is subject to requesting and fully executing a reliance letter between EHS and the third party that acknowledges the EHS Standard Terms and Conditions with the Client, to the same extent as if they were the Client thereunder.

EHS has been provided with information from third parties for information purposes only and without representation or warranty, express or implied as to its accuracy or completeness and without any liability on such third parties part to revise or update the information. Where reliance has been provided by third parties to potential purchasers this is noted in our report.

2 Site and Environmental Setting

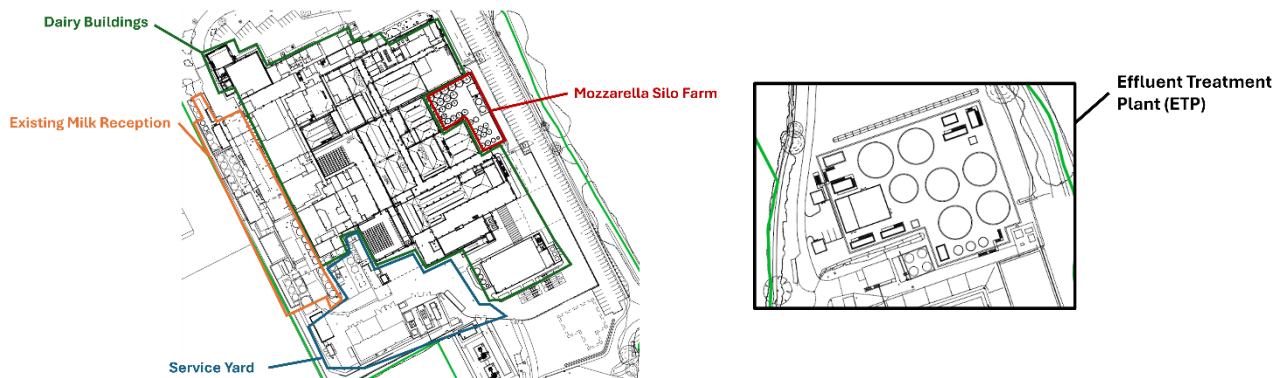
2.1 Site Location

The installation is located at North Tawton, Devon, EX20 2DA, centred on grid reference SS654016 approximately 1km southwest of North Tawton town in a predominantly rural setting. The site covers an area of approximately 20 Hectares, and the plan of the site is shown in the drawings that make up the wider variation application pack.

2.2 Site Description

A full description of the proposed site is provided in the main application document, and associated drawings. For the purposes of determining containment arrangement, the site can be broken down into distinct areas. See an annotated map, labelling the below areas, as Figure 1.

Figure 1 – Containment Areas



Dairy Buildings

The main site footprint houses the existing dairy building, and the proposed extension for mozzarella production. All manufacturing activities, and associated hygiene runs are undertaken within the manufacturing areas. Within this area there will be a variable volume of dairy material, as well as hygiene chemicals. Primary containment will take the forms of various tanks, drums, pipework and other vessels. All are further contained by the buildings themselves. Within the production facility, any spills or loss of containment would enter floor drainage, leading to the site ETP.

There are also various areas within the dairy building that are fully sealed, with no floor drainage, these include offices, various stores, frozen storage, and engineering workshops. There is very little storage of potentially polluting material in these areas.

Existing Milk Reception Area

The existing milk reception area, on the west side of the existing dairy building, will undergo reconfiguration as part of the proposed works. All raw milk for the existing dairy process will be stored in bulk tanks along the roadway adjacent to the west of the dairy. Along this roadway there will also be bulk whey storage, bulk cream storage and dilute (in process) CIP chemicals. As is shown in the drainage map (appended as part of the wider variation), all yard and roadway drainage in the milk reception area leads directly to the ETP.

Mozzarella Production Silo Farm

A new silo farm will be constructed on the east side of the extension to the dairy for mozzarella manufacturing. This silo farm will house bulk tanks providing milk, whey, cream water and hygiene chemicals for the production area manufacturing and hygiene processes. The silo farm will be located inside an impermeable concrete hardstanding pad. This pad will be curbed / lipped, with floor drainage within the pad directed to the ETP.

Service Yard

The existing service yard area, in the footprint south of the existing cheese manufacturing building, will be largely unchanged. The yard area functions for a range of routine logistics operations. The existing bulk neat hygiene chemical tank bund is located within the service yard footprint. There are also storage areas for waste materials and other consumables in IBCs or drums.

Effluent Treatment Plant

A new state of the art ETP will be constructed just north of the existing lagoon, to the south of the dairy footprint of the site. In conjunction with specialist suppliers, the operator has selected a treatment approach that includes primary screening and flow balancing of influence volumes, followed by Dissolved Air Flotation (DAF) to reduce contaminant loading, followed by further biological treatment within a membrane bioreactor (MBR). There will be bulk storage of a large volume of effluent, as well as associated dosing chemicals. All provided with at least one layer of bunding.

2.3 Surrounding Area

The site is surrounded on all sides by agricultural land and within an area that is rural in character. A public right of way footpath passes through the site. The nearest residential area is the town of North Tawton, located around 400m east of the site.

2.4 Geology

British Geological Survey (BGS) mapping of the area indicates no superficial deposits are present beneath the majority of the site. The Taw Terrace Deposits underly the southeastern corner of the ETP area according to the BGS. However, intrusive monitoring has identified that Taw Terrace Deposits are present at all drilling locations. The bedrock directly underlying most of the site area (and underlies the Taw Terrace deposits) is the Bow Breccia, Permian rocks which includes beds of red sandstone and sedimentary breccia. The publicly available information was verified by investigative sampling.

2.5 Hydrogeology

British Geological Survey (BGS) geological mapping indicates the following geological progression.

Table 1: Underlying geology

Geology	Geology Description	Aquifer Status	Aquifer Description
Superficial:	Taw Terrace Deposits.	Superficial:	Secondary A Superficial

Bedrock:	Bow Breccia, Permian rocks which includes beds of red sandstone and sedimentary breccia.	Bedrock:	Secondary A Bedrock Aquifer, moderately permeable consolidated rocks.
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The review of DEFRA Magic hydrogeological mapping shows the site does not reside in a groundwater source protection zone (SPZ). While groundwater beneath the site may not be highly sensitive from a drinking water perspective, the aquifers are likely to be contributors to local watercourses. Overall, the site moderately sensitive from a groundwater perspective.

2.6 Hydrology

The nearest surface water body is the River Taw, which is 175 to 220m from the site boundary to the east. The river is classified as a salmonid river and is of overall high quality. Taw Valley Creamery discharges treated effluent and storm water into the river under a discharge consent issued by the Environment Agency.

According to the EA's Flood Map for Planning, the full site footprint is not within a flood plane from flooding due to rivers or the sea. The site is designated flood zone 1. The site has a negligible risk of flooding each year.

2.7 Sensitive Land Uses

The site is surrounded on all sides by agricultural land and within an area that rural in character. A public right of way footpath passes through the site. The nearest residential area is the town of North Tawton, located around 400m east of the site. Overall, the site is low sensitivity from a human perspective.

There are no Ramsar sites, Special Areas of Conservation (SAC), or National Nature Reserves (NNR) within 10km of the Site. Additionally, there are no Sites of Special Scientific Interest (SSSI) within 2km of the Site.

2.8 Summary of Land Sensitivity

The Site is of overall high environmental sensitivity, based on the following key factors:

- All surface water and treated effluent, as well as potential for overland losses, enter and therefore pose risk to the salmonoid and high-quality River Taw.
- Bedrock is classified as a Secondary A aquifer, moderately sensitive from a local borehole and hydrological connection to local rivers perspective.
- Within 10km of the Site, there are no Ramsar sites, SAC, and NNR. Within 2km there are no SSSI.
- The nearest sensitive human receptor is a residential area approximately 400m east.
- The site is designated flood zone 1, a negligible risk of flooding each year.

3 Risk Assessment and Classification

3.1 General

A risk assessment has been carried out to identify an appropriate containment strategy for each element. The risk assessment has been informed by the following guidance and publications:

- CIRIA C736 (2014), Containment Systems for the Prevention of Pollution. Secondary, tertiary, and other measures for industrial and commercial premises; and,

- Anaerobic Digestion and Bioresources Association (ABDA) (2016) Secondary containment at AD Plants: an industry guide, specifically the completion of the ABDA Excel based risk assessment tool for identifying appropriate secondary containment classification.

The fully completed tool is available as Appendix 4i – ABDA Containment Risk Assessment Arla Taw Valley.

3.2 Sources

A full breakdown of the on-site sources of pollution is provided in Appendix 4i, the overall source risk is determined to be High. The principal driver for the high source sensitivity is the large volume of effluent on site, as well as the high ecotoxicity of neat bulk hygiene chemical storage. See the below summary:

Table 2 – Pollution Sources Summary

Site Area	Summary of Sources	Overall Source Risk
Existing Milk Reception	<p>The area contains a maximum storage capacity of approximately 4,550m³ of liquid material. The majority of this (approx. 3,800m³) is made up of water, bulk milk, cream and whey storage with limited environmental hazard. Although, it should be noted that major losses of dairy material can cause environmental harm to aquatic systems. This is likely to be short lived as material is readily biodegradable.</p> <p>There is also storage of glycol and hygiene chemical (much of which is diluted), mostly in bulk tanks with some limited IBC storage.</p>	Medium
Mozzarella Silo Farm	<p>This is similar in character to the existing milk reception, there is capacity for approximately 2,550m³ of material. Of this, approximately 2,100m³ is water and dairy material. The remaining volume is for hygiene material, much of which is diluted.</p>	Medium
Service yard	<p>While the volume of material in this area (up to approx. 50m³) is much smaller than other site areas, the neat bulk hygiene chemicals and stored oil have relatively high ecotoxicity.</p>	High
Effluent Treatment Plant	<p>The ETP has the capacity to house up to 11,300m³ of effluent, in various stages of treatment. 5,300m³ of this is potentially untreated effluent in the balance and divert tanks.</p> <p>It should be noted the divert tank will be empty during normal operation, for conservative assessment, this assumes both the balance and divert tanks are full.</p> <p>This quantity of effluent, while not highly ecotoxic, poses the potential to cause significant environmental damage if released.</p> <p>There is the additional storage of 101m³ of effluent dosing chemicals within the footprint, this includes acid, caustic, polymer, coagulant and hypochlorite.</p>	High

3.3 Pathways

A full pathway breakdown is provided in Appendix 4i. The principal pathways from site are drainage related. Overland runoff or the affecting underlying ground are unlikely scenarios. The following pathways have been identified:

Table 3 – Pollution Pathways Summary

Pollution Pathway	Pathway Description
Drainage from the manufacturing side of site to the onsite ETP	<p>During normal operations, this will consist primarily of planned hygiene derived wash water from the manufacturing process, other routine process water discharges (such as boiler blowdown), and rainwater falling within the Milk Reception Area, Mozzarella Silo Farm, and Service Yard.</p> <p>Spills or loss of containment local to these areas will drain to the ETP.</p> <p>Unplanned waste from manufacturing process could be directed to the ETP.</p>
Effluent discharge to river	All treated effluent is discharged through the permitted discharge point to a tributary of the River Taw. Shock loading of the effluent plant could damage the biological treatment process and lead to higher concentration effluent discharge.
Surface water drainage system discharge	During normal operations, only clean rainwater routinely enters the surface water drainage system. The site is permitted to discharge uncontaminated surface water to the River Taw.
Vertical migration to groundwater	Losses of material seeping below the site surface to the underlying aquifers. Any material that reaches the underlying ground could find a pathway to the secondary aquifer. The aquifer itself is both a potential receptor and pathway to connected controlled waters.
Overland flow to controlled waters and the adjacent environment	Topographically, the site and local area dip shallowly eastwards towards the River Taw. In the event of major pollution runoff, there may be pathway overland to the River Taw. Overall, it is considered highly unlikely that such a significant event (overwhelming all site drainage and flowing overland to the river) would occur.

3.4 Receptors

Based on the information presented in this report the following potential pollutant receptors have been identified:

- The River Taw, which at its nearest point is approximately 175m from the site boundary to the East. The river is classified as a salmonid river and is of overall high ecological status.
- Site overlies a moderately sensitive Secondary A Aquifer.
- Local residential receptors (400m east).
- In addition to being a pollution source, the on site ETP should be considered a receptor for pollution. The ETP utilises a biological treatment process. Shock loading of the ETP with material such as hypochlorite could impact treatment efficacy and damage the functioning of the ETP.

3.5 Site Hazard Rating

Full details for all receptors considered are given in the ABDA spreadsheet presented in Appendix 4i. Due to the source, pathway and receptor linkage, a hazard rating of “**High**” has been adopted in this assessment.

Table 4 – Site Hazard Rating

Source	Pathway	Receptor	Site Hazard Rating
High	Medium	High	High

3.6 Likelihood of Loss

An assessment of the likelihood of the release of inventory from the primary containment has been undertaken, taking into account engineering and procedural controls, including how risks will be mitigated during normal operation. This assessment considers operational failure, design, structural failure, abuse, vehicle impacts, vandalism and terrorism, fire or explosion, geological factors such as subsidence, age and lightning strikes.

The site’s primary containment is maintained and operated in full alignment with BAT and the expectations of an EPR permitted installation. However, due to the nature and scale of the materials stored, the likelihood of a primary containment loss occurring cannot be mitigated down to a Low annual probability of less than 1 in 1,000,000. A Medium annual likelihood (between 1 in 100 and 1 in 1,000,000) of primary containment loss has been determined by this assessment.

3.6.1 Operational Failure

All storage is undertaken in purpose built bulk tanks, IBCs or smaller quantities in carriable drums. There is a whole site process control system to monitor site storage capacity and to support the proper use of storage vessels. All relevant operators are trained to ensure tanks are used appropriately. There are appropriate trained out procedures in place to manage activities with environmental risk, these include deliveries, movement and handling of materials, hygiene operations, waste management, operation of the ETP equipment etc. In the event of a loss of primary containment, the site has in place spill response processes, spill kits are prevalent and emergency preparedness is undertaken.

Site operators undertake routine internal audits and inspections, to identify faults or equipment failures. Remedial or corrective action will be undertaken and managed in accordance with Arla’s existing EHS action management systems.

The facility operates in accordance with BAT and Arla’s ISO14001:2015 certified environmental management system.

Due to the large volume of material on site and the multiple storage locations, there is an inherent possibility that an operational failure could lead to a loss from a primary container. Site controls are appropriate to mitigate this risk to Medium (annual probability of loss from primary containment between 1 in 100 and 1 in 1,000,000).

3.6.2 Shortfalls in Design

Routine inspections and integrity checks by operators. All tanks feature level monitoring and are fitted with high level alarms. These safeguards are integrated into the whole site process control system. In the event of alarm triggering, site representatives have training and procedures in place to respond appropriately.



3.6.3 Structural Failure

The ETP and Mozzarella Silo farm will utilise new purpose-built bulk tanks. All GFS effluent will meet or exceed the requirements of AWWA D103-19, EEA 7.20, and EN ISO 28765:2016. The tanks are designed and will be commissioned to ensure a minimum 30-year design life in accordance with the requirements of ISO 15686-1:2011, ISO 15686-2:2012 and ISO 15686-3:2002. These provide the framework for determining and planning a service life of up to 50 years.

Tanks are used as per manufacturing specification and design. The primary vessels undergo routine inspections and integrity checks by operators. Annual external integrity inspections are also conducted by insurers. Various engineering PPMs and maintenance procedures are adequate to maintain the vessels in good working order. Faults are likely to be picked up as part of routine inspections and integrity checks. Equipment is decommissioned or replaced where necessary and within design life.

While the operators do maintain all equipment appropriately to mitigate the risk of structural failure in accordance with BAT, due to the scale of storage and nature of materials the risk of structural failure cannot be mitigated down to a less than a 1 in 1,000,000 annual possibility. Therefore, Medium risk is present.

3.6.4 Vehicle Strike

Restricted vehicular access to site. All external silos are provided impact protection by concrete structures. The site ETP is a restricted area, all tanks are situated within a concrete bund.

3.6.5 Vandalism

The Site is not accessible to the public. There is 24-hour security in place. Operator training and company policies. The facility operates in accordance with Arla's ISO14001:2015 certified environmental management system.

3.6.6 Fire / Explosion

The majority of liquid inventory is not flammable or combustible and as such the risk of fire or explosion is considered low.

3.6.7 Geological Factors

There is no history of subsidence identified for this Site.

3.6.8 Ageing and Deterioration of Assets

There will be continuing use of existing storage vessels in the existing Milk Reception and Storage Yard Vessels. As part of the site upgrades, these tanks have been inspected and determined as fit for continued use. All tanks are subject to routine inspection and will be replaced if required.

3.6.9 Lightning Strike

The risk of lightning strike is considered to be low.

3.7 CIRIA C736 Containment Classification

Table 5 – CIRIA Classification

Site Hazard Rating	Likelihood	Overall Site Risk Rating	CIRIA Class of Containment Required
High	Medium	High	Class 3

The Overall Site Risk Rating is “High”; therefore Class 3 secondary containment is required.

The containment classification system is based on three levels, each representing a differing level of integrity depending on the risk, where Class 1 is low risk and Class 3 is high risk. Class 2 reflects a medium or moderate risk rating and therefore requires an intermediate degree of integrity. While the difference between the classes is not quantified in the CIRIA C736 guidance document, the main differences are expressed in terms of the following:

- System safeguards (e.g., fail safe alarms).
- System and component redundancies (e.g., backup collection and storage facilities).
- Structural integrity and quality of construction.
- Operation and maintenance (e.g., enhanced inspection and maintenance regimes).

4 Containment

The facility will continue to operate in accordance with a whole site containment philosophy, whereby all material can be retained within the permitted site boundary. All new tanks and bunding infrastructure will be designed and constructed in accordance with relevant industry standards, including AWWA D103-19, EEA 7.20, EN ISO 28765:2016, ISO 15686-1:2011, ISO 15686-2:2012, ISO 15686-3:2002 and BS4994:1987. In addition, all design and build contractors will be required to meet the expectations of Arla’s published engineering standards.

4.1 Primary Containment

Primary containment is understood to have been provided from specialist suppliers and is used in accordance with manufacturing specification and within design life. All bulk tanks and above ground bunds routine inspections and integrity checks are undertaken by operators. All tanks feature level monitoring and are fitted with high level alarms. These safeguards are integrated into the whole site process control system.

4.2 Secondary & Tertiary Containment

All pollution sources are / will be provided with high integrity secondary containment. Tertiary containment also in place for all materials on the dairy side of site, and all hazardous materials within the installation. The planned containment strategy for the site demonstrates full alignment with the expectations of CIRIA C736 Class 3. See below an assessment of containment strategy for the upgraded site:

Table 6 – Secondary and Tertiary Containment Assessment

Pollution Event	Secondary Containment	Tertiary Containment	CIRIA Compliant?
Within factory: Major spill / product dump during manufacturing.	Operators trained in spill response and emergency preparedness. All internal drains lead to the new on-site ETP this acts as remote secondary containment. To prevent shock loading of the ETP, major spills can be diverted to the ETP divert tank for separate storage pending drip feed into the ETP for treatment. Or, for removal from site.	The factory floors and walls provide sufficient containment to retain pollution within the building.	Yes

<p>Existing Milk Reception:</p> <p>Major spill of dairy or hygiene material</p>	<p>The existing secondary containment philosophy remains appropriate.</p> <p>All local yard drainage leads to the new on-site ETP, this acts as remote secondary containment. Curbing and hardstanding are of sufficient condition to direct losses to drainage. Drain integrity is subject to routine inspection and maintenance.</p> <p>To prevent shock loading of the ETP, major spills can be diverted to the ETP divert tank for separate storage pending drip feed into the ETP for treatment. Or, for removal from site.</p>	<p>In the highly unlikely event of effluent drains being overwhelmed, site wide hardstanding and curbing are sufficient to direct losses to the surface water drainage system.</p> <p>All surface water enters a below ground pit in the northeast corner of the site prior to discharge. At this point, there is a monitoring probe for continuous measurement of pH and turbidity.</p> <p>Contaminated water will be retained in the drainage system through the closing of a penstock. Following this, retained contaminated liquid will be diverted by the pump house in this area to the ETP.</p> <p>This process will be automatic if triggered by probe. The process can be triggered manually by an operator if a spill is identified.</p>	<p>Yes</p>
<p>New Mozzarella Silo Farm:</p> <p>Major spill of dairy or hygiene material</p>	<p>The new silo farm resides in a purpose built, lipped impermeable concrete pad. Within the pad there is a new drainage system that directs all liquid to the ETP. The ETP acts as remote secondary containment.</p> <p>To prevent shock loading of the ETP, major spills can be diverted to the ETP divert tank for separate storage pending drip feed into the ETP for treatment. Or, for removal from site.</p>	<p>As above.</p>	<p>Yes</p>
<p>Service Yard:</p> <p>Major spill from hygiene chemical, engineering consumable or waste oil tank.</p>	<p>Operators trained in spill response and emergency preparedness. External spill kits are readily available in the yard areas.</p> <p>Bulk hygiene tanks are housed in an existing impermeable concrete bund. The bund volume is greater than 26m³.</p>	<p>As above.</p>	<p>Yes</p>

	<p>Waste oil is stored in a self-bunded tank; the tank sits within an impermeable concrete bund.</p> <p>All external IBCs or containers of potentially polluting chemicals are stored either on a drip tray bund, or within a concrete bunded area.</p>		
<p>Effluent Treatment Plant:</p> <p>Major spill of effluent or sludge.</p>	<p>The full ETP will be located within a reinforced concrete bund, this will be designed and built to comply with the requirements of BS EN 1992-3:2006 and specifically tightness class 1.</p> <p>The containment volume is sufficient to retain greater than 110% of the volume of the largest tank, and greater than 25% of the combined volume of material within the ETP area.</p> <p>There is a sump within the bunded area, from which all material is pumped to the balance tank for treatment. Alternatively, material within the sump can be pumped to the divert tank, further increasing the storage capacity within the ETP.</p>	N/A	Yes
<p>Effluent Treatment Plant:</p> <p>Dosing chemicals spills or loss of containment</p>	<p>All bulk effluent dosing chemicals are stored in specialist designed self-bunded tanks. These tanks are designed and will be constructed to ensure alignment to BS4994:1987.</p>	<p>Tertiary containment is then provided by the main ETP bund. <i>See secondary containment for bulk effluent.</i></p>	Yes

5 Conclusion

The Arla Taw Valley Installation, as it will be following the upgrades proposed by this variation, has been classified as having an overall **High** risk containment class of '**Class 3**'. Principally, this classification is driven by; the large volumes of effluent, liquid dairy products and hygiene chemicals; the high ecological sensitivity of the River Taw; and the potentially direct pollution pathways from the site to this receptor.

Primary containment will be designed and constructed in accordance with relevant industry standards, and Arla's group engineering standards. The tanks will be maintained and operated in full alignment with BAT and the expectations of an EPR permitted installation. However, due to the nature and scale of the materials stored, the likelihood of a primary containment loss occurring is determined to be medium (an annual probability between 1 in 100 and 1 in 1,000,000). Therefore, additional high integrity secondary and / or tertiary containment controls are required to meet the expectations of CIRIA C736.



All pollution sources are provided with high integrity secondary containment. On the dairy side of site, the principal containment mechanism is drainage to the on-site ETP. The ETP will reside in a concrete bund that will be designed and built to comply with the requirements of BS EN 1992-3:2006. Tertiary containment is provided by a surface water penstock and diversion to effluent system. Additional containment for ETP dosing chemicals is provided by the self-bunded tanks.

The planned containment strategy for the site demonstrates full alignment with the expectations of CIRIA C736 Class 3. Overall, the site primary, secondary and tertiary containment infrastructure, and relevant pollution prevention processes, are appropriate to ensure that the upgraded site will continue to appropriately mitigate the environmental risk posed by materials containment failure.

Appendix 4i – ABDA Containment Risk Assessment Arla Taw Valley