

**Lowfield Timber Frames Limited
Marton
Near Welshpool
Powys
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**Part A2 Permit
Technical Application
August 2026**

ehrc

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1 How the installation will operate

1.1 Introduction

Lowfield Timber Frames Limited (the Operator) is a specialist manufacturer of engineered timber products for the commercial and domestic construction trade. The Operator proposes to install and operate a single low pressure double vacuum water-based treatment plant to protect certain building products from rot, mould and insect attack. The proposed plant has the technical capability to treat timber exceeding 75m³ per day, although actual timber throughput is unlikely to reach that threshold.

Timber is machined to specification on site in the factory building and packs for treatment are prepared for handover. Pack preparation includes building the pack with 'stickers' and 'supports' to make gaps between the timber to be treated and a slope on the overall pack to aid the training of treated timber. The degree of slope and sticking is largely dependant on the pack being treated.

The pack to be treated will be assigned a pack reference and then loaded into the treatment vessel via the vessels dedicated loading track system. The vessel door will then be closed and interlocked shut. The duration of the treatment cycle will depend on the type of wood being treated and the desired use class but will often be in the range of an hour-long cycle. Once treated, the pack is held in the vessel for initial preservative run off before being withdrawn from the vessel along its track system. Any residual preservative solution from freshly treated packs is contained and collected for re-use.

Treated packs will remain on the loading track and will not be removed until 'drip dry'. Once 'drip dry', the pack will again be handled by fork truck and taken back to the production facility for assembly or use in engineered wood products.

The treatment facility itself will be undercover and a fully contained installation with no releases to land or water.

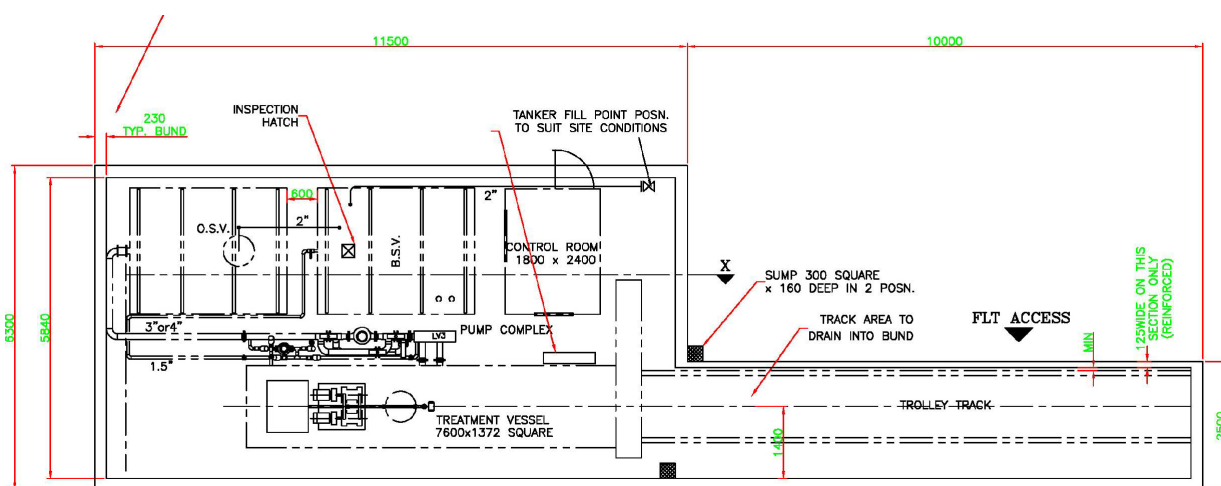


Figure 1: Anticipated plant guideline layout (do not use dimensions)

1.2 Technical details

1.2.1 Technical description: Timber treatment equipment

The technical specification of the treatment plant is as follows:

Specifications:	
Vessel	Protim MAXI double vacuum treatment plant No. 383 9.1 x 1.33m square vessel with an approximate internal volume of 14m ³ . WorkNet computer controller
Bulk Storage Vessel (BSV) and Operational Storage Vessel (OSV)	BSV: 18,750 litres and OSV: 18,750 litres
Bund capacity	The proposed bund will have a total containment capacity of 43.8 m ³ , which is >110% of the total storage volume.
Loading equipment	Raised steel track with drip tray and bridge. Trolley system with straps and electric winch system.
Post treatment drying	Integrated post-treatment drying on track system

1.2.2 Technical description: Timber treatment preservatives

The Operator proposed to use the following water-based wood preservatives supplied by Protim Solignum Limited T/A Koppers Performance Chemicals:

- Protim ME7 Clear Treating Solution
- Protim Golden Yellow
- Antifoam AF1

All materials safety data sheets are supplied in Appendix1.

1.2.2.1 Protim ME7 Clear Treating Solution

Protim ME7 C65 is an industrial water-based wood preservative containing amines, tebuconazole, permethrin and propiconazole specifically for treating softwood to use classes 1 to 4 via closed system vacuum impregnation. It is supplied in Bulk by road tanker in 'ready to use' form.

1.2.2.2 Protim Golden Yellow

Protim Golden Yellow is a colouring agent / pigments which is mixed with the ME7 treating solution to give the treated timber a golden yellow hue. The sole purpose of the additive is for the easy visual identification of ME7 treated timber, which is a clear treatment solution.

1.2.2.3 Anti Foam AF1

Anti Foam AF1 is an additive designed to minimise foaming of the preservative solution during the treatment process and helps to ensure accurate measurement levels and prevent cavitation in pumps.

1.2.3 Technical description: Low Pressure double Vacuum treatment process

Timber and wood products can be prone to rot by mould and fungus however preservative solutions can extend the operational life of the timber for many years. Pressure treated timber is a process where the preservative solution gets deep inside the wood and is much more effective than surface coating or painting.

Timber for treatment is cut and machined on site in a factory separate to the treatment facility, and packs of machined wood will be prepared ready for the treatment vessel. A forklift truck will transport the prepared pack to the treatment facility and will place it on the pack handover area. A separate fork truck dedicated to the inside the treatment facility will then collect the pack and load it onto one of the treatment plant loading tracks.

The pack to be treated will be assigned a pack reference and then loaded into the treatment vessel via the vessels dedicated loading track system. The vessel door will then be closed and interlocked shut. The treatment cycle will depend on the type of wood being treated and the desired use class but will often be in the range of an hour-long cycle.

Pumps first suck air out of the vessel to create a low vacuum. The vacuum also sucks air and moisture out of the wood inside the vessel. Whilst still under vacuum, the vessel is then filled with preservative solution. When the vessel is full, the vacuum is released and returned to atmospheric pressure. This change from vacuum to atmospheric pressure has the effect of sucking preservative solution into the wood and into the spaces where the air and moisture was sucked out.

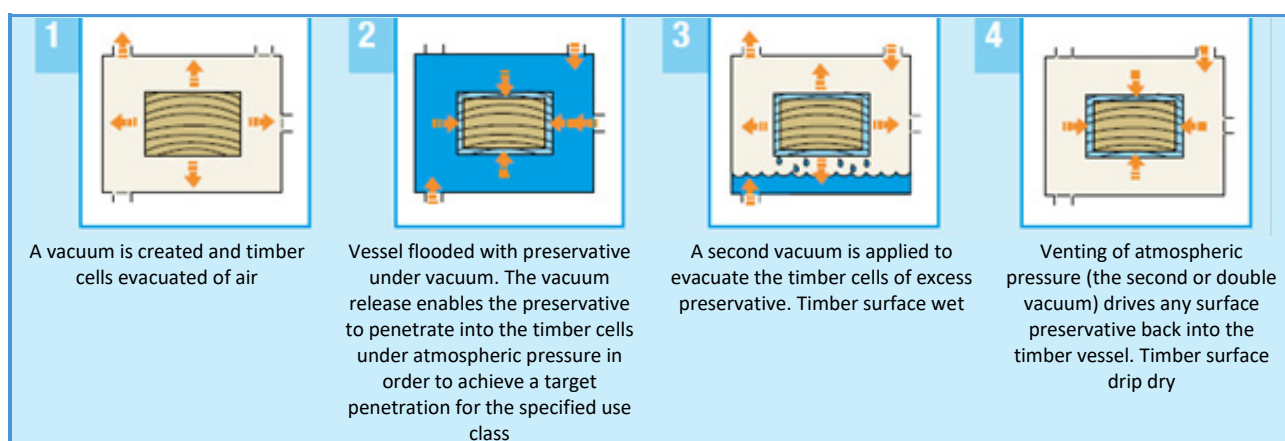


Figure 1: Typical timber treatment cycle

A second vacuum evacuates the timber cells of excess preservative which drains back into the vessel. The treated timber is still wet at this stage. The final vacuum release drives any remaining preservative solution back into the timber, leaving a nearly drip-dry treated product.

Once the treatment cycle has finished, the pack will be withdrawn from the vessel along the track system. The track system is fully banded to ensure no escape of preservative. The treated pack will remain on the track until drip dry. Once the pack is drip-dry, the A2 activity ends.

2 Releases, techniques and monitoring

2.1 Releases

The timber preservation activities will be undertaken within a fully contained, engineered bunded area. All preservative chemicals and equipment are contained within the bunded area. The bund area is of engineered concrete designed for the purpose. All equipment and chemicals used in the activity are fully contained within the engineered concrete bund.

The proposed process flow is as follows:

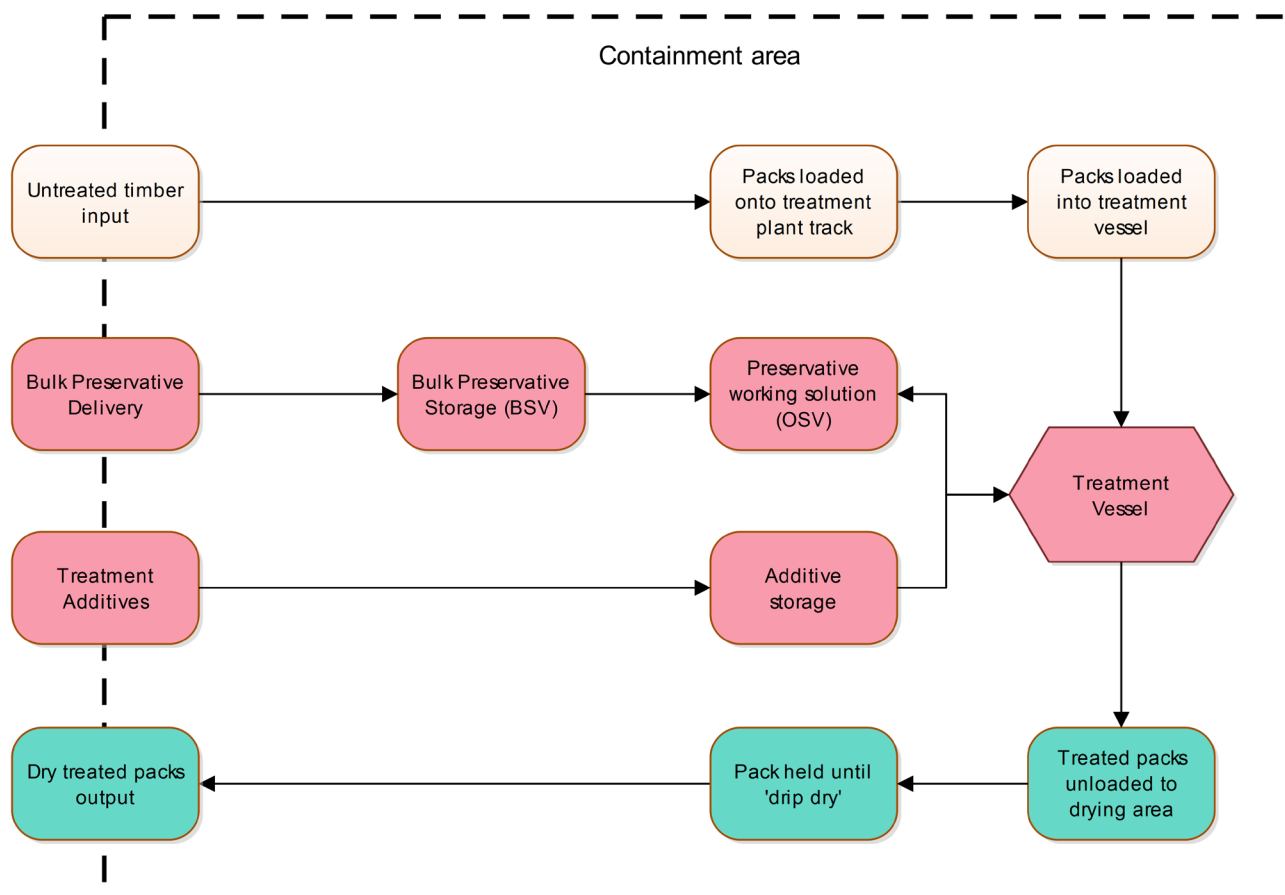


Figure 3: Process flow diagram

The activity will not include any combustion processes, nor will there be any process chimneys or associated ductwork.

This means that under normal operation:

- There will be no contained emissions to air.
- There will be no contained emissions to land.
- There will be no contained emissions to water.
- Abatement plant will not be necessary to meet any emission limit values.
- There will no fugitive emissions to air (including odour).

2.2 Techniques

The Operator proposes the following techniques in line with BAT detailed in the STS BRef:

2.2.1 Delivery, storage and handling of treatment chemicals

The ME7 Preservative solution will be delivered to site by road tanker to a delivery connection located within the bunded containment area. Small containers of Golden Yellow colour and Antifoam AF1 Containers will be stored within the main bund or a separate dedicated bund of at least 110% of the largest container in storage but are usually added by the tanker delivery driver.

The preservative solution is delivered ready to use (RTU) and needs dilution to working strength with water. All bulk storage hoses, connections and pumps are located within the engineered bunded area. The hoses connected to the IBCs will be equipped with pumps with non-return valves / inability back siphon.

2.2.2 Preparation & conditioning of wood

The Operator treats timber products produced on site and is in full control of packs built for treatment. Pack shapes and sizes will be variable due to the nature of the products produced. Where necessary to facilitate the flow of treatment chemicals through the pack and the draining after treatment 'sticking' will be undertaken. Awkwardly shaped timber pieces, particularly any piece with a 'Cup' shape, will be loaded with the open cup pointed downward to prevent preservative solution from being trapped.

All pack sizes are maximised as far as possible.

2.2.3 Preservative application

Preservative application will be via a purpose-built double vacuum plant which will be equipped with:

- Vessel door interlocks to prevent the operation of the treatment plant unless the door is locked and sealed.
- Vessel door interlocks to prevent the door from being opened whilst there is fluid in the vessel.
- Retaining brackets (catch locks) to prevent the loading door from being moved outwards by the weight of fluid behind it.
- Display screen treatment controllers.
- Safety relief valves venting into the bunded area.
- The application of a final vacuum to avoid condensation/misting and excessive preservative dripping.
- Loading door drip tray

A tilting vessel is not proposed and generally these are not associated with Vac-vac plants. The treatment plant computer 'console' monitors the plant operations including high level alarm activations and will not permit the operation of the plant if critical interlocks are not correctly made. The treatment plant and computer systems will be inspected locally and, the Operator proposes to keep their own records of on-site checks and maintenance. Any third party specialist maintenance will also be documented and retained for inspection.

2.2.4 Post treatment conditioning and interim storage

After treatment the pack will be withdrawn from the treatment vessel on an above ground rails system. Any residual drained solvent will be collected via a drip tray installed under the track system. Because of the low treatment throughput, no additional drip-dry area is required

Treated timber will remain on the drying track until drip dry. Treated timber will only removed from the drying rack once it is deemed dry. Drying time will vary according to with the type of process, the wood species and the time of year/temperature, and a documented procedure will be in place.

Once the pack is dry, the pack will be taken off the drying rack and transported to the production building by fork truck.

2.2.5 Preventing emissions to soil and groundwater

Preservative deliveries will be made by bulk toad tanker. All delivery connections will be located within the containment bund. A documented delivery procedure will also be implemented.

The treatment plant will be housed under a small shed with a pent roof and walls on three sides to protect from rainwater ingress.

The treatment process will be undertaken within a purpose-built, epoxy coated, concrete containment bund. The concrete bund will have a volume of at least 43,800 litres (43.8 m³) which is >110% of the combined BSV and OSV capacity. The wall of the containment bund will be at least 30 cm above ground level.

The proposed track delivery system will be equipped with a drip tray which will collect residual preservative solution from a freshly treated pack. The collected preservative will drain to a catch tray under the vessel door within the bund, and the collected solution will be returned to the plant storage tanks for re-use as far as practicable.

A fork truck will be used for pack handling duties, but as preservative solution will never leave the contained treatment area, the fork truck wheels are at no risk of coming into contact with any quantity of preservative solution.

2.2.6 Preventing emissions to water, and waste water management

All timber treatment operations will be protected from the weather: operated under cover, in an area designed for the purpose, meaning that the treatment area will not subject to rainwater waste water run-off. As there are no emissions to water (surface water or sewer), the sections on emissions monitoring do not apply.

3 Groundwater

Under the groundwater Directive and the groundwater Regulations, groundwater is all water which is below the surface of the ground in the saturated zone and in direct contact with the ground or subsoil. There will be no intentional point source emissions of any List I and List II substances to land, water or groundwater, therefore all potential pollution risks are from accidental releases, containment evasion or cross contamination.

3.1 Groundwater monitoring

BAT 44. BAT is to monitor pollutants in groundwater with a frequency of at least once every 6 months and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality. The default position without risk assessment is that groundwater sampling should be at least once every 6-months. The monitoring frequency may be reduced to once every 2 years based on a risk assessment or if pollutant levels are proven to be sufficiently stable (e.g. after a period of 4 years).

3.1.1 Groundwater monitoring requirement

The Stage 1-3 Assessment for Baseline Report (see section 8) concluded that relevant hazardous substances are likely to present a low risk to soil or groundwater, however a quantified groundwater monitoring survey will be undertaken. See section 8.2.

3.1.2 Groundwater monitoring risk assessment

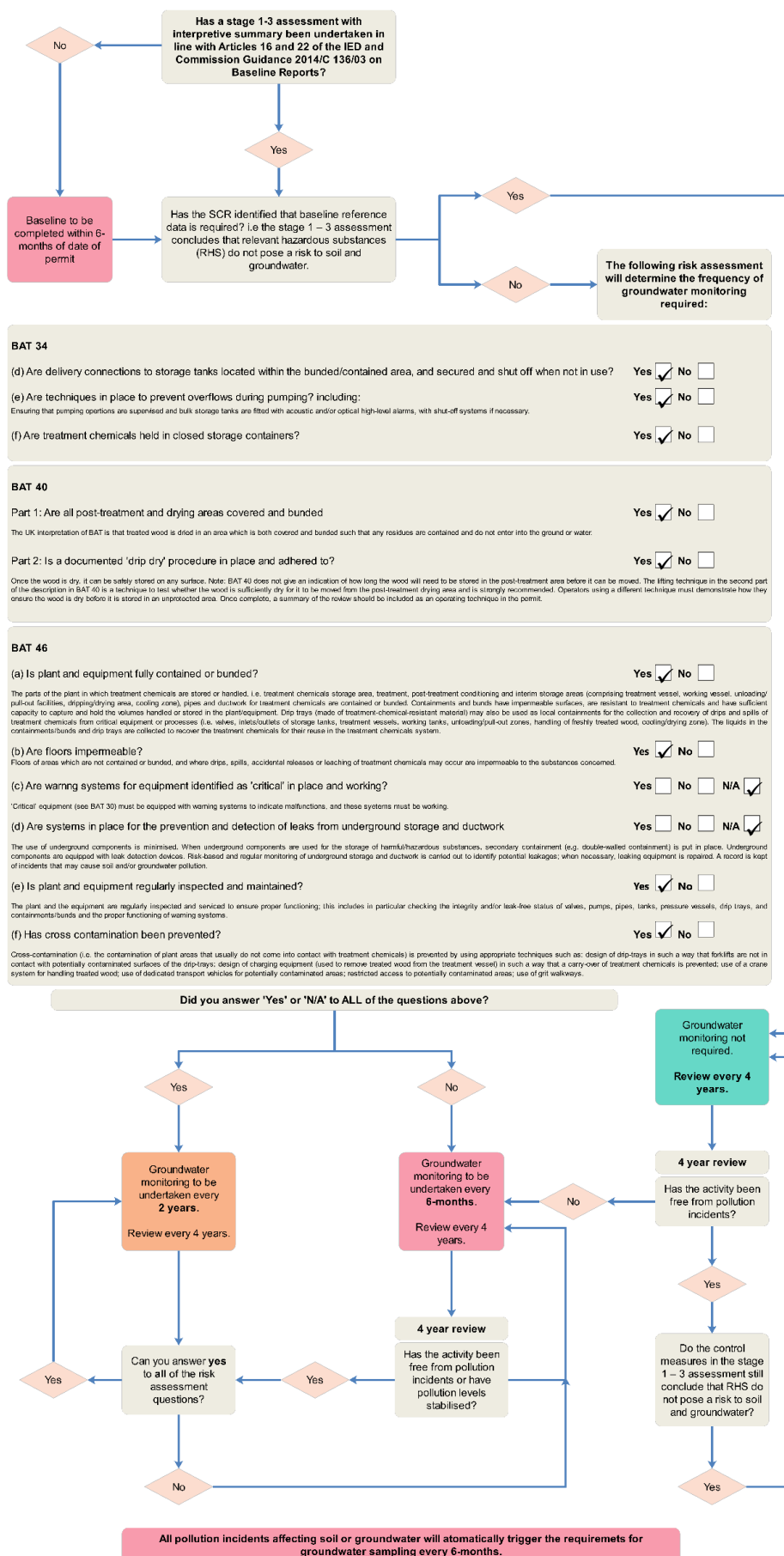
The purpose of this risk assessment is to guide the decision regarding groundwater monitoring frequency, and it is suggested that the Operator and Regulator discuss and agree the outcome. Site construction and operational techniques will guide the decision whether to reduce sampling frequency from 6-months to once every 2 years. Containment issues, leaks and cross contamination associated pollution may trigger the requirements for 6-monthly sampling with a review after 4 years.

Key factors in the assessment and determination of the monitoring frequency will be operational compliance with the measures required by BAT 34 (d) – (f), BAT 40 and BAT 46.

A pollution incident affecting soil and groundwater will automatically trigger the requirement for 6-monthly monitoring for at least 4 years (subject to any decontamination undertaken as agreed with the Regulator), after which, and if pollution levels are stable, the monitoring frequency may return to once every two years. The risk assessment is detailed on the next page.

3.1.3 Groundwater monitoring risk assessment outcome

The initial outcome of this risk assessment (subject to initial groundwater sampling confirming the absence of process related pollution) is that groundwater sampling be undertaken at least **once every two years**.



4 Raw materials & water

The overall consumption of raw materials and water will be dependent on the throughput of the plant, and it is envisaged that raw material use will increase as production increases, however the Operator aims as far as practicable to use the treatment chemicals posing the lowest environmental risk and to use those chemicals as efficiently as possible whilst meeting product manufacturing requirements.

4.1 Raw materials selection

The Operator proposes to use water-based preservatives in its process operations where water acts as the carrier for the effective agent. The Operator does not envisage the need to use of solvent-based preservatives. In conjunction with continuing dialogue with the preservative supplier, the Operator proposes to use the least hazardous chemistry available sufficient to deliver the required level of wood preservation delivered by the preservation process (BAT 32).

Wood preservation chemistry does not change rapidly and the Operator will be guided by biocides legislation and the selection and use of the most appropriate preservative solution for the product produced. In any event, the Operator proposes a review every 4 years.

Protim ME7 Clear is an established water-based low pressure treatment solution for use on building construction materials to protect against rot and insect attack.

4.2 Resource use efficiency

The Operator proposes fully enclosed treatment process as the most effective means of preservative application. A treatment computer calculates uptake based on use of preservative solution and demonstrates this as efficiency for periodic review.

The Operator proposes to compile an Annual Raw Materials report to facilitate the annual comparison of raw materials used, and will also detail any areas where future efficiencies might be achieved. The template to this technical application is provided in Appendix 2.

4.3 Water

The Operator proposes to use a ready to use (RTU) product. No significant dilution with water is required. Rainwater harvesting for the activity is not required.

5 Waste

5.1 Waste minimisation

The Operator aims to operate a 'clean operation': treating clean debris-free timber and by operating a bulk storage facility for preservative concentrate in order to minimise waste as far as practicable. Returnable IBCs will be used wherever possible.

5.2 Waste management

The Operator proposes to reduce the environmental risk related to waste management by minimising waste produced.

The waste streams, anticipated quantities, fate and opportunities are detailed below:

	Waste type	Quantity (number, litres or kg)	Handling & storage	Fate	Opportunity for prevention	Opportunity for re-use	Opportunity for recycling
5.2.1	Empty additive containers	Approx. 4 x 20 litre additive barrels per annum. No IBCs	Return to supplier	N/A	N/A	N/A	N/A
5.2.2	Vessel cleaning	Less than 200kg per clean.	Tanker at time of cleaning.	Disposal.	None.	None.	None.
5.2.3	Damaged treated timber	Not known.	Identified storage area	Disposal.	Careful handling of timber and timber packs to avoid damage	None.	None.
5.3.4	Preservative solution.	Unlikely but Max 1 tanker	Closed IBC	Re-use or disposal.	Depends on change of preservative fluid	Possibility for re-use on or off site, depending on chemistry compatibility	None

Where waste is produced, it will be stored in suitable containers within the treatment area prior to collection for disposal

6 Energy

6.1 Energy use

Electricity will be the sole source of energy used in the timber treatment activity, and will be used to drive the following types of equipment:

- Conveyors and pack transfer systems.
- Vacuum pumps.
- Pressure pumps.
- Air compressors.
- Hydraulic pumps.
- Water pumps.
- Preservative concentrate pumps.

The energy used will depend on the number of treatment cycles and the length of the treatment cycle operated. The Operator proposes to submit an Annual Raw Materials & Energy Statement to facilitate the annual comparison of raw materials and energy used, and will also detail any areas where future efficiencies might be achieved once the plant is operational. The aim is to equip the treatment plant with an electricity meter for process monitoring. The viability of metering the supply is being investigated.

6.2 Energy recovery

The activity will not generate significant heat, therefore there is no scope for heat energy recovery.

7 Noise and vibration

7.1 Noise

Timber treatment is not an inherently noisy activity and will be undertaken entirely within the process building.

The nearest permanent noise sensitive receptor is approximately 410m away from the proposed activity.

The timber treatment activity will not be audible above the current noise sources on site or nearby, therefore additional noise control techniques detailed in BAT 53 are not considered applicable.

Specific noise motoring has not been undertaken and is not proposed for this application.

If noise complaints are received in relation to the operation of the timber treatment activity, the Operator will investigate, and construct a site specific noise management plan at that time.

7.2 Vibration

The timber treatment activity will not give rise to the transmission of off-site vibrations.

No vibration motoring is proposed for this application.

8 Site report

8.1 Stage 1-3 Assessment for Baseline Report

The Industrial Emissions Directive (IED) requires an assessment to be carried out for all hazardous substances used, produced or released within the installation. Where a risk to soil and groundwater is identified baseline conditions **must** be established and soil and groundwater monitoring carried out. The EC guidance document (2014/C 136/03) is a comprehensive guide for the production of a baseline report as required by Article 22(2) of the IED. As a minimum stages 1 to 3 of this assessment should be completed, which are as follows:

- Stage 1 – Identify hazardous substances used, produced or released at the installation;
- Stage 2 – Identify relevant hazardous substances used, produced or released at the installation from the list of hazardous substances identified in Stage 1;
- Stage 3 – Undertake an assessment of site-specific pollution possibility for relevant hazardous substances;

The Stage 1-3 Assessment for Baseline Report follows below and confirms that the Protim ME7 treating solution contains potentially Relevant Hazardous substances, however the pollution prevention measures and documented procedures detailed in this permit application should be sufficient to ensure that the actual pollution risk from the operation of the installation is **Low**.

8.1.1 Stage 1 - Identification of substances on site

Stage 1 lists the substances used on-site, identifying the components that are potentially hazardous. All substance detailed on the MSDS are listed below:

Product	Use status	Hazardous substances
Koppers Protim ME7 Clear	Proposed	➤ Amines, coco alkyl dimethyl, N-oxides ➤ (2-methoxymethylethoxy) propanol ➤ 2-(2-butoxyethoxy)ethanol ➤ tebuconazole (ISO) ➤ permethrin (ISO) ➤ propiconazole (ISO) ➤ phosphoric acid ➤ acetic acid
Koppers Protim Golden Yellow	Proposed	➤ Acetic acid ➤ C.I. Basic Yellow 28
Koppers Antifoam AF1	Proposed	➤ 1,2-benzisothiazol- 3(2H)-one ➤ Reaction mass of: 5- chloro-2- methyl-4- isothiazolin-3-one [EC no. 247-500-7] and 2- methyl-2H -isothiazol-3- one [EC no. 220-239-6] (3: 1)

The above products are considered further for 'relevant hazardous substances'.

8.1.2 Stage 2 - Identification of relevant hazardous substances and non-hazardous pollutants

This stage requires that the potential pollution risks of the substances (or groups) identified in Stage 1 are determined by considering their respective chemical and physical properties. The information is then used to determine whether or not the substances have the potential to cause pollution of soil and groundwater as Relevant Hazardous substances (RHS). Proposed pollution prevention measures and management procedures are not considered at this stage.

Product	Hazardous substances	Environmental Hazard statements of mixture	Physical state & solubility	Toxicity	Mobility & persistence	Soil and groundwater pollution potential*	RHS (Y/N)
Koppers Protim ME7 Clear	➤ Amines, coco alkyldimethyl, N-oxides (2-methoxymethylethoxy) propanol ➤ 2-(2-butoxyethoxy)ethanol ➤ tebuconazole (ISO) ➤ permethrin (ISO) ➤ propiconazole (ISO) ➤ phosphoric acid ➤ acetic acid	H410: Very toxic to aquatic life with long lasting effects.	Liquid, soluble in water	Aquatic Chronic	Data sheet confirms that the product contains substances classified as Persistent or Bioaccumulative, or Toxic (PBT)	Yes	Yes tebuconazole permethrin propiconazole
Koppers Protim Golden Yellow	➤ Acetic acid ➤ C.I. Basic Yellow 28	H410: Very toxic to aquatic life with long lasting effects.	Completely miscible	Aquatic Chronic	The product contains at least one substance that is water soluble. May spread in the environment.	Not listed as groundwater pollutants	No
Koppers Antifoam AF1	➤ 1,2-benzisothiazol- 3(2H)-one ➤ Reaction mass of: 5- chloro-2- methyl-4- isothiazolin-3-one [EC no. 247-500-7]and 2- methyl-2H -isothiazol-3- one [EC no. 220-239-6] (3: 1)	None stated	Liquid, miscible in water	Non-hazardous pollutants	Mixable with water. May spread in the aquatic environment. Not expected to be biodegradable. Expected to be mobile in soil.	Not listed as groundwater pollutants	No

* The preservative MSDS in Appendix 1 and the confirmed list of hazardous substances on the Water Framework Directive UK TAG website was used in this assessment: <https://www.wfduk.org/sites/default/files/2025%2007%2015%20Confirmed%20hazardous%20substances%20list.pdf>

8.1.3 Stage 3 - Assessment of site-specific pollution possibility

This requires an assessment of the actual pollution possibility for each of the relevant substances identified in Stage 2. The assessment should consider whether the relevant substances pose a pollution risk when taking account of:

- The total quantity stored;
- The maximum amount stored at any one time;
- The proposed pollution prevention measures and whether they are fit for purpose.

Product	Amount of RHS used annually	Maximum amount of RHS stored	Details of Existing Pollution prevention measures for each Relevant Hazardous Substance	Actual Pollution Risk
Koppers Protim ME7 Clear	<20,000 litres per annum	18,750 litres in BSV 18,750 litres in OSV	Primary containment: Engineered steel storage tanks, Loading track equipped with integrated drip tray, post-treatment drying area drip trays. Secondary containment: Engineered concrete containment bund 43,800 litres (>110% of the combined BSV and OSV capacity) Management: Documented procedures including: drip dry, spillages, maintenance and periodic inspection.	Low
Koppers Protim Golden Yellow	80 litres	Nil	Yellow dye is added at time of delivery of RTU treatment fluid	Very Low
Koppers Antifoam AF1	80 litres	< 4 20 litre drums	Very small quantity stored if not added at time of delivery of RTU treatment fluid	Very Low

8.2 Baseline investigation proposals

As detailed above and in Section 3 of this application, groundwater monitoring is proposed and quotations are currently being gathered for the permanent sinking of 2 boreholes to facilitate ongoing groundwater sampling for the duration of the permit. The aim is to locate one borehole above and one borehole below the hydraulic gradient.

The Operator commissioned Ridge and Partners LLP to undertake a desk-top hydro-geological assessment for the suitability of monitoring locations. Their report is provided in Appendix 3 and concluded that one borehole to the East and West of the proposed treatment facility will be sufficient for this purpose as shown in figure 4. As the groundwater is anticipated to be held within the Glaciofluvial Fan Deposits, confined at the base by the Glaciolacustrine Clay acting as an aquiclude, it is proposed for the monitoring wells to be installed to a depth of approximately 10m below existing ground level (begl) or to the base of the Glaciofluvial Deposits, whichever is shallower.



Figure 4: Proposed groundwater monitoring well locations

The ME7 treating solution contains the relevant hazardous substances, and these will be in an operational mixture with the antifoam and the Golden Yellow colour. The operator proposes to sample for the relevant hazardous substances identified in 8.1.2 plus one of the main carrier substances, COD and pH as follows:

Product	Substance / Parameter	CAS No. / EC No. / UKREACH Reg. No.	Proposed / Current / Historical product	Notes
Protim ME7 Clear	Amines, coco alkyldimethyl, N-oxides or (2-methoxymethylethoxy) propanol or 2-(2 butoxyethoxy)ethanol	61788-90-7 263-016-9 34590-94-8 252-104-2 112-34-5 203-961-6	Proposed	Main carrier substances
	Permethrin	52645-53-1 258-067-9	Proposed	May be speciated as cis and trans permethrin
	Tebuconazole (iso)	107534-96-3 403-640-2	Proposed	
	Propiconazole (iso)	60207-90-1 262-104-4	Proposed	
	Chemical Oxygen Demand	N/A	N/A	Colorimetric
	pH	N/A	N/A	pH electrode

The final requirements, including soil sampling will be agreed with the Regulator during the determination process and once the new boreholes have been established.

9 How the installation will be returned to a satisfactory state

9.1 Introduction

The Operator envisages many years of trading from the proposed installation, however they are obliged to produce a permit surrender plan as part of the Environmental Permit application process.

The aim of the permit surrender plan is to leave the land in no worse state than as the start of the operation of the Regulated activity. The land need not be pristine on cessation of the timber treatment activity, but it must not present a source of significant harm as a result of the operation of the activity.

9.2 Permit surrender plan

An initial permit surrender plan has been produced, detailing the general principles the company proposes to follow upon the definitive cessation of the regulated activity.

The site closure plan includes:

- Site security.
- General principles of decommissioning, dismantling and site clearance.
- Site specific decommissioning, dismantling and site clearance proposals.
- Site condition and soil testing.
- Plan updates.
- Site closure report.

The permit surrender plan is included as Appendix 4 to this application.

The Annual Statement of Site Condition will be a key element for the permit surrender plan as it will simply summarise:

- Any changes to the preservative used.
- Any changes to the installation boundary.
- Any leaks, spills or problems with measures taken to protect land.
- Plant maintenance.

10 Environmental management

The Operator proposes to implement systems to ensure the environmentally safe and efficient operation of the treatment activity.

10.1 Environmental management systems

The Operator plans to implement an Environmental Management System which will include the basics of the features (i) to (xx) of BAT 1, and will be in place within 12-months of the date any permit granted. This will allow the Operator to 'fine tune' their in-house EMS to any additional permitting requirements.

The EMS will also contain the following BAT30 specific EMS items:

- (i) Keeping up to date with the developments in biocidal products and in associated legislation with a view to using the most environmentally friendly processes. Largely the preservative supplier will facilitate this.
- (ii) Identification and listing of all environmentally critical process equipment (whose failure could have an impact on the environment) (see BAT 46 (c)). The list of critical equipment is kept up to date.
- (iii) Inclusion of plans for the prevention and control of leaks and spillages, including waste management guidelines for dealing with waste arising from spillage control.
- (iv) Recording of accidental leakages and spillages, and improvement plans (countermeasures).

The draft BAT 30 specific items are included as Appendix 5 to this application for agreement with the Regulator.

10.2 Training

Koppers propose to supply the Operator with full training in the use of the impregnation plant and the preservative chemicals. Training is carried out in two stages; the practical hands-on training is done on a one-to-one basis using the Operators own plant on site.

All training will be certificated. Stage 1 has been carried out already and some existing site staff have full operator certificates. Evidence of training is supplied in Appendix 6. It is requested that personal details are redacted from the public register.

10.3 Maintenance

As detailed in the draft EMS, the Operator will undertake basic on-site planned preventative maintenance on a Daily, Weekly and Monthly basis for the timber treatment vessel. These checks will be documented and are included in the EMS. Minor amendments are likely once the activity is in progress.

In addition to onsite maintenance, a maintenance support will be provided by Koppers, who can provide third party assistance. These visits will be documented and record retained for inspection.

11 Impact on the environment

11.1 Potential significant local environmental effects

The operation of the activity will not give rise to odour, dust or noise nuisances. Process operations will be fully contained within the production building. The treatment activity will not be a source of local dust or noise complaints.

11.2 SSSIs or European protected sites

The following Sites are within a 2km radius of the installation:

Name	Designation	Grid Reference	Ref Code
Marton Pool, Chirbury SSSI	Site of Special Scientific Interest	SJ 693 438	1002317
Midland Meres & Mosses - Phase 1	Ramsar Site	SJ 693 438	UK11043

The treatment process is a 'closed loop' system fully contained within a bunded operating environment meaning that there will be no routine process releases to the environment or any designated site.

11.3 Environmental impact assessment & climate change risks

The site of the installation for Lowfield Timber is an existing industrial location for which an environmental impact assessment for planning purposes is not required.

Climate change risks have additionally been assessed as follows:

Climate event	Hazard	Potential pathway	Potential receptor	Controls techniques	Further assessment required?
Extreme temperature	Freezing and damage to containment systems and pipework resulting in a preservative leak	Site surface water drainage	Ground and surface waters	Fully contained activity within engineered bund designed to hold 110% of largest storage	No
Extreme rainfall / river flood	Lowerfield Brook flooding yard / treatment area	Brook breaks its banks	Treatment area	Lowerfield Brook has been equipped with flood containment channel	Yes, see section 11.3.1 & 11.3.2
		Floodwater overflow into treatment area bund	Ground and surface waters	Containment bund raised 0.7 m above ground level	
Sea level rise	Not in sea level rise risk area	N/A	N/A	N/A	No

11.3.1 Extreme rainfall / flooding assessment

The installation is located in a long-term flood risk area, see Appendix 1 for flood risk plan and the long-term flood risk checking service on .gov.uk:

<https://check-long-term-flood-risk.service.gov.uk/rivers-and-sea-depth>

River and the sea:

Low-lying areas that are close to rivers or the sea are more likely to flood when water levels rise.

Yearly chance of flooding



Yearly chance of flooding between 2036 and 2069

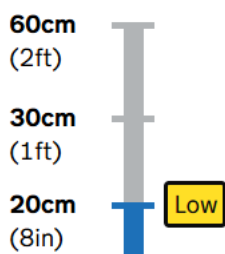


High staying at High between 2036 to 2069

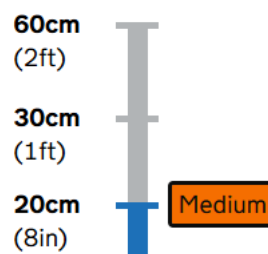
The assessment of possible flood depth from the long-term flood risk checking service is as follows:

Chance of flooding to 20cm

Present day



2036 – 2069

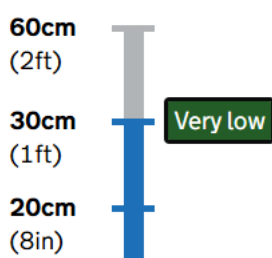


At this location there's a **Low** chance of flooding to **20cm** (or 8 inches).

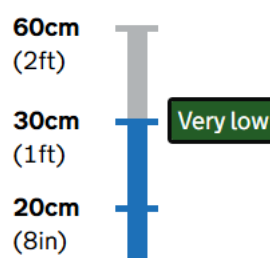
Between 2036 and 2069 this increases to a **Medium** chance of flooding to **20cm** (or 8 inches).

Chance of flooding to 30cm

Present day



2036 – 2069

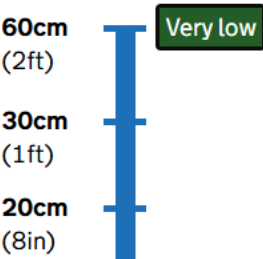


At this location there's a **Very low** chance of flooding to **30cm** (or 1ft)

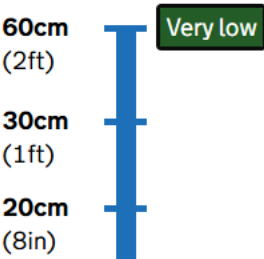
Between 2036 and 2069 this stays at a **Very low** chance of flooding to **30cm** (or 1ft)

Chance of flooding to 60cm

Present day



2036 – 2069



At this location there's a Very low chance of flooding to 60cm (or 2ft)

Between 2036 and 2069 this stays at a Very low chance of flooding to 60cm (or 2ft)

Surface water:

Surface water flooding is sometimes known as flash flooding. It happens when rainwater cannot drain away through normal drainage systems. Yearly chance of flooding:



Yearly chance of flooding between 2040 and 2060



Low staying at Low between 2040 to 2060.

11.3.2 Extreme rainfall / flooding assessment conclusions

The Operator proposes that the containment bund be installed to a height of at least 30 cm above ground level to minimise the risk of floodwater overflow into the containment area for all assessment years. The Operator also maintains a Surface Water Flooding procedure the site. This has been incorporates into the BAT30 EMS.

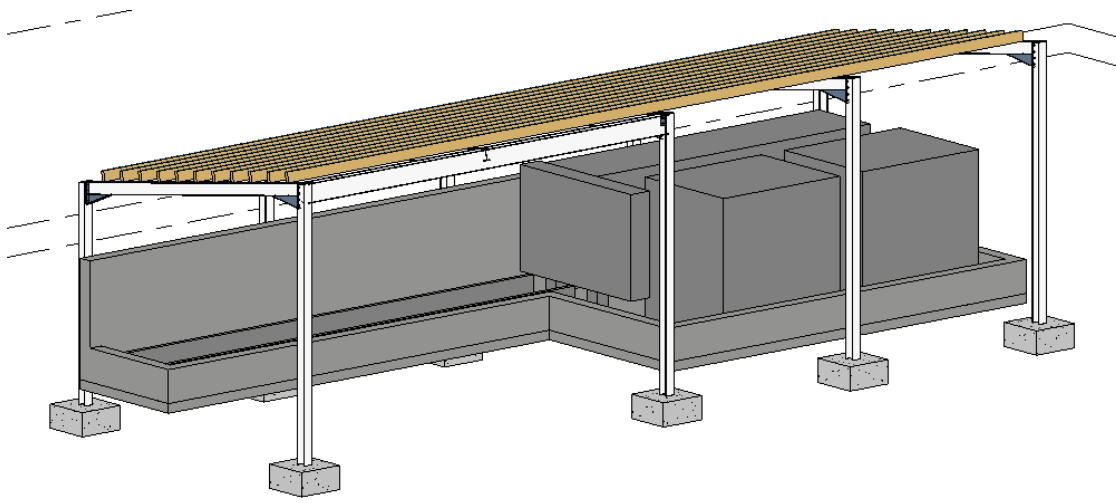


Figure 5: Cover system and containment

12 Summary of Best Available Techniques (BAT)

For completeness, a summary of STS BREF BAT conclusions applicable to the Operators proposed wood preservation activity are detailed in the following table.

BAT	Description	Applicable?
1	Environmental Management systems	Generally applicable
30	Improving overall environmental performance	Generally applicable
31	Reducing solvent emissions	Generally applicable
32	Substitution of harmful substances	Generally applicable
33	Resource efficiency	Generally applicable
34	Delivery, storage and handling of chemicals	Generally applicable
35	Preparation/conditioning of wood	Generally applicable
36	Non-pressure application processes	No: The activity will be a pressure application process
37	Spray application processes	No: The activity will not involve spray application processes
38	Pressure application processes	Generally applicable
39	Energy reduction in pressure application processes	Generally applicable
40	Post-treatment conditioning and interim storage	Generally applicable
41	Reducing waste	Generally applicable
42	Waste management	Generally applicable
43	Emissions to water	Generally applicable
44	Groundwater quality	Generally applicable
45	Emissions in waste gases	No: Applies to Solvent / creosote activities only
46	Emissions to soil and groundwater	Generally applicable
47	Emissions to water and wastewater management	Generally applicable
48	Creosote operations	No: Applies to Solvent / creosote activities only
49	Reducing VOC emissions to air	No: Applies to Solvent / creosote activities only
50	Reducing VOC emissions (creosote impregnating oils)	No: Applies to Solvent / creosote activities only
51	Reducing VOC emissions (creosote equipment)	No: Applies to Solvent / creosote activities only
52	Reducing NOx emissions in waste gasses	No: Applies to Solvent / creosote activities only
53	Reducing noise emissions	Generally applicable

The full BAT assessment is included as Appendix 7 to this application.

Appendices

Appendix 1 - Treatment solution MSDS

Appendix 2 - Annual Report and Statement of Site Condition

Appendix 3 - Monitoring Wells Desk Study

Appendix 4 - Permit Surrender Plan

Appendix 5 - BAT 30 Environmental Management Documents

Appendix 6 - Training Evidence

Appendix 7 - Full BAT Assessment

Appendices supplied as separate documents