Site details

Operator name:	**UBH Group Ltd T/A Solar Recycling Solutions**
Site name:	**Swanscombe**
Site address:	**Unit B3** **Manor Way business Park** **Manor Way** **Swanscombe** **DA10 0PP**
Permit reference:	**TBA**

Document owner

Document author:	**MRT**
Version number:	**V.1**

List of revisions

Revision number	Revision date	Originator	Checker	Company approver	Description of changes
V1	Oct 25	MRT	Sal R	Sal R	First Draft

Operator to read and complete this checklist

Required information	**Operator response** (Delete as appropriate)
Have you provided sensitive receptor information required in Section 1 below, including a site map showing receptors and receptor table?	Yes
Have you provided a detailed description of the site covering everything required in the Section 2 section below?	Yes
Have you provided information required in Section 3 below about the DEMP, the sources of dust and the appropriate measures that you have committed to for managing dust and emissions on site?	Yes
Have you provided all the information required in Section 4 below about particulate monitoring, types of analysers, data management, location of equipment etc?	Yes
Have you included all abnormal events and how these will be managed as required in Section 5 below?	Yes
Have you included information about how complaints will be managed as in Section 6 below?	Yes

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1. Introduction

1.1 Sensitive Receptors

A desk-top study was undertaken as part of the Dust Emissions Modelling Exercise (undertaken in support if the Bespoke Permit Application) in order to identify any sensitive receptor locations in the vicinity of the site that required specific consideration during the assessment. These are summarised in the table & Map below.

Figure 1.1 Map of site location and receptors

Plan taken from Dust Emissions Modelling Report - 9940r1 - Air Quality Assessment - UBH Group (SRS), Swanscombe

Table 1.1. Distances to selected, representative sensitive locations

Direction from boundary	Description of closest sensitive receptor types e.g. houses, schools, nursing homes, shops.	Approximate distance to site boundary (m)
South West	R1 (See Below)	150m
East	R 2 (See Below)	400m

Table from Dust & Emissions Modelling Report:

Table 4 Receptor Locations

Receptor		NGR (m)	
		X	Y
R1	Residential - All Saints Close	560610.2	174852.3
R2	Snowdon Hill Nursey	561136.7	174892.8

Table 1.2. Other sources of dust and/or other emissions

Company name	Address	Type of business	Distance from site boundary (m)
Numerous small businesses adjacent and/or close to the site	Manor Way Industrial Estate	Car & Commercial vehicle Breakers Car & Commercial Vehicle Servicing Various Manufacturing Companies At least one bulk building supplies supplier Inert waste screening, crushing & processing for sale Unsurfaced HGV storage yards.	Immediately adjacent & throughout the whole of the Industrial Estate.

2. Site operations

For a full description of the site operations, please see the accompanying EMS.

2.1 Waste deliveries

- Waste is delivered by road on articulated and small er HGVs.
- All deliveries are by vehicles compliant with current EU Emissions Standards Regulations.
- All loads are palletized within curtain-sided vehicles.
- Full Duty of Care Waste Transfer Notes are kept on site for every delivery.
- Only solar panels are received on site so no incoming loads are dust-generating.

Table 2.1 Typical waste types

European Waste Code (EWC)	Product description	Tonnes/ week	Covered Storage within site yard or main building
Various	Solar Panels	2000	All

2.2 Site layout and site activities

The technology is specifically designed to process silicon/glass solar panels – as used in all the current domestic and commercial/industrial applications.

Due to issues with the presence of cadmium telluride and/or gallium arsenide, thin layer panels will not be processed at the site.

These compounds are deemed hazardous waste and the site is not planning to accept these panels due to their presence within the panels.

Therefore, this DEMP will cover only the recycling of silicon/glass panels.

The current site was developed from late 2024 and comprises 3 bays of an existing ware-house/industrial unit (with a small external storage area) located in Swanscombe.

Location & infrastructure details may be found in later sections of this document.

The deconstruction process comprises a fully automated line which, after inspection & manual removal of the junction/inverter boxes and cabling, deframes the panels and re-duces the glass/silicon panel to its component materials.

All materials (except plastics) are produced in a format and purity that allows direct use as a replacement to virgin materials, enabling the products to be classed as End-of-Waste.

The End-of-Waste process & document systems are detailed within this EMS.

Any plastics are recovered in granular form and, due to the potential presence of POPs in this material, are all sent for thermal recovery at a suitably permitted facility off site.

Due to the nature of the construction of solar panels, the waste units received at SRS are unsuitable for refurbishment and re-use.

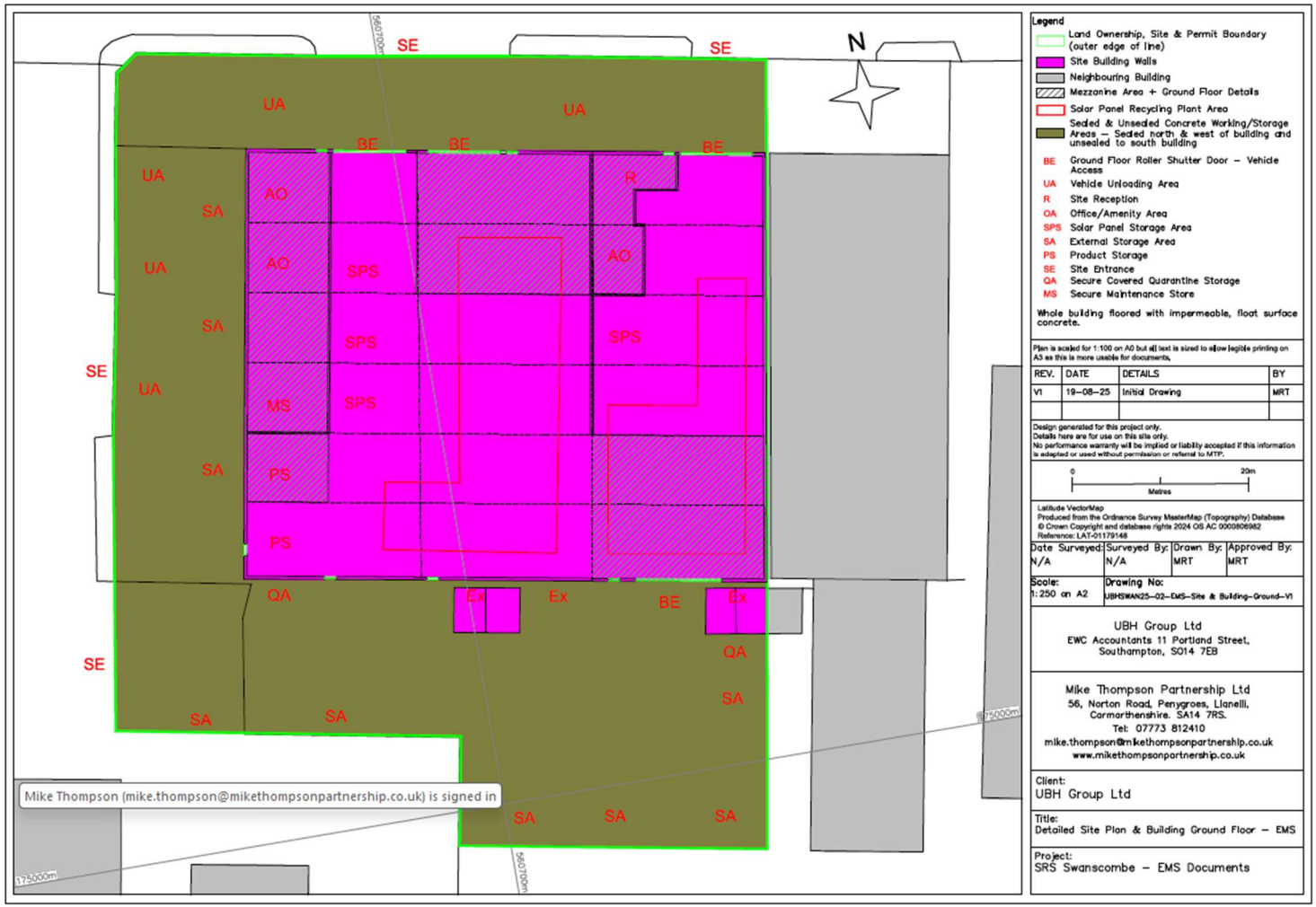
All panels sent to SRS Swanscombe are deconstructed and recycled.

The whole deconstruction process takes place within the single main building.

This process is covered by 5 dust extraction, filtration & exhaust systems located along-side the process line & extracting from various points along the line.

The full description of the environmental controls for this process are included in the EMS.

Figure 2.2 Site layout plan



2.3 Mobile plant and equipment

- No mobile process plant is used on site.
- All plant on site is electric drive apart from the 2 small fork lifts used to handle the palletized waste panels. These are serviced in line with manufacturers' recommendations.
- The fork lifts are either gas or ULS diesel fuelled.
- Both operate mainly within the main process building. As the 5 dust extraction and filtration units effectively put the building under negative pressure, the exhausts from the fork lifts are drawn through the dust extraction/filtration sysems.
- All of the deconstruction and recycling process line is electric drive and so causes no on-site exhaust emissions.
- Individual electric motors are replaced like-for-like on breakdown.
- No plant is left to idle as this is a waste of energy/fuel.

3. Dust and particulate matter (PM_{10}) management

3.1 Responsibility for DEMP implementation and training

- The Site Manager/TCM is responsible for the DEMP and making sure it works
- The Site Foreman acts as Deputy Site Manager.
- The DEMP is stored in the site offices.
- Staff are inducted on the DEMP and trained in the operation and maintenance of the dust management systems.
- The DEMP will be reviewed annually as a minimum by the Site Manager and relevant operatives.
- The DEMP will be reviewed annually or in response to a process/plant change or reported incident or exceedance.
- The TCM (wit external assistance if required) is responsible for staff training. This currently consists of making sure operators are trained and competent to operate the process and management plant on site.
- Training is delivered on induction, with refreshers annually or in response to an incident, exceedance or change of plant/process.
- DEMP is to be read alongside the EMS and other associated site documents.

3.2 Sources and control of fugitive dust / particulate emissions

- All incoming waste is palletized within curtain-side HGVs.
- Only solar panels are accepted on site so no dust is generated by the waste or its import.
- The site is concrete surfaced and contiguous with the highway and the site is kept clean so no dust from vehicle movements is generated or material dropped n the highway.
- All vehicle exhausts point upwards.
- All the processing takes place within a building, working with doors closed.
- All the processing points that may generate dust are covered by dust extraction, filtration & exhaust systems that are automatically cleaning & regularly inspected.
- All the dust extraction and filtration systems are designed to exceed the required minimum performance, so ensuring the exhaust from the systems carries less that the 5mg/m^3 maximum ELV allowed under the WEEE Appropriate Measures Guidance.
- These extraction filtration units self-monitor & will close down if a fault is detected to avoid exhausting un-filtered air. The operatives are warned when this closedown

occurs.

- All products are stored within sealed bulk bags within the main building or covered storage. The products are despatched in these bulk bags.
- The site has housekeeping equipment in the form of floor sweepers & spill kits to ensure cleanliness is maintained.

3.3 Appropriate measures used to control dust / particulates *(PM_{10} / $PM_{2.5}$)* and other emissions

The measures used to control dust emissions are listed in the table below.

The main process control measure comprises 5 dust extraction & filtration units, which cover all the points on the deconstruction/recycling line liable to generate dust.

All the extracted air is filtered prior to exhaust outside the rear of the building.

This not only ensures the exhaust complies to the regulatory requirements but also enables the building to be operated under slight negative pressure, so stopping any fugitive dust emissions.

Table 3.3 Appropriate measures used on site

Appropriate Measure	Description
VEHICLE MANAGEMENT	
Cover / seal deliveries of waste	All incoming loads palletised within curtain-sided vehicles.
Use the correct vehicle emission rating	All incoming vehicles are compliant with current emissions regulations.
SITE DESIGN AND LAYOUT	
Speed limit and 'no idling' policy.	Site has no haul roads. Vehicles do not travel above walking speed (being banked into and off site) and do not idea while being unloaded as the unloading operation takes time.
Enclosure within a building	All reprocessing operations & most storage takes place within the main building.
Product Storage	All products are stored within sealed bulk bags.
Cover conveyors and transfer points	All conveyors & transfer points are covered physically & by the dust extraction & filtration systems.
Use freeboard space to control waste.	Stockpiles should be at least 0.5m below the top of the freeboard to prevent wind whipping. Store stockpiles half a meter away from the front of the bay to prevent vehicles driving through stockpiles that have spilled out.

Appropriate Measure	Description
GOOD HOUSEKEEPING	
Good housekeeping.	Whole site is either sealed or hardstanding surface. The main site building and environs has housekeeping equipment available and inspections are undertaken daily and recorded in the Site Diary, signed off by the TCM.
Easy to clean concrete impermeable surfaces.	Building has a float concrete floor. Site aprons are sealed concrete. Yards are either sealed concrete or hardstanding.
SITE PROCESSES AND OPERATIONS	
Waste rejection procedure for dusty loads.	Loads comprise solar panels – no dusty material accepted by loader on client site.
Minimise waste storage volumes on site.	Stored waste solar panels do not generate dust.
Enclose chutes for waste drops/end of conveyor transfers and covered skips / storage vessels.	All conveyors & transfer points are covered physically & by the dust extraction & filtration systems

Appropriate Measure	Description
Remove dust output from process.	All conveyors & transfer points are covered physically & by the dust extraction & filtration systems. The filters discharge in to sealed bulk bags for onwards disposal.
Have a maintenance schedule for all fixed / mobile plant.	In place to manufacturer's requirements – see EMS.
Cover conveyors and picking stations.	All conveyors & transfer points are covered physically & by the dust extraction & filtration systems.
Localised containment.	All conveyors & transfer points are covered physically & by the dust extraction & filtration systems
Whole building - extraction and dust filtration system.	All conveyors & transfer points are covered physically & by the dust extraction & filtration systems
Dust extraction systems.	Dust extraction filters comprise 5 filter bag units with self monitoring & cleaning systems. These discharge into sealed bulk bags beneath the filter units. As most of the dust collected is fine glass dust, the material is clean enough to be sent for reprocessing and return to marketplace. The filter plant was supplied with the deconstruction and recycling plant. The extraction covers the potential dust generating parts of the recycling process and exhaust filtered air to atmosphere, effectively putting the building under negative pressure.

Appropriate Measure	Description
Dust and particulate monitor with trigger alarm.	Dust extraction system filters are self monitoring. Operatives will stop the plant if a filter shuts down. Regular independent emissions monitoring will be undertaken as part of the Permit conditions.
DUST SUPRRESSION	
Water suppression with high volume hoses / agricultural nozzles on site or at the weighbridge.	Not required for the process but may be undertaken in the external areas of site if required during hot weather.. Site is so small that a normal garden sprinkler may be used.
Water suppression with mist sprays (atomiser water spray).	See above.

3.4. Other considerations

Only solar panels accepted on site.

No dusty waste accepted on site.

All processing carried out under a dust extraction & filtration system.

All conveyors & transfer points are covered physically & by the dust extraction & filtration systems.

All storage of products is in sealed bulk bags.

3.5 Visual dust monitoring

Undertaken by operatives within the main process building and site external areas.

Any issues reported will be rectified and recorded in the Site Diary.

4. Particulate matter monitoring

4.1 Monitoring location

Monitoring will be undertaken as required by the Permit Conditions (yet to be confirmed).

Direct monitoring of the dust extraction and filtration systems exhausts will be taken from monitoring points within the exhaust vents themselves.

Monitoring, sampling & analysis will be carried out by an MCERTS accredited contractor.

Static, continual dust monitoring at the site boundary will not be representative of the site operational performance due to the large number of non-waste, unregulated operations being undertaken in the immediate locality of the site.

4.2. Particulate matter monitoring equipment / data management

- The TCM will be responsible for contracting out the monitoring operations.
- The MCERTS- accredited contractor will review and report on the data and advice on any actions required.
- The TCM will be responsible for undertaking any remediation actions required and for repeating the monitoring through the MCERTS – accredited contractor.
- All monitoring data will be forwarded to the E.A. and retained on site.

4.2 Quality assurance / quality control and record keeping

As part of the MCERTS – accredited service, the MCERTS- accredited contractor will ensure QA and QC for the data and reporting.

Records will be kept by the MCERTS- accredited contractor and on site.

4.4 Additional detailed investigations

These will be undertaken under the guidance of the MCERTS- accredited contractor The MCERTS- accredited contractor should the monitoring detect an exceedance.

4.5 Actions when alarms are triggered

The dust extraction filters are self monitoring & cleaning and will shut down and sound an alarm if any fault is detected.

The processing plant will be closed down while the dust filter is repaired and tested to ensure no uncontrolled emissions occur.

4.6 Reporting of data

Data from monitoring required under the Permit will be reported to the E.A. by the TCM.

All other data will be retained on site and made available to E.A> Officers on demand.

5. Abnormal events

If an abnormal event occurs, the plant will be shut down until such issues raised are rectified and safe working can recommence.

The details of the event, issues caused and its remediation will be recorded in the site diary.

6. Reporting and complaints response

Any complaints about dust generation will be dealt with through the site standard complaints procedure, as detailed within the EMS.

Records will be kept, as detailed within the EMS, covering the complaint, resulting investigation and any remediation works required.

These records will be held on site & made available to E.A. Officers on demand,

6.1 Community engagement

If deemed necessary, neighbours to the site will be contacted if any requests for information on dust monitoring and generation issues are received by the site.

6.2 Complaints management and reporting

Any complaints about dust generation will be dealt with through the site complaints procedure, as detailed within the EMS.

Records will be kept, as detailed within the EMS, covering the complaint, resulting investigation and any remediation works required.

These records will be held on site & made available to E.A. Officers on demand,