



Advanced material treatment, remediation and recycling technology

Treatment Hub Swansea

Site Condition Report

Building 3, Westfield Industrial Park, Swansea.

Reference – TTH/SSF/08-19/004

Issue No.	Issue Date	Description	Prepared by:	Checked by:	Approved by:
Original	August 2019	Original	Simon Farr Operations Director	Phil Rees PLR Services	Simon Farr Managing Director

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Introduction.

This Application Site Report has been prepared by The Treatment Hub Ltd in support of a New Bespoke Installation Permit at the former Alcoa Manufacturing (GB) Ltd (site at Westfield Industrial Park, Swansea (The “Site”) for the proposed installation of a Soil Treatment Facility.

The document represents the Site Condition Report submitted as part of the application package to Natural Resources Wales. The information has supplied by the site and various third party information sources.

The site is under ownership GBE Westfield Ltd and is located at Building 3, Westfield Industrial Park, Waunarlwydd, SA5 4SF.

The proposed processes include for the chemical stabilisation and bioremediation of contaminated soils and wastes

This process meets the description of a Part A (1) process activity as defined by Section 5.4 ‘Recovery of Waste’, Paragraph A (1) – c - (iii) namely;

‘Unless carried on as part of other Part A activity, recovering hazardous waste in a plant with a capacity of more than 10 tonnes per day by means of the following operation-

(iii) recycling/reclamation of inorganic materials other than metals and metal compounds (R5).

The Treatment currently operates under an Environmental Permit (EPR/ZP3393NJ) covering Building 2, Westfield Industrial Park, Waunarlwydd, SA5 4SF. The Treatment Hub proposes a similar operation to be undertaken within Building 3.

The Treatment Hub proposes to utilise the existing building in its entirety and will not require the erection of any new buildings or structures. All processes and operations will be included within the Installation boundary of the site and will be carried out internally.

The inclusion the new waste activities do not extend the Installation Boundary beyond the confines of the perimeter of the existing permitted operation.

This Site Condition Report has been produced in accordance with the Natural Resources Wales Guidance Document - Site Condition Report Templates (Version 3, dated 2014). This report provides baseline information in relation to the site.

Section 1 - Site Details

The applicant is

The Treatment Hub

Registered office address

**Brook House,
Moss Grove,
Kingswinford,
West Midlands,
DY6 9HS**

Activity Address

**Building 3,
Westfield Industrial Park,
Waunarlwydd,
SA5 4SF.**

The grid reference based on the centre of the proposed Permit area is

**E 260224
N 195930**

Document References and dates for the Site Condition Report at permit application and surrender.

**Site Condition Report Building 3, Westfield Industrial Park, Swansea. SA5 4SF.
TTH/SSF/08-19/002
August 2019**

Document Reference and Site Plans

**Annex A of this report:
Figure A1 – Site Location
Figure A2 – Site Location
Figure A3 – Proposed Site Layout
Figure A4 – Adjoining properties
Figure A4 – Photos of the site**

Section 2 - Condition of Land at Permit Issue

2.1 Environmental Setting

2.1.1 Site Location

The location of the intended Site is shown on Figure 1 and 2, Annex A, centred at approximate National Grid Reference for the centre of the site is OS X (Eastings) 260224 OS Y (Northings) 1959309. The proposed site layout is shown in Figure 3.

The Treatment Hubs' proposed activities will be located within Building 3, Westfield Industrial Park, Waunarlwydd, SA5 4SF. The total Westfield Industrial Park site area is approximately 22 hectares, 8 hectares of which has building cover and formerly housed Alcoa Manufacturing (GB) Ltd's aluminium casting, hot and cold rolling and coating activities (operated under the name of Alcoa Mill Products). Alcoa Mill Products was operated under the conditions of IPPC permit BM1377, which was subsequently surrendered during July 2007 following extensive baseline assessment.

Since the closure of the site in 2007, a majority of the major manufacturing buildings have remained unused with key plant and equipment decommissioned and / or removed. A number of the existing buildings have subsequently been let for alternative manufacturing and storage uses.

The Treatment Hubs' proposed operations will be located within one of the existing Alcoa buildings (former raw materials building) which is imbedded in the approximate centre of the site and surrounded by industrial facilities.

To the North of Building 3, is the titanium alloy manufacturer (Timet).

To the South is a large slab area (following demolition of former manufacturing / storage facilities).

To the East is the existing Treatment Hub facility.

To the West is the former Real Alloy facility (currently vacant).

A railway line lies to the south of the site boundary with Waunarlwydd village beyond. The Afon Llan lies to the North (beyond the Timet facility).

The closest residential receptor is the residential area of Bridge Road which is located approximately 250m to the south of the site.

The Environment Agency flood zone database indicates that the site is not situated within a designated flood zone and therefore is considered an area of low probability with regards to flooding (the chance of flooding each year is estimated at 0.1% (1 in 1000) or less).

2.1.2 Geology, Hydrogeology and Surface Waters

Desk-based research of the local geology, hydrogeology and surface waters has been carried out in order to establish the potential for migration of contamination onto or away from the Site, and to assess the surface water and groundwater sensitivity of the Site area.

A review of former intrusive investigations carried out as part of the site surrender investigation has been carried to further inform this section.

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Information was obtained from a number of sources, namely:

- British Geological Survey (BGS) 1:50 000 Series Sheet 247, (Solid and Drift).
- British Geological Survey (BGS) 1:10,560 Series Sheet SS 69 NW (Solid and Drift).
- British Geological Survey (BGS) 1:10,560 Series Sheet SS 59 NE (Solid and Drift).
- National Rivers Authority (NRA) "Policy and Practice for the Protection of Groundwater", Groundwater Vulnerability 1:100, 000 Map Series, Sheet 35, West Glamorgan.
- Information provided by an environmental database report (Envirocheck).
- Information provided by previous ground investigations undertaken at the site by: Applied Geology: Hydrological Study Phase 1, February 1992; Geraghty & Miller (G&M): Site Wide Hydrogeological Survey, Waunarlwydd Works, Swansea, February 1994; ExCAL Limited: Site Investigation, September 2002; Natural Solutions: Addendum to the ENVIRON Site Condition Report (2003).
- BGS Borehole Archive Data for a 1km radius around the centre of the site.
- ENVIRON Report ref 64-C11647: Site Surrender Report: Part 2 – Surrender Data (July 2007)

Geology

The geological sequence beneath the site is as follows:

- Made Ground.
- Swansea Valley Fill.
- Alluvium.
- Boulder Clay.
- Coal Measures.

The proposed operations are within the former raw materials building which were constructed by Alcoa in the 1970's. These buildings are known to be constructed on significant concrete foundations

The Made Ground has been observed to range from 0.45m bgl to 6.5m bgl beneath the proposed installation. The Made Ground can be found as black, clayey ground or hardcore and hardstanding known to contain Swansea Valley Fill (SVF) materials from the 1930'. SVF has been shown to comprise cobble size fragments of slag, furnace brick, concrete and wood fragments.

The Alluvium clays, sands and gravels are classified as a minor aquifer. Shallow groundwater may be present within these deposits at a depth of 3.3mm.

The Boulder Clay on site has been proven to comprise grey sandy gravelly clays or stiff orange brown mottled grey sandy gravelly clay. The Boulder Clay is reported to be a negligibly permeable non-aquifer. The Boulder Clay is present throughout the site at depths of 8.0m.

The Coal Measures comprise weathered mudstones and sandstones and are classified as a minor aquifer. In some locations on site they are less than 1m from the surface. The Coal Measures are present beneath the site to depth (13.0m bgl).

The site is located in an area which may be affected by coal mining activity. There is a low-moderate risk from shallow mine hazards on site, a moderate hazard potential for compressible ground stability, very low hazard potential for landslide ground stability and very low/low hazard potential for running sand

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ground stability. There is also very low hazard potential for shrinking or swelling clay ground stability hazards. The site is located in an area where no radon protective measures are necessary.

Hydrogeology

Information taken from the 1:100,000 West Glamorgan (Sheet 35) Groundwater Vulnerability Map and the NRW website indicate that the site lies on a minor aquifer of variable permeability.

These are further described as rocks that can be fractured or potentially fractured, which do not have a high primary permeability, or other formations of variable permeability including unconsolidated deposits. Although not producing large quantities of water for abstractions, they are important for local supplies and in supplying base flow to rivers.

The overlying drift deposits are low permeability drift deposits occurring at the surface and overlying the Minor Aquifer below are head, clay-with-flints, brickearth, peat, river terrace deposits and marine estuarine alluvium.

The overlying soils have been classified as having a high leaching potential, as soil information for restored mineral workings and urban area is based on fewer observations than elsewhere, a worse case vulnerability classification (H) is assumed or as otherwise proved.

There are no groundwater abstractions within 1km metres of the site.

According to the NRW website, the site does not lie within a Groundwater Source Protection Zone.

Surface Water

There are no surface water features located on site.

The Gors Fawr Brook is located c. 500m west of the site at its closest point and flows in a north westerly direction. This watercourse is not classified under the NRW General Quality Assessment Scheme. No flow data for this watercourse was available. Groundwater beneath the site is not in hydraulic conductivity with the culverted tributary of the Gors Fawr Brook.

The Afon Llan is located c. 300m north of the site at its closest point and flows in a westerly direction. The Afon Llan is classified as Grade A for chemical quality in 2000. According to the NRW website, the Afon Llan was classified as Grade C for chemical quality in 2006. The flow of the Afon Llan at this point is reported to be less than 0.62 cumecs.

The NRW flood zone database indicates that the site is not situated within a designated flood zone and therefore is considered an area of low probability with regards to flooding (the chance of flooding each year is estimated at 0.1% (1 in 1000) or less).

The publicly available third party database, Envirocheck, holds two records of licensed surface water abstractions within 2km of the site. The closest abstraction is located c. 300m north of the site from the Afon Llan for the abstraction of cooling water for non-evaporative cooling processes within the metals industry. This abstraction was licensed to Alcoa Manufacturing (GB) Ltd.

The above Licensed Water Abstraction is associated with the former site activities and is known to be unused.

The only other abstraction is located 1.65km north west of the site, from the Afon Llan for the abstraction of make up or top up water (amenity). This abstraction is licensed to Bromham Leisure Ltd.

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2.1.3 Designated Sites

The NRW H1 and H5 guidance states that the potential impacts of the site should be assessed for the following habitat sites within 10km of the Installation:

- Special Areas of Conservations (SAC's and candidate (cSACs) designated under the EC Habitats Directive;
- Special Protection Areas (SPAs) and potential SPAs designated under the EC Birds Directive.
- Ramsar Sites designated under the Convention of Wetlands of International Importance.

It is also stated that within 2km of the Source:

- Sites of Special Scientific Interest (SSSI) established by the 1981 Wildlife and Countryside Act;
- National Nature Reserves (NNR);
- Local Nature Reserves;
- Local Wildlife sites;
- Ancient Woodland.

Information from the Countryside Council for Wales (CCW) website (<http://ccw.gov.uk>) has been used to obtain the above information.

According to the CCW website, there are two RAMSAR Sites, Special protection Areas (SPA's) or Special Areas of Conservation (SAC's) within a 10km radius of the site.

Name		Dist from Site	Site References:	
Name:	Burry Inlet	4.5km West	Unitary Authorities: City and County of Swansea, Carmarthenshire Site Reference: UK14001 Site Area: 6,672.95 ha	
Designation:	RAMSAR & SPA			
Reason:	The Burry Inlet is a large estuarine complex located between the Gower Peninsula and Llanelli in South Wales. It includes extensive areas of intertidal sand and mud flats, together with large sand dune systems at the mouth of the estuary. The site contains the largest continuous area of saltmarsh in Wales The Burry Inlet regularly supports large numbers of wildfowl and waders, and is especially important for Oystercatchers, Pintail and Shoveler.			
Name:	Crymlyn Bog	9.5km South Esst	Unitary Authorities: City and County of Swansea, Neath and Port Talbot Site Reference: UK14006 Site Area: 267.56 ha	
Designation:	RAMSAR & SAC			
Reason:	Crymlyn Bog is a large wetland site situated in a glacial depression on the eastern edge of Swansea. The site includes the adjacent Pant-y-Sais Fen and consists of a complex mosaic of vegetation types made up of communities characteristic of both nutrient-rich and nutrient-poor conditions. The presence of significant areas of saw sedge swamp is notable in extensive stands of this uncommon vegetation type. The site also supports a large population of the nationally-rare slender cotton grass. The area is important for its rich invertebrate fauna, including many nationally rare or highly localized species associated with mires			

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Name: Designation: Reason:	Gower Ash Woods/ Coedydd Ynn Gŵyr SAC SAC The steep sided limestone valleys of South Gower provide ideal conditions for the ash woodlands to thrive. The woods have a great diversity of trees and shrubs, including ash, sycamore, pedunculate oak, small-leaved lime, field-maple, dogwood and spindle. The ground flora is rich, with fine displays of ramsons and bluebells in spring. This site is considered one of the best areas of ash woodland in the UK.	4.5km South / SW	SAC Code: UK0030157 Unitary Authority: City and County of Swansea Area: 233.15 ha
Name: Designation: Reason:	Gower Commons/ Tiroedd Comin Gŵyr SAC SAC This site was selected as a SAC because of the presence of such large areas of lowland heathland and marshy grassland vegetation and for the presence of populations of the rare marsh fritillary butterfly and the southern damselfly which these habitats support.	4.3km South / SW	SAC Code: UK0012685 Unitary Authority: City and County of Swansea Area: 1,776.72 ha

There are no Sites of Special Scientific Interest (SSSI's) within 2km.

Given that the site does not have any emissions to atmosphere, controlled water or to land It is the conclusion of this assessment at the proposed operations are not likely to have any significant effects on any designated sites.

The site is not located within a nitrate vulnerable zone.

The site is not located within an Air Quality Management Area.

2.2 Pollution History

2.2.1 Environmental Database Records

The following information has been obtained from a search of a publicly available database of environmental information (Envirocheck data sheets, produced by Landmark Ltd).

The database contains records of information from public registers held by environmental regulatory authorities and can be used to assess the site's sensitivity, the potential for neighbouring activities to pose a risk to the site and to determine whether specific records of pollution relate to the subject site.

Pollution Incidents

At the time of this submission, the current occupiers report that there have been no significant pollution incidents at the site.

The environmental database does not hold any records of pollution incidents relating to the Site.

There have been three incidents recorded on the substantial pollution incident register, within a 1km radius of the site. The closest of these occurred c. 600m east and was deemed to be a category 2 incident – significant incident with regards to land impact – and a category 3 incident – minor incident with regards to air impact. The pollutant involved was specified to be ammonia solutions

According to the Envirocheck database there has been one pollution incident to controlled waters within a 250m radius of the site. The incident occurred on 24th July 1997 at a point approximately 70m north west of the site and involved the release of chlorinated water to a tributary of the River Llan. It was designated

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as a category 3 – minor incident. A further 25 incidents have occurred within a 1km radius, of which the majority were classified as category 3 incidents.

Licensed Waste Management Facilities

There are two registered landfill sites within a 1km radius of the site:

- Alcoa Manufacturing (GB) Ltd – License Number 34021. This landfill was recorded as being inactive as of November 1988 and was a medium sized industrial landfill and is now closed and redeveloped as the Aleris Facilities.
- Timet Landfill – License Number 34005. This license is currently active and is an industrial waste landfill. Sludge Lagoon.

There is one registered waste treatment or disposal facility operated by I. M. I (Titanium) Ltd as an operational large storage lagoon. The site is authorised to dispose treated effluent sludges to land.

Discharge Consents

The Envirocheck database holds ten records of current discharge consents within a 1km radius of the site. The closest of which is held by Alcoa Manufacturing (GB) Ltd at a point c. 30m north west of the site to an unnamed tributary of the Gors Fawr Brook.

Authorised or Permitted Processes

The most significant industrial processes located in the vicinity of the site are;

- Timet Ltd; A Titanium Alloy Manufacturer.
- Real Alloy Ltd; Waste Processing Site – specifically for the recovery of metals from third party aluminium drosses.

Historical Land Uses and Site History

Available historic maps for the site have been obtained and reviewed to determine if there is the potential for contamination to be present on Site associated with the Sites historical uses.

The land use chronology shown on the historical plans generally correlates with information obtained from Alcoa personnel on the sites historical development. The following overview has been formed from the available information.

- The original Alcoa plant was opened in the late 1930s by ICI for the manufacture of non-ferrous metals. The initial plant building was the main central area of the existing Alcoa plant.
- At about the same time, land to the north end east of the ICI buildings was raised using Lower Swansea Valley Fill material (SVF) and the TIMET Ltd (formerly IMI Titanium) plant was built on marshland north of the ICI plant, again, again on raised ground using SVF.
- During the late 1940's the extrusion plant buildings (to west of the mina plant) were developed on raised land and used as part of the wider Alcoa site.
- Further site expansion occurred in 1974. Resulting in the Alcoa plant buildings extending northward and eastward to house the hot mill, cold mill, coil preparation line, original coil coating line and shrink pack line. Further expansion took place in 1988/9 during which time a new Coil Coating and Slitter line was constructed.

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- At the peak of the site operations the site was the largest manufacturer of rolled products and extruded aluminium profiles in the UK and operation an aluminium remelting foundry operation with a capacity greater than 200,000 tonnes per annum.
- All aluminium processes and ancillary manufacturing operations at the site were regulated by the Environmental Agency (as Part A (1) processes) until closure and surrender of the permit in 2007.

2.2.3 Site Reconnaissance

Visual/Olfactory Evidence of Existing Contamination

The site is entirely constructed of concrete hardstanding. All areas of the Installation have been subject to a visual inspection at the time of this application document.

The inspection was carried out in conjunction with the applicant for the purposes of inspecting as assessing the following:

- Physical condition of hardstanding;
- Condition and adequacy of containment bunds;
- Housekeeping and Pollution prevention measures; and
- Condition and adequacy of underground drainage and containment systems.

A detailed review of all of the identified aspects of the site was carried out. No sources of potential pollution or pollution pathways were identified that have not already been highlighted as part of the previous conceptual site models and site surrender documents.

The key areas of site where the potential pollutant pathways exist on site are related to the following:

- Base of existing building foundations and basements;

The existing site was observed to be in general good condition with no identified pollution sources or pathways. Although all internal floor areas were all intact and in good condition, there were a number of area where building services or equipment bases (barrier / railing sockets, cable ducts etc.) were observed to provide a potential pollution pathway.

Therefore prior to the commencement of any activity on site, all floor areas will be inspected and if necessary repaired to ensure that all surface / floor slabs are sealed and that there is no potential for sub-surface contamination during the operational lifetime of the plant.

The following measures have been incorporated into the design of the new activity;

- All aspect of the site will be operated on sealed impermeable floor slabs which as a minimum will comprise of reinforced concrete which will be at last 200mm thickness.
- All storage tanks, process pipelines and equipment will be installed above ground.
- There will be no underground structures, pipelines or transfer ducts.
- All storage tanks will be equipped with secondary containment bunds that have been designed to comply with EA best practice guidelines as defined by PPG2 – Above Ground Storage Tanks.
- All storage tanks will be fitted with level gauges alarms and hardwired into the plant online (SCADA) monitoring system. The site will be operated in accordance to a strict maintenance schedule.

Evidence of Damage to Pollution Prevention Measures

Pollution prevention measures for the existing site are implemented through the site's Environmental Permits (Ref. PP3732XV and ZP3537S).

2.3 Evidence of Historic Contamination

Previous Site Investigation

The site was previously regulated by the Environment Agency under the condition of EA IPPC permit EA/PPC/BV0783. The permit was surrendered by Alcoa Manufacturing (GB) Ltd in July 2007 and was subject to an extensive intrusive site investigation to establish baseline conditions for the site at the time of surrender.

The site investigation was carried out on the behalf of Alcoa Manufacturing (GB) Ltd by ENVIRON UK Limited (ENVIRON) for the purposes of collecting surrender data for the Site Surrender.

The site investigation, testing and sampling was undertaken in accordance with the Environment Agency (EA) IPPC H8 Guidance and Template and relates to Section 5.7 to 7.1 of the H8 guidance.

The overall objective of the Site Surrender Report (SSR) is to demonstrate that there has been no deterioration in the ground conditions attributable to Permitted activities at the site, or if pollution has occurred, that the site is returned to a satisfactory state where practicable and that pollution risks have been removed.

The surrender site investigation consisted of the advancing of boreholes and the recovery of Soil and groundwater samples which were subsequently submitted to an independent MCERTS and UKAS accredited laboratory for chemical analysis.

Analysis was undertaken for a range of potential contaminants appropriate to Permitted activities in each of the PPC Zones.

The determinands included metals, ammonia, petroleum hydrocarbons, polyaromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and polychlorinated biphenyls (PCBs).

One round of gas monitoring of all monitoring wells for volatile hydrocarbon vapours (by PID), methane, carbon dioxide and oxygen together with gas flow rates was undertaken.

The gas monitoring data and rest groundwater levels are also provided.

Soil and groundwater results have been screened against statistically justified reference and Baseline Data.

Section 3 - Permitted Activities

3.1 Permitted Activities Undertaken at the Installation

3.1.1 Existing Activities

There is currently no activity on site. The building previously housed Alcoa's raw material storage and associated ancillary production operations.

The Treatment Hub has made an application for a New Bespoke Installation Permit for the installation of a physical and chemical immobilisation facility for the receipt, treatment and recycling of contaminated soils and wastes. This process meets the definition of a '*waste recovery facility*' as defined by Chapter 5 'Waste Management' of Schedule 1 of the EPR Regulations.

The site will be able to process 50,000 tonnes of waste per annum. The plant will typically process approximately 500 tonnes per week of hazardous and non-hazardous waste.

3.1.2 Description of the Process

The treatment/recovery process is a physico-chemical-bio operation designed to address any potential contamination issues associated with the contaminated soils / waste and to enable the treated material to be fully recycled either as construction soils / aggregates for development site or locally as restoration material.

The process involves the treatment of filter cake waste with a combination of a suitable E-Clay formulation to chemically immobilise potential pollutants of concern and to ensure that the product is non-polluting, together with cementitious additives to impart suitable physical properties. Due to the controlled environment hydrocarbon contamination is naturally reduced via bioremediation.

The treatment process essentially involves encapsulation in which there are no material changes to the individual components.

The designated E-Clay formulation will comprise of a modified pillared organoclays designed to sorb and chemically immobilise the identified contaminants of concern. This immobilisation process will significantly reduce the risks associated with the potential leachability of the pollutants contained within the treated medium, thereby addressing the requirement for the treated material to be non-polluting enabling reuse.

The cementitious additives will provide the necessary physical properties to enable the treated material to be used as a product.

The main processes of the operations are summarised below:

- **Reception:** Operator-owned vehicles or registered waste carriers will deliver appropriate waste to the site. All unsuitable waste will be returned, quarantined or disposed of. Suitable waste will be unloaded and fed into the treatment operation.
- **Treatment Operation:** Contaminated soils / wastes will be treated in discrete batches with E-Clay and cementitious additives. The treated material will then be stockpiled.
- **Validation Process:** All material will be subject to visual assessment as well as physical and chemical analysis (as required).
- **Final Storage:** All material is stored until distributed.

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3.1.3 Substances Used and Produced at the Installation

Information on the storage and use of the materials used and produced at the installation are provided in the following sections.

Bulk storage

There will be no bulk storage of hazardous materials at site (other than water).

Treatment Operation

Once the material has been accepted into the treatment facility the waste will be stockpiled in batches, ready for the treatment operation.

The treatment operation will be carried out within the building within a designated area. The treatment has two key criteria:

- Chemical stabilisation / immobilisation of targeted chemical pollutants.
- Physical improvement of to enable recovery as a product for the purpose intended.

Once treated, the materials are conveyed away and stockpiled.

Strict Quality and Environmental aspects which will be defined in the Quality Plan will be monitored throughout the treatment operation.

Waste Storage

Imported wastes will be assessed on arrival as part of the Acceptance Protocol, compliant materials will be stockpiled according to contamination profile. Non-compliant materials will be returned or placed in quarantine.

Drainage Systems

All surface water runoff arising from the operational areas of the site will be contained and reused within the treatment process. Water is only used within the sealed process containers and for the making up of treatment slurries (which are rapidly absorbed into the soil matrix). No process water is used for any other aspect of the process.

All waste processing areas within the Installation Boundary will be hard surfaced and impermeable.

Where existing drainage has been identified, a full inventory has been produced together with required actions to protect each installation identified.

Hardstanding

All internal processing areas will be constructed with impermeable concrete hardstanding which will be designed in accordance to the load bearing requirements of the processing equipment and vehicles used at the facility. Typically, all non-structural concrete areas will comprise reinforced concrete hardstanding of at least 300mm thickness. All other load bearing elements will be significantly thicker as required and determined.

3.1.5 Potential for Fugitive Releases to Soil, Groundwater and Surface Water

Although the materials and substances that will be processed by the facility have the potential to cause pollution in the event of uncontrolled leachate or runoff, the design and management of the facility will ensure that the risks of contamination to either the underlying ground or groundwater have been fully mitigated through the following measures:

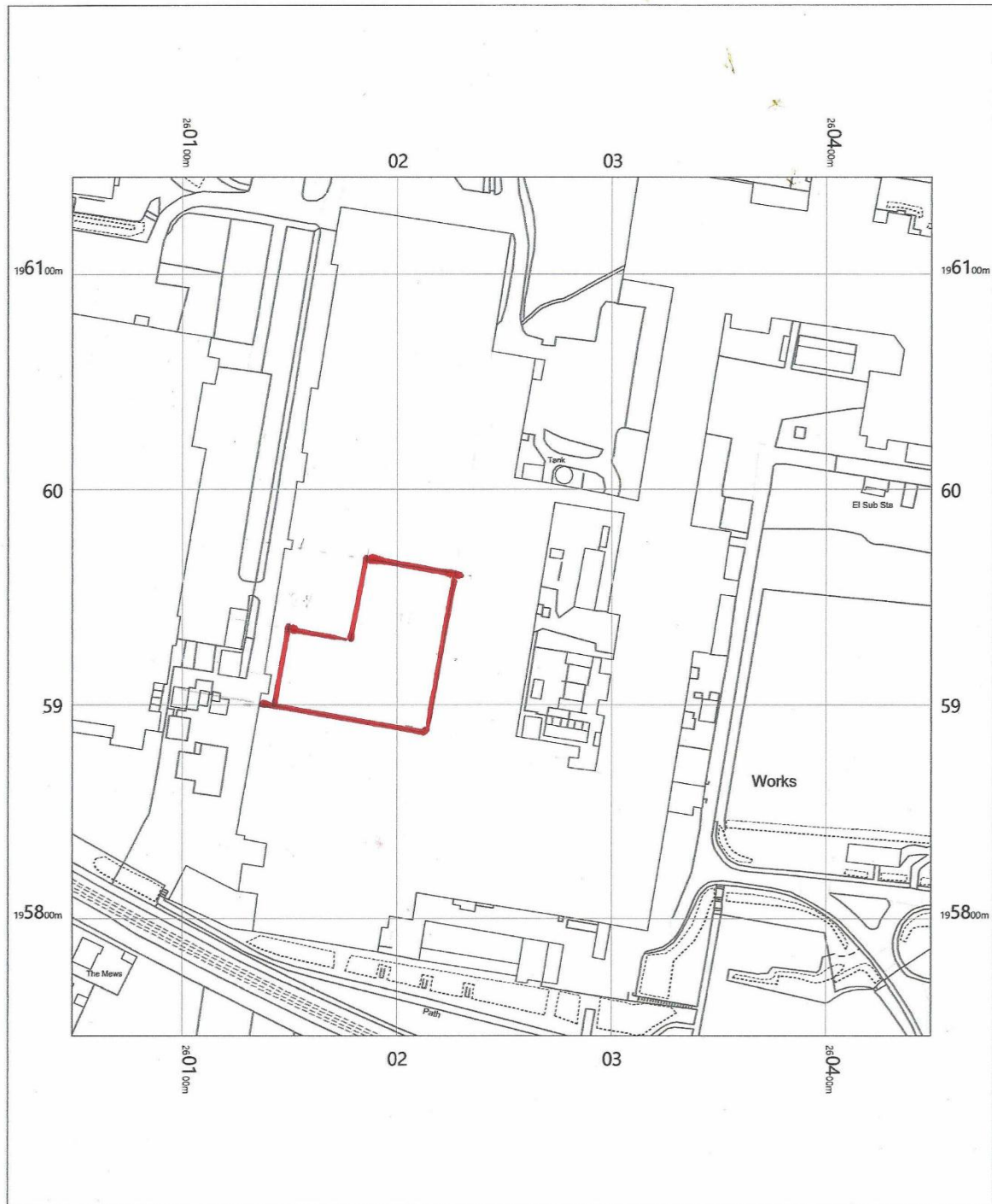
- All activities within the installation will be carried out internally, no activities or storage will take place externally;
- All internal drains or pollution pathways within the building have been identified and correct actions documented as on protection measures as part of the commissioning stage of operations;
- All internal floor areas are impermeable.
- All materials processed by the facility will within sealed vessels;
- All liquids and process additives are stored in sealed tanks / storage areas which are located internally and located away from vehicle manoeuvring areas;
- Good housekeeping will be encouraged

In addition, the site will operate an environmental management system.

Appendices

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Figure 1 – Permit Area.



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OS MasterMap 1250/2500/10000 scale
Tuesday, July 23, 2019, ID: BW1-00816185
www.blackwellmapping.co.uk

1:2500 scale print at A4, Centre: 260248 E, 195945 N

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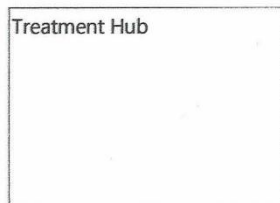
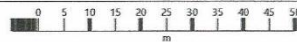
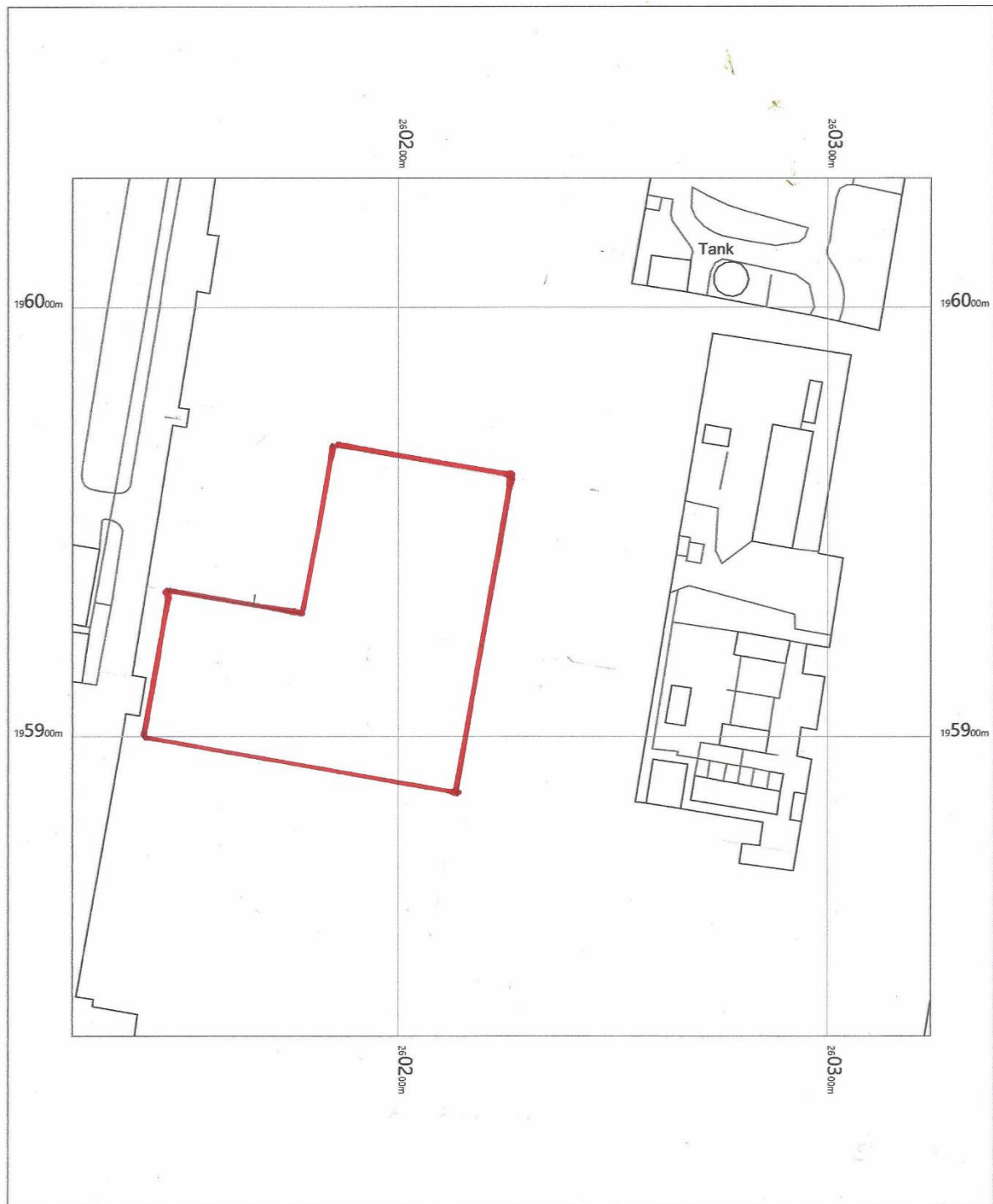


BLACKWELL'S
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Figure 2 – Permit Area.



OS MasterMap 1250/2500/10000 scale
Tuesday, July 23, 2019, ID: BW1-00816186
www.blackwellmapping.co.uk

1:1250 scale print at A4, Centre: 260224 E, 195930 N

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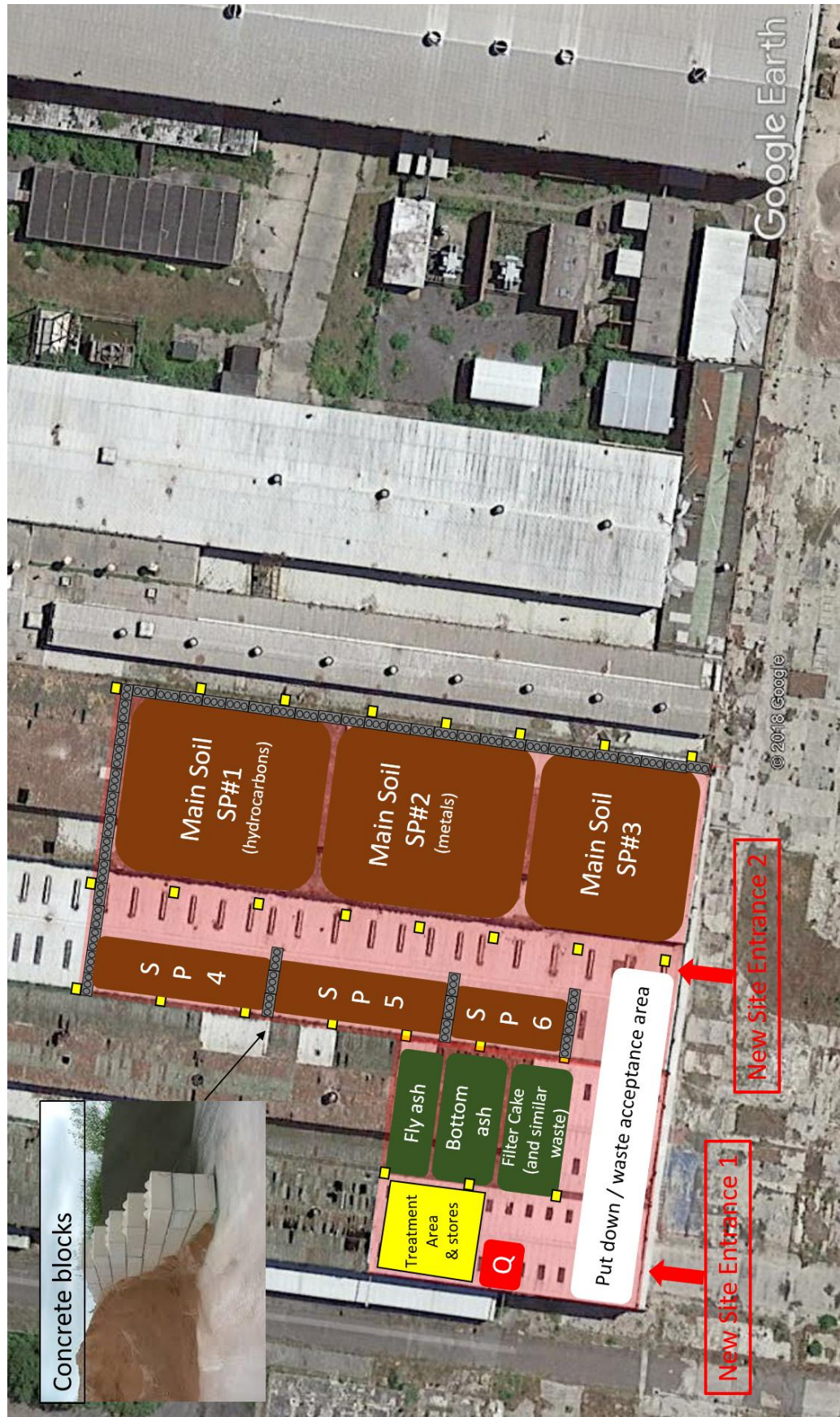


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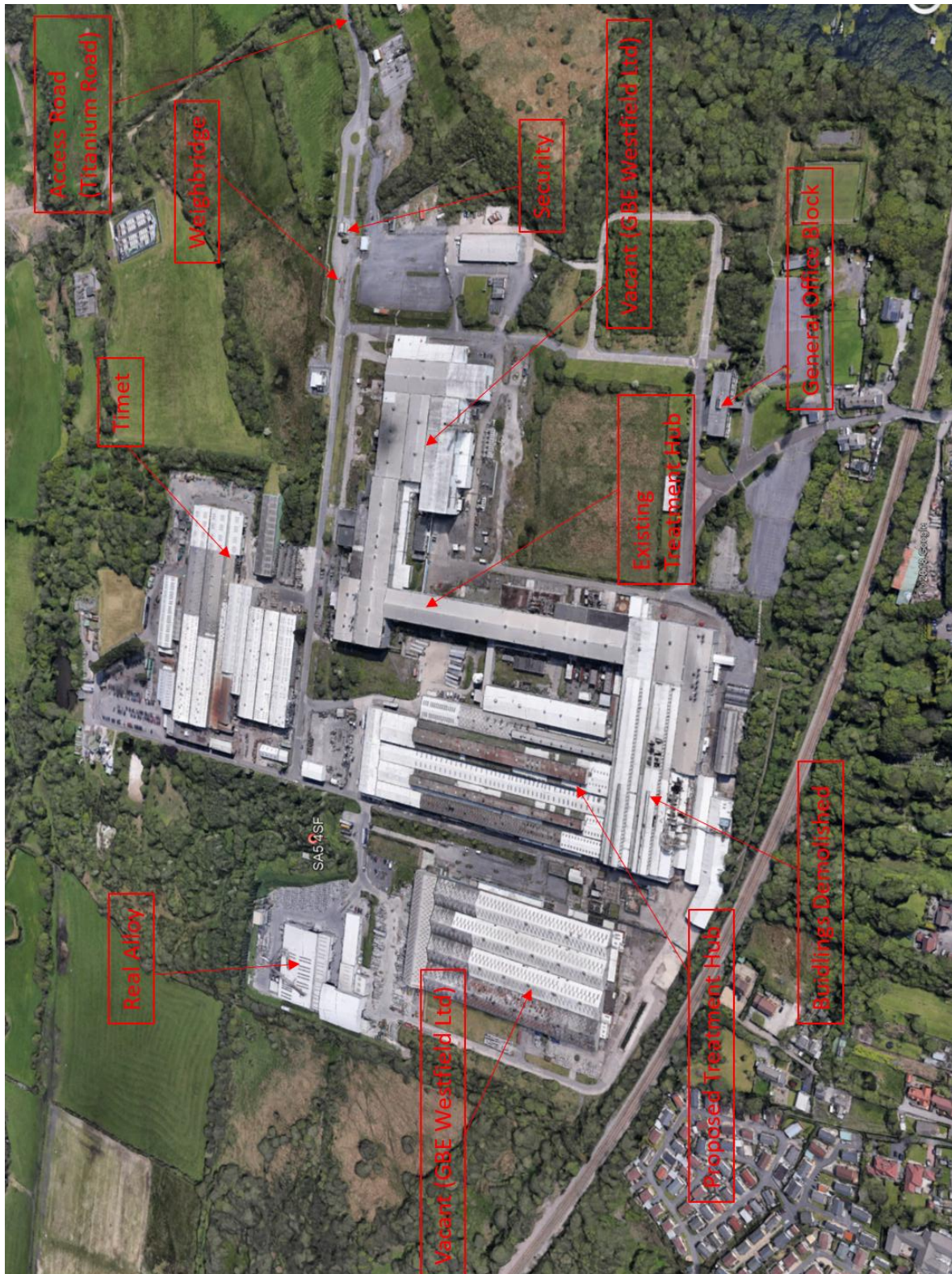
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Figure 3 – Proposed Site Layout.



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Figure 4 – Adjoining Properties.



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Figure 5 – Site Photos.

