

# EMS

## Site Waste Recovery Facility

Environmental Permit Number:

EPR/

PAN-020881



Arch Utility Services (SW) Ltd  
Unit 2, Ynyshir Industrial Estate  
Llanwonno Road  
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		Revisions / Comments: <ul style="list-style-type: none"><li>• NRW Request for further information 3rd November 2023 PAN-020881</li><li>• NRW Schedule 5 Request for further information 6th March 2023 PAN-020881</li></ul>	

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## 1. Site Details and Management

### 1.1 Non-technical Summary & Introduction

- 1.1.1 Arch Utility Services (SW) Ltd (Arch Services) is to be permitted by **Natural Resources Wales** to carry out **Waste Treatment Recovery Activities** under the controls of a Bespoke (Tier 3) Environmental Permit.
- 1.1.2 Arch Services provide a variety of drainage and pipeline installation & rehabilitation operations for **industry and local Authorities**, and are accredited with an existing **ISO 14001 : 2015 – Environmental Management System**. The **cleaning and dredging of road drain gulley pots** that they will carry out are incidental to these overarching drainage and pipeline services.
- 1.1.3 Arch Services also provide their own vehicles, drivers and operators for the maintenance and cleaning of road drain gulley pots.



**Gulley Pot wastes** generated from these operations will be brought back to the **Porth Depot (The Site)** where they are offloaded for on-site treatment and storage pending dispatch for off-site recovery and re-uses.

The gulley pot wastes are deposited into an impermeable concrete **settlement pit** where the **drain waters** fall to and flows through subsurface **weirs, traps** and a **series of interceptor & sediment separators**, before they are pumped up through and into a

dedicated enclosed water **Filtration and UV Clarifier Treatment Unit** sited above ground level and adjacent to the settlement pit.

The resulting treated **drain waters** are transferred to an adjacent on-site **harvested water storage tank** for re-use in Arch Services vehicles for their gulley pot maintenance and cleaning operations.

The **gulley pot waste solids** (consisting of silt, sand, soils & stones) that have settled out by gravity are mechanically removed from the settlement pit and are temporarily **stored on an adjacent impermeable concrete pad fitted** with a sealed drainage system which drains any entrained waters back into the settlement pit.

The resulting treated **dry solid silts** are transferred off-site to permitted recovery facilities.

- 1.1.4 All **site surface waters** within the operational areas of the permitted site boundary **drain via impermeable surfaces fitted with sealed drains** to the settlement pit for on-site treatment & storage as described above.

Further details of the **site operations** and **drainage schematics** are provided in → **Section 2**.

- 1.1.5 The total maximum annual waste (LoW Code 20 03 03) accepted at the site is **less than 7,499 tonnes per year**, and maximum throughput / treatment capacity is less than **50 tonnes per day**

The maximum capacity of each Gulley Tanker / Delivery is **8 tonnes or less** and the maximum number of loads to be accepted in any one day (during high rainfall in autumn) is **6 (≤ 48 tonnes ) or less**, typically and during low rainfall and summer months, the inputs may be 1 load (≤ 8 tonnes) or less a day.

**Control and monitoring** of inputs to the site Settlement Pit for treatment to ensure the **50 tonnes / day limit and number of loads are not exceeded**, will be provided by the Site Manager, Site Supervisor, Gulley Tanker Drivers and via the Computerised Electronic Weighbridge and Records.

## 1.2 EMS & Document Status

- 1.2.1 The information provided in **this document** is to provide a description of the intended waste recovery activities to **Natural Resources Wales** in support of the **Permit Application** and also to demonstrate that **the Operator** (Arch Services) has an appropriate **Management System** for the Sites' **permitted waste recovery operations**. This **EMS** describes the operations, processes, procedures and how they are managed and controlled **to meet the requirements of the Environmental Permit** in accordance with the relevant **NRW** guidance documents "**How to comply with your Environmental permit**" etc. and is to compliment and additional to the Operators existing **ISO 14001 : 2015 – Environmental Management System** .

An **Appropriate Measures Assessment for Site Management System (EMS)** is provided in **Table 1.2 below**:

Table 1.2 Appropriate Measures Assessment for Site Management System (EMS)				
In-House system	Tick	Comments	Certified system	Tick
Limited resources	No		Resources available	<input checked="" type="checkbox"/>
Limited finance	No		Finance available	<input checked="" type="checkbox"/>
Standard rules operation or simple bespoke operations	No	Absolute Non-hazardous waste & low risk simple recovery operations.	Installation or complex bespoke operations	<input checked="" type="checkbox"/>
Low volume water discharge	<input checked="" type="checkbox"/>	None, Water Recovery / Harvesting / Closed Loop System.	High volume water discharge	No
Simple on-site processes	<input checked="" type="checkbox"/>	Gravity Settlement, Phase Separation, Filtration, UV Clarification, Manual and Mechanical Sorting, Storage and Transfer	Complex on site processes (for example, treatment of hazardous waste);	No
Low volumes of materials	<input checked="" type="checkbox"/>	Less than 7,500 tonnes/year	High volumes of materials	No
No customer/client requirement	<input checked="" type="checkbox"/>	Duty of Care applies only	Customer/Client requirement	No
<b>Score</b>	<b>4</b>		<b>Score</b>	<b>3</b>

- 1.2.2 **This document** (and any other referenced or associated documents to it) provides information to the Operator and to the **Natural Resources Wales** for the operation and regulation of the activities carried out at the site.

**Any proposed changes to the site, its' activities or management should be discussed with Natural Resources Wales, and be reviewed and updated within this document beforehand.**

- 1.2.3 **This document** (in any form e.g., electronic, or hard copy) **should remain with the Operator at all times** during the active & operational status of the site.
- 1.2.4 **This document** from time to time **may be updated** to reflect best practices, changes to operations and regulations etc. therefore, **current/updated copies of this document are made available by directly contacting the author, requests for copies of this EMS should be made to:**

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**Tel:** 01792 386699 / 07900 698331

### 1.3 Site Operator

#### 1.3.1 The Site Operator is:

Arch Utility Services (SW) Ltd.

#### 1.3.2 The Site Contact Details are:

**Damian Tranter:** Managing Director

**Mobile Tel No:** 07711 494785

**Office Tel No:** 0800 707 6771

**E-mail:** [damian.tranter@archservices.co.uk](mailto:damian.tranter@archservices.co.uk)

**Web:** <http://www.archservices.co.uk/>

#### 1.3.3 Company Details

Name & Registered Office:

**ARCH UTILITY SERVICES (SW) LTD**  
UNIT 2 YNYSHIR INDUSTRIAL ESTATE  
LLANWONNO ROAD  
PORTH  
WALES  
CF39 0HU  
**Company No. 09686554**

**Status:** Active

**Date of Incorporation:** 15/07/2015

**Country of Origin:** United Kingdom

**Company Type:** Private Limited Company

**Nature of Business (SIC):**

42990 - Construction of other civil engineering projects not elsewhere classified

### 1.4 Site Location Setting and Environs

#### 1.4.1 The Site Address & Location is:

Arch Utility Services (SW) Ltd,  
Unit 2, Llanwonno Road,  
Porth,  
Rhondda Cynon Taff,  
CF39 0HU

**NGR:** ST 02492 92096

#### 1.4.2 The Site

The **[Site]** is located within the central portion of a small Industrial Estate at Ynyshir, Porth, which is adjacent to the **A4233** approximately 1 Kilometre (North bound) from **Porth** Town Centre. The **Afon Rhondda Fach** which flows southwards is located approximately 50 Metres to the West of the site. **Access** to the Site is off the **A4233** onto Llanwonno Road as shown in **Appendix 1- Site Plans, 1.1 – Site Location Plan**.



The **site occupies an area** of approximately 440m<sup>2</sup> (22m x 20m), within the **[Permitted Site Boundary]** as shown (outlined in Green) in **Appendix 1 - Site Plans, 1.2 – Permitted Site Boundary Plan**. The waste recovery operations to be permitted are carried out within the most South Westerly section of the site which is an open yard area comprising of; a Weighbridge, an open Waste Settlement Pit, Dry Solids Storage Area, a Filtration unit, an enclosed Water Clarification Unit and an enclosed Harvested Water Storage Tank.

The **Permitted Site Boundary** lies within a small portion of the **[Site Depot]** (outlined in Red) **occupied by Arch Services** which is dedicated to their other main engineering and maintenance operations, only a small portion of the site depot is to be used for the proposed permitted waste recovery operations which is discretely located within the most **South Western corner section** of the Arch Services Engineering and Maintenance Site Depot, as shown in **Appendix 1 - Site Plans, 1.3 – Site Boundaries and Layout Plan**.

The **site** comprises of **surfaced open yard areas** where treatment and surface waters are contained within the settlement pit, treatment systems and harvested water storage tank, as shown in **Appendix 1- Site Plans, 1.4 – Site Layout and Drainage Plan & Schematics**.

Rain waters from **external areas of the site** surfaces and roofed buildings drain into the **Site Depot's surface water drainage system** and connects to the **external surface water drainage system within the Industrial estate**, these drainage systems are shown in **Appendix 1 - Site Plans, 1.5 – Arch Services Site Drainage Plan**, additional information regarding the location of local **Sewer drains** is also provided in **Appendix 1 - Site Plans, 1.6 – Dwr Cymru Welsh Water Sewer Plan**.

- **Historically**, the land and local area has been associated with quarrying, railway and sidings from the 19<sup>th</sup> century until circa 1990 when the area has been progressively developed into the current commercial and industrial estate to which it is today. Construction of the proposed Site Waste Recovery Facility by Arch Services Ltd began in mid-2022 and finally completed in early 2023.

**Figure 1.4.2 – Arial View of [the Site] and Local Area**



- **Further details** of the site, history and sensitive receptors etc. are provided in **Appendix 4 – Site Condition Report (Geotechnology Report 2268r1v1d0822)** to this document.

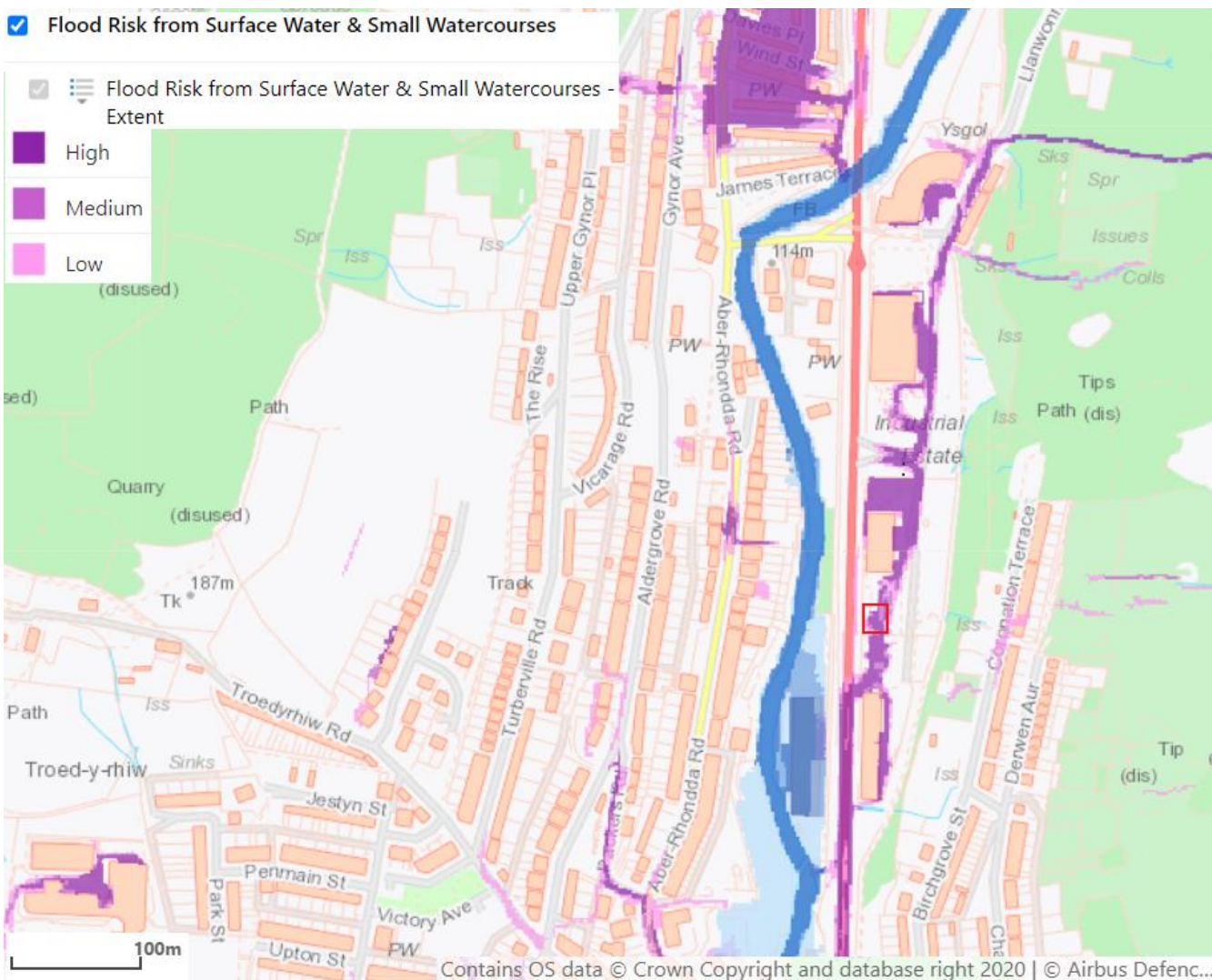
### 1.4.3 Site Environs & Location to Receptors

- **Risk of Flooding**

The   [Site] is in an area **where flood warnings are NOT given**, but **may be at risk** to localised flooding during heavy or prolonged spells of rainfall.

The [Site] is **partially located in a medium flood risk area from surface waters and small water courses**, as shown in **Figure 1.4.3.i**, below:

**Figure 1.4.3 i – Site Location and Receptors**



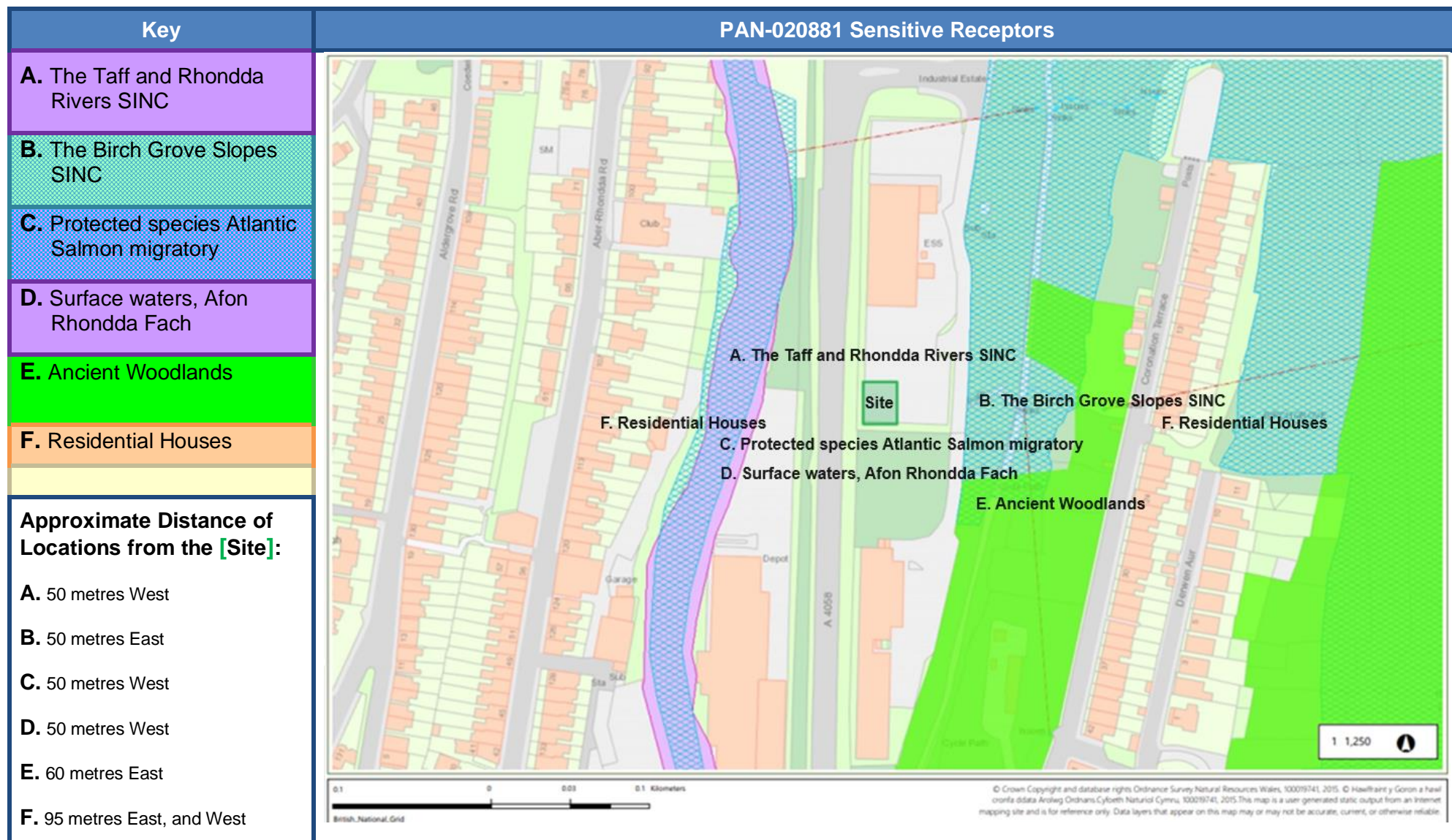
Further information is provided in ► **Section 2.5, 2.5.2 - (8) Measures to prevent flood waters adversely affecting treatment and storage systems and site operations.**



- Habitats & Residential Houses**

There are **no SSSI or SAC located within 2km of the site**, however, there are several nearby sensitive receptors identified close to the site, as shown in **Figure 1.4.3.ii**, below:

**Figure 1.4.3 ii – Site Location and Sensitive Receptors**



**Additional details** of the Site and Environs and Control Measures are provided in **Appendix 4 – Site Condition Report (Geotechnology Report 2268r1v1d0822)** and in **Appendix 2.4 – Environmental Risk Assessments** to this document.



- **Groundwater**

The *Site* is ***not within a groundwater source protection zone*** and is located on a ***Minor Secondary Aquifer***, there are no groundwater abstractions recorded within 1.5km of the site.

- ***Further details*** are provided in **Appendix 4 – Site Condition Report (Geotechnology Report 2268r1v1d0822)** to this document.

#### 1.4.4 Point Source Emissions

There are ***no point source emissions*** to air water or land from the site waste recovery activities.

#### 1.4.5 Fugitive Emissions

Fugitive Emissions for the prevention of airborne dust is provided separately in **Appendix 5 – Dust Emission Management Plan**.

***The Site surface water drainage system*** also collects run-off waters from all other surfaced operational areas of ***the site*** which drain into and are contained within the Settlement Pit, site drainage and containment & treatment systems.

***Further details*** are provided in ► **Appendix 1.4 – Site Layout and Drainage Plan & Schematics**, and; **Appendix 1.5 – Arch Services Site Drainage Plan**.

There are no other detrimental fugitive emissions from the site, further details are provided in:

- ► **Section 2.5** of this Document.

## 1.4.6 Site Monitoring & Site Closure

### a. Pre-operational

Historic light or mild contamination from previous uses may be present and reference to **Land Quality at Application Stage** in ► **Section 3 of Appendix 4 – Site Condition Report (Geotechnology Report)** should be made to determine baseline figures, key substances, parameters and target receptors.

Basic details and a short summary of the site have already been recorded in ► **Step 1 of Appendix 4.1 – Site Update Condition Report Template.**

### b. Operational

**During the life of the permit for the Site**, records and details will be taken for any changes to the operations, site boundary, pollution incidents, monitoring and measures to protect land etc. and compiled and reported in ► **Step 2 of Appendix 4.1 – Site Update Condition Report Template.**

### c. Post operational

**The date of closure** nor the scale or change of activities (as may varied from time to time) at the point of closure cannot be determined at this point, however, at the point of site closure, ► **Step 3 of Appendix 4.1 – Site Update Condition Report Template** will need to be completed in support of a separate **Site Closure and Monitoring Report.**

The **Site Closure and Monitoring Report** will then to assess and determine any impacts to land or groundwater quality from the permitted activities during the life of the Site, and at the time of site closure, to support the determination of the **Permit Surrender Application** to **Natural Resources Wales.**

## 1.5 Site Management

**1.5.1 Staffing** at the site typically comprises of a Technical Site Manager, an Operations Manager, Site Supervisor, Office Clerk, Gulley Tanker Drivers, Plant & Machine Operators, their positions and duties are provided in ► **Appendix 2.1 – Site Management Structure.**

**1.5.2 Competence and training** for all site employees is monitored by the Site Manager, a checklist list of training required and completed is kept and maintained in the site office by the Site Manager, which is provided in ► **Appendix 2.2 – Training Checklist.**

**Updates** to existing and / or new **Certificates of Competence (CIWM / WAMITAB)** will be periodically undertaken, and environmental & waste management refresher **training can be provided by approved and registered training and educational centres e.g., Talk Training and Brightwater Education** or registered mentors for site management & staff.

**Training Records** for individual site employees are completed and maintained and are kept in the site office by the Site Manager, which is provided in ► **Appendix 2.3 – Training Records.**

**1.5.3 Risk assessments** for the site operations are provided in ► **Appendix 2.4 – Risk Assessments.**

**1.5.4 Maintenance** is carried out on plant and equipment deployed at the site for waste treatment and recovery operations. A summary of plant and equipment used for on-site treatment operations is provided below in **Table 1.5.4 – Itemised Plant and Equipment.**

Table 1.5.4 Itemised Plant and Equipment		
Plant & Equipment	Description	Use
Weighbridge	Electronic Key Card Activated Weighbridge and Data Recorder	Recording Deliveries and off-site Dispatches. ↓
Oase Pump AquaMax Eco Twin 30000	Water Pump Max Flow Rate: 27,000 lt/hr	Pumping from Settlement Chamber No.3 into Water treatment systems. ↓
Siltbuster HB20	Lamella Clarifier Settlement Area: 20m <sup>2</sup> Operating Range: 1 to 20m <sup>3</sup> /hr	Initial removal of suspended silt / solids. ↓
Oase Filtration BioTec Premium 80000 pump-fed OC	Rotary Drum, Multiple Filter Automatic Ultra Filtration Systems Max Flow Rate: 12,500 lt/hr	Further removal of fine silt / solids. ↓
Oase UV ClearTronic 11 W	Ultra Violet Water Disinfection Max Capacity: 600 lt	Elimination / reduction of Bacteria. ↓
Steel Storage Tank	Treated Water Storage Tank Maximum Capacity: 20m <sup>3</sup>	Harvested water for re-use in Gulley Sucking Vehicles.
Yanmar Mini Digger	Tracked Mechanical Excavator & Loader	Dig out, removal of settled silt from settlement pit. ↓
		Loading dry solid silt waste into skips for off-site dispatch →.

A **checklist list for the maintenance of plant** and equipment and site infrastructure is kept in the site office and maintained by the Site Manager, which is provided in ► **Appendix 2.5 – Maintenance Checklist.**



**Maintenance Records** for plant and equipment and site infrastructure are kept in the site office and maintained by the Site Manager, which is provided in ► **Appendix 2.6 – Maintenance Records**.

**1.5.5 Accidents, Incidents and breaches, and complaints** occurring or caused by operations at the site are managed by the site manager and recorded.

**Records** are kept of the following:

- **Complaints** is provided in ► **Appendix 2.7 Complaints Record**.
- **Incidents and Accidents** is provided in ► **Appendix 2.8 – Incidents, Accidents and Non-Conformances**.
- **An Accident Management Plan** is provided separately in ► **Appendix 3 -Accident Management Plan** and is implemented if and when they occur to minimise their potential adverse causes and consequences.

**1.5.6 Monitoring of uncontrolled emissions** (i.e. fugitive emissions which are not subject to emission limit values) as likely to have an adverse effect to receptors beyond the site are rectified and recorded as described and provided in ► **Appendix 2.9 – Site inspection Checklist**.

**1.5.7 A Spillage Procedure** to prevent, contain with and remedy spillages and leaks at the site is provided in ► **Appendix 3.1 – Spillage Procedure**.

**1.5.8 Records of wastes received and dispatched** at the site are kept secure by the site manager at the site office.

**1.5.9 Hours of Operation** are not determined or restricted within the Planning Permissions for the site, however, typical operational times are as follows:

Table 1.5.9 Typical Hours of Operation	
Days	Operational Times
Monday to Friday	07:00 to 18:00
Saturday	07:00 to 15:00
Sundays and Bank Holidays	Closed

**1.5.10 Security measures** at the site consists of 2.5-metre-high steel palisade fencing around the perimeter of the site.



Entrance to the site is via a 2.5-metre-high steel gate which is kept locked outside operational hours and a **CCTV** system which is continuously monitored during operational and non-operational periods. The system is alarmed to inform the site manager and local police of unauthorised intruders outside operational hours.

All working areas and site perimeters at the site are within easy visual range for on-going surveillance during working hours by the site staff.



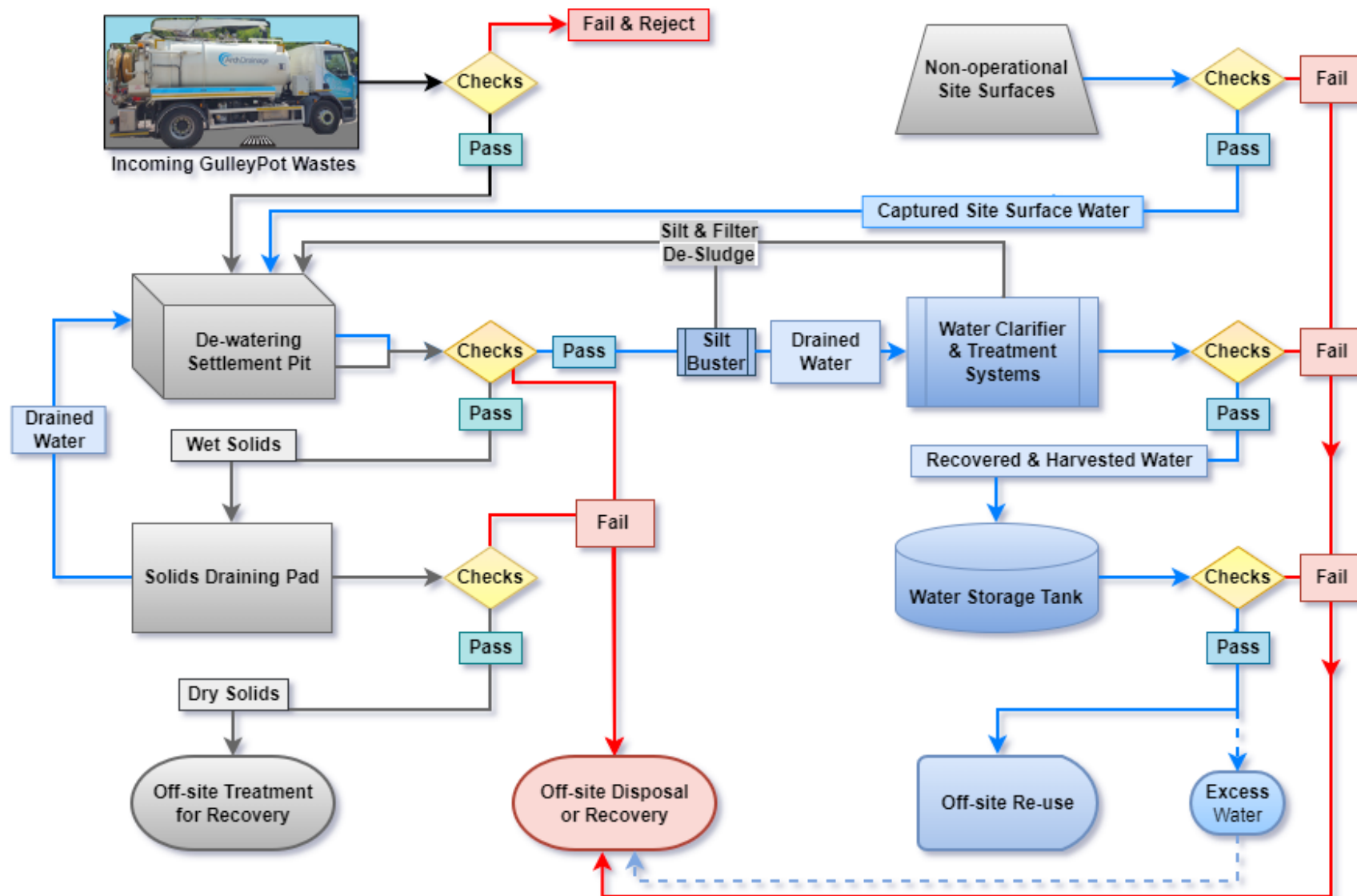
An **on-site residential night watchperson** is also employed to carryout site reconnaissance and security checks outside operational hours.

## 2 Site Operations

### 2.1 Overview of Operations

The *permitted waste recovery and disposal* carried out at the site are summarised in **Figure 2.1 – Operation and Controls Flow Chart** below:

**Figure 2.1 – Operation and Controls Flow Chart**



## 2.2. Waste Pre-acceptance Procedures

**2.2.1 Wastes are generated at source by Arch Drainage operations** from gulley dredging and cleaning of drains and roadside gulley pots during pre-planned cleaning and maintenance schedules, construction & development projects or from ad-hoc customer requests and urgent or emergency remedial works to alleviate local flooding.

**The composition of the material** generated by Arch Drainage operations by their Gulley Sucking & Dredging operations is **surface rain water, silt, sand, grit, soil & stones**.

**2.2.2** Where there is known **high risk contamination** to surface water drains or gulley pots e.g., chemical spillages from commercial/industrial premises, road accidents etc., where **polluting wastes have contaminated** the surface waters, **an alternative waste contractor will be employed to clean the surfaces and remove the contents to another suitably authorised site that can accept them**.

**2.2.3** Additional pre-acceptance checks on wastes prior to receipt at the Arch Services Depot may comprise of the following:

- Pre-determined agreements (quotations) with the customer
- Producer on-site visit & verification checks
- Independent analysis and site reports
- Scheduled dates for cleaning.
- Records of pre-acceptance checks will be kept at the site offices.

**2.2.4 Gate Keeper Checks include Visual and olfactory observations prior to and during gulley dredging operations** are also carried out by the operatives **to avoid collecting contamination** and unsuitable debris which may adversely affect the quality of the treated waters and solid silts at the **Arch Services, Site Waste Recovery Facility** in Porth.

**Typical signs and sources of contamination** at locations that are known or reasonably suspected to be contaminated and polluting, for reasons including (but not limited to):

- **Visibility** (Oil Sheen, Clarity and Colour) of Gulley pot water.
- **Visible pieces** of polluting material.
- **Odours** and olfactory checking for presence of hydrocarbons and other polluting substances.
- **Old road surfaces** likely to contain **coal tar** – for example, those laid in the 1980s or before.
- **Sources at or that may be affected from contaminated sites & areas**, e.g., mine waters, land investigations that have identified hazardous or high / heavy contamination levels, etc..

**2.2.5** Due to the **nature of the wastes** the likelihood of **removing contaminated wastes is low**, however, **to further reduce the risks** of removing unsuitable wastes for acceptance and treatment at the Site, the following measures for the pre-acceptance procedures are to be employed as general guidelines for the following **low, medium and high risk areas and situations** as provided in **Figure 2.2.5 Pre-acceptance Controls** and **Table 2.2.5 a. Pre-acceptance checks and procedures**, and, **Table 2.2.5 b. - Pre-acceptance procedures for Contaminants**, overleaf:



**Figure 2.2.5 – Pre-acceptance Controls**

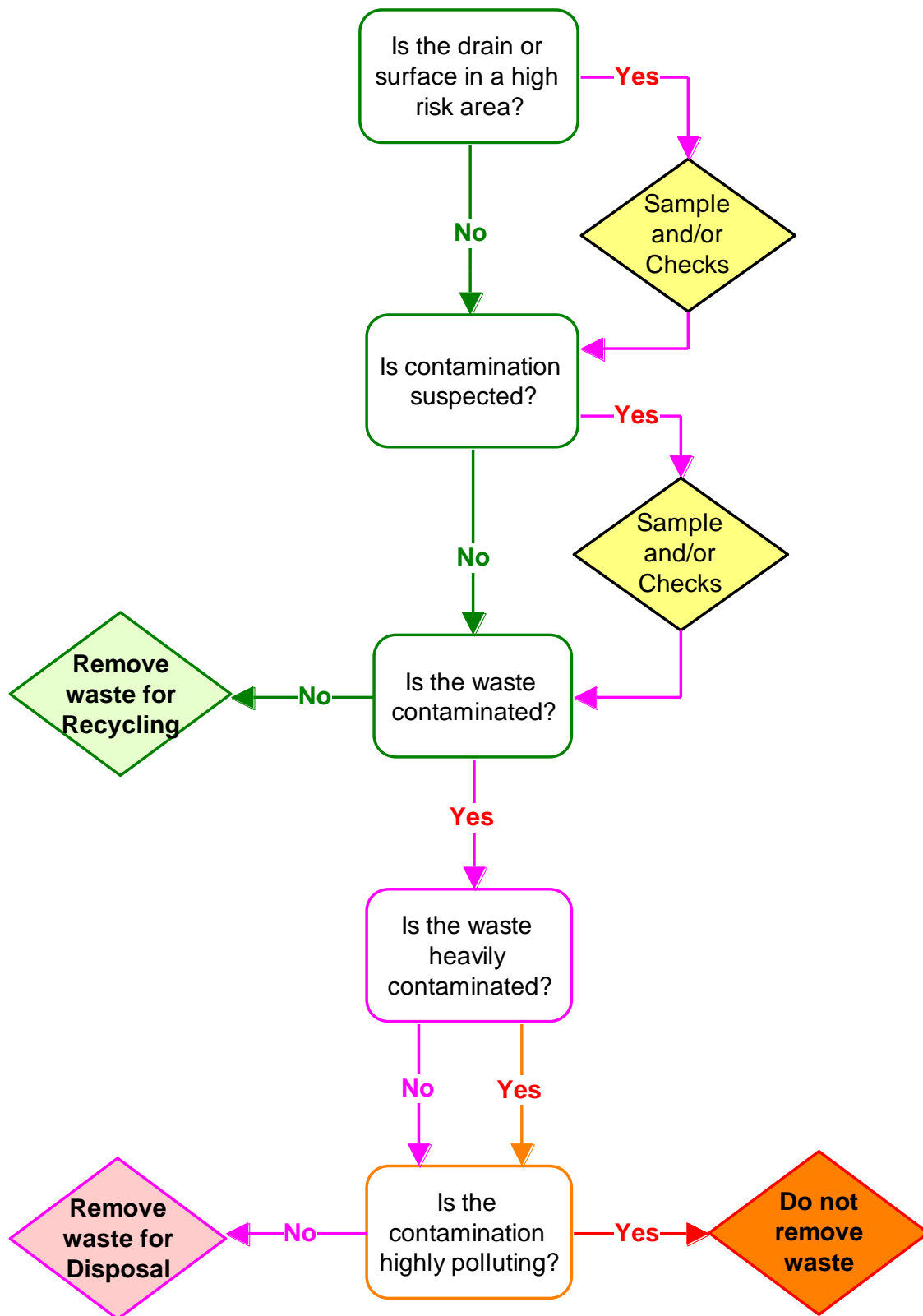


Table 2.2.5 . Pre-acceptance checks and Procedures				
Risk Level	Risk Area Types	Checks	Contamination Suspected?	Procedure <sup>1</sup>
1.  Low	Site access roads on construction sites for new (greenfield sites) developments.	Visual & Olfactory	No →	Remove waste for:  <b>Recovery</b> at Arch Services Treatment Facility
	Rural, country roads, sparsely populated areas		Yes →	<b>Take a Dip Bottle Sample for further Visual &amp; Olfactory checking ↓</b>
2.  Mild	Site access roads on construction sites for certified low risk contamination (brownfield) re-developments.	Visual, Olfactory & Dip Bottle Sample	No →	Remove waste for:  <b>Recovery</b> at Arch Services Treatment Facility
	Urban, town and city, densely populated areas.		Yes →	* <b>Mild</b> contamination * <b>Low</b> polluting e.g. Faint odour, Slight discolouration, Light oil sheen
Commercial and industrial premises and estates.	Remove waste for:  <b>Disposal</b> at an alternative permitted Disposal Facility and carry out <b>Gulley Tanker Barrel Cleaning</b> prior to further gulley dredging operations & collections			
3.  Moderate	Site access roads on construction sites for certified medium or high-risk contamination (brownfield) re-developments or remedial sites.		No →	Remove waste for: <b>Recovery</b> at Arch Services Treatment Facility
4.  High	Visible signs of polluting run-off or contamination to drain.  Other known high-risk sites or problem areas.		Yes →	<b>Do Not Remove Waste!</b>  * <b>Heavy</b> contamination * <b>High</b> polluting e.g. Strong odour, Heavy discolouration, Oil layer  <b>Report details</b> to the Operations and Technical Site Manager.  <b>Contact: Natural Resources Wales</b>

## 2.3 Waste Acceptance Procedures

### 2.3.1 Wastes Accepted

Wastes to be accepted at the Site consist of the following *simple generic waste description*:

**Street cleaning residues (Gulley Sucking Dredging Waste) from cleaning of gulley pot road drains.**

Permitted waste types and their *six digit Low Waste codes* to be accepted at the site are provided in **Table 2.3.1 – Wastes Accepted** below

Table 2.3.1 Wastes Accepted		
LoW Code	Description	Process Type
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS	
20 03	separately collected fractions (except 15 01)	
20 03 03	street-cleaning residues	De-watering, Clarification & Storage

### 2.3.2 Arrival of Incoming Waste

Arch Drainage Services Gulley Sucking vehicles will deliver the gulley dredging wastes to the facility, entrance to the Site is off the **A4233** into **Ynyshir Industrial Estate** and via the second site entrance gate on the right adjoining Llanwonno Road.

A mandatory speed limit of 10mph and a no idling policy for vehicles and plant entering, travelling in and out of the Site is enforced, along with clearly visible signage is displayed at the site entrance and within the site.

- **Non-hazardous wastes** must be accompanied by a **Duty of Care Waste Transfer Note** and **waste hierarchy declaration**.
- **Waste carriers** must be registered and have a valid **Carriers Certificate** to transport the waste.



On entering the site, the driver parks the vehicle on the **weighbridge and electronically registers and records** the vehicle weight, date time and the accompanying documentation to confirm that the waste conforms to pre-acceptance checks and is described adequately for acceptance at the site.

The **driver then reports to the office and site supervisor** for approval and authorisation **prior to discharging the waste into the Settlement Pit** for primary dewatering.

The off-loading area where the gulley wastes are discharged from the rear tank of the vehicle directly into the settlement pit which is protected with an impermeable concreted surfaced pad with sealed drainage, which gently falls to an open discharge chute into the concrete settlement pit.



### 2.3.3 Acceptance Limits and Controls for Treatment for Disposal Capacity Maintained at Less Than 50 Tonnes per Day

**Arch Services operate a fleet of 6 vehicles**, these vehicles are limited by the Site Manager to deliver gulley dredging wastes to the site for treatment via the settlement pit only once a day.

**Each vehicle can only deliver a maximum of 8 tonnes per load**, although typically, they will only carry and deliver up to 6 tonnes.

The maximum threshold capacity of  $\leq 50$  tonnes / day is regulated by:

- Limiting the number of deliveries to the site to one delivery per vehicle within the fleet of 6, and:
- Physical load capacity of each vehicle is  $\leq 8$  tonnes

Which equates to a maximum of 6 deliveries x 8 tonnes, =  $\leq 48$  tonnes.

Additional contingency will be provided where If there is a possibility of a vehicle tipping more than once a day, then, the Site Manager would do either of the following in the following order: ↓

**Step 1** Check and assess the days deliveries numbers and total weights and calculate if there is adequate scope for a second load without exceeding the daily threshold limit of 50 tonnes.

- *If threshold is or likely to be exceeded, then go to **Step 2** ↓*

**Step 2** Hold the vehicle on-site and discharge the waste into the settlement pit the following day and then manage that following day's allowance.

- *If threshold is or likely to be exceeded, then go to **Step 3** ↓*

**Step 3 Deliver the waste to an alternative permitted waste facility. →**

All deliveries will be recorded on a register at the office to monitor incoming numbers, volumes, and weights.

**Step 4** Where there is adequate daily treatment capacity ( $\leq 50$  tonnes / day) for the vehicle delivery, then further waste acceptance procedures are carried out: ↓

### 2.3.4 Waste Checks

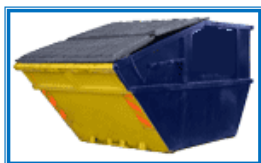
The **Driver** and / or **Site Supervisor** carry out **visual and olfactory checks** on the waste during discharge into the settlement pit to ensure that the waste is suitable for processing through the treatment systems, any unsuitable debris within the waste is captured within settlement pit screens and float traps.

Unsuitable solid debris is manually retrieved and placed in a sealed and covered skip for off-site disposal or recovery.

**The information recorded by the Site Manager or Office Clerk** and is kept at the site office, and includes the following details provided in **Table 2.3.4 – Waste Receipt Records** overleaf:

Table 2.3.4 Waste Receipt Records	
Wastes Received	
1	Time and date
2	Waste carrier licence number
3	Quantity of waste received
4	Waste description and waste LoW/EWC code
5	Physical nature of the waste and packaging/type e.g., solid, loose, bulk, whole item etc.
6	The Producer details and local authority production/origin code
7	Controlled waste transfer notes and hazardous waste consignment notes
8	The fate of the waste (i.e., recovery operation(s) type)
9	Pre-acceptance checks (e.g., quotations, agreements & specifications, analysis and producer site visit checks)
10	Any irregularities with the load, prior to offloading and on inspection after acceptance, (e.g., heavy contamination, odours, unsuitable debris, non-permitted wastes etc.) →
▶	Where the waste does not conform and cannot be recovered at the site, the site manager or supervisor should refer to and complete <b>EMS – Appendix 2.8 Incidents, Accidents and Non-Conformances</b> .
▶	<b>Waste transfer notes or hazardous waste consignment notes</b> for redirected, rejected, reloaded or removed wastes.
▶	Redirected (rejected) or reloaded waste/loads for alternative off-site treatment/disposal including any <b>instructions/correspondence from the Natural Resources Wales</b> .

### 2.3.5 Waste rejection and/or quarantine



Unsuitable loads detected arriving at the site following acceptance checks will not be accepted and re-directed back to the producer, holder or other agreed alternative authorised or permitted facility.

If the site supervisor or manager finds any irregularities with the documentation, or the waste during or after discharge, then the waste will be **either re-loaded back onto the vehicle and rejected** from the site.

Polluting or unsuitable solid debris found within the settlement pit will be quarantined and stored safely within **a suitable water tight sealed container and/or enclosed locked skip located within an 8 cubic yard skip located within the Skip Laydown Area on site** pending further enquiries and agreement with or instructions received from **Natural Resources Wales**.

Where these irregularities occur the site manager or supervisor will record the details as provided in **Appendix 2.8 – Incidents, Accidents and Non-Conformances**

Where there are irregularities found e.g. unsuitable debris or contamination found within the waste after deposit, the following procedures provided in **Table 2.3.5 - Redirected waste, rejection and quarantine procedures** will be employed depending on the nature and scale of the issues and risks, where appropriate and as described below:

Table 2.3.5 Redirected waste, rejection and quarantine procedures	
Irregularity	Action
Odorous waste	<ul style="list-style-type: none"><li>▪ <b>Reload</b> onto gulley sucking tanker for off-site disposal at a suitably permitted facility.</li><li>▪ Remove any unsuitable debris and place in a sealed and covered skip for off-site disposal.</li><li>▪ <b>Clean</b> any affected surfaces and areas</li></ul>
Unsuitable other non-hazardous and potentially polluting debris	
<p>Further reference should also be made to:</p> <ul style="list-style-type: none"><li>▶ <i>Incidents, Accidents and Non-Conformances</i> → <b>EMS - Appendix 2.8</b></li><li>▶ <i>Accident Management Plan</i> → <b>EMS - Appendix 3</b></li><li>▶ <i>Spillage Procedure</i> → <b>EMS - Appendix 3.1</b></li></ul>	

**Notifications to the *Natural Resources Wales* can be made on the following number:**

- National Natural Resources Wales **Incident Hotline 0800 80 70 60**



## 2.4 Waste Treatment, Storage and Dispatch Operations

### 2.4.1 Waste receipt

When the vehicles have completed their works or have reached full capacity (approximately 8 tonnes for gully sucking tankers), the wastes, typically consisting of 80% rainwater and 20% Solids are taken to the Site.

The Site is manned at all times when wastes are being received during the typical **Hours of Operation** as specified in **Section 1.5.9**. Under demand or abnormal situations (e.g., emergency repairs) the Site and Depot needs to be available any time and day of the week, as when these situations arise, therefore, the Site is also equipped with floodlighting which can be used when wastes are accepted during the hours of darkness.

On entering the site, the driver reports to the site supervisor, following satisfactory checks, the waste is offloaded (discharged) into the Settlement Pit. ↓

### 2.4.2 Waste Treatment

#### Process 1 Primary Dewatering & Separation – Settlement Pit

Gulley dredging wastes are offloaded / discharged into the Settlement Pit by reversing the gulley sucking tanker into the weighbridge & reception area, where the driver opens the tanker valve or the rear hatch of the barrel to release the contents into the chute and settlement Pit below.

Arch Drainage Services Gulley sucking vehicles can hold up to a maximum capacity of approximately 8 tonnes / 8 m<sup>3</sup>, the maximum holding **capacity** of the **Settlement Pit** is approximately (L 6.5m x W 3m x D 1.8 m) **35 tonnes / 35 m<sup>3</sup>**.

The **Settlement Pit**, and associated **settlement chamber** and 3 underground **separation chambers** are constructed with 0.5m thick reinforced impermeable concrete walls, The Settlement Pit is also fitted with **primary float traps and mesh filters** to removed suspended debris which allow the waters to flow through to: ↓

An underground **Settlement Chamber** with a maximum holding capacity of approximately (L 3m x W 3m x D 1.8 m) **16 tonnes / 16 m<sup>3</sup>** which allow the waters to flow through to: ↓

A series of 3 underground concrete **Separation Chambers** where each interconnecting chamber acts as precautionary oil water separators and sediment sumps with a retaining maximum capacity of approximately 3 x (L 1m x W 1m x D 1.8 m) (3 x 2m<sup>3</sup>) **5.4 tonnes / 5.4 m<sup>3</sup>**. The last **Separation Chamber** is fitted with an **automatic float level pump** which pumps the waters up and **into the adjacent Lamella Separator**. ↓

#### Process 2 Primary Filtration – Siltbuster Lamella Clarifier



Primary settlement waters are pumped into the Siltbuster Lamella Clarifier for the separation of suspended finer silts by passing the waters under gravity alone over a large effective settling area within the unit which is achieved by the use of inclined plats that filter out the finer suspended solids.

When used at their typical operating range under gravity alone, the units are capable of capturing 95% of mineral-based silica particles down to 18 microns in diameter; along with a small proportion of the finer sized fractions in suspension.

Filtered waters from the Lamella Clarifier then to flow by gravity through to the adjacent **Oase Filtration Systems**: ↓

### Process 3     **Secondary Filtration – OASE Filtration Systems**

The **OASE BioTec Premium 80000** rotary drum filter is **housed within a dedicated steel container** which accepts the primary filtered waters fed by gravity from the adjacent Lamella Separator for further ultra-filtration by using an Innovative filter system with extremely effective filter capacity and an electronic Intelligent controller system with easy operation which monitors and displays the core functions and professional drum filter technology for long service intervals ensures efficient utilisation of the filter biology.

The unit is equipped with multiple filters and employs automatic rinsing, filter cleaning & **de-sludging**, where the sludge from is fed by gravity directly **back into the Settlement Pit**. Maximum Flow Rate of the filtration system is 12,500 litres per hour and is suitable for ponds with a maximum capacity of 40m<sup>3</sup> with fish stock.

Filtered waters from the **OASE BioTec Premium 80000** rotary drum filter then flows by gravity through to the adjacent **Oase UV Purifier System**. ↓

### Process 4     **Disinfection – OASE UV Purifier System**

The **Oase UV Purifier System** is **also housed within the dedicated steel container** which accepts the secondary filtered waters fed by gravity from the adjacent **OASE BioTec Premium 80000** rotary drum filter for disinfection.

Disinfected waters from the OASE UV Purifier are then automatically pumped into the adjacent **Recovered and Harvested Water Storage Tank**. ↓

### Process 5     **Storage of Recovered and Harvested Waters**

**The Harvested Water Storage Tank** consists of a purpose built steel container fitted with **an inlet** valve & coupling from the adjacent Steel Container that houses the OASE Filtration and UV Purifier systems and **an outlet** valve & coupling for off-site use.

Maximum storage capacity of the tank is approximately 20m<sup>3</sup> and is fitted with a float level monitor and alarm.

**Treated waters received from the OASE Filtration and UV Purifier systems** housed within the adjacent Steel Container are stored **for re-utilisation in Arch Services Gulley Sucking and Dredging Vehicles**.

Approximately 2 tonnes / 2m<sup>3</sup> at a time are pumped from the Harvested Water Storage Tank and loaded into each vessel of the Gulley Sucking and Dredging Vehicles, for re-use in their gulley sucking and dredging operations.

The **Harvested Waters** stored will be **periodically tested for water quality** and suitability for re-use, **further details are provided in ► Section 2.6 Quality Controls**.

### Process 6     **Removal and Draining & Drying of Settled Solid Silts**

Regular removal (**Dig Out**) of Settled Solid Sludge and Silts from the Settlement Pit is anticipated to be carried out on a daily or weekly basis as required, depending on seasonal weather variations, and the quantity of silts removed from road drains during gulley sucking & dredging operations.

**The removal of solid silts that have collected at the bottom of the Settlement Pit** is carried out by the Site Machine Operator on request from the site supervisor and / or site manager where daily inspections detect that sufficient silt has built up within the settlement pit and **when weather conditions are suitable**.

- See section 2.5.2 Fugitive Emissions, (2) Measures to prevent emissions to air.

The **on-site mini digger** is employed to excavate the **Settlement Pit** after dewatering the pit first. **Drop heights from the mini digger is kept to a minimum** when the sludge is transferred to the **Solids Draining and Storage Area**, which is constructed with an impermeable concrete base, a sealed drainage system, concrete side retaining bunds and rear concrete walled area measuring approximately 2m high. The solid silts are retained securely within the confines of the **Dewatered Sludge Storage Bay** in stock piles no greater than 1.5m high (at least 0.5m below the height of the retaining walls) to protect the sludge from wind erosion and preventing desiccation of the waste, thereby reducing the risk of airborne dusts emissions. The concreted base of the storage bay gently falls to Aco Drains, that **drain directly back to the Settlement Pit**.

**The maximum storage of solid silts undergoing final dewatering and drying** in this storage area will be limited to **50 tonnes** and stored in stock piles to enable rotational first in first out to improve throughput and reduce drying and storage times to approximately 2 weeks or less of each stockpile containing approximately 15 tonnes each. When the solid sludge & silts after the **stock pile(s) have been dewatered** and have **dried sufficiently to handle and transport safely**, again **Drop heights from the mini digger is kept to a minimum** when the mini digger is used to load the waste solid sludge into 15 tonne **covered skips** which are stored on the adjacent **Skip Laydown Area** concreted pad, for off-site treatment & recovery.

The Site manager is responsible for ensuring that the quantities of the solid silts stockpiled in the dewatering pad is not exceeded, and that the dewatered stockpiles are sufficiently drained and transferred off-site within the desired timescales. Records of stockpiles and storage duration & solid silts transfers from the storage bay will be made on the **Site Inspection Checklist EMS - Appendix 2.9**

Further **information and details on this section** is provided in:

- **EMS - Appendix 1.4 – Site Layout and Drainage Plan & Schematics**
- **Table 1.5.4 – Itemised Plant and Equipment**
- **Figure 2.1 – Operation and Controls Flow Chart**

### 2.4.3 Waste Dispatch

The resulting non-hazardous waste streams which will typically be dispatched from the site under normal permitted operations using **waste transfer notes** are provided in **Table 2.4.3** below:

Table 2.4.3 Wastes Dispatched from the Site	
Wastes produced from on-site operations	EW/C/LoW and description
Gulley dredging wastes from Highway Maintenance	<b>20 03 03</b> street-cleaning residues
Dewatered Solid Silts for off-site treatment / recovery	<b>19 12 12</b> soil substitutes not containing dangerous substances.
Unsuitable debris and litter removed from on-site wastes	<b>19 12 12</b> other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
Excess Recovered Water, or: Off Specification Recovered Water	<b>16 10 02</b> aqueous liquid wastes other than those mentioned in 16 10 01

#### 2.4.4 Skip and Quarantine Storage Area

Unsuitable wastes (debris and litter) removed from the waste during settlement, dewatering, moving & sorting are placed within an 8 cu/yd covered skip in the **Skip Laydown Area** pending transfer to authorised off-site facilities for disposal or recovery.



### 2.5 Management and Risk Controls

2.5.1 The following **Management Systems & Documents** to control and reduce the risks posed by the permitted activities, will be in place, when and during waste operations are carried out at the site:

► **Accident Management Plan → EMS - Appendix 3**

A. The plan identifies events or failures that could damage the environment

The following relevant factors are identified:

- Unloading and spillages from loss of containment of gully wastes
- Blocked drainage systems
- Polluting unwanted emissions to sewer
- Vandalism
- Flooding

B. The plan assesses how likely accidents are likely to happen and the potential environmental consequences

The following assessment criteria are used:

- Probability: how often is this likely to occur?
- What gets out and how much?
- Where would it go – i.e., what or whom would be affected?
- And how would it get there – i.e., pathway by air, along site surfaces etc.
- What would the consequences be?

C. The plan contains actions to minimise the potential causes and consequences of accidents:

The following management and risk controls are to be used:

- Storage of wastes in designated and contained areas
- Barriers to prevent vehicles from damaging equipment
- Maintain primary and secondary containment
- Maintain security fencing and locked gates to minimise the risk of unauthorised access
- Keep a log of all incidents and near-misses
- Maintain and keep appropriate equipment to limit the consequences of an accident e.g. spillage equipment and absorbents
- Site instructions and responsibilities on how (and by whom) each accident scenario should be managed

D. The plan contains actions if an accident happens

- Implementing the accident management plan.
- Investigation of the cause of accident
- Recommended actions to prevent reoccurrence
- Reviewing the plan periodically and after each accident
- Notifying the Environment Agency and other relevant Authorities, e.g., Fire Authority, HSE, Police, etc.



► **Skills and training** → **EMS - Appendix 2.2 & 2.3**

All operational staff and managers are suitably trained and undergo regular training, **lists of the appropriate skills and training identified and undertaken for each staff member** are kept at the Porth Site Depot Offices. Copies of relevant site operating instructions including a copy of the permit, and this document's **EMS Site Waste Recovery Facility** process description, management and controls are kept on the site within the site office which are made readily available to operational staff.

► **Site reconnaissance, housekeeping and checks** → **EMS - Appendix 2.9**

- **During operational periods**, daily, weekly, monthly, and annual checks are made by the site supervisor to inspect waste storage areas, site surfacing, drainage channel and perimeter security fencing.
- **Checks carried out** are recorded on the **Site Inspection Checklist** and any defects detected and necessary repairs made are also recorded and in the site diary.
- Regular scheduled **washing and cleaning of vehicles and plant** are carried out at least weekly by using the **on-site Vehicle Wash Facility** and as necessary whenever vehicles are dirty and are capable of spreading and tracking dirt onto or from the site.
- **Site surfaces should be swept and hosed clean** with clean water from the water storage tank to prevent accumulation of mud and thus prevent tracking in and out of the site to prevent dust emissions.
- **Clean water** used to clean muddy, or dusty surfaces should be washed and swept into the settlement pit using a stiff bristled brush which is located by the settlement pit.

**No detergents or other cleaning agents to be used, use clean water only**

**For leaks and spillages that are polluting;**

Refer to: ► **Appendix 3.1 - Spillage Procedure**

## 2.5.2 Fugitive Emissions

► **Controls to prevent fugitive emissions** → **EMS - Appendix 2.4**

**Environmental risk assessments** and **Management Risk Mitigation Control Plans**, show that there are **no issues or detrimental impacts with regards to fugitive emissions** being generated from site operations which are capable of causing harm, pollution, nuisances, or detriment to the local amenity beyond the site boundary.

The following **Management and Risk Controls** to ensure that **fugitive emissions** are adequately prevented or minimised (insignificant) are as follows:

**(1) Measures to prevent emissions to surface and controlled waters and land and groundwater**

- a. Inspection of integrity and maintenance of impermeable site surfaces, retaining bund, and treatment and containment systems → **EMS - Appendix 2.9, 2.4 & 2.5.**
- b. Inspection of integrity and maintenance of drainage channels (by regular cleaning/de-silting) and sumps, silt traps and separators → **EMS - Appendix 2.9, 2.4 & 2.5.**

- c. All waste reception, treatment & storage operations are to be carried out within the designated impermeable and contained operational areas on the site → **EMS - Appendix 1.4, 2.9, 2.4 & 2.5.**
- d. **Keep absorbents readily available on-site for use in containing any potentially polluting leaks or spillages** entering the outside the contained site drainage system → **EMS - Appendix 3.1.**

**(2) Measures to prevent emissions to air**

- Refer to → **EMS – Appendix 5 Dust Emissions Management Plan**
- a. Wastes to be stored fully within the confines of the walled dewatering storage pad/bay, stockpiles are to be kept 0.5m below the height of the 2m high wall to prevent wind erosion and nuisance dusts to local residents → **EMS - Appendix 1.4, 2.7 & 2.9.**
- b. **Prevent wind erosion**, stock piles within the dewatering pad/bay to be kept moist and covered (sheeted) during periods of **prolonged dry weather and / or high winds ≥** (greater than or equal to) **Beaufort scale 4.**
- c. **Site operations are to be limited and controlled** in accordance with **Tables 2.5.2** provided overleaf:

The following **Beaufort Scale** in **Table 2.5.2 (a)** below provides wind speeds and descriptions and the corresponding **Table 2.5.2 (a)** provides **Key coloured action levels** *for on-site operations to prevent fugitive emissions occurring.*

Table 2.5.2 (a) BEAUFORT SCALE: Specifications and equivalent speeds for use on land				
FORCE	EQUIVALENT SPEED 10 m above ground		DESCRIPTION	SPECIFICATIONS FOR USE ON LAND
	miles/hour	knots		
0	0-1	0-1	Calm	Calm; smoke rises vertical
1	1-3	1-3	Light air	Direction of wind shown by smoke drift, but not by wind vanes.
2	4-7	4-6	Light Breeze	Wind felt on face; leaves rustle; ordinary vanes moved by wind.
3	8-12	7-10	Gentle Breeze	Leaves and small twigs in constant motion; wind extends light flag.
<b>4</b>	<b>13-18</b>	<b>11-16</b>	<b>Moderate Breeze</b>	<b>Raises dust and loose paper; small branches are moved.</b>
<b>5</b>	<b>19-24</b>	<b>17-21</b>	<b>Fresh Breeze</b>	Small trees in leaf begin to sway; crested wavelets form on inland waters.
6	25-31	22-27	Strong Breeze	Large branches in motion; whistling heard in telegraph wires; umbrellas used with difficulty.
7	32-38	28-33	Near Gale	Whole trees in motion; inconvenience felt when walking against the wind.
8	39-46	34-40	Gale	Breaks twigs off trees; generally impedes progress.
<b>9</b>	<b>47-54</b>	<b>41-47</b>	<b>Severe Gale</b>	Slight structural damage occurs(chimney-pots and slates removed).
10	55-63	48-55	Storm	Seldom experienced inland; trees uprooted; considerable structural damage occurs.
11	64-72	56-63	Violent Storm	Very rarely experienced; accompanied by wide-spread damage.
12	73-83	64-71	Hurricane	

#### On-site Operations Restricted to Action Levels

Table 2.5.2 (b) Key coloured action levels
Operations continue under normal conditions
Loading of dewatered silts for off-site dispatch are not to be carried out
Stockpiles in bays to be kept moist and covered (sheeted) to prevent prolonged wind erosion
Site operations cease and are to be carried out under emergency maintenance situations only where safe and if necessary

**Wind Speeds** at the Site can be monitored by using Real Time Location Data at <https://www.windy.com/> or; a **Weather Station** installed at the Site

**(3) Measures to prevent dust, mud, and litter**

- a. Daily inspection and site reconnaissance carried out by the site manager or supervisor, and recorded in the [Site Inspection Checklist EMS - Appendix 2.9.](#)
- b. Keep site surfaces clean by sweeping.
- c. Retrieve any loose litter or debris at the end of each working day and place in a closed and secured skip.
- d. Ensure skip containing litter and debris is kept closed and secured.

**(4) Measures to prevent substances introduced into the environment by pests**

- a. Daily inspection and site reconnaissance carried out by the site manager or supervisor and recorded in the [Site Inspection Checklist EMS - Appendix 2.9.](#)
- b. On detection of infestation, professional pest controllers are to be employed directly and without delay.

**(5) Measures to prevent odour**

- a. Daily inspection and site reconnaissance carried out by the site manager or supervisor and recorded in the [Site Inspection Checklist EMS - Appendix 2.9.](#)
- b. Odorous consignments are not accepted at the site (pre-acceptance controls) and are redirected for off-site disposal.
- c. Odorous wastes detected on-site are to be removed immediately for off-site disposal.
- d. Removal of degradable waste (e.g., vegetation) into enclosed skip.
- e. Investigating and responding to any odour complaints received.

**(6) Measures to prevent noise & vibration**

- a. Receipt of wastes and loading and unloading operations to be carried out within normal working operating hours.
- b. Ensure that plant and equipment have regular maintenance checks.
- c. Vehicles silencers are regularly serviced and maintained.
- d. Switching mobile plant and equipment off immediately after use.
- e. Ceasing waste operations that are capable of causing excessive or nuisance noise levels beyond the site until remedial actions are carried out to control and reduce them.
- f. Daily Site Inspection & Reconnaissance Auditory Checks at and outside the site boundary to be undertaken by Site Manager or supervisor for excessive noise levels during waste operations, to identify on-site noise generators capable of causing excessive or nuisance noise levels beyond the site using a hand-held noise monitor. Any excessive noise levels identified, monitored, and remediated will be recorded in the [Site Inspection Checklist EMS - Appendix 2.9.](#)
- g. Investigating and responding to any noise or vibration complaints received, whereby invoking the need to undertake periodic noise or vibration monitoring, by employing an external noise and vibration specialist to monitor, identify and help remediate the noise levels to satisfactory tolerances, as required. A record of the external noise specialist's report, recommendations and remedial actions will be kept by the Site Manager at the Site Office.




(7) **Checks, maintenance, and records**

Maintenance required from site reconnaissance and checks are recorded by the site Manager, maintenance records and complaints are kept at the Arch Services Depot → **EMS - Appendix 2.9, 2.4, 2.5, 2.7.**

(8) **Measures to prevent flood waters adversely affecting treatment and storage systems and site operations**

- a. Arch Services Depot and Site Boundary is **not within an area that is provided with flood warnings** by **Natural Resources Wales**.

Flood warnings sign up web page extract:



**Cyfoeth Naturiol Cymru**  
**Natural Resources Wales**

Sign up for flood warnings

We are still developing this service - [your feedback](#) will help us improve it.

[< Back](#)

We can't give warnings for this address

ARCH UTILITY SERVICES (S W) LTD  
YNYSHIR INDUSTRIAL ESTATE  
LLANWONNO ROAD  
PORTH  
CF390HU

You may still be at risk of flooding.

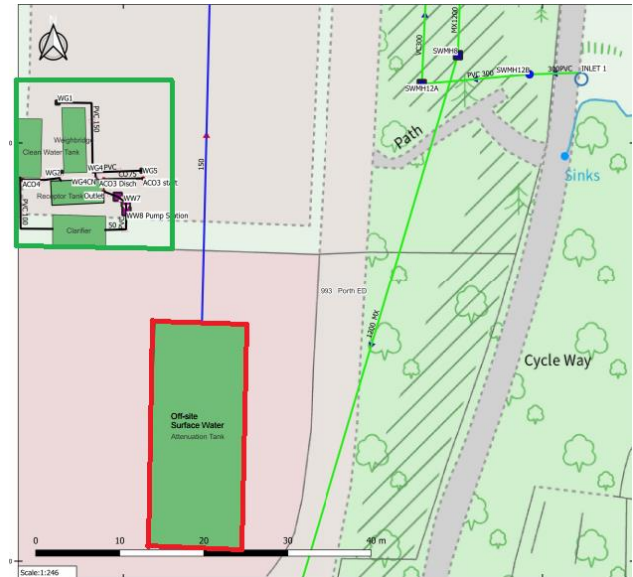
- b. **The site and surrounding local area may still be at risk to localised flooding** during heavy or prolonged spells of rainfall, natural drainage for local surface waters is South West via a series of surface water drains, culverts and ditches to the **Afon Rhondda Fach** located ≥ 50m South & West of the site boundary.

See information previously provided in ► **Section 1.4, 1.4.3 Site Environs & Location to Receptors, • Risk of Flooding**

- c. **Potential adverse impacts to sensitive receptors** beyond the site from possible flooding at the site is considered **low or insignificant** for the following reasons.
- Only **absolute Non-hazardous waste** (single waste stream) is accepted, stored and treated at the site.
  - The **nature of the wastes** generated from surface rain waters collected, accepted, stored and treated at the site are the same as or similar to each other.
  - There are **no polluting substances**, (fuels, oils, reagents etc.) stored or kept at the site which could impact water quality.
  - Waste **Pre-acceptance and Acceptance Procedures** ensure polluting wastes are not accepted or processed at the site.
  - **Full site containment and actions to prevent potential overwhelming flood surface waters** entering and escaping the treatment and storage systems i.e., the Settlement are employed at the Site: ↓

**e. Flood elevation & flood impact measures include:**

- Construction of a  **Surface Water Attenuation Tank** by **Dwr Cymru Welsh Water** located South and **adjacent** to the  **Site Boundary**.
- The **large underground** surface water storage **tank** maintained by **Dwr Cymru Welsh Water** provides additional storage capacity for attenuating surface waters and **preventing flooding** to the local areas.
- The **elevation of the site** is (108m AOD) at **its lowest point**, this is where all the surface water **drainage from all operational areas** of the permitted site **will drain** and collect **into the Settlement Pit**.



Above: Extract of **Appendix 1.5 - Arch Services Site Drainage Plan**

- Where there are prolonged heavy spells of rain or flooding and the **capacity to store** and harvest the processed waters within the **Harvested Water Storage Tank** become **critically low**, → then Arch Services own Vehicles will keep the **Settlement Pit and Water Storage Tank levels to within safe levels** by emptying the Settlement Pit and / or Water Storage Tank and transfer (**tanker off-site**) these **Excess waters off-site** to the Local **Dwr Cymru Welsh Water** Treatment Facility.
  - **In the unlikely event** where or if there are **extreme situations where flooding is adversely affecting or hampering site operations**, then **the Site will cease accepting wastes** and **remove all waters and solid silts** from the **Storage Drying Pad** and **Settlement Pit**.
- **Further details** to this section are provided in **Appendix 1.4 – Site Layout and Drainage Plan & Schematics**, and; **Appendix 1.5 – Arch Services Site Drainage Plan**.

## 2.6 Quality Controls

### 2.6.1 Incoming Wastes



**Controls and procedures** for ensuring that the wastes collected are suitable for treatment, recovery and re-use are **previously described in detail** in → **Sections 2.2 Waste Pre-acceptance & 2.3 Acceptance Procedures.**


A summary of these **Gate Keeper Checks**, previously described include:

**Risk assessing** low, medium and high risk areas and situations **prior to gulley sucking and collecting the wastes** as **previously described in Section 2.2.5**

**Off-site visual and olfactory observations prior to, during gulley dredging operations** and on-site observations **during discharge into the Settlement Pit** by the drivers, operatives and site supervisor which include:

- **Visibility** (Oil Sheen, Clarity and Colour) of Gulley pot water.
- **Visible pieces** of polluting material
- **Odours** and olfactory checking for presence of hydrocarbons and other polluting substances.
- **Old road surfaces** likely to contain **coal tar** – for example, those laid in the 1980s or before.
- **Sources at or that may be affected from contaminated sites & areas**, e.g., mine waters, land investigations that have identified hazardous or high / heavy contamination levels, etc..

### 2.6.2 Recovered and Harvested Waters for Re-use

**The aims and objectives** for ensuring  water quality are:

- **Fit for use;**

**Uncontaminated waters collected and treated = Uncontaminated waters recovered and re-used**

and;

- **Resource Efficiency;**

**Monitoring the quality of treated recovered waters for re-use** within the gulley sucking tanker for dredging and cleaning / desilting surface water drains is **important to ensure that there are no impacts to water quality** and → thus **achieving Sustainable operations.**

**Re-use of Harvested Waters reduces the risks to water resources**, improves water supplies and protects the environment particularly during low rainfall, by managing water resources to **reduce the risk of drought measures**, such as temporary use bans and taking additional water from the environment. This **resource efficiency measure** is to protect not just our **water resources**; but also, **the environment** and the **wildlife** that depends on it too.

and;

- **Efficiency Gains;**

**Eliminate the need to use** approximately 2,000 litres of **mains drinking water** per gulley sucking vehicle, typically estimated at:

1 vehicle (2,000 litres) per day x 6 days x 52 weeks = **624,000 litres / 642 tonnes year.**

### 2.6.3 Monitoring Programme



The monitoring programme is based on gathering several lines of evidence that demonstrate the quality of collected, treated and harvested waters.

Monitoring the quality of treated waters will assess suitability for re-use and allow improvements to be made to operations and treatment systems where necessary.

#### a. Responsibility

The operator (Arch Services) will be responsible for implementing the monitoring programme. The operator will ensure that only personnel trained in the task and aware of the risks will undertake the monitoring.

#### b. Records & Laboratory Analysis

Records are an essential part of the management system and permit compliance. They must be clear, legible, accessible and consistent. The operator will maintain records of all monitoring and maintenance to the system including records of the taking and analysis of samples and any assessment or evaluation made on the basis of such data.

Analysis, expert advice and training will be carried out by an **appropriate and accredited Off-site Laboratory**.

- c. The operator will ensure that records are stored either electronically or in paper format and ensure that any amendments are made in a way so that the original is still accessible. All records will be retained for a minimum of six years.

### 2.6.4 Sampling and Analysis

1. **Samples of Incoming Waste Waters** will be taken of gulley wastes that have been discharged into and from the **Settlement Pit**.

These Spot Samples will be dated and recorded as **SAMPLE 1** by the trained person undertaking the sampling on the site:

**Analysis Request Form → EMS - Appendix 2.10 - Analysis Request Form**

2. Samples of treated **Recovered Harvested Waters** will be taken from the Recovered Harvested Waters **Storage Tank**.

These Spot Samples will be dated and recorded as **SAMPLE 2** by the trained person undertaking the sampling on the site:

**Analysis Request Form → EMS - Appendix 2.10 - Analysis Request Form**

3. **Monitoring frequency of samples and analysis of both the Settlement Pit (untreated waste) and Treated Harvested Waters**, proposed is **quarterly (3 monthly, Winter, Spring, Summer, Autumn)** to collect data and measure possible **seasonal fluctuations that may affect water quality**.

4. **Monitoring Parameters** for **Priority Surface Water Pollutants** include:

- ▶ **Full Suite → EMS - Appendix 2.11 - Analysis for Priority Surface Water Pollutants**
- ▶ **Key Parameters → EMS - Appendix 2.11 - Analysis for Priority Surface Water Pollutants**



## 2.7 Records, Reporting/Notification

2.7.1 The following **records** will be made and kept at the site as shown in the **Tables** below:

Table 2.7.1 Site Records	
Wastes Received	
1	Time and date
2	Waste carrier licence number
3	Quantity of waste received
4	Waste description and waste LoW/EWC code
5	Physical nature of the waste and packaging/type e.g., solid, loose, bulk, whole item etc.
6	The producer details and local authority production/origin code
7	Controlled waste transfer notes and hazardous waste consignment notes
8	The fate of the waste (i.e., recovery operation(s) type)
9	Pre-acceptance checks (e.g., quotations, agreements & specifications, analysis and producer site visit checks)
10	Any irregularities with the load, prior to offloading and on inspection after acceptance, (e.g., heavy contamination, odours, unsuitable debris, unpermitted wastes and hazardous items etc.)
11	Redirected (rejected) waste/loads for alternative off-site treatment/disposal including any instructions/correspondence from the Natural Resources Wales
12	Waste hierarchy declaration

Wastes dispatched	
1	Time and date
2	Waste carrier licence number
3	Quantity of waste dispatched
4	Waste description and waste LoW/EWC code
5	Physical nature of the waste and packaging/type e.g., solid, loose, bulk, whole item etc
6	The destination of the waste and the local authority destination code
7	The receiving site permit or number or exemption details
8	Controlled waste transfer notes and hazardous waste consignment notes
9	The fate of the waste (i.e., recovery or disposal)
10	Waste hierarchy declaration

### 2.7.2 Waste Returns

A **summary of wastes received and dispatched** from the site will be submitted within one month of the specified time scale(s) to **Natural Resources Wales**.

### 2.7.3 Monitoring Programme

Records of **samples taken** → **EMS - Appendix 2.11 - Analysis for Priority Surface Water Pollutants** and **analysis received**.

2.7.4 The following **notifications and reports** will be made to the **Natural Resources Wales** without delay:

- Any **malfunction, breakdown** or failure of equipment or techniques, **accident**, or fugitive **emission** which has caused, is causing or **may cause significant pollution**.
- Any **breach** of a **limit** specified in the **permit**.

- Any **significant adverse** environmental and health **effects**.
- Records of **complaints, pollution incidents or breaches of the permit** and the actions that have been or are intended to be taken to deal with them.

#### 2.7.5. Site Notice Board

A site notice board will be displayed at the site entrance to the facility, and will provide the following information in **Table 2.7.5** below:

Table 2.7.5 Site Notice Board Details	
Facility Name:	Arch Drainage Services Site Waste Recovery Facility
Facility type:	Non-hazardous Waste Treatment Facility
Operator:	Arch Utility Services (SW) Ltd
Contact Details:	<b>Tel. No.</b> 0800 707 6771 <b>E-mail:</b> <a href="mailto:enquiries@archservices.co.uk">enquiries@archservices.co.uk</a> <b>Web:</b> <a href="http://www.archservices.co.uk/">http://www.archservices.co.uk/</a>
Emergency Contact:	The Site Manager
This permitted facility is authorised by: <b>Natural Resources Wales</b>	
Permit number:	EPR/
<b>Natural Resources Wales</b> (incident hotline):	0800 807060

End.