Garth Isaf Farm
Efail Isaf,
Pontypridd,
Rhondda Cynon Taff
CF38 1SN

WASTE RECOVERY PLAN

For the use of derived material from Inert/Non-Hazardous Construction Waste

Reference Number RJPH WAST-004 WRP

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Introduction

Garth Isaf farm is a long standing and established farm within the area of Efail Isaf, Pontypridd.

The site has detailed planning permission in place (issued in 2003) to allow for the use of material on site to landscape and improve the area in and around the main house and site offices. A further planning permission has been submitted for work that falls outside of the scope of the 2003 granted permission that is due for decision shortly (before permit determination following this Waste Recovery Plan).

In summary, the main outcome for the planning permission(s) is to create a ménage, an amenity pond, improve and extend the existing gallop, upgrade various areas of farmland for increased agricultural yields and to incorporate the listed projects into the existing surrounding physical aspects of the farm (for more detailed viewing of the proposed works please see the attached document GIF-AGCL-Proposed 01 Rev 3b, for planning details, the following planning references are relevant

2000 Equestrian Training Track and landscaping	00/2821/10
2003 Re-profiling, Manége and Amenity Lake	03/1595/10
2019 Re-profiling (Area 1), Manége and Amenity Lake, realign Gallop	18/1030/10

All the above projects are aimed at increasing the benefit of the farm businesses and improving the business efficiency. By being able to provide more training options for the equestrian clients, further diversifying the farm businesses and increasing agricultural yields; it is hoped that the business profits will increase substantially by completing the projects applied for.

Recovery vs Disposal

The Waste Framework Directive along with the guidance on the interpretation of Key provisions of Directive 2008/98/EC on waste comments that the principle result of a recovery activity is defined and described as:

'waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function.'

Additionally, within this guidance it recognises that recovery operations are varied in what the definition is identifying as recovery. Within this scope it covers what is meant by recovery activities that do not accurately fit within the published re-use and recycling definitions as recovery is a different outcome. The guidance comments that these activities are 'other recovery' activities and are defined as:

'any operation meeting the definition for 'recovery' under the WFD but failing to comply with the specific requirements for preparation for re-use or for recycling.'

The proposed project at Garth Isaf Farm falls within the WFD definition of a recovery activity as the waste to be used is acting as a replacement to material that would have normally be used to complete the project. The process however would not satisfy the re-use or recycling definitions and so may be classified as an 'other recovery' activity.

This waste recovery plan proposes the use of waste as a replacement to virgin material to complete the project in line with the granted planning permission(s).

1. Waste Recovery Plan Information

1.1 Purpose of the Work

The application is related to the proposed works to be carried out at the Garth Isaf Farm, Efail Isaf CF38 1SN which have been set out in Drawing GIF-AGCL-Proposed 01 Rev 3. The drawing sets out 6 areas of specific works, catalogued under Areas 1-5 plus A on the drawing and including basic works, estimated volumes and proposed materials generated from recovered waste. The following is a brief descriptive of the areas, the tonnages required with each area have been tabulated below.

Area 1 – Central area of Garth Isaf Farm

Under Area 1, some 4.7 hectares of land are proposed to be re-profiled, hereafter referred to as the "works". The re-profiling is proposed over a general depression in the area that holds extremely little agricultural value.

The proposal includes introducing a drainage medium to the existing surface drains in the area (to act as future sub-surface drains), re-profiling the whole area to raise the general elevation of the site to a flowing contour profile similar to the surrounding hillsides.

The proposed finish will be an aesthetically pleasing meadow appearance to include a plateau like area for a small amenity lake and a manége to be constructed to supplement and improve the existing equestrian business facilities. The main aim to the re-profiling and facilities are intended to support the development of the equestrian business operated on the site and at the same time increasing the potential silage production of the farm from 450 bales a season to 600 bales a season, significantly increasing the annual yield. A drawing, 11. GIF-AGCL-Proposed 01 Rev 0, is included (previously submitted) that shows the current agricultural class ratings for various areas of Garth Isaf Farm, the drawing also lists the table of classifications and the proposed treatments for poor quality areas for agricultural improvement.

In summary, the design therefore includes for the works the provision and placing of materials for the following:

- Re-profiling of some 4.7 hectares of the site in staged completions
- Construction of a horse training manége
- Construction of a small amenity lake
- Vertical re-alignment of a horse training gallop

- Repair and installation of various access tracks and equestrian exercise tracks on the site
- Repair and installation of land drainage on the site
- Soiling of surface areas to create pasture for agricultural improvement and planting areas.

Silage production would be expected to increase the farm yield by around 150 bales per year, adding around £7,500 to the farm income. To assess the potential increase in value from the development, the proposer commissioned a Land Valuation Report[1] from professional land agents, a copy of which is included in the application submittal documents. Based on the report, the proposed improvement would add value to the farm estate as if the same valuation method is applied as for Area 1, then the farm value would increase by £76,337

Before 4.7 h x £2,348/h = £11,036

After 4.7 h x £18,590/h = £87,373

Area 2 – South east area of Garth Isaf Farm

This area, of some 1.5 hectares, holds planning permission, 00/2821/10, for an equestrian training track to the perimeter and landscaping to suit. It is proposed that the area, currently of a 'VERY POOR' agricultural class, AC5, is assessed for required treatment using manufactured subsoils and topsoil under the Agricultural Benefit Statement with a view to creating an improved classification of 'GOOD', being to AC3a criteria. Post completion use would be for equestrian activity over the perimeter track, and silage production/grazing to the landscaped areas.

Silage production would be expected to increase the farm yield by around 45 bales per year, adding around £2,250 to the farm income.

The proposed improvement would also add value to the farm estate as if the same valuation method is applied as for Area 1, then the farm value would increase by £22,739

Before 1.4 h x £2,348/h = £ 3,287

After 1.4 h x £18,590/h = £26,026

Area 3 – Central area of Garth Isaf Farm, currently under stockpiles.

This area, of some 0.7 hectares, is bounded by the existing gallop, or equestrian training track, to the northern and southern perimeters. Existing meadow to the westward side and Area 1 to the east to south-eastward side. It is proposed that the area, expected to be currently of a 'VERY POOR' agricultural class, AC5, is assessed for required treatment

[1] Cooke & Arkwright Report Ref CMJH/37471 dated 26/10/2018

using manufactured subsoils and topsoil under the Agricultural Benefit Statement with a view to creating an improved classification of 'GOOD', being to AC3a criteria. Post completion use would be for equestrian activity over the perimeter track, and silage production/grazing to the landscaped areas. Silage production would be expected to increase the farm yield by around 20 bales per year, adding around £1,000 to the farm income.

The proposed improvement would also add value to the farm estate as if the same valuation method is applied as for Area 1, then the farm value would increase by £11,369

Before 0.7 h x £2,348/h = £ 1,644

After 0.7 h x £18,590/h = £13,013

Area 4 – Former mineworking areas

This area, of some 0.6 hectares, is located to the south-eastern area of the existing meadows of Garth Isaf Farm, It is proposed that the area, expected to be currently of a 'VERY POOR' agricultural class, AC5, is assessed for required treatment using manufactured subsoils and topsoil under the Agricultural Benefit Statement with a view to creating an improved classification of 'GOOD', being to AC3a criteria. Post completion use would be for equestrian activity over the perimeter track, and silage production/grazing to the landscaped areas.

Silage production would be expected to increase the farm yield by around 20 bales per year, adding around £1,000 to the farm income. The proposed improvement would also add value to the farm estate as if the same valuation method is applied as for Area 1, then the farm value would increase by £9,746

Before 0.6 h x £2,348/h = £ 1,409

After 0.6 h x £18,590/h = £11,155

Area 5 – Proposed Barn site and stock yard

This area, of some 0.3 hectares, is located to the south-eastern area of Garth Isaf Farm, it is proposed that the area is improved for agricultural use however, there is future potential to use the area as a farm building foundation and stock storage yard by levelling off and capping with a course grained all weather capping material manufactured from recovered waste. It is intended in this plan for the initial soil placement to be allowed for, with any future capping be covered by future recovery allowances, depending on programme if the barns are confirmed as required.

Area A – Grounds to Garth House

This area, of some 2.1 hectares, which holds planning permission, 00/2821/10, for an equestrian training track to the perimeter and landscaping to suit, is located to the north-western area of the existing meadows of Garth Isaf Farm, It is proposed that the area, expected to be currently of a 'POOR' agricultural class, AC4, is assessed for required treatment using manufactured subsoils and topsoil under the Agricultural Benefit Statement with a view to creating an improved classification of 'GOOD', being to AC3a criteria. Post completion use would be for equestrian activity over the perimeter track, and silage production/grazing to the landscaped areas. Silage production would be expected to increase the farm yield by around 63 bales per year, adding around £3,150 to the farm income. The proposed improvement would also add value to the farm estate as if the same valuation method is applied as for Area 1, then the farm value would increase by £34,109.

Before 2.1 h x £2,348/h = £ 4,930

After 2.1 h x £18,590/h = £39,039

1.2 Quantity of Waste Used

As stated above, the proposed works are extensive and will require substantial volumes of materials. To adopt a policy of sustainable development, the intention is to use recovered waste material for the fill and aggregate requirements. The material is to directly replace non-waste material rather than deplete natural resources from quarries etc unnecessarily. The proposal will also ensure that landfill avoidance is achieved for a significant tonnage of waste material ensuring effective waste hierarchy compliance. The proposal uses quantities and volumes established by design calculations and conversion using the WRAP conversion factor of 1.25 (2004). This ensures that the recovered waste will be only be used to the tonnages required to complete the job as detailed within the planning permissions suitably replacing non-waste material.

The Works entail the following principal quantities:

General Fill (From designers' volumes adjusted)	122,500 tonnes
Drainage, Random Rubble/Single size	3,750 tonnes
Sub-grades	13,334 tonnes
Wearing Course/Dust	2,500 tonnes
Soil products	98,101 tonnes
Green waste compost of growing medium[2]	4,089 tonnes
Total for recovery	244,274 tonnes

From audit survey of 2017-18, some 86,641 tonnes of waste have been recovered and placed as general fill across the site of Area 1 since circa 2003 under the current planning consent. As such, some 157,633 tonnes remain outstanding against the 2018 design. Of this, 66,250 tonnes (53,000 m3) is outstanding under the current 2003 planning permission included in Area 1.

During the process of finalising the design for the scheme, several design profiles were developed, from which the chosen profile was selected as most fitting to the brief issued. Drawing 10. CDGA-6940-04, Alternative Designs Rev A demonstrates three options from which Options A and C were discarded (previously submitted). Also, the Site Condition Report includes sections highlighting the effect of a safety review of the amenity lake area that resulted in shallower sides and depth. This raised the surrounding ground

[2] While the Green waste is a PAS100 product, it has been included as it will be incorporated into the recovered waste profiles

levels accordingly from the 2003 planning and these effects are included in the approved 2019 permission, 18/1030/10.

1.3 Meeting Quality Standards

The Waste Recovery Plan should be read and utilised in conjunction with the following related RJPH WAST documents:

RJPH WAST 001 –	Waste Recovery Plan (WRP)
RJPH WAST 002 –	Construction Quality Assurance Plan (CQAP)
RJPH WAST 002A –	Quality Management System (QMS)
RJPH WAST 003 –	Specification for the Works (SOW)
RJPH WAST 004 –	Site Condition Report (Inc. Historical Fill) (SCR)
RJPH WAST 005 –	Environmental Action Plan (EAP)

where any ambiguity is found between documents, then the WRP is to be considered dominant. The documents provide the following information to ensure a high level of Quality Standards is attained relevant to the scheme as follows:

Construction Quality Assurance Plan

Provides information on quality controls developed and deployed relevant to the scheme.

Quality Management System

Provides information on the treatment process to recover the waste to use it on site.

Specification for the Works

Provides details of acceptable products for incorporation into the works and tolerances for completed works etc.

Site Condition Report (Inc Historical Fill)

Consists of a Site Condition Report, including a Land Contamination Report on the material placed prior to 2018.

Environmental Action Plan

Sets out the procedures and methods to be used to prevent injury to staff and/or harm to the environment for concerns of soil erosion, pollution and increased risk of flooding in the surrounding area.

To ensure that the works are constructed to acceptable quality standards, a design has been produced by C D Gray and Associates Ltd, professional civil engineering consultants with

substantial experience in similar schemes. The brief to the designers was to provide landscape profile of aesthetically pleasing contours, of like to the surrounding hillsides, while providing slopes accessible for tractors and balers, but avoiding potential risks of soil erosion, pollution and/or increased risk of flooding to surrounding areas, Drawing 7. CDGA-9439-02 Rev G shows the proposed profile for Area 1 of the site (previously submitted).

Part of the site of Area 1, some 3 hectares, already holds Local Authority planning permission, reference 03/1595/10 (copy previously submitted) and further application, for the remaining 1.7 hectares of the site and incorporating changes to the previous permission, is currently in progress and has been submitted to the local authority.

The other areas are considered covered under permitted activities however, checks will be made with RCT Planning on a case by case basis taking into consideration any statements and/or recommendations included in the Agricultural Benefit Statement.

Agricultural Benefit Statement

In order to ascertain the requirements to complete the improvements to the various areas, the proposer commissioned an Agricultural Benefit Statement to be prepared to assess and recommend soil finishes to the site to improve the agricultural status of the various areas. The commission was issued to Progressive Restoration Limited and a copy of their issued report[3] is included in the application submittal documents. The brief as issued for the Agricultural Benefit Statement is included at the end of the WRP.

[3] Agricultural Benefit Statement issued by Progressive Restoration Limited, 28/01/19

2. Waste Recovery Activities

2.1 Financial Gain by using Non-waste materials

Non-Waste

From the above, and assuming 2018 rates for non-waste materials, on rates as received from TARMAC, a supply cost is shown as follows, note no taxes such as VAT are included:

Table 1: Cost estimate using imported non-waste materials

Item	Material	Tonnage	2018 Price/t	2018 Cost
General Fill	Type 1/6F5	122,500	-£8.50	-£1,041,250
Drainage	Single Size	3,750	-£11.50	-£43,125
Subgrades	Type 1/6F5	13,334	-£8.50	-£113,339
Wearing Course / Dust	6mm down	2,500	-£11.50	-£28,750
Inert for soil profile construction	Soils	98,101	-£3.00	-£294,303
Compost	Compost	4,089	-£4.00	-£16,356
Placing		244,724	-£1.50	-£367,086
			Cost at 2018 prices for primary	**-£1,904,209**[4]

Table 2: Cost Estimate using recovered waste materials

Item	Material	Tonnage	2018 Price/t	2018 Cost
General Fill	Type 1/6F5	122,500	-£3.00	-£367,500
Drainage	Single Size	3,750	-£3.00	-£11,250
Subgrades	Type 1/6F5	13,334	-£3.00	-£40,002
Wearing Course / Dust	6mm down	2,500	-£3.00	-£7,500
Inert for soil profile construction	Soils	98,101	-£3.00	-£294,303
Compost	Compost	4,089	-£4.00	-£16,356
Placing		244,724	-£1.50	-£367,086
			Cost at 2018 prices for recovered waste products revised	**-1,106,997**
			Total economic saving at completion	**-£797,212**

From comparison of estimated costs in Tables 1 and 2, there is an economic benefit to using recovered waste over imported non-waste to the order of some £797,212. This is solely due to the saving in cost of using recovered waste against raw virgin materials. The entire programme to complete would depend on market sources and availability of waste for recovery, however, if annual intake of recent years is maintained then the scheme could be completed over a period of between 5-7 years, however planning consent 18/1030/10 allows a period of 8 years to complete the scheme from the consent date of 24/01/19.

While there is some economic benefit to be gained by the project (savings against the use of virgin material), it can be seen, the company would be at a substantial loss even when using recoverable waste materials. Despite this, the Farm would benefit enormously from the project completion in the following ways and so it is deemed as a necessary project to complete to ensure the long-term financial security of the business.

[4] Recalculated after amendment to cover AREAS 1-6, December 2018, previous value -£1,971,250, which is used in the letter from the Group Accountants

- The farm silage production would double, increasing the profits by approximately £14,900 per year.
- Use of the amenity lake would bring in an estimated revenue of between £5-10,000 per year.
- The value of the farm generally will increase by approximately £176,606 due to the improvement of the agricultural land (re-grading of the fields).
- The profits of the equestrian business are expected to increase by approximately £100,000 per year due to the improvement of gallop and training facilities across the site including the ménage.

Once completed, the area where the works have been utilised will require minimal maintenance per year at an approximate cost of £20-25,000 in line with the specifications detailed within CL9.2.

As such, the above demonstrates that, should the project be completed the value to the farm and the business is significant. An annual increase in profits of approximately £125,000 is forecast in addition to the land value increase of £176,606, against an annual maintenance cost of £20-25,000 per year. It is our opinion that this provides sufficient evidence that a meaningful financial gain would be achieved upon the scheme completion.

2.2 Funding to use waste materials - evidence

The owners have several sources of income from business interests, at 2017 values, disposable income that could be utilised for financing the project, using imported non-waste materials would be to the order of £400,000 per annum and generate a completion period of between 5 to 7 years.

It is important to note that the costs of project completion are to be split over the period of works on site and should not be viewed as lump sum amounts. For example, the costs of using virgin material for project completion is estimated at £1,904,209; however, this figure, if completed in the shortest timescale of 5 years, would incur a cost of approximately £380,842 per year. This cost would obviously decrease further if more time were needed to complete the project making it even more affordable (£272,030 per year over a 7-year period).

As detailed above, the disposable income based on 2017 values exceeds the sum required to complete the project using virgin materials ensuring project completion even if waste materials could not be used.

Finance could of course be raised against the land value of the site, and the landowner's personal wealth could be utilised under director loans etc., however these potential income streams have been discounted for this exercise as it would be un-necessary.
A letter of guarantor from Ryan Jones Group Ltd[5], together with an endorsement from the accountants for the Ryan Jones Group Ltd[6], detailing that the required funds are held within the group to allow for the project to proceed using non-waste materials if required, is included in the application submittal documents.

[5] Witnessed letter of guarantor from RH Jones, dated 06/09/18
[6] O'Brien & Partners, Reference J026L/LVE/HA, dated 10/09/18

2.3 Obligations

The application is related to the proposed works to be carried out at the Garth Isaf Farm, Efail Isaf, CF38 1SN, planning permission for the some of the works was previously granted in 2000 and 2003, from this, works have progressed on an ad-hoc basis since then. The proposer has discussed the completion of the scheme with stakeholders such as the Local Planning Authority, Natural Resources Wales, local Councillors and resident groups with a view to gaining consensus for the way forward. From these discussions, the owners consider that while there may be no legal obligation to complete the scheme, based on the definitions provided within the guidance documents provided through NRW and the .GOV website, the proposers consider that there is a community obligation in that consultations have expressed desires for the works to be completed. From a business perspective, as detailed above, the potential increases in income to the business, the project is deemed as being vital to the ongoing financial success and growth.

From a study of the farm, the area proposed for re-profiling has been identified as being of 'very poor' agricultural rating and the owner feels that there is a commercial obligation to improve both the appearance of the area and upgrade the agricultural class to 'good', which would be comparable to surrounding areas of the farm.

Under the ongoing equestrian business, members of the public, many being of school age, enjoy rides around the existing gallop/training track on Garth Isaf Farm. Additional riding is also taken onto the public highway leading to Efail Isaf. However, this highway, being a single-track county lane, has regular usage by vehicles both to the farm and to industrial units west of Garth Isaf. This results in an undesirable traffic situation of young often inexperienced riders, having to negotiate sometimes impatient drivers. As such, the proposers consider that the acquired planning permission for a further 1100m of equestrian track will allow riders to fully exercise horses within the safer and more pleasant boundaries of Garth Isaf Farm, while removing risk of potential vehicle/horse rider interaction on the public highway.

On these grounds, the proposer considers that there is an obligation on them to complete the equestrian track in full for the enhanced health and safety of clients, this was a fundamental aspect of the planning permission application.

The planning permission, 18/1030/1 granted in Jan 2019, states within condition 4 that 'the proposed importing of fill material shall be completed within 8 years of the date of this permission, unless otherwise agreed in writing by the local planning authority'. Discussions with Planners lead to the view that there would be resistance to extending the timeframe outside of this condition and it is therefore considered that the development, under

18/1030/10, is obliged to be completed within an 8-year timeframe after 24/01/2019. The proposer considers that there is an obligation to complete the development within the time constraint of Planning Condition 4 of 18/1030/10.

However, while it could be stated that this obligation would not necessarily apply to other areas of the permit application, it is the proposer's intention to complete all areas within the timeframe of planning 18/1030/10 accordingly.

2.4 Other Evidence that waste is suitable

2.4.1 Demonstration that waste is suitable for the intended purpose

All waste proposed to be used in the completion of the works is tested by the waste producers and reports reviewed by the proposer before acceptance into the project. The procedure to ensure compliance is set out in the Construction Quality Assurance Plan, Quality Management System and the Specification. Material is also checked upon delivery using visual and olfactory checks and any suspect material is removed from the processing cycle to quarantine, further testing and, dependant on the results of such test, re-included into processing or removed off site to a suitably licensed disposal site. The material to be used as a soil growing medium will be assessed by an appropriately qualified agricultural consultant to ensure that it has the required levels of nutrients to be a benefit to the land in question. The assessment will ensure that the material will support successful growth to allow for high crop yields. An agricultural benefit statement has been produced and is submitted alongside this waste recovery plan.

The EWC codes attributed to the waste to be recovered on site are as follows:

EWC code	Description
17 01 01	Concrete.
17 01 02	Bricks.
17 01 03	Tiles & Ceramics.
17 01 07	Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06 (metal from reinforced concrete to be removed).
17 03 02	Bituminous mixtures other than those mentioned in 17 03 01 (road plainings only).
17 05 04	Soil & stones other than those mentioned in 17 05 03 (Topsoil, peat, subsoil and stones only).
19 12 09	Minerals (for example soil and stones). Only those that are wastes from treatment of waste aggregates that are otherwise naturally occurring minerals only. Not to include waste fines from the treatment of any non-hazardous waste or gypsum from recovered plasterboard.
19 12 12	Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11 (limited to crushed bricks, tiles, concrete and ceramics. All metals from

	reinforced concrete will be removed and will not to include waste fines from the treatment of any non-hazardous waste or gypsum from recovered plasterboard.
20 02 02	Soil & Stones (to include topsoil, peat, subsoil and stones only).

2.4.2 Demonstration that waste will not cause pollution

All wastes that are to be accepted onto site for processing, use and recovery will undergo strict procedures to ensure that they are suitable for use on site and that they will not cause a pollution by being placed or throughout storage and treatment.

Pre-acceptance Procedures

The pre-acceptance procedures adopted at the site are in accordance with the Sector Guidance Note 5.06 section 2.1.1 where appropriate. To ensure that unsuitable wastes are not accepted onto site, the senior management team will be used to ensure that the materials delivered are suitable to be recovered on site. This will be done by checking that the waste being delivered firstly is coded correctly and secondly whether the EWC code is on the list of permitted wastes at site. The site management will also determine whether the waste is likely to be contaminated. This assessment will be visual, olfactory and chemical. If it is deemed that the wastes are not suitable to be recovered on site; they will not be accepted and will be returned to the waste producer.

A pre-acceptance screening procedure will be used to ensure that the wastes that are being proposed for delivery comply with firstly the requirements of the environmental permit held and secondly, whether the wastes are suitable to be recovered. This process will involve a review of information from the waste producer which may include representative samples of the waste being brought to site before bulk loading inputs.

All waste deposits to be utilised within the treatment process will therefore be pre-booked for acceptance to site.

On arrival all wastes will be visually checked to confirm that they meet the description and EWC assigned by the waste producer. If not, they will not be accepted on to site for any recovery operation and will either be returned to the waste producer or quarantined on site.

Pre-booked deliveries will have to have the following information assigned to them:

- How the waste was derived including any variability within the process.
- The EWC code assigned for the waste.
- Chemical analysis (if required) and composition of the waste.
- Quantity of waste to be delivered.
- Any hazards within the waste.

It is not anticipated that wastes from companies outside of the Ryan Jones Group are to be accepted, however, on occasion this may be acceptable if the waste meets the above pre-acceptance criteria. The wastes will still undergo full inspection at the site and will be directed away from any source segregated materials avoiding cross contamination. These wastes will then be visually checked by the site management via on site checks before being incorporated into any further recovery projects.

Testing of feedstock supplies will identify the following:

- Nature of the waste and how it has arisen
- Any variations in the material
- Inhibitory values in the material

Wastes should not be accepted at the installation without a clear method or defined treatment and recovery route with a full costing.

Acceptance procedures

All wastes that are received at site are visually checked when tipped off.

Duty of care paperwork is checked by the operative on the site to ensure that the waste is compliant with the EWCs on the permit of the site. It may be the case, as with some larger utilities contracts that a season ticket is used for wastes that are repeat loads.

All vehicles that are depositing materials onto site will be directed to the most appropriate waste reception area by the foreman on site. When the load is tipped off, the contents are visually checked for contaminants and to see if the waste matches that described and coded on the accompanying transfer note.

Due to the nature of the waste and how it is collected, there is inevitably going to be a certain amount of contamination in the waste. To remove these contraries a picking

operative is employed on site and the material will be picked to remove all contaminants before being batched for onward processing.

Waste will then be stored on the appropriate surface awaiting the screening and crushing treatment processes if appropriate.

For all loads received, a detailed record is kept that will contain the following information:

- Description of waste
- EWC code
- Date and time of delivery
- Weight of load
- Waste carrier registration number

A monthly and quarterly log is kept (for waste return purposes) of all waste that is accepted at site. This log is checked each month, this ensures that the permitted tonnage will not be breached. If this figure is reached, then waste rejection procedures (detailed below) will be initiated to remain compliant on site (more relevant towards project completion).

The information to be retained and used as part of the batching process will include all information obtained during pre-acceptance, acceptance, storage, treatment and/or removal off-site. These records will be kept in the site offices in dedicated files so that inspection of loads can be simply carried out. The tracking system should operate as a waste inventory/stock control system and include as a minimum:

- date of arrival on-site
- producer details
- all previous holders
- a unique reference
- pre-acceptance and acceptance analysis results if required
- package type and size
- intended treatment/disposal route
- record accurately the nature and quantity of wastes held on site
- where the waste is physically located in relation to a site plan
- identification of operator staff who have taken any decisions re acceptance

or rejection of waste streams and decided upon recovery / disposal options.
The adoption of such a tracking system will allow for accurate figures with regards current storage and treatment tonnages on site at any one time to be provided.

Rejection procedures

Waste shall only be accepted at site if it conforms to the list of permitted wastes and if it conforms to the written description of the waste producer.
If, in the unlikely event a waste is accepted onto site that does not comply with the above then the usual site rejection procedures will be enforced:

- The waste will be separated from any other wastes currently on site (if deposited).
- The driver of the load will be instructed to return the load and provided will detailed reasons as to why the load has not been accepted at site (if not deposited).
- NRW will be informed of the non-compliant load and sent a copy of the on-site log of the activity that will detail the origin and carrier of the load.

Post treatment testing will be completed as per the requirements of the Construction Quality Assurance Plan, Quality Management System and the Specification. Current permits include site specific risk assessments and whole site assessments are included in the Environmental Action Plan.

The incoming material is always accepted with accompanying chemical analysis and in some instances a WAC test has been undertaken by the main contractor for the contract. This information is then analysed by an Environmental Consultant who is independent of the Ryan Jones Group, is suitably qualified and accredited to determine whether the material is suitable for acceptance on to site (Gareth Danter-*Hill* *BSc (hons), MCIWM, HROC6*). The material will be classified as being non-hazardous or hazardous in line with the requirements of WM3 and rejected if necessary. If a WAC has been provided only material that satisfies the inert criteria will be used for recovery on site. If no WAC has been provided, this will be undertaken post treatment and prior to placement within the recovery process. Once again, only material that can satisfy the inert criteria will be placed for recovery.

It is important to note that WM3 states that a WAC is not appropriate to classify wastes for any other purpose than the disposal at a landfill. However, the criteria used within the leachate testing analysis would be appropriate within this recovery project to ensure that no longer term environmental impacts are likely to materialise after material placement.
All aggregate material to be placed across the site will be tested in line with the requirements of BSEN 13242, specifically the Particle Size Distribution (PSD).

There is not foreseen to be any significant risk to the environment during storage and processing of waste materials on site. Where the waste is to be stored on site prior to processing is not located within proximity to a watercourse, vulnerable ground water zones or within any distances to designated sites that are likely to have an adverse impact. The site also is not within a flood risk zone or a protected air quality zone.

The testing of placed material will be undertaken for every 5,000T of processed waste. This frequency is deemed as appropriate due to the strict incoming testing regime being utilised through the pre-acceptance and acceptance phases. As mentioned above, a WAC test will be undertaken to ensure that the material is complaint with those parameters identified within the leachate test to provide confidence that the environment will be protected in the long term.

The waste will be tested against the following criteria and for the following determinants:

Determinant	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**
TOC (%)	3
LOI (%)	
Sum of 7 PCBs (mg/kg)	1
Mineral oil (mg/kg)	500
Sum of 17 PAHs (mg/kg)	100
pH	
Arsenic	0.5
Barium	20
Cadmium	0.04
Chromium	0.5
Copper	2
Mercury Dissolved	0.01
Molybdenum	0.5
Nickel	0.4
Lead	0.5
Antimony	0.06
Selenium	0.1
Zinc	4
Chloride	800
Fluoride	10
Sulphate (soluble)	1000
Total Dissolved Solids	4000
Total Monohydric Phenols	1
Dissolved Organic Carbon	500

3. Supplementary

3.1 Methodology for the preparation of an Agricultural Benefit Statement

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Background

The development of Garth Isaf Farm as a processing centre for the production of secondary aggregates commenced in 2003 without either a soil survey or land condition survey having been carried out. Soils and planning policy in Wales today advise that applicants of new developments 'may find it useful' to prepare and submit a soils report and this includes non-EIA developments (WAG, 2009). The Construction code of practice for the sustainable use of soils on construction sites similarly recommends soil resource surveys to help inform the site working strategy (DEFRA, 2009).

Garth Isaf Farm contains four enclosures which have not been affected by the development and which are understood to possess natural undisturbed soil profiles. These are under permanent grassland and used for silage production.

Previous experience in soil survey in the locality would suggest that soils within these enclosures are likely to be either brown earths or gleyed brown earths. However, the underlying geology is complex with a mosaic of solid and drift geology. This is compounded by the presence of fine-grained Devonian sedimentary rocks and Carboniferous limestone and dolomite. Other soils types, including peaty gley soil may be present.

Enquiries using the predictive tool for Agricultural Land Classification on the LLE Geo-Portal for Wales has indicated that undisturbed ground within Garth Isaf Farm is likely to be Grade 3 and that the disturbed ground is Grade 4 and 5. An aspiration exists to achieve a classification of Grade 3 in restoring disturbed ground to agriculture.

Methodology

In order to produce an Agricultural Benefit Statement, it will be necessary to improve the baseline information held for the site and in particular to carry out the following work within the four undisturbed enclosures:

1. Excavation of hand dug trial pits to determine soil types and to confirm the soil series to which they belong.
2. To describe the soil types and to determine in particular (a) soil texture and structure, (b) soil depth, (c) stoniness, and (d) chemical limitations.
3. To collect information on site limitations and in particular (a) gradient, (b) micro relief and (c) flooding.
4. To collect samples of topsoil and subsoil and to arrange for laboratory analysis to confirm their intrinsic chemical and physical properties and determine fertiliser and lime requirements.
5. To examine exposures of parent materials in cuttings to assess their drainage characteristics.

Information obtained in the course of the above will permit the following to be carried out in preparing an Agricultural Benefit Statement:

1. Agricultural Land Classification within the four undisturbed enclosures, including importantly the differentiation of Grade 3a from Grade 3b land.
2. Identification of the principal limitations affecting agricultural grade on undisturbed ground and determination of the extent to which site limitations, soil limitations and interactive limitations can be addressed in the design of the restored landform and the construction of reinstated soil profiles.
3. Identification of an appropriate standard for the selection of mineral wastes for use as subsoil and topsoil in the construction of reinstated soil profiles based on the chemical and physical properties of local natural subsoil and topsoil.
4. Calibration of application rates of organic wastes as soil amendments to achieve organic matter contents and nutrient concentrations in manufactured topsoils comparable to those of local natural topsoils.

The proposal set out above offers a far more targeted approach towards the selection of materials for use in restoration than is normal in planning the restoration of inert waste sites. Most schemes rely on BS: 3882:2015 'Specification for topsoil' or BS: 8601:2013 'Specification for subsoil and requirements for use' as a basis for determining the suitability of materials. However, these standards permit use of materials with widely contrasting chemical and physical properties that are unlikely to match those of natural soils in the locality. These could have the potential to impact on the chemistry of surface and groundwater, under some circumstances.

Aligning the thickness of reinstated topsoil and subsoil layers in constructed soil profiles to the thickness of topsoil and subsoil horizons in natural soils should satisfy concerns that the quantities of mineral wastes and organic amendments assigned for use in restoration are no greater than those strictly necessary.

It is proposed to identify practical measures in the Agricultural Benefit Statement that can implemented in the course of the 5-year aftercare period to ensure the restoration is sustainable. These are likely to include:

1. The use of deep rooting ryegrass species as a means of promoting structural soil development.
2. Use of green manure crops to raise organic matter levels.
3. Periodic deep subsoiling and / or the installation of an artificial piped drainage system to prevent 'slow' drainage and colonisation of the grassland by rush.
4. The use of organic wastes in lieu of inorganic mineral fertilisers (if and when required).
5. Ensuring the potential of the site in watershed management and flood prevention is maximised by ensuring that soils are maintained in a condition that promotes the greatest proportion of surface water possible to infiltrate and percolate through the reconstructed soil profiles rather than discharging across the surface as runoff.

The proposal is considered to meet the requirements of the Welsh Governments planning policy for the conservation and improvement of natural heritage by promoting the function and benefits of soils, and in particular their function as a carbon store.

References

British Standards Institution. 2015. British Standard 3882:2015. Specification for topsoil

British Standards Institution. 2013. British Standard 8601:2013. Specification for subsoil and requirements for use.

Department for Environment, Food and Rural Affairs. 2009. Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.

Welsh Assembly Government. 2016. Planning Policy Wales. Edition 9.

Welsh Assembly Government. 2009. Planning Policy Wales. Technical Advice

Note 5: Nature Conservation and Planning.