

**Cemex UK Materials Ltd
Kilbarchan Landfill**

Permit Application

PPC/A/1142314

Permit (Application) Number:
Applicant:

CONTENTS

1	NON TECHNICAL SUMMARY OF DETERMINATION	3
2	EXTERNAL CONSULTATION AND SEPA'S RESPONSE	3
3	ADMINISTRATIVE DETERMINATIONS	5
4	INTRODUCTION AND BACKGROUND	5
4.1	Historical Background to the activity and application	5
4.2	Description of activity.....	6
4.3	Guidance/directions issued to SEPA by the Scottish Ministers under Reg.60 or 61.	6
4.4	Identification of important and sensitive receptors.....	6
5	KEY ENVIRONMENTAL ISSUES.....	6
5.1	Summary of significant environmental impacts	6
5.2	Point Sources to Air.....	7
5.3	Point Source Emissions to Surface Water and Sewer.....	7
5.4	Point Source Emissions to Groundwater	7
5.5	Fugitive Emissions to Air	8
5.6	Fugitive Emissions to Water	9
5.7	Odour	9
5.8	Management.....	9
5.9	Raw Materials.....	9
5.10	Raw Materials Selection	9
5.11	Waste Minimisation Requirements	9
5.12	Water Use	9
5.13	Waste Handling	9
5.14	Waste Recovery or Disposal	10
5.15	Energy.....	10
5.16	Accidents and their Consequences.....	10
5.17	Noise	10
5.18	Monitoring	10
5.19	Closure	10
5.20	Site Condition Report (and where relevant the baseline report)	10
5.21	Consideration of BAT	11
6	OTHER LEGISLATION CONSIDERED	11
7	ENVIRONMENTAL IMPACT ASSESSMENT AND COMAH	11
8	DETAILS OF PERMIT	11
9	EMISSION LIMIT VALUES OR EQUIVALENT TECHNICAL PARAMETERS/ MEASURES.....	16
10	PEER REVIEW	17
11	FINAL DETERMINATION.....	17
12	REFERENCES AND GUIDANCE	18

Permit (Application) Number:

Applicant:

1 NON TECHNICAL SUMMARY OF DETERMINATION

Will the draft determination be subject to public consultation? Yes

Kilbarchan landfill is owned and operated by CEMEX UK Materials Ltd (CEMEX). Planning permission has been approved by Renfrewshire Council for the restoration of this former dolerite quarry. The site was first excavated in the 20th century, ceasing in 2003. Since cessation of quarrying, much of the site has been left dormant with steep rock faces and unrestored excavations. A Waste Management Licence (WML/W/0020166) was surrendered in January 2016 although no waste was ever deposited under the licence.

The site is located in Renfrewshire, 7 KM from Paisley at National Grid Reference NS 40800 63600. The excavation is approximately 25m deep at its maximum with steep quarry faces. The site is approximately 17ha. The proposal is to deposit a maximum of 4.5m depth of waste. The lowest point of the quarry is 31mAOD. The southern part of the quarry is occupied by a water body. The Operator will ensure this is pumped dry prior to landfilling.

The site will be restored using imported inert waste materials and soil manufactured from the recycling of inert waste from onsite recycling facility. This Permit Application is for a landfill with associated infrastructure for the disposal of inert waste. The total quantity of waste to be deposited within the installation will be approximately 665,000m³ and the rate of infill will be 53,000m³ per annum. The infill and restoration will take place over three phases from south to north.

The site has Planning Permission to operate between the hours of 0700 and 1800 between Monday and Friday and 0700 to 1300 on Saturdays.

An asphalt plant operates in the north-western part of the site operated by Scottish Aggregates Ltd. It is permitted under PPC/W/0030180, issued in February 2001. There are stockpiles of material associated with the asphalt plant in areas of the site, which will be removed prior to restoration.

A small area of historical landfilling is indicated approximately 225m to the south of the site; it was operated by Renfrewshire council and closed in 1988. No details on the deposited waste are available.

The site will be restored to acid grassland, native woodland and pond/wetland habitat.

Glossary of terms

BAT - Best Available Techniques
CO - Coordinating Officer
ELV - Emission Limit Value

2 EXTERNAL CONSULTATION AND SEPA'S RESPONSE

Is Public Consultation Required - Yes

Advertisements Check:	Date	Compliance with advertising requirements
Johnston & Renfrewshire Gazette	06/12/2015	Yes – suggested wording in SEPA letter acknowledging receipt of application.

No. of responses received: none

Permit (Application) Number:

Applicant:

Is PPC Statutory Consultation Required – YES

Food Standards Agency:

Consultation letter sent 20th of November 2015

No objections. Email received on 23rd December 2015.

NHS Greater Glasgow and Clyde Health Board:

Consultation letter sent 20th of November 2015

Full response received on the 31st December 2015.

Overall, the Greater Glasgow & Clyde Health Board think that it is likely that the effects on health associated with emissions from this installation will be negligible.

Renfrewshire Council Response:

Consultation letter sent 20th of November 2015

No objections. Letter received on the 2nd December 2015.

Scottish Natural Heritage (PPC Regs consultation):

Consultation letter sent 20th of November 2015

No objections. Email received on the 2nd December 2015.

Harbour Authority: N/A

Discretionary Consultation - No

Enhanced SEPA public consultation - No

'Off-site' Consultation - No

Transboundary Consultation - No

Public Participation Consultation - Yes

STATEMENT ON THE PUBLIC PARTICIPATION PROCESS

The Pollution Prevention and Control (Public participation)(Scotland) Regulations 2005 requires that SEPA's draft determination of this application be placed on SEPA's website and public register and be subject to 28 days' public consultation. The dates between which this consultation took place, the number of representations received and SEPA's response to these are outlined below.

Date SEPA notified applicant of draft determination

29 November 2018

Date draft determination placed on SEPA's Website

03 December 2018

Permit (Application) Number:
Applicant:

Details of any other 'appropriate means' used to advertise the draft	N/A
Date public consultation on draft permit opened	03 December 2018
Date public consultation on draft permit consultation closed	30 December 2018
Number of representations received to the consultation	1
Date final determination placed on the SEPA's Website	

3 ADMINISTRATIVE DETERMINATIONS
Determination of the Schedule 1 activity
5.2 Part A (b) – Inert landfill
Determination of the stationary technical unit to be permitted:
As detailed in the application
Determination of directly associated activities:
As detailed in the application
Determination of 'site boundary'
As detailed in the application

4 INTRODUCTION AND BACKGROUND

4.1 Historical Background to the activity and application

The site is approximately 17 hectares and was previously operated for the extraction of igneous dolerite rock during the 20th Century, with extraction ceasing in 2003. The site has previously been known as Spring Grove Quarry and Barr Hill Quarry.

A small area of historical landfilling took place approximately 225m to the south of the site, it was operated by Renfrewshire council and closed in 1988. No details on the deposited waste are available.

It is noted that a mine shaft and two disused adits exist in the northwest boundary of the site.

An asphalt plant presently operates in the north-western part of the site. This plant is operated by Scottish Aggregates Ltd. There are stockpiles of material associated with the plant which will be removed from site prior to restoration.

Permit (Application) Number:

Applicant:

The site has previously had a Waste Management Licence (WML/W/0020166) for disposal activities; however it was noted that no wastes were ever deposited. This licence was surrendered in January 2016.

4.2 Description of activity

The Permitted Activities to be undertaken at the site are the disposal of waste in any other landfill to which the Landfill (Scotland) Regulations 2003 apply, as described in Section 5.2 Part A (b) of Schedule 1 of the Pollution, Prevention and Control (Scotland) Regulations 2012. A number of Directly Associated Activities, namely the receipt, handling, storage and treatment of inert waste, and the collection and treatment of site surface water are included within the permitted activities. The recycling facility will consist of sorting, screening and crushing of soil and stones.

The waste reception area will consist of site offices, quarantine area, weighbridge, wheel wash and bunded fuel store. The infill and restoration of the site will be phased in order to return the site to acid grassland, native woodland and pond/wetland habitat.

4.3 Guidance/directions issued to SEPA by the Scottish Ministers under Reg.60 or 61.

N/A

4.4 Identification of important and sensitive receptors

Screening distances for emissions to air from point of emission carried out using GIS and NCP-P-01: 'Landfilling and disposal to land – Part A' specify a 5km screening boundary. SNH designations are Lochwinnoch SSSI at 4.5km, Whinnerston SSSI at 2.4km, Barmufflock Dam SSSI at 4km and Clochodrick Stone SSSI at 4.2km. Following consultation, SNH do not anticipate the landfill site having an impact on any nearby sensitive receptors.

There are seventy-seven identified receptors within a 500m radius including houses adjacent to the site entrance, Kilbarchan Primary School and recreational ground to the west of the site. Residential properties (deemed low risk) are on Branscroft, Park View, Park Gardens, Wheatlands, Farm Road, Gateside Place, Well Road, Fulton Crescent, Cuninham Road, Barrhill Crescent, Craidends Drive, High Barnholm and Low Barnholm.

Provided the conditions of the permit are met, the proposed activities should not impact upon these sensitive receptors.

5 KEY ENVIRONMENTAL ISSUES

5.1 Summary of significant environmental impacts

If the process is managed properly, there should be no significant environmental impacts arising from the activities. If poorly managed, there is the potential for the release of surface water contaminated with suspended solids to watercourses in the vicinity of the site. There is also the risk of noise, dust pollution and mud on the road if not managed properly.

Permit (Application) Number:

Applicant:

Providing the conditions in the proposed variation to the permit are complied with there should be no significant environmental impact or harm to human health resulting from this application.

5.2 Point Sources to Air

There are no point source emissions to air.

5.3 Point Source Emissions to Surface Water and Sewer

Closest watercourse is Kilbarchan Burn which is approximately 0.2km to the south of the site. The Kilbarchan burn flows into the Black Cart River to the east of the site.

Surface water and groundwater will be collected at the base of the quarry and pumped from a sump located in the southern part of the site. Water from the quarry is piped around the western side of the site, over the retaining embankment before being conveyed by a 375mm pipe into Kilbarchan Burn within the village of Kilbarchan by Lower Barholme Road. Discharge from the site is estimated to be up to 2800m³ per day (equivalent to 32 l/s) which is included as a condition within the Permit.

Prior to commencement of landfilling operations, the quarry floor will be fully dewatered using the existing system. Dewatering will then continue for as long as possible during the operational life of the landfill to allow the waste to be deposited in dry conditions. No long-term dewatering will be carried out following cessation of landfilling and groundwater levels will be allowed to recover naturally.

There are three surface water monitoring points (SW1, SW2 and WD1) in the Operators Site Monitoring and Control Plan which the Operator proposes to monitor. The Permit requires the Operator to sample and monitor upstream and downstream locations. The Permit limits the discharge of surface water from the quarry base at no more than 100mg/l of suspended solids and pH of no less than 4 and no greater than 9.

Monitoring for pH, temp, EC, DO, NH-4, Cl, COD, TON, Fe, suspended solids will be carried out monthly at all surface water monitoring points as required by the Permit. The Operator also intends to monitor surface waters on a quarterly basis for COD, SO₄, Alk, Na, K, Mg, TOC, Ca, Mn quarterly and Cd, Cr, Cu, Pb, Ni and Zn annually.

There are no point source emissions to sewer.

5.4 Point Source Emissions to Groundwater

As the site is a quarry, superficial deposits are absent but they are present around the site. They comprise glacial tills and are encountered in several of the boreholes. The quarry worked the Kilbarchan Sills of late Carboniferous to early Permian, they are igneous intrusive rocks described as ophitic, alkali olivine-dolerite. It is considered that the Kilbarchan Sills are intruded into the underlying Carboniferous sedimentary bedrock of the Strathclyde Group, the Lawmuir Formation. The Lawmuir formation is represented as a sequence of sandstones, siltstones, limestones, mudstone and thin coals.

The BGS map the Kilbarchan Sills as covering a majority of the site, with the Lawmuir formation covering the north part of the site. It is acknowledged that this may not reflect the changes through quarry operations.

As expected, in a quarry with no superficial deposits, the vulnerability across the site has been classified as 5, high vulnerability. This category suggests that the groundwater beneath the site is vulnerable to most pollutants with rapid impact.

Permit (Application) Number:

Applicant:

The Kilbarchan Sills are mapped as very low productivity aquifers with predominantly fracture flow whereas the Lawmuir Formation is mapped as having both intergranular and fracture flow and is classed as a moderately productive aquifer.

The proposed landfill is a sub groundwater table landfill It is proposed that waste will be deposited at a significant depth (>10m) beneath the groundwater table. In order to ensure that the landfilling activity will not result in a direct discharge of pollutants into groundwater, the waste acceptance criteria and procedures for the site have been restricted so that only inert wastes that do not contain leachable concentrations above Minimum Reporting Values (MRV) for hazardous substances or Resource Protection Values (RPV) for non-hazardous substances* should be placed in the deeper section of the landfill that is below the water table.

(* or where not defined, less than LOD for hazardous substances and less than LOD or background groundwater concentrations for non-hazardous substances)

The lining system design for the deeper part of the landfill exceeds the Landfill Directive minimum specification for inert landfills. The lining system is considered in the Hydrogeological Risk Assessment (HRA) as a secondary mitigation measure, playing a supporting role to the primary mitigation measure of amended waste acceptance criteria.

There are thirteen groundwater monitoring points. Monitoring to assess level and composition will take place quarterly for level, pH, temperature, EC, DO, NH₄-N, Cl, COD, S0₄, Alk, TON, TOC, Na, K, Ca, Mg, Fe and Mn. Annual monitoring will also be requires for Cd, Cr, Cu, Ni, Pb and Zn.

Groundwater trigger levels have been set for Ammoniacal Nitrogen, Chloride, Potassium and Zinc. If trigger levels are breached then the Operator is required to report to SEPA and provide proposed remedial actions.

5.5 Fugitive Emissions to Air

Releases of dust will be minimised using a dust suppression system, maintenance of haul roads and controlling wastes arriving on site.

Exhaust gases from vehicles and mobile plant will be minimised by use of modern plant and regular maintenance.

All incoming HGV will be required to have sheeted loads to minimise dust creation. Haul roads will be maintained and kept free from mud, good drainage and use of hardcore as necessary.

A water bowser towed by a tractor or roadsweeper will be used to suppress dust on the haul road and exposed waste surface during dry periods. Site haulage speeds will be controlled to minimise dust entrainment. Instruction will be issued to all vehicle drivers. A wheel wash will be used by all vehicles leaving the site and inspected daily.

During the later stages of the landfilling process, in the higher areas within the quarry there is a potential for fugitive dust emissions to escape. The operational area will be confined to limited areas at any one time; therefore dust suppression can be focused on a specific area.

In very dry or windy conditions waste deposits and or soil handling would be suspended.

Visual inspection of the landfill, access road and haul roads will be inspected twice during each working day. Records of the inspections including weather conditions will be kept in a log book.

Action plan in place in the event dust, fibres or particulates are released outside the site boundary.

Permit (Application) Number:

Applicant:

A complaints procedure will be established.

5.6 Fugitive Emissions to Water

There should be no fugitive emissions to water, however there is always the possibility of surface water run-off contaminated with suspended solids if not managed adequately. The Operator understands that the only water emission from the site is the permitted discharge. Any other run-off contaminated with suspended solids, or other contaminants, are required to be captured, treated and disposed of under the appropriate permissions. Measures, outlined within the Surface Water Management Plan, however, should prevent such occurrences.

5.7 Odour

If waste acceptance procedures are followed and the correct waste type's i.e. restricted inert wastes are accepted, the likelihood of odours being generated will be very low as waste will not undergo any changes or breakdown releasing any gases/odours.

5.8 Management

A nominated person will provide the technically competent management for the site under the WAMITAB Scheme. There will be a Site Manager responsible for day to day activities on site.

5.9 Raw Materials

No significant environmental effects envisaged from raw materials used at the landfill.

5.10 Raw Materials Selection

N/A

5.11 Waste Minimisation Requirements

N/A

5.12 Water Use

No significant environmental effects envisaged from water use at the landfill.

5.13 Waste Handling

The site will have three phases of operation.

Phase 1 shall accept Waste Stream A and will be able to be deposited on site below the water table. Phase 2 shall accept Waste Stream B, which will be suitable to be deposited above the water table. Once waste deposition in Phase 1 and 2 has been completed 1 metre of restoration material will be placed on top. Re-grading of existing on-site materials will take place in Phase 3. When re-grading has been completed up to 2 metres of restoration materials shall be placed on top.

Waste shall only be accepted for Phase 1 if it is listed on Table 4.2.1 of the Permit and is below limits of Table 3 of the Site Operating Plan. Waste accepted to Phase 2 shall be acceptable

Permit (Application) Number:

Applicant:

without testing if listed on Table 4.2.1 and if it is from a single source, and single waste stream of a single waste type. Waste accepted into Phase 2 shall be acceptable if it is not included on Table 4.2.1 (but is still inert waste) or does not meet the requirement of single stream, type or source, if it is tested and found to be below the parameters in Tables 4.2.2 and 4.2.3 of the Permit.

The operator will carry out random sampling at a frequency of approximately one sample per 50 deliveries for Waste Stream A and at least one sample per 100 deliveries for Waste Stream B.

The waste will be inspected and the waste deposited as directed by the machine driver. The waste will be compacted by earth moving equipment and temporary slopes will be benched.

5.14 Waste Recovery or Disposal

The maximum capacity of the landfill is 665,000m³. Assuming 1m³ is equivalent to 1.8 tonnes, then the maximum capacity of the landfill is 1.19million tonnes. The maximum quantity of waste deposited at the site per year including restoration soil will not exceed 95,000 tonnes.

5.15 Energy

No significant environmental effects envisaged from energy use at the landfill.

5.16 Accidents and their Consequences

Risk assessment submitted. To be reviewed once site is operational. Requirement for Operator to prepare, implement, maintain an Incident Prevention and Mitigation Plan within 6 months of the date of the issue of the Permit.

5.17 Noise

The applicant commissioned Vibrock to undertake a noise assessment on the 18th May 2010. Noise predictions were carried out and based upon BS 5228. Noise levels are set to increase while within the background plus 10Db (A) threshold specified in BS 4142. Noise control measures to be implemented include ensuring vehicle and plant silencers are well maintained, haul roads are regularly graded and speed limits are adhered to. Noise will be managed through permit condition to include provision and review of a management plan every four years.

5.18 Monitoring

Landfill gas and groundwater monitoring records will be available electronically in the site office. Eight landfill gas monitoring points will be provided within the waste body and ten outside the waste body. There will be three surface water monitoring locations. The Operator will be required to submit to SEPA an annual report summarising the results of all monitoring carried out in the previous year.

5.19 Closure

The site will be restored in three phases.

5.20 Site Condition Report (and where relevant the baseline report)

No implications.

Permit (Application) Number:

Applicant:

5.21 Consideration of BAT

BAT is not applicable to landfill. Bat would only be applicable to the activities undertaken at the recycling facility. As there is no approved BREF for this type of activity, BAT is taken as defined in the Regulations, and the techniques proposed should be effective in achieving a high general level of protection of the environment as a whole. The proposal will reduce the amount of waste being landfilled.

6 OTHER LEGISLATION CONSIDERED

Nature Conservation (Scotland) Act 2004 & Conservation (Natural Habitats &c.) Regulations 1994

Is there any possibility that the proposal will have any impact on site designated under the above legislation? No

Justification: Screening distances for emissions to air from point of emission carried out using GIS and NCP-P-01: 'Landfilling and disposal to land – Part A' specify a 5km screening boundary. SNH designations are Lochwinnoch SSSI at 4.5km, Whinnerston SSSI at 2.4km, Barmufflock Dam SSSI at 4km and Clochodrick Stone SSSI at 4.2km. Following consultation, SNH do not anticipate the landfill site having an impact on any nearby sensitive receptors.

Other legislation

The Water Environment (Controlled Activities) (Scotland) Regulations 2005 (As amended) employed when considering most appropriate control regimes and associated ELV's for discharges from the site. No conflicts have been found determining the application and preparing the permit.

7 ENVIRONMENTAL IMPACT ASSESSMENT AND COMAH

How has any information contained within a safety report within the meaning of Regulation 7 (safety report) of the Control of Major Accident Hazards Regulations 1999 been taken into account?

N/A

8 DETAILS OF PERMIT

Do you propose placing any non standard conditions in the Permit : Yes

Condition number 2.5.3 – 'Without prejudice to Condition 2.5.1, the Operator shall comply with the obligations specified in the Performance Agreement between the Operator and SEPA dated 12 December 2019. In particular, the Operator shall provide, maintain, and renew a Bond in accordance with the provisions of the Performance Agreement'

Justification: Template Condition removed as it refers specifically to Financial Provision using Annual Certificate and three yearly review, and replaced with conditions that refers to use of Performance Agreement and Bond.

Permit (Application) Number:

Applicant:

Condition number 4.2.2 – “The Operator shall ensure that the Waste Acceptance and Control Procedures are set out in an Operating Plan which has been agreed with SEPA prior to commencement of waste disposal activity at the Site.”

Justification: Condition altered to put weighting on the Operators Site Operating Plan, which forms part of the Management Plan, which outlines the use of two different waste streams (A & B) for the site. Waste Stream A defines material to be placed below the water table and therefore requires strict waste acceptance assessment detailed in the associated Site Operating Plan. Waste Stream B is material which can be placed above the water table and reverts to standard waste acceptance conditions for inert landfills. This split waste stream approach and use of the Site Operating Plan has been developed and agreed with SEPA through Schedule 4 Notice Numbers 2, 3 & 4.

Condition number 4.2.3 - “Incoming Inert Waste shall be subdivided into two waste streams where Waste Stream A will be suitable for deposit below the water table, into Phase 1 of the site, and Waste Stream B will be suitable for deposit above the water table, into Phase 2 of the site, as detailed in the Site Operating Plan - Waste Acceptance and Control Procedures, and shown on Appendix 1 – Site Plan.”

Justification: Condition inserted to specifically separate the deposit of two waste streams, referring back to the Site Operating Plan.

Condition number 4.2.4 – “Only Inert Waste of the types set out in Table 4.2.1 and which are handled, tested and accepted in accordance with the criteria and procedures set out in the Site Operating Plan - Waste Acceptance and Control Procedures, and which meet the limit values detailed in Table 3 of the said Plan, may be assigned to Waste Stream A for deposit below the water table.”

Justification: Condition inserted to specifically require waste types (as detailed in the standard inert waste type table) to be tested in accordance with the advanced procedure (detailed in the Site Operating Plan) if they are designated for Waste Stream A.

Condition number 4.2.5 – “Inert Waste of the types set out in Table 4.2.1 and assigned to Waste Stream B may be accepted without testing provided the waste is: (a) from a single stream waste of a single waste type (unless different waste types from the list in Table 4.2.1 are accepted together); and (b) from a single source.”

Justification: Condition altered to insert reference to Waste Stream B for waste acceptance procedures assigned to Waste Stream B.

Condition number 4.2.6: “Inert Wastes not included in Table 4.2.1 or not meeting the requirements of Condition 4.2.5 shall only be accepted for Waste Stream B if they are handled, tested and accepted in accordance with the criteria and procedures set out in the Site Operating Plan – Waste Acceptance and Control Procedures, and meet the limit values detailed in Tables 4.2.2 & 4.2.3.”

Justification: As per condition 4.2.5, this condition has been altered to limit this procedure for accepting waste to only Waste Stream B.

Condition number 4.2.7 – “Sampling and testing of Waste assigned to Waste Stream B shall be in accordance with the test methods referenced in Appendix 4 and the associated Site Operating Plan.”

Justification: As per conditions 4.2.5 and 4.2.6 above, this condition has also been altered to be only applicable to Waste Stream B.

Condition number 4.6.1 – “The Operator shall ensure that wastes accepted under Conditions 4.2.3 to 4.2.7 shall be subjected to compliance testing. Compliance testing for both waste streams shall consist

Permit (Application) Number:

Applicant:

of testing of the key variables established under the waste characterisation, using the appropriate methods detailed in Appendix 4 and associated Waste Acceptance and Control Procedures set out in the Site Operating Plan, as agreed with SEPA. Compliance testing for Waste Stream B shall be carried out at the times established in the waste characterisation but shall be no less frequent than once a year.”

Justification : Condition altered to reflect differences in compliance testing for Waste Streams A & B.

Schedule 5.5. – “Secure Compound”

Justification: Added to provide for a secure compound for non-conforming wastes received at the Recycling Area

Condition number 5.5.1 – “An area shall be provided within the Permitted Installation for isolating Wastes which have been received but which do not conform to the conditions of this Permit. This area shall have an impermeable surface, designed to ensure that no liquid fraction can escape beyond this area.”

Justification: Added to provide for a secure compound for non-conforming wastes received at the Recycling Area so that no liquid fractions from these wastes can escape the secure compound.

Condition number 6.1.1 – “The base and sides of Phase 1 of the Site Landfill, which shall accept Waste Stream A for disposal, shall consist of an enhanced geological barrier mineral layer which provides protection of soil, groundwater and surface water having as a minimum the following standards: (a) Permeability of less than or equal to 10⁻⁸ metres/second; (b) Basal thickness of greater than or equal to 1 metre; and (c) A sidewall barrier of greater than or equal to thickness of 3 metres.”

Justification : Altered to specify the level of protection required for the disposal of Waste Stream A to protect soil, groundwater and surface water.

Condition number 6.1.2 – “The base and sides of Phase 2 of the Site Landfill, which shall accept Waste Stream B for disposal, shall consist of an enhanced geological barrier mineral layer which provides protection of soil, groundwater and surface water having as a minimum the following standards: (a) Permeability of less than or equal to 10⁻⁷ metres/second; (b) Basal thickness of greater than or equal to 1 metre; and (c) A sidewall barrier of greater than or equal to thickness of 1 metre.”

Justification: Altered to specify the level of protection required for the disposal of Waste Stream B to protect soil, groundwater and surface water.

Condition number 10.1.2 – “All sampling and monitoring shall be carried out as detailed in the relevant management plan by staff who are suitably trained, following clearly documented quality control procedures given in the relevant management plan.”

Justification : Added due to the enhanced levels of control of waste acceptance procedures to ensure adequate protection of the environment.

Condition number 10.1.6 -

Table 10.1.6 – additional parameters as added below in red in the table.

Table 10.1.6

	Location	Parameters	Frequency	
			Operational Phase	After-care Phase

Permit (Application) Number:

Applicant:

Surface water composition (if present)	Upstream/ downstream	pH, temperature, EC, DO, NH ₄ -N, Cl, COD.	Quarterly	Annually
Groundwater level	Monitoring boreholes	Water Level (mAOD)	Quarterly	Quarterly
Groundwater. composition	Monitoring boreholes	pH, temperature, EC, NH ₄ -N, Cl, COD, SO ₄ , Alk, TON, TOC, Na, K, Ca, Mg, Fe, Mn	Quarterly	Annually
Groundwater. composition	Monitoring boreholes	Cd, Cr, Cu, Ni, Pb, Zn	Annually as Quarterly	Annually as Quarterly
Topography of Site Landfill	Site Landfill	Structure and composition of landfill body: surface area occupied by waste, volume and composition of waste deposited, time and duration of depositing, methods of waste depositing and calculation of remaining capacity	Annually	Not required
Settling behaviour	Site Landfill	Percentage settlement	Annually	Annually

Justification: Additional parameters for quarterly and annual monitoring have been added as they are included in the Operators Site Monitoring and Control Plan.

Condition 10.2.1 –

Table 10.2.1 – additional parameters added in red

Table 10.2.1

Parameter	Trigger Level
Ammoniacal Nitrogen	0.5 mg/l as NH ₄ ⁺ (0.39 mg/l NH ₃ as N)
Chloride	250 mg/l
Potassium	12 mg/l
Zinc	5 mg/l

Justification: On basis of modelling

Schedule 11 – “LANDFILL RESTORATION”

Condition number 11.1 - “Restoration”

Condition number 11.1.1 – “By 3 months after the date of the permit the Operator shall prepare, implement and maintain a “Restoration Management Plan’. The Management Plan shall be submitted to SEPA in accordance with Condition 3.1.2 and shall detail the proposed after-use, the associated depth of restoration materials required, location of storage areas for restoration materials, location of soil manufacturing areas and proposed acceptable limits for manufactured restoration soils.”

Justification: Added to require the Operator to collate all information relating to restoration in one Restoration Management Plan, to ensure that restoration using manufactured soils is undertaken in a consistent manner.

Permit (Application) Number:

Applicant:

Condition number 11.1.2 – “All soil manufacturing for use in the restoration profile shall be undertaken in accordance with the Restoration Management Plan approved in accordance with Condition 3.1.1.”

Justification: Inserted condition to ensure that the use of manufactured soils are used in accordance with an approved Plan.

Condition number 11.2 –“Waste Types and Quantities”

Condition number 11.2.1 – “Only waste types detailed in Table 11.2.1 shall be used in the restoration profile.

Table 11.2.1

European Waste Catalogue Code	Description
17 05 04	Soils and stones other than those mentioned in 17 05 03
19 12 09	Minerals from naturally occurring wastes only (for example sand, stones)
19 12 12	Other minerals from bricks, tiles and concrete (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 191211, specifically not fines from the mechanical treatment of biodegradable wastes
20 02 02	Soils and stones

Justification: Inserted condition to restrict the use of waste types used in the final restoration layer

Condition number 11.3 – “Re-Profiling & Restoration of Phase 3”

Condition number 11.3.1 - “Phase 3 of the site as shown on Appendix 1 – Site Plan shall be re-profiled using existing on site materials to provide a formation that is no more than 2 metres below the final restoration levels. The thickness of restoration soils in Phase 3 shall be no greater than 2 metres.”

Justification: Inserted condition to provide clarity on what waste types are to be accepted in Phase 3 of the site and to allow restoration materials at a greater depth to be placed in Phase 3.

Condition number 11.3.2 - “The thickness of restoration soils in Phases 1 and 2 of the site as shown on Appendix 1 – Site Plan shall be no greater than 700mm of subsoils and 300mm of topsoils.”

Justification: Inserted condition to restrict the depths of restoration materials on Phases 1 and 2 of the site.

Schedule 12 – “Recycling area”

Condition number 12.1 – “General”

Condition number 12.1.1 – “Notwithstanding all other relevant conditions of this Permit, this schedule of conditions shall apply specifically to the area delineated in red on the plan attached at Appendix 3 (the ‘Recycling Area’)”

Justification: Inserted condition to limit conditions to Recycling Area and relate to Appendix 3.

Condition number 12.1.2 – “The treatment of waste at the Recycling Area shall be restricted to sorting, separation, screening and crushing.”

Permit (Application) Number:

Applicant:

Justification: Inserted condition to restrict treatment activities to those proposed to be undertaken on soils and stones.

Condition number 12.2 – “Waste Types and Quantities”

Condition number 12.2.1 –“Only waste types detailed in Table 12.2.1 shall be accepted at the Recycling Area for the manufacture of soil to be used in the restoration profile.

Table 12.2.1

European Waste Catalogue Code	Description
17 05 04	Soils and stones other than those mentioned in 17 05 03
20 02 02	Soils and stones

Justification: Inserted condition to restrict the types of waste that will be used for soil manufacture

Condition number 12.2.2 –“The maximum quantity of waste which can be stored at the Recycling Area shall not exceed 3000 tonnes.”

Justification: Inserted condition to ensure that the quantity of waste at the Recycling Centre is kept within manageable quantities to allow greater environmental control.

Condition 12.3 – “Operation of the Recycling Area”

Condition number 12.3.1 –“Waste treatment operations shall be carried out in accordance with the Management Plan.”

Justification: The Management Plan shall detail more fully the treatment activities such as plant, storage bays, pollution control measures.

Condition number 12.3.2 – “All plant shall be operated, maintained and inspected in accordance with the manufacturer’s instructions.”

Justification: Inserted condition to require that the plant used on site remains fit for purpose

9 EMISSION LIMIT VALUES OR EQUIVALENT TECHNICAL PARAMETERS/ MEASURES

Are you are dealing with either a permit application, or a permit variation which would involve a review of existing ELVs or equivalent technical parameters? No

Justification: No review of existing ELV’s or equivalent technical parameters.

Permit (Application) Number:

Applicant:

10 PEER REVIEW

Has the determination and draft permit been Peer Reviewed? Yes

Name of Peer Reviewer and comments made:

Sharon Blair

- Condition 1.1.1 – Site Plan delineated in green not red.
- Amend wording of condition 1.1.3 – to lift detail out of PPC Regulations
- Amend Condition 1.1.4 - Receipt, handling, storage and treatment of inert waste (soil manufacture and recycled aggregate manufacture) at Recycling Area should be a Directly Associated Activity and have a Schedule at the end of the Permit
- Conditions 3.1.1 and 3.1.2 - Specify Operators Plans as documents within Management Plan which will tie in with Conditions 3.1.1 and 3.1.2
- Amend condition 4.2.3 - No reference made in Permit to restriction of deposit of Stream A into Phase 1 and Stream B into Phase 2
- Insert condition 5.5.1 to require operator to have secure compound
- Amend Condition 6.1.1 to refer to Waste Stream A and Waste Stream B.
- Amend Table 10.1.6 – to require monitoring of all monitoring boreholes referred to in the Management Plan and not just all monitoring boreholes.
- Remove conditions 10.1.8 (not a condition) and 10.1.9 (repeated requirement)
- Insert new section on Restoration – as restoration details are scattered throughout the Operators Site Operating Plan, and to specify the types of waste that can be used in restoration layer as they are going to manufacturing soil out of inert waste.
- Insert schedule on Recycling Area to delineate area and relate it to location on site, define the treatment activities, define the types of waste it can accept to manufacture soils and aggregate, define total maximum quantity of waste.
- Insert Appendix 3 – Recycling Area.
- Amend Financial Provision Condition to be specific to Performance Agreement

Susan Watson

- Insert Condition referring to Phase 3 waste deposition and restoration
- Colour Appendix 1 – Site Plan to make 3 phases clearer.

David Sandford

- Minor formatting and wording changes to conditions and decision documents

11 FINAL DETERMINATION

Based on the information available at the time of the determination SEPA is satisfied that

- The applicant will be the person who will have control over the operation of the installation/mobile plant,
- The applicant will ensure that the installation/mobile plant is operated so as to comply with the conditions of the Permit,
- The applicant is a fit and proper person (specified waste management activities only),
- Planning permission for the activity is in force (specified waste management activities only),
- That the operator is in a position to use all appropriate preventative measures against pollution, in particular through the application of best available techniques.
- That no significant pollution should be caused.

Consequently, we have determined to grant the Permit subject to the inclusion of specific permit conditions.

Permit (Application) Number:

Applicant:

12 REFERENCES AND GUIDANCE

Guidance Notes – Identify key references, guidance (BREF, UK Technical Guidance, etc) used in determination

Landfill (Scotland) Regulations 2003

Pollution Prevention & Control (Scotland) Regulations 2012

WAT-PS-10-01 – Assigning Groundwater Assessment Criteria for Pollutant Inputs

The Criteria and Procedures for the Acceptance of Waste at Landfills (Scotland) Direction 2005