



Ryden

ENVIRONMENTAL IMPACT  
ASSESSMENT REPORT

NON TECHNICAL SUMMARY  
(NTS)

PHASE 2 AMENDMENT TO  
PROPOSED ERECTION OF  
ADDITIONAL MATERIAL  
SORTING BUILDING AND  
THERMAL TREATMENT PLANT

LEVENSEAT WASTE MANAGEMENT  
BY FORTH  
LANARK  
ML11 8EP

APRIL 2020



## INTRODUCTION

Environmental Impact Assessment is a process that identifies likely significant environmental effects of a development and suggests ways in which any significant negative effects can be mitigated.

An Environmental Impact Assessment Report is a document setting out the likely environmental effects of a proposed development and the proposed mitigation measures to deal with them to assess the significance of any residual impacts on the environment.

Certain projects, because of their scale or sensitivity, require formal assessment consistent with the terms of the Environmental Impact Assessment (Scotland) Regulations 2017. This application is an amendment to a planning permission already approved that was defined as falling under Schedule 2 of the regulations.

West Lothian Council has indicated that a formal assessment of the effects is required to assess the magnitude of the change proposed.

More about the application and Environmental Impact Assessment Report will be available on [www.westlothian.gov.uk](http://www.westlothian.gov.uk). In addition the full EIA Report may be viewed at the following locations:

- **West Lothian Council**, Civic Centre, Howden South Road, Livingston, EH54 6FF
- **Ryden LLP**, 7 Exchange Crescent, Conference Square, Edinburgh, EH3 8AN

This is the Non-Technical Summary (NTS) of the full report and is available free of charge. Alternatively a full copy of the EIA Report can be obtained at a charge of £100.00 from Ryden LLP at the above address.

## PROCESS

The general process of preparing an EIA Report is to agree the scope of the assessment and provide detail necessary to assess the main effects in relation to environmental baselines established through a review of available information and primary surveys.

The methodology is not specifically prescribed by legislation but includes a number of principle steps to be undertaken. These broad principles are applied to ensure consistency of approach in the determination of impacts.

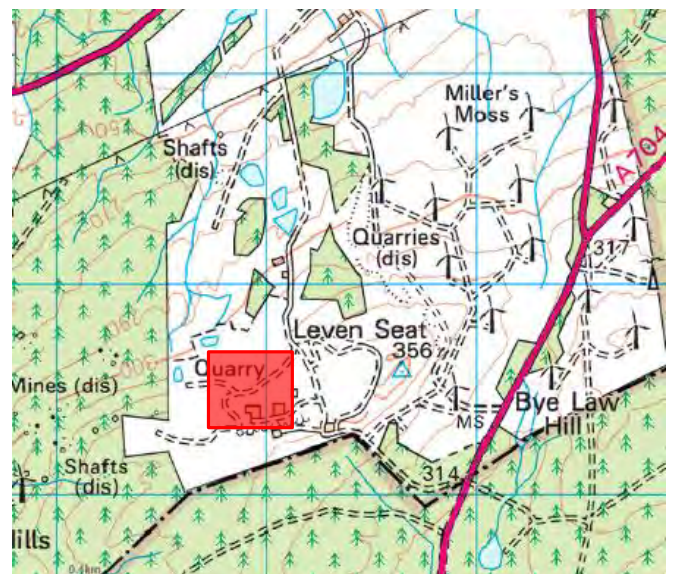
## THE APPLICANT

Levenseat Ltd is a privately owned Recycling & Resource Management company. The Levenseat Waste Management Site is the principal site of activity. The site also includes a 2 million cubic metre non-hazardous landfill and a range of recycling facilities including a waste to energy thermal treatment plant, waste sorting, aggregates washing and grading, block composting, and in-vessel composting.

The site is permitted to handle up to 750,000 tonnes a year of a broad range of wastes, approximately half of material is municipal wastes from Midlothian, South Lanarkshire, North Lanarkshire and West Lothian Councils. The site is permitted under a PPC permit issued and monitored by SEPA.

A range of waste management functions are carried out at present including:

- Organic waste composting;
- Mixed waste recycling;
- MBT (mechanical, biological treatment of household waste);
- IVC (in vessel composting) for composting of animal by-products;
- Picking Line for recycling commercial/ industrial waste;
- Tyre baling plant;
- Aggregates wash plant/ aggregate recovery;
- Landfill disposal of residual non-hazardous waste;
- Electricity generation from landfill gas;
- Waste water treatment and discharge; and
- Thermal Treatment Plant Phase



Recycling



Organics



Energy



Products



Community

## THE SITE & LOCATION

Levenseat site is a well-established fully integrated waste management facility that offers a broad spectrum of waste handling, sorting and recycling facilities in a range of large scale industrial type buildings across the site.

The site lies on the west side of the A706, 3km north of Forth and 2km south of the junction with the A71 at Breich. The site entrance is just within West Lothian on the border with South Lanarkshire and it is approximately 3km south of Fauldhouse – the nearest adjacent community.

West Lothian is the relevant local planning authority.

The red line of the site subject is consistent with the Phase 2 planning permission boundary and the Proposal of Application Notice (PAN) boundary. The existing landfill site extends to some 10 hectares and is located in a former sandstone quarry and accessed from the A706 along a tarmac roadway to the south-east corner of the site. The total application site area extends to some 23 hectares excluding the existing access.

The site is located within the former quarry void. Elevations on the site range from 350m AOD to 320m AOD and are highly variable due to the current use of the site, particularly within the landfill area. In general, however, the site falls towards the north.

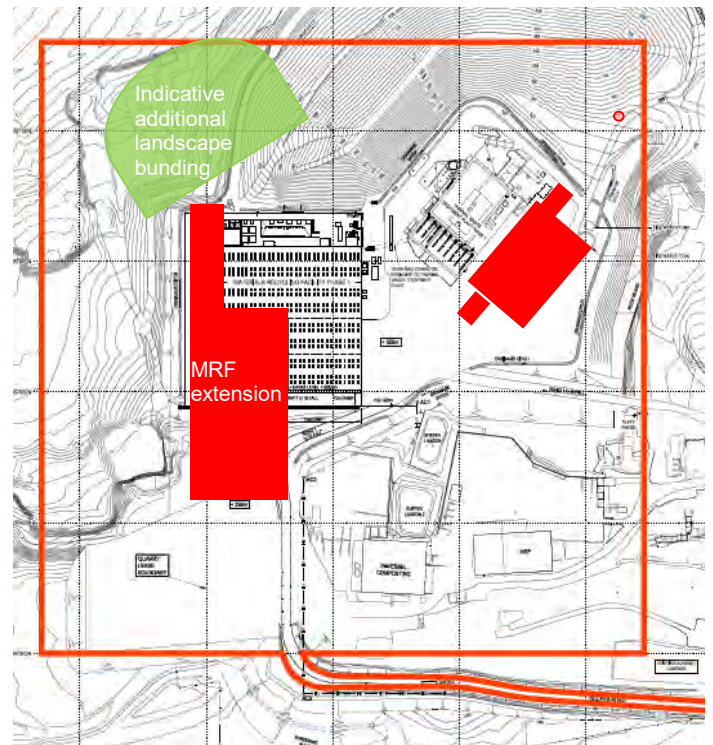
A large landscape bund has been constructed immediately to the north of the Phase 1 Thermal Treatment Plant. The access road off the A706 is located on the opposite side of the hill and therefore falls away from the site in a south-easterly direction to an approximate elevation of 328m AOD.

## THE PROPOSAL

This application is for an amendment to the second Phase Power Plant that will sit directly to the east of Phase 1 - for the development of an advanced thermal treatment process that will thermally treat refuse derived fuel (RDF). The plant will have a fuel input capacity of up to 135 MWth with net exportable electricity generation at approximately 20% of input power and heat available for off-take at approximately 24%.

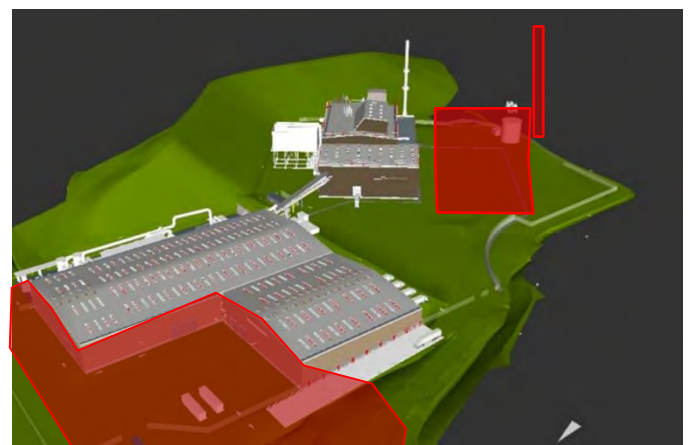
Different operating methodologies and technologies require plant to be organised in different ways. For this reason, the application has assessed a building envelope of alternatives that could be developed – i.e. a worst case in terms of visual impacts and scale of building required.

The plant will be housed in a steel frame industrial building similar to the existing plant. It could measure approximately 84.9m x 24m-44m at its widest and range between 24m – 32m-42m and up to 52m at its highest point. A new twin stack located to the north east away from the existing and proposed buildings extend to 70m. It is also proposed to replace the existing Phase 1 stack so that both new stacks form a connected 'double barrel'. These will be located further away from the location of the existing stack and plant buildings on a slightly lower part of the site at the boundary of the application site.



The infill extension to the existing materials sorting building measures 55m x 55m and will be constructed of the same materials and specification and painted to match the existing building. A further extension along the western side of the existing building measuring 25m x 110 m and a further extension stepped up to the south 60m x 75m is also planned as shown in the relevant layout drawings and elevations. The infill and extension is 15.5 m to ridge and the step up to the southern portion is to 25.5m. The stack(s) location has been informed by the detailed Air Quality Assessment (AQA) and is located to the edge of the application site and is some 65m high.

It is envisaged that the second stack will form a twin barrel – connected in a binocular like arrangement – positioned close to and directly behind the each other when viewed from the north/north east (i.e. Fauldhouse). The diameter, materials, colour and specification will be similar to the existing stack but they will be positioned away from the existing building locations. The Phase 1 existing stack will be removed once the new proposal is operational.



## PLANNING HISTORY

### Planning Permission 0528/FUL/10

Planning permission granted for thermal treatment (gasification plant and storage buildings including drying sheds) on part of the site subject to current application. The application was accompanied by a full Environmental Statement (now referred to as an Environmental Impact Assessment Report). Subsequent to this, a further amended application was submitted (see overleaf) and subject to separate formal EIA (June 2013).

### Planning Permission 0424/FUL/13

Planning permission for thermal treatment (gasification plant and storage buildings including drying sheds) which amended the site boundary and layout of the original proposal. This has also been subject to non-material variations in respect of flue height and plant and external appearance of the building.

The second application and EIA was in respect of an amendment to the original proposal and a change to the proposed stack height (up to 55m) from that previously modelled and consented. This included new air quality modelling; a minor change to the site boundary; and made minor changes to the precise location, overall dimensions and datum level of the proposed buildings.

### Planning Permission 0795/FUL/16

Planning permission for thermal treatment plant and extension to materials sorting/recycling building granted, dated 18<sup>th</sup> April 2017. The planning application related to Phase 2 of the Thermal Waste Treatment Plant for the same type of facility as that on site at present to be delivered as a second stream directly adjacent to the existing plant, on the same part of the overall site, and on the same building platform screened by the landscape bund to the north and the existing plant and materials sorting building immediately to the west. This is the key reference permission for Phase 2 and is the basis of the current application that proposes potential changes to the building envelope and position of the stack.

*The current application subject to this EIA is to amend the Phase 2 permission.*



## CONSULTANT TEAM

The Scope of the EIA was agreed with West Lothian Council and core consultees by correspondence dated 27th May 2019.

A Proposal of Application Notice (PAN) was submitted on 21st December 2018 to West Lothian Council and a public exhibition was held on 5th February 2019 at Fauldhouse Partnership Centre and Community Hub.

The application has involved input from a variety of technical specialists. The EIA project team includes:

**Ryden** | Planning

**FICHTNER**  
Consulting Engineers Limited

 **wardell  
armstrong**

**AECOM**

## CONSULTATION

The proposal has been subject to extensive pre-application discussions with West Lothian Council planning officers.

A PAN was submitted on 21<sup>st</sup> December 2017 for “Proposed Thermal Treatment Plant (Phase 2) - amending technical specification and building design of previous planning permission – associated storage buildings, plant, access and infrastructure work.”

The proposal was subject to a formal Pre Application Consultation event held in Fauldhouse on the 5<sup>th</sup> February 2019 between 12:30 & 18:30. This was advertised as required in the West Lothian Courier and posters advertising the event were delivered to a number of local public venues.

Further consultation and community events have also been held including a meeting on site with local ward councillors and a community information event with Fauldhouse Partnership.

Levenseat Ltd also attended the Fauldhouse community council meeting on 6<sup>th</sup> November 2019 and community council representatives were also invited to visit the site on 22<sup>nd</sup> November at 9:30am.

Levenseat Ltd also attended the Stoneyburn Community Council meeting on Tuesday 5<sup>th</sup> November 2019.

The pre application exhibition event was the most popular Levenseat consultation event so far with 14 people attending including a local councillor, and representatives from Shotts Community Council, Whitburn Community Council and Fauldhouse Community Council. After discussions with the Community Liaison Group, and advice from local councillors, other groups within the local community have also been contacted.



## ASSESSMENT CRITERIA

The potential impacts arising from the development will be assessed using an appropriate matrix or point scale, which primarily sets out the nature of the impact identified using the following expressions:

- Adverse;
- Negligible; and,
- Beneficial.

The following scale of significance is then applied where an impact is identified;

- Minor;
- Moderate; and,
- Major.

RECEPTOR SENSITIVITY	MAGNITUDE OF IMPACT			
	High	Medium	Low	Negligible
High	Major	Moderate	Moderate/minor	Minor
Medium	Moderate	Moderate/Minor	Minor	Minor
Low	Moderate/Minor	Minor	Minor	Negligible
Negligible	Minor	Minor	Minor	Negligible

## PLANNING POLICY

**SESplan** provides the strategic and spatial policy guidance for the Edinburgh and Lothians area. Its overarching objective is to foster a healthier, more prosperous and sustainable city region which continues to be internationally recognised as an outstanding area in which to live, work and do business. There are eight core aims and an overall spatial strategy intended to meet key challenges of climate and demographic change and promote sustainable economic growth. The proposal:

- supports growth in the economy by developing key economic sectors and supporting local and rural development;
- integrates land use and transport at a single waste transfer and management facility;
- reduces the need to travel and cuts carbon emissions by steering new development to the most sustainable locations;
- Utilises an existing brownfield site and helps to conserve and enhance the natural and built environment;
- Contributes to the response to climate change through mitigation and adaptation and promote high quality design / development and helps to deliver Scotland Zero Waste plan.

The **West Lothian Local Development Plan** was adopted on 6th September 2018. It provides key aims and objectives for the plan area that are reflected in the specific planning policy approach.

**Policy MRW 8** relates to Waste Management Facilities and states that:

*“Existing waste management sites as identified on the proposals map shall be safeguarded from alternative development, except where demonstrated to be surplus or no longer suitable to meet future requirements, or where they have been allocated in the development plan for redevelopment.*

*Development that is proposed adjacent to or in the vicinity of an existing waste management facility and that would be likely to adversely affect the present or future operation of the facility will not be supported.*

*Development that is proposed on, adjacent to, or in the vicinity of a site that is identified for provision of a new waste management facility and that would be likely to make the site unavailable or unsuitable for the provision of the new facility will not be supported.*

*Applications for new waste management facilities will be assessed against the criteria set out below and against SPP 2014, the Zero Waste Plan, Planning Advice Note 63: Waste Management Planning with the overall aim being to help deliver infrastructure at appropriate locations and prioritising development in line with the waste hierarchy: waste prevention, reuse, recycling, energy recovery and waste disposal. Sites considered generally suitable for waste management facilities include existing or allocated industrial land, specifically Classes 5: General Industrial and Class 6: Storage or distribution, provided they meet the specified criteria”*



## SCOTLAND'S ZERO WASTE PLAN

Scotland's Zero Waste Plan (ZWP) was published in June 2010 and sets a framework to support the investment necessary to deliver a zero waste Scotland over a 10 year period. It sets targets of 70% recycling of waste and a maximum of 5% of waste to landfill by 2025. Paragraph 3.8 of Annex C states:

*“Thermal Treatment Plants are regulated under the Pollution Prevention and Control Regulations 2000 (PPC) by Scottish Environment Protection Agency (SEPA). Regulatory controls could be introduced to ensure that any waste being treated at energy from waste facilities does not include waste which could have been re-used or recycled.”*

## SECONDARY HEAT

Heat will be extracted from the plant by way of a heat exchanger adjacent to the steam turbine and in the form of high pressure steam which will then be piped, in a closed loop system using insulated pipelines, to heat exchangers adjacent to each heat use.

The options under consideration at present include:

- Drying fines materials as part of the sorting and recycling process;
- Drying biomass woodchip fuel;
- General drying of materials;
- District heating e.g. Hartlands; and,
- Greenhouse horticulture.

## LANDSCAPE & VISUAL IMPACT

The Landscape and Visual Impact Assessment has established that the proposed development will change the existing landscape and visual baseline conditions.

It will change the existing landscape and visual baseline conditions to varying extents.

With the mitigation measures in place, it is considered that significant adverse effects on visual amenity can be reduced to below significant levels, in particular in the longer term with the establishment of the proposed planting of the northern screen mound.

A detailed landscape and visual impact assessment has been carried out for the revised proposed Phase 2 development at Levenseat. This has considered the potential effects on the landscape character and the landscape resource of the study area, as well as potential effects on visual amenity, and cumulative landscape and visual effects.

The main effects on landscape character and visual amenity are associated with the development of a second stack within the site, although parts of the Thermal Treatment Plant are taller than the Phase 1 buildings and will have scope to be seen above the top of the screen mound enclosing the northern edge of the site.

There are no landscape designations within the study area and no areas with wild land qualities. The landscape within the study area has experienced considerable change recently, from extensive forestry clearance as well as from the installation of wind turbines within the area, with the potential for more turbines in the future. As such, the sensitivity of this landscape to the development of the revised, second TTP is assessed as low-medium.

The site layout has been developed with full consideration for the character of the local landscape, and potential effects on visual amenity. The position of the second stack within the site has been designed to minimise the potential for significant adverse effects on visual amenity by placing this directly to the south of the existing stack; this means that in views from the north and south (Fauldhouse and Forth areas) only one stack would be seen.

Although the ZTV for the proposed development suggests that the stack would be seen from a wide area, in practice the presence of tree screening, built development and localised changes in topography have the effect of limiting views of the site from within much of the area.

No significant adverse effects on landscape character and the landscape resource have been identified from the revised proposed Phase 2 development.

No significant adverse effects on visual amenity have been identified, for any of the various receptors present within the study area.

No significant adverse cumulative effects on landscape character and visual amenity have been identified. The development of Tormywheel, immediately to the east of the Levenseat site, and Black Law extension Phase 1, to the west, has substantially extended the influence of wind turbines within the areas north-west and north-east of Levenseat. As such, the degree to which the addition of a revised second stack would alter the character of the landscape and result in high levels of effect on visual amenity, is correspondingly reduced.

Mitigation in respect of potential adverse effects of the proposed development has been incorporated into the site design, native woodland planting is also proposed around the perimeter of the site. Some additional measures are proposed to further enhance the appearance of the site from within the surrounding area.

In conclusion, the revised proposed Phase 2 TTP development at Levenseat can be considered to be appropriate in terms of the character of the landscape within which it is sited, and in terms of the anticipated effects on the visual amenity of the area.





## AIR QUALITY & ECOLOGY

Dispersion modelling of emissions has been undertaken using the ADMS 5.2 dispersion model, and the five years of meteorological data from Edinburgh Airport.

The dispersion model has been used to predict the ground level concentration of pollutants on a long and short-term basis across a grid of points. It has also been used to predict the concentration at nominated points to represent human and ecological sensitive receptors.

This first stage analysis has shown that the maximum net change from Phase 1 at any point is less than 0.5% of the AQAL and the short-term impact is less than 10% of the AQAL for all pollutants with the exception of:

- Annual mean nitrogen dioxide;
- Annual mean Particulates (as PM2.5)
- Annual mean VOCs
- Annual mean Cadmium
- Annual mean PaHs
- 99.79th %ile of hourly means nitrogen dioxide;
- 99.73rd %ile of hourly means sulphur dioxide; and
- 99.9th %ile of 15 min. means sulphur dioxide.

Therefore, the magnitude of change is described as 'negligible' irrespective of baseline concentrations for all other pollutants.

Where the magnitude of change cannot be described as 'negligible' irrespective of the baseline concentration, further analysis has been undertaken. Details of this analysis is presented in the Air Quality Assessment.

When the baseline concentrations (and other cumulative sources) are taken into account the magnitude of change of annual mean concentrations of nitrogen dioxide, particulate matter (as PM2.5), benzene and PaHs is 'negligible' at the point of maximum impact and at all areas of relevant exposure.

The magnitude of change in annual mean 1,3-butadiene concentrations at the point of maximum impact is described as 'slight adverse'. However, this is not in an area where members of the public are expected to spend periods of time.

At all areas where members of the public are expected to spend prolonged periods of time and at all the identified sensitive receptors the magnitude of change is described as 'negligible'.

The magnitude of change in annual mean cadmium concentrations at the point of maximum impact is described as 'slight adverse'. However, this is not in an area where members of the public are expected. At all locations where members of the public are expected to spend prolonged periods of time and at all the identified sensitive receptors the magnitude of change is described as 'negligible'.

The magnitude of change in 1-hour mean nitrogen dioxide concentrations at the point of maximum impact is described as 'slight adverse'. However, this is not in an area where members of the public are expected to spend periods of time associated with the AQAL and assumes the Phase 1 and Phase 2 operate at the half hourly ELV and this coincides with the worst-case conditions for dispersion of emissions. At all areas where members of the public are expected to spend periods of up to an hour, and at all the identified sensitive receptors the magnitude of change is described as 'negligible', even when operating at the half hourly ELVs.

The magnitude of change in 1-hour and 15-minute mean sulphur dioxide concentrations at the point of maximum impact is described as 'slight adverse'.

Again, this is not in an area where members of the public are expected and assumes Phase 1 and Phase 2 operates at the half hourly ELV and this coincides with the worst-case conditions for dispersion of emissions. At all areas where members of the public are expected to have access, and at all the identified sensitive receptors the magnitude of change is described as 'negligible', even when operating at the half hourly ELVs.

The impact of metals can be screened out from further analysis, as such the significance of effect of process emissions of metals on human health is considered 'negligible'.

The change in concentration as a result of the process emissions associated with the operation of the proposed development has been deemed to be '**not significant**'.

When considering the impact on ecological receptors the maximum impact at all statutory and non-statutory sites is less than 1% of the long term and less than 10% of the short-term Critical Level and Loads and can be screened out as 'insignificant', with the exception of nitrogen and acid deposition at the Hermand Birchwood SSSI.

A detailed interpretation of the impact at Hermand Birchwood SSSI has therefore been undertaken by an ecologist. This has shown that the predicted air quality impacts arising upon Hermand Birchwood SSSI would be of such a limited nature that they could only be described as insignificant in ecology terms and as such the proposed development would not lead to an adverse effect upon the integrity of Hermand Birchwood SSSI.



## CONCLUSIONS

The EIA covers the cumulative impacts of the proposal. It has been informed by the assessment undertaken for the existing plant and has included the impacts of other nearby developments such as the adjacent windfarms.

The technical assessments have been conducted by specialists to an agreed scope and format and based upon industry standard methodology and guidelines.

The proposal has been subject to pre-application consultation and discussions with West Lothian Council. The Environmental Impact Assessment Report submitted with the new application assesses the significance of the impacts on a cumulative basis and no significant environmental effects are expected.

Residual impacts in terms of landscape and visual impact and air quality, post mitigation, are minor and insignificant overall.





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