Natural Resource Planning
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LS28 8BL

Environmental Issues
Waste Management
Mineral Extraction
Sustainability

WETHERBY SKIP SERVICES LTD

QUARRY WORKS

FIELD LANE

SOUTH ELMSALL

WF9 2DG

WASTE RECOVERY PLAN

JANUARY 2022

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1. INTRODUCTION

1.1 Natural Resource Planning was instructed by Wetherby Skip Services Ltd to undertake and prepare an application to obtain approval for a waste recovery operation.

1.2 This is the second application at this site for a Waste Recovery Plan consent.

1.3 The Waste Recovery Plan will form the first phase of a full permit application for the redevelopment of a former quarry working in South Elmsall, Wakefield, West Yorkshire.

1.4 Wetherby Skip Services Ltd is a commercial waste management company that provides an integral service across numerous local authority administrative areas.

1.5 The principal management facility and head office is located near to Wetherby at the below address:

Head Office
Recycling House,
Champagne Whin, Spring Lane,
Walton,
Wetherby,
West Yorkshire,
LS23 7DN

1.6 The Company Registered No. in England and Wales is:

03778014

1.7 Wetherby Skip Services holds a valid Environmental Permit for this facility:

RP3396ZS/A001

2. THE RECOVERY SITE

2.1 The recovery site is located to the south-east of South Elmsall. The grid reference is noted as: SE47991162 (*Easting: 447996 / Northing: 411629*)

2.2 The development site is placed entirely in the administrative area of Wakefield Council.

2.3 The 1.5ha site is located between residential housing and large industrial units.

2.4 Currently, the site displays a quarry void and a shallow gradient comprises extensive shrub and grass vegetation, plus selective mature boundary trees. The ratio of existing hard-standing to vegetation is approximately 50: 50. Much of the vegetation is grass, wild shrubbery and tree saplings.

2.5 Vehicle access is gained from the public highway at Field Lane and there is excellent connectivity from there to the strategic highway network. An agreed legal obligation will instruct all related transport to avoid South Elmsall centre and access/ egress the site from the east .

2.6 There are no obvious development or environment constraints that will delay commencement of the scheme.

Appendix A: Location Plan

3. THE SCHEME

3.1 The overall development will comprise a proposed three-phase development over a 4-year period, including the infill of approximately 125-145,000 tonnes of **recovered inert material** from construction and demolition wastes.

3.2 Further to the total volume, the applicant projects an input rate of 35,000 tonnes per year. Subject to economic supply, approximately 3000 tonnes of material per month will be imported into the site (=100 tonnes per day).

3.3 The scheme is to create an engineered platform for a future built development. The site will accommodate the receipt of inert construction, demolition and excavation waste material that will be subjected to a basic recovery operation, using a screening and crushing machine. The recovered material will be infilled to a determined level/ quantity in a phased working arrangement.

3.4 Waste material that has already been recovered at a satellite site may also be transported for infill as part of the engineered platform solution.

3.5 The proportion of on-site to off-site recovery has yet to be determined. It is highly likely that the ratio will be significantly towards recovery on site, at a projected (on-site) 75: 25 (off-site).

3.6 An essential characteristic of a waste recovery operation is that its principal objective must be that the recovered waste serves a useful purpose in replacing other materials that would otherwise require significant demands on economic factors, energy and time.

3.7 Of some relevance, this scheme will deliver this solution from both on-site and also the supplementary use of recovered waste materials from another permitted satellite facility.

Appendix B - Indicative Phased Working

4. PLANNING PERMISSION

4.1 Planning permission was granted by Wakefield Council on 14th February 2020 (Ref: 19/01023/WAS) for the infill with recovered waste materials of the Quarry Works, Field Lane, South Elmsall.

4.2 Comprehensive supporting assessments were undertaken and statutory consultees were engaged for comment.

4.3 Planning consent has been obtained, including the agreement of a s106 obligation for highway access plus the formation of and dialogue with a community liaison group.

4.4 The planning consent also comprises a broad list of conditions. All planning conditions will be addressed in full, once approval has been secured for this Waste Recovery Plan and a subsequent Environmental Permit.

4.5 A copy of the planning permission issued by Wakefield Council is presented at **Appendix C: Planning Consent**

5. WASTE RECOVERY

5.1 Waste recovery is about using waste to replace other non-waste materials that will achieve a beneficial outcome. Both the approach and the outcome should adhere to holistic, environmental principles.

5.2 Whether an activity constitutes disposal or recovery depends on a legal test derived from the Waste Framework Directive and European case law.

5.3 Perhaps the clearest indicator of waste recovery is when it can be clearly demonstrated that the identified waste materials are subjected to a process that changes their physical state, which enables them to serve a secondary purpose of economic, environmental and/or sustainable benefit.

5.4 These instructions guide a collective understanding of that test and this Waste Recovery Plan has been prepared in accordance with the Environment Agency recommendations and permitting team/ officer consultation.

5.5 A pre-application environmental permit request was submitted and a reply received from the Permitting Team (EA/EPR/JB3103XW/A001).

6. WASTE TYPES

6.1 The primary wastes proposed for use for the engineered construction of the land development are:

01 WASTES RESULTING FROM EXPLORATION, MINING, QUARRYING, AND PHYSICAL AND CHEMICAL TREATMENT

01 01 02	*wastes from non-metalliferous excavation*
01 04 08	*waste gravel and crushed rocks other than those containing dangerous substances*
01 04 09	*waste sand and clays*

17 CONSTRUCTION AND DEMOLITION WASTES

17 01 01	*concrete*
17 01 02	*bricks*
17 01 03	*tiles and ceramics*
17 01 07	*mixtures of concrete, bricks, tiles and ceramics*

19 FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE

19 12 09 minerals (for example sand, stones)

20 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY

20 02 02 soil and stones (excluding topsoil and peat)

6.2 The above list follows the guided structure of - the now withdrawn - RGN No EPR13, as updated in the detail of Waste Recovery Plan guidance (2016).

6.3 This recovery plan emphasises that only inert wastes will be accepted for recovery and use in the proposed development.

6.4 Emphatically, no liquid waste, wastes consisting solely of dusts, powders or loose fibres or hazardous materials will be accepted at the site. Critically, this corresponds with the planning consent and its related conditions.

7. SUITABILITY

7.1 All materials created in the required recovery operation would comply with the Waste Recovery Plan guidance.

7.2 The proposed materials listed for recovery would collectively be shifted further up the waste hierarchy and diverted away from landfill.

7.3 The identified waste materials are all suitable for recovery and use in an engineered infill scheme as proposed at Quarry Works.

7.4 The process is defined as waste recovery. The basic recovery operation, using a screening and crushing machine, will generate different fractions that will be engineered into the infill solution. Any need for brief stockpiling will see the temporary storage of isolated grades within the indicative phased working areas.

7.5 All proposed machinery has been approved under the planning permission.

Appendix D - Crusher Spec
Appendix E - Dozer Spec

8. NEED

8.1 Prior to the applicant's interest in the development site there has been some temporary activities operating from the site, for short periods of time. Unlike this proposal these activities have not always secured planning permission or notified the required regulatory authorities.

8.2 The site has been largely derelict for several decades. Anecdotally, local residents, elected officials and council officers each report of anti-social behaviour and a need for the site to be regenerated for future, economic benefit.

8.3 The site forms part of a strategic vision including adjacent land for the allocation of housing developments in this area.

8.4 Contrasting with the adjacent land, this site perhaps needs a greater engineered solution to provide a suitable base platform for a built development.

8.5 There is no statutory obligation to undertake any proposed recovery operation and facilitate the infill development. That said, without the approval of a waste recovery operation - and the subsequent grant of an environmental permit - the development site is highly unlikely to be restored and constructed to a suitable platform for future economic development.

8.6 See below for direct extracts from the planning officer's committee report that reflect the need and implied obligation:

Location of development (p11)
The application site is indicated in Volume 2 Settlement Specific Policies plan; and the draft Policies Map 2026 to 2036. The application site is allocated as Housing Site LP81 and the adjacent land to the east is allocated as Housing site LP693. The principle of residential would therefore appear to be appropriate for the purposes of post-restoration development. The backfill and restoration of the quarry void could comfortably be achieved within the current plan period (2026).

Local waste policy (p15)
The site however, is a derelict former quarry void area which is in need of remediation and restoration to completion…Planning conditions can be imposed to control the operational aspects of the proposed scheme to reduce the environmental impacts from importation of materials, site operations of the site, and the operational issues.

Local waste policy (p17)
The waste policy advises waste authorities should ensure the Land raising or landfill sites are restored to beneficial after use, at the earliest opportunity and to high

environmental standards through the application of appropriate conditions where necessary. The proposed restoration scheme is to return the land back to preexisting levels with a development platform which may provide alternative end use to be determined by a subsequent application and is therefore in conformity with the policy objective.

Local waste policy (p18)
The waste DPD sets out the key issues facing
Wakefield district as being: the need to develop a strategic municipal waste management facility, supported by a number of local civic amenity sites; the need to develop capacity for management of industrial and commercial wastes; and the need to develop landfill capacity for residual wastes.

Local waste policy (p19)
The proposals do not demonstrate that there is an identified need for waste disposal which is justified in terms of Policy W5, but clearly there is an identified local need for inserts disposal capacity which is not identified in the Waste Local Plan.

Need and alternatives (p21-22)
Construction, demolition and excavation waste is the largest single type of waste, accounting for around half of all waste arisings in Wakefield. The on-site re-use and recycling of construction, demolition and excavation waste will be encouraged wherever possible, in accordance with government policy. No specific sites have been identified for the management of construction, demolition and excavation waste in the district.

Community Safety (p29)
The issue of community safety is a material consideration. The quarry site is currently derelict and disused, and the buildings attract vandalism and other antisocial behaviour.

Environment summary (p32)
The proposals include the backfilling of the quarry with inert soils and excavation wastes to restore the land back to original levels for development use…There is an identified need in the LDF for additional landfill capacity which can accept inert soils and excavation type arisings.

Material considerations (p34)
The environmental benefits to the proposals include: The full restoration of brownfield land - a former quarry site; the associated removal of potentially hazardous materials, contamination and pollution from former uses; improvements to land drainage and visual and amenity benefits.

Material considerations (p34)
There are further social benefits which relate to the reduction of the risk of danger to the community, and harm to the public caused by antisocial behaviour, crime and fear of crime.

9. STANDARD

9.1 The site will be restored in accordance with a required construction remediation strategy. In support of this strategy, advanced cross sections demonstrate the projected ground levels that will be achieved following the waste recovery and infill operation.

9.2 As argued in the planning application process the available land profile options essentially fall into three categories: convex, concave and flat.

9.3 The geo-technical and hydrological studies concluded with no empirical evidence to steer a finished solution. Recognition was however given to the existing signs of standing water in the existing lowest point of the quarry works. Equally, landform and elevation levels are noted to generally flow from higher in the north and west to lower in the south and east.

9.4 A reduced quantity of proposed recovered materials would deliver a convex shape (bowl) and reduced probability to achieve a desired landform similar to pre-mineral extraction. In this scenario the potential of future drainage issues were highlighted and discussed between key stakeholders.

9.5 Higher quantities to engineer a concave (upturned saucer) would have been inappropriate based on adjacent landforms and may have also raised possible new drainage issues to all surrounding areas.

9.6 The adopted proposal will aim to achieve a profile finish that compact fills up to the existing levels at the site boundary. The option seeks to fill at a 1.5 conversion rate* based on a calculated void space that will require up to 145,000 tonnes (97,000 m^3) of recovered materials.

**this rate is generally accepted as a standard for both landfill engineering and highways construction*

9.7 Specifically, the waste recovery plan (and subsequent Environment Permit application) will directly comply with both Conditions 5 and 6 of the Planning Consent.

CONDITION 5. Development shall not commence until a remediation strategy that includes the following components to mitigate the risks associated with contamination of the site has been submitted to and approved, in writing, by the Local Planning Authority:

1. Based on the conclusions and recommendations of the Combined Stage 1/Stage 2 Geo-Environmental Report [ARP Limited, 10th October 2018, Ref: WSK/01r1] a remediation strategy and verification plan giving full details of the remediation measures required and how they are to be undertaken. The approved remediation measures must be carried out in accordance with the approved strategy prior to the commencement of any development other than that required to carry out the approved remediation. Any changes to the components require the express written consent of the Local Planning Authority. The scheme shall be implemented as approved.

Reason: To ensure that risks from ground gases and land contamination to the future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors in accordance with Policy CS10 & D22 of the Local Development Framework.

CONDITION 6. Upon completion of the earthworks and remediation, a verification report demonstrating completion of works set out in the approved remediation strategy and the effectiveness of the Remediation should be submitted to and approved, in writing, by the Local Planning Authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met.

Reason: To ensure that risks from ground gases and land contamination to the future users of the land and neighbouring land are minimised, together with those to controlled waters, property and ecological systems, and to ensure that the development can be carried out safely without unacceptable risks to workers, neighbours and other offsite receptors in accordance with policy CS10 & D22 of the Local Development Framework.

Drawings
Appendix F: Cross Sections (Existing)
Appendix G: Topographical Survey (with Cross Sections)
Appendix H: Cross Sections (Proposed
**no Appendix between H-J*

Geotechnical Studies

9.3 A comprehensive technical investigation undertaken during the planning application process concluded there are no significant physical challenges, including no severe issues of contaminated land or any identifiable flood risk and drainage.

9.4 There were no objections by any relevant statutory consultees, such as the Environment Agency and local authority scientific officers.

A summary of the Combined Stage 1-2 Assessment from the Geo-Technical Study (minus ALL Appendices*) are included at Appendix J
these are available if required

Ecological Assessments

9.5 Similarly, key environmental surveys have been carried out by qualified specialists to determine any likely barriers to future development.

9.6 Again, there were no objections by any relevant statutory consultees at the planning stage.

A summary of the main ecological habitat assessments are included at Appendix K

10. BENEFITS

10.1 Development benefits can be categorised into three clear topic areas: economic, social and environmental (both ecological and sustainability).

10.2 *Economic*: critical element that will act as the primary scheme that is essential for a potential built development, such as the strategic provision of housing as part of Wakefield Council's Local Development Framework.

10.2 *Social*: a vital component that could form part of a wider housing development that offers a joint approach to community land use, including safe access, green space and affordable housing.

10.3 *Environmental*: retention of existing valuable habitats and features, plus the creation of supplementary assets, such as tree planting and landscaping. The scheme would equally maximise the recovery of significant volumes of waste that would be diverted from landfill and employed this engineered solution.

10.4 The applicant can confirm that the recommended engineered foundation will be adopted in key areas of the site. Further, there is already a need to comply with the element in a development condition associated with the planning consent:

> CONDITION 4. The development shall be carried out in accordance with the approved plans and drawings as set out below unless stated otherwise by the conditions below which in all cases shall take precedence:
>
> *Reason: for the avoidance of doubt and to ensure that site restoration is carried out within a reasonable period of time in the interests of the visual amenity of the locality and to comply with Policy D9 of the adopted LDF.*

10.5 The foundation solution for the future development will depend on the final development proposal for the site.

10.6 There are documented consultee replies as part of the planning application process in support of the potential benefits. Indeed, key representations concluded that there are obvious benefits from a proposed development and, provided highways access could be satisfactorily addressed then, the scheme would be a positive outcome for the local area.

10.7 In summary, both local elected officials and nearby residents indicated during the planning application process that the benefit from the proposed infill - with recovered waste material - would be positive:

- in terms of waste management,
- supporting the local employment network and
- the provision of restored land for future built development.

11. FINANCIAL GAIN

11.1 The use of recovered waste diverted from landfill and non-waste materials have been considered in this financial assessment. The cost of completing the development using recovered construction, demolition and excavation materials is contrasted alongside alternatives.

11.2 Generated income and costs associated with waste and non-waste scenarios are considered and the financial feasibility of the proposed scheme is summarised. Additionally, a third figure is supplemented to illustrate the cost of disposal at landfill. These figures underpin that there are both financial gains and environmental benefits from accepting the principle of waste recovery.

11.3 There are transportation costs associated with the development that are considered to be the same regardless of whether waste or non-waste materials are used. These costs have been immersed in the site operation. Equally, the transportation costs are included in the total amount for the supplementary landfill option.

11.4 The proposed development using non-waste materials could cost in total approximately between £1.25 million and £4.5 million. WSS is confident that - although unlikely - if a secure supplier could be found that the cost here could be significantly reduced. Still, this is the least sustainable option and would likely be unfeasible for numerous reasons: mainly the unlikely *availability of resources* and this approach would jointly *conflict with national waste policy* and the *obtained planning consent*.

11.5 The material being disposed at landfill may cost approximately £4.4million. Notwithstanding the estimated landfill costs - associated over years of gate fees - this option would again seem to conflict with strategic waste and land-use planning policies. This also assumes there will be available void space in proximity to the development site/ radius of generation.

11.6 There is clear, demonstrable financial benefit for the restoration of the site using a waste recovery operation and any consideration of rejecting this option would reverse the possibility of local and regional economic gain. Further, an obvious increase in land value would be expected however this has not been conclusively investigated at this early stage of the long-term development (see Table 1: Finance Appraisal of Three Restoration Options).

Table 1: South Elmsall Quarry Works - Finance Appraisal Of Three Restoration Options

	1. Non-Waste	2. Landfill	3. Recovery
Purchased virgin/ secondary materials *Based on ~£10-30 per tonne*[1]	£1,250,000 - £4,350,000	n/a	n/a
Gate fee *Based on ~£30 per tonne*[2]		£4,350,000	n/a
Gate fee (revenue) *Based on ~£187,200.00 per year (x4)* *or ~£3600.00 per week or ~£600.00 each day*[3]	n/a	n/a	(£748,000)
Land option	£36,000	n/a	£36,000
Tenancy license	£214,000	n/a	£214,000
Land use planning	£20,000	n/a	£20,000
Environmental Permit	£25,000	n/a	£25,000
Environmental Management	£8,000	n/a	£8,000
Engineering	£40,000	n/a	£40,000
Site Operation	£218,400[4]	n/a	£218,400
Legal advice	£15,000	n/a	£15,000
Total	£1,250,000 - -£4,608,718	-£4,350,000	-£258,718
			(£489,282)

[1] Although recycled waste industry/ land reclamation prices (2020) may supply at £10 per tonne my client forecasts that the supply-demand market price would fluctuate to complete a project development of this scale.

[2] Current costs for landfill gate fees at permitted facilities in proximity

[3] Revenue at development site to receive waste material for recovery processing

[4] Site operation costs would be significantly reduced in the use of a non-waste scenario as material would be directly delivered from a certified aggregate source with no processing

11.7 A Waste Recovery Plan application was formally submitted to the Environment Agency during 2020/2021 by Wetherby Skip Services Ltd.

11.8 The Environment Agency (EA) requested further information directly relating to compare a number of development outcomes. In particular, the EA needed to establish the ability of Wetherby Skip Services Ltd (Wetherby Skips) to firstly deliver the scheme using **a non-waste scenario**, especially as there is no statutory obligation or condition for WSS to complete the scheme.

11.9 Despite clarification from WSS the EA could not arrive at a clear determination of the proposed recovery operation and the outcome of the WRP application was classified as inconclusive (Ref: EPR/JB3103XW/A001)

11.10 Obviously the applicant was disappointed at the outcome. WSS has since taken measures - without too much excessive cost - to estimate the likely revenues and costs of housing build schemes under various scenarios, but **including the use of non-waste material as infill** to restore the site to a suitable development platform.

11.11 The applicant has commissioned a qualified property agent and conveyor to calculate projections based on current economic dynamics and using his superior experience (see email copy for Thomlinson Profit Share Dec 21)

11.12 The development site has been categorised into two options based on separate density values that may each be influenced by economic, environmental and planning policies (see below Table 2).

11.13 The estimated total development profits for a projected housing scheme have been divided to illustrate the potential ratio between the applicant and a hypothetical housing developer (see below Table 3). The ratio is based on a national framework for strategic housing policy.

11.14 For now the total profit figure should still be included to demonstrate a wider financial viability. Indeed, advance build costs (and potential contingencies) will be agreed between WSS (as owner) and a housing developer (contractor). These discussions will ultimately determine the ratio share of profits. This could vary between different phases of a future built development.

11.15 Subject to these advance discussions, it remains possible that WSS adopts an even higher profit share.

11.16 Of key importance, WSS would finance all site restoration options for non-waste infill[a] or recovered waste[b] (using solely company profits[a] or a combination of company profits and a closed gate fee for third party operators[b]).

11.17 There is no expectation at this stage for a need to arrange loan/s to finance any aspect of the restoration operations.

11.18 Previously the EA were unable to determine the feasibility of a waste recovery activity based ONLY on using *the non-waste option*.

Table 2: Estimated Build Development - Costs & Revenue Margins

	1.33ha	***2.49ha***
Revenue *based on £210 Gross Development Value*	9,625,350	10,592,400
(Minus) Costs		
Build Cost[+]	6,875,250	7,566,000
5% Contingency[+]	343,762	378,300
Professional fees	100,000	120,000
s106 contribution	750,000	800,000
Total	**1,556,338**	**1,728,100**

+ the precise build cost/ contingency figures (including cost of non-waste infill) would be agreed between owner & contractor and the ratio share will ultimately influence the final profit share

Table 3: Estimated Build Development - Owner : Contractor Profit Share

	1.33ha		***2.49ha***	
Profit Share	*Wetherby Skips*	*Housing Developer*	*Wetherby Skips*	*Housing Developer*
50 : 50	778,169	778,169	864,050	864,050
60 : 40	933,802	622,536	1,036,860	691,240
65 : 35	1,011,619	544,719	1,123,265	604,835
Total	**1,556,338**		**1,728,100**	

APPENDIX A: LOCATION PLAN

APPENDIX B: INDICATIVE PHASED WORKING

APPENDIX C: PLANNING CONSENT

APPENDIX D: CRUSHER SPEC

APPENDIX E: DOZER SPEC

APPENDIX F: CROSS SECTIONS (EXISTING)

APPENDIX G:TOPOGRAPHICAL SURVEY (WITH CROSS SECTIONS)

APPENDIX H: CROSS SECTIONS (PROPOSED)

APPENDIX J: GEO-TECHNICAL SUMMARY

APPENDIX K: ECOLOGICAL SUMMARY

INFILL COST QUOTATION

THOMLINSON PROFIT SHARE

EA RvD Advice

EA RvD Letter