





Retford Circular Economy Project Environmental Statement Addendum

Socio-economics Technical Note for the Idle Valley Nature Reserve

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Retford Circular Economy Project

Technical Note: Socio-economics Technical Note for the Idle Valley Nature Reserve.

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Acronyms and Abbreviations

Acronym	Description
IAQM	Institute of Air Quality Management
BDC	Bassetlaw District Council
DMMP	Dust Management and Monitoring Plan
ES	Environmental Statement
ESA	Environmental Statement Addendum
FTE	Full-time equivalent
GBTS	Great Britain Tourism Survey
NCC	Nottinghamshire County Council
NWT	Nottinghamshire Wildlife Trust
PFA	Pulverised Fuel Ash
PRoW	Public Right of Way
RCEP	Retford Circular Economy Project
RLC	Rural Learning Centre
SG	Specified Generator
SSSI	Site of Special Scientific Interest

1. SOCIO-ECONOMICS TECHNICAL NOTE FOR THE IDLE VALLEY NATURE RESERVE

1.1 Introduction

Following submission of the Environmental Statement (ES) in March 2023, Nottinghamshire Wildlife Trust (NWT) requested further information relating to the potential economic impacts of the Retford Circular Economy Project (RCEP; the Proposed Development) on the nearby Idle Valley Nature Reserve Visitor Centre including the café, shop and Rural Learning Centre (RLC).

This request and other responses received as part of the post-submission consultation, and the receipt of a request for supplementary information under Regulation 25 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017, has led to further site investigations and changes to the method of extracting pulverised fuel ash (PFA) within Area A (Refer to Figure 1.3, Site Area Plan in Volume 2 of the ES), the Restoration Plan (Figure 7.12, Indicative Landscape Restoration Plan Site in Volume 2 of the ES) and amendments to the site layout of the Main Processing Site in Area C. These changes have culminated in the formulation of an Amended Proposed Development which has as a result, led to an updated Environmental Impact Assessment reported in an Environmental Statement Addendum (ESA).

This technical note draws from the updated assessment but should also be read in conjunction with the technical note provided within the ES (Volume 3, Technical Appendix 3.1: Social, Health and Wellbeing Impacts).

Updated information is provided regarding:

- Further clarification around the traffic generated by the Amended Proposed Development in so far as the potential for it to deter visitors to the Idle Valley Nature Reserve and RLC;
- Other environmental factors e.g. noise, dust and general disturbance that would affect the amenity of visitors to the Idle Valley Nature Reserve; and
- Economic effects linked to the potential reduction in visitor numbers and events leading to a potential loss of revenue for the Visitor Centre, café, shop and RLC.

1.1.1 Assumptions and limitations

Despite requests for information (via a questionnaire) from NWT regarding staff employment, visitors, and contribution to the local economy, no response has been provided to date. Assumptions have therefore been made based on similar ventures relating to the number of full time and part time employed staff and the business operations of the café and shop.

This technical note consists of the following sections:

- The Idle Valley Nature Reserve;
- Nottinghamshire Tourism Economy;
- Bassetlaw District Council Policy;
- Idle Valley Nature Reserve current economic contribution and business rates fiscal impact; and
- Impact of the Amended Proposed Development on the Idle Valley Nature Reserve Visitor Centre, Café, Shop and RLC.

1.2 The Idle Valley Nature Reserve

The Idle Valley Nature Reserve is one of the largest sites for nature conservation in the East Midlands. It provides a Visitor Centre, shop, café, picnic areas, outdoor play areas and accessible trails. It is also a venue for a range of training courses and events. The Reserve is open all year round with the exception of Christmas day and opening times are 9am to 7pm daily during the summer with

shorter days (9am to 4pm) during the winter. Access is free and the reserve supports both local and wider tourism¹.

1.3 Nottinghamshire Tourism Economy

Across Bassetlaw District Council (BDC) and Nottinghamshire, the role that tourism plays in the local economy varies widely. The focus for tourism in Bassetlaw is centred on the historic market towns of Retford and Worksop and the idyllic villages across the district's rural countryside. According to the Nottinghamshire Visitor Economy Strategy, the county's visitor economy is worth £1.75 billion and supports around 15,000 jobs². The county also aspires to create an extra 2,900 jobs and generate an additional £240 million for the local economy by 2029.

According to VisitEngland's latest Great Britain Tourism Survey (GBTS), 27% of tourism day visits included a 'visit to a visitor attraction' and participation in 'outdoor leisure activities and sports'³, which are some of the main reasons visitors attend the Idle Valley Nature Reserve. VisitEngland also reported that the average spend per visit for tourism / leisure day visits in Bassetlaw was £20. However, if you consider visits that were three hours plus (which the majority of visits were), the average spend per visit increased to £44⁴. This shows the potential economic benefits of tourism day visits for local attractions and businesses such as the café and RLC in Bassetlaw.

1.4 Bassetlaw District Council Policy

BDC's emerging Local Plan 2020-2038⁵ outlines policies related to promoting the visitor economy. Policy ST12 of the emerging Local Plan aims to achieve this by:

- "1. Bassetlaw would be promoted and developed as a destination for visitors. Proposals for the creation of new or the expansion of existing visitor attractions would be supported where this would enhance the District's visitor economy offer.
- 2. New facilities, including visitor accommodation should be located in accordance with the sequential approach for main town centre uses in accordance with Policy ST13. Development should be of a scale that is in-keeping with local character and contributes to regeneration objectives where appropriate."

1.5 Idle Valley Nature Reserve – Current Economic Contribution

The Idle Valley Nature Reserve currently contributes to the local economic output, as measured by Gross Value Added (GVA). In short, GVA measures the value of output generated by a producer minus the costs associated with the production of the output. It represents the additional value that is added through economic activity.

It is acknowledged that the RLC plays a pivotal role in the local community by contributing to its social, economic and environmental well-being. Through researching similar nature reserves and using the Homes England's 'Employment Densities Guide', it is estimated that the nature reserve and the RLC employs up to six full-time equivalent (FTE) employees and 10-12 volunteers, dependent on the off peak and peak business periods. It is estimated that these six jobs comprise of the following:

¹ Trip advisor records 55 entries between 2013 and 2023, the majority of which are from visitors within 30 km but also from as far afield as York, Liverpool and London.

² Nottinghamshire County Council (2019). Nottinghamshire Visitor Economy. Available online at: https://www.nottinghamshire.gov.uk/media/1731434/visitoreconomystrategy.pdf [Accessed on 31/10/2023]

³ VisitEngland (2023). Great Britain Day Visits Survey (GBDVS): Q3 2023. Available online at: https://www.visitbritain.org/media/2795/download?attachment . [Accessed on 03/01/2024]

⁴ VisitEngland (2023). Great Britain domestic overnight and day trips: subnational data. Available online at: https://www.visitbritain.org/research-insights/great-britain-domestic-overnight-and-day-trips-subnational-data. [Accessed on 03/01/2024]

⁵ Bassetlaw District Council (2022). Bassetlaw Local Plan 2020-2038. Available online at: https://www.bassetlaw.gov.uk/media/6862/lp-second-addendum.pdf. [Accessed on 03/01/2024].

- Nature Reserve: Two FTE reserve rangers;
- Café: One FTE employee and one part-time employee (equivalent to 0.5 FTE); and,
- **RLC:** Two FTE employees and one part-time employee (equivalent to 0.5 FTE).

It is also acknowledged that volunteers play an important role in supporting operations in the Idle Valley Nature Reserve and the shop.

The GVA associated with each FTE is estimated at £43,446 (in 2021 prices) in Bassetlaw District⁶. Applying this GVA figure to the existing direct six FTE jobs at RLC provides a contribution of around £260,700/pa in GVA to the local economy. It is important to note that there are likely to be wider economic benefits from multiplier effects, visitor spending (off-site), and supply chain benefits from goods and services paid for by the café, Nature Reserve and RLC.

2. IMPACT OF THE AMENDED PROPOSED DEVELOPMENT ON THE IDLE VALLEY NATURE RESERVE AND RLC.

NWT have cited traffic, dust, noise and general disturbance as the key impacts likely to affect the visitor experience and by default therefore, the business performance of the Nature Reserve Visitor Centre and the RLC through loss of visitors.

2.1 **Impact from Traffic**

NWT's concerns relate to the potential increased traffic levels associated with the construction and operational phases of the Amended Proposed Development. The main entrance and exit to the Nature Reserve and RLC is via the A638, which is the main route for construction and operational traffic associated with the Amended Proposed Development. This access previously served Bellmoor Quarry and currently serves Breedon Retford Concrete Plant. Visitors to the Idle Valley Nature Reserve and Visitor Centre share approximately 125 metres of access road with the concrete plant before turning off to the east towards the Visitor Centre. It can therefore be assumed that current visitors to the visitor centre and RLC, and the staff and volunteers who work there, are already accustomed to HGV traffic turning off the A638 and sharing the access.

As reported in the ES Transport Statement (ES Volume 2, Appendix 14.1), a traffic count survey and capacity assessment has been undertaken. This concluded that during construction, construction traffic would generate approximately 20 two-way HGVs on average per day during the peak month of a relatively short main construction period (6-12 months) resulting in a minor impact.

For operational traffic, it is estimated that the export of PFA would generate around 37 HGV trips per day (37 in / 37 out). There would also be a requirement for other HGVs to access the Site, including for maintenance, import of engineering and other materials, gas tanker deliveries and staff vehicles. This would equate to up to four HGVs trips per hour (i.e. four in / four out) in total. As recorded in ES, Volume 1, Chapter 14: Traffic and Transport, this would present only a minor impact.

Nottinghamshire County Council Highways have reviewed the ES and raised no objection on traffic grounds but have recommended the following conditions⁷:

"The access/parking/turning/servicing shall not be used for any purpose other than access/parking/turning/loading and unloading of vehicles.

Reason: To ensure adequate parking and servicing arrangements are available.

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⁶ Office for National Statistics (2023). Subregional productivity: labour productivity indices by local authority district. Available

https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/datasets/subregionalproductivitylabourpr oductivityindicesbylocalauthoritydistrict.

7 Nottinghamshire County Council Highway Report on Proposals for Development DC No ES/4518.date received:30/03/2023.

No part of the development hereby permitted shall be brought into use until provision has been made within the application site for a minimum of two secure and undercover cycle stands near the processing plant that shall be retained for the parking of bicycles whilst the development remains in existence.

Reason: In the interest of sustainable travel.

All vehicles preparing to leave the site during the construction period shall have their wheels thoroughly washed should they be displaying signs of mud or debris and a mechanically propelled road sweeper shall be employed should mud or debris be transported onto the public highway immediately following each occurrence until such time as all mud and debris has been removed.

Reason: To minimise the exportation of mud and debris onto the public highway and to ensure that this is appropriately dealt with in the interest of highway safety.

All vehicles transporting minerals from the site shall be fully covered with sheeting prior to them leaving the application site and entering the public highway.

Reason: To minimise the potential for debris to be deposited on the highway."

These conditions have been addressed in the updated Outline Construction Environmental Management Plan (oCEMP), in Volume 3, Technical Appendix 5.3 of the ESA.

The working hours for construction and operational works have also been considered in the context of the Idle Valley Nature Reserve. Site activities would be limited to the hours of 07:00 to 19:00 on weekdays and 07:00 to 13:00 on Saturdays, with no working on Sundays or Bank Holidays. It is acknowledged that Saturdays are the busiest visitor days for the Nature Reserve, and in recognition of this, shorter working hours of between 07.00 to 13.00 are proposed to reduce traffic impacts on the Idle Valley's visitors, staff and volunteers. Dependent on the season, the visitor centre café and RLC opening times are between 09:00 to 18:00 (during the summer) and 10:00 to 15:30 (during the winter). Therefore, site traffic would only affect the RLC and café for up to four hours on its busiest days on Saturday. Furthermore, busier periods on Sundays and bank holidays would experience no site traffic at all. Furthermore, there would be no loss of parking provision for the Visitor Centre as staff parking would be provided within the Main Processing Site (Area C) as shown in Drawing 002 – 'Main Processing Plant Site Layout' provided in the ESA, Volume 3, Technical Appendix 5.1.

The Amended Proposed Development also includes two new weighbridges, and an improved vehicle circulation system within the Main Processing Site. During busy periods for the Idle Valley Nature Reserve, the Applicant would use these weighbridges to hold and stagger HGVs appropriately to prevent queueing at the junction and along the access road.

In conclusion, the low volume of traffic generated by the Amended Proposed Development and with the proposed mitigation measures in place, it is considered that staff and visitors to the Idle Valley Nature Reserve would not be adversely affected.

2.2 Impact from Noise

NWT cited noise as having the potential to adversely affect the amenity within the Idle Valley Nature Reserve. As a response to concerns about the noise impacts from the extraction and restoration of the Amended Proposed Development with regard to ecological receptors, additional baseline noise measurements have been undertaken. These measurements have been taken from the edge of the Site as it adjoins the Idle Valley Nature Reserve and the Sutton and Lound Gravel Pits Site of Special Scientific Interest (SSSI) as shown in Technical Appendix 12, Figure 12.16. These also give a good indication of the noise levels currently experienced by visitors using the Visitor Centre and on the trails in the vicinity of the Site within the Nature Reserve. An extract of this plan is provided in Image 1 below.

The nearest baseline noise measurement to the Visitor Centre is recorded at LT4 but there are also other baseline noise measurement points along the boundary of the Site adjoining the SSSI and one

located on the Riverside Trail west of Tiln (ST1). At these locations the baseline noise sources were reported as emanating from:

- The Oranmore Precast Concrete supplier located approximately 350 m north of the northern most boundary of the Site;
- Breedon Retford Concrete supplier located to the south and currently adjacent to the SSSI;
- Agricultural vehicles such as tractors, small vans, pick-up trucks, forklifts and lorries accessing farm property, fields and land adjacent to the Site;
- Human activity from within the Idle Valley Nature Reserve; and
- General countryside noises (e.g. sheep grazing, birdsong and wind rustling through trees).



Image 1: Extract of Figure 12.16 (Volume 2, Technical Appendix 12)

At LT4, within the environs of the Visitor Centre and LT3 and ST1 located towards the middle of the Site, the loudest noises (L_{AFmax}) recorded were from traffic accessing and exiting the Breedon Retford concrete supplier and from human activity around the vicinity of the Visitor Centre.

The more tranquil areas were identified at LT1, LT2, ST2 and ST3 and were mainly attributed to general countryside noises with intermittent noise from the Oranmore Precast concrete supplier identified as audible. At ST3, traffic noise (HGVs and tractors) accessing the nearby Sutton Grange Farm was also highly audible.

Since submission of the ES, significant changes have been made to the PFA extraction and restoration processes to limit noise generated from operational and restoration activities. ESA Volume 1, Chapter 12 Noise, reports that that the main noise impacts would be attributed to short-term temporary construction and restoration activities. The significant changes made to the Amended Proposed Development, primarily to the extraction area (Area A) and Main Processing Site (Area C) to mitigate these impacts are detailed as follows, and are described it more detail in ESA Volume 1 Chapter 5:

- Stringent noise thresholds have been developed to monitor any exceedances during the noisier temporary construction activities;
- Limiting soil stripping activities to a maximum of 12 days in any one year of extraction operations;

- Changes to the extraction methodology with an initial dig down to create a platform within the
 extraction void from which the PFA is then steadily extracted, making use of the lagoon
 embankments (primarily within the High-Rise areas) as shields to screen extraction activities and
 provide acoustic screening;
- Erection of temporary noise mitigation bunds/timber acoustic fences in the Low-Rise areas to supplement the smaller lagoon embankments at strategic locations;
- Placing ancillary plant in areas to cause minimum noise disturbance; and
- Development of a circular vehicular movement system within Area C to minimise vehicle movements and route efficiency.

As reported in ESA Volume 1, Chapter 12: Noise, the anticipated increase in noise has therefore been predicted to be sufficiently low that any effect on recreational amenity, for users of the local Public Rights of Way (PRoW) networks and visitors to the Idle Valley Nature Reserve and Visitor Centre when considered against the existing background of noise, would be minor to negligible. It is therefore unlikely that noise emanating from the construction, operational and restoration phases of the Amended Proposed Development would be of sufficient audibility to deter visitors from visiting or returning to the Nature Reserve.

2.3 Impact from Dust and Air Quality

Dust and accumulation were raised as another key area for concern regarding impacting the quality and enjoyment of the outdoor spaces within the Idle Valley Nature Reserve. To address this and other dust related issues the changes to the Amended Proposed Development have been designed with dust management at the centre of all operations, in accordance with the Institute of Air Quality Management (IAQM) and MIRO good practice guidance. These changes have been designed so that extraction activities (i.e. the source of dust) in Area A, including processing (shredding and screening), are concentrated in the smallest area possible at any given time, thereby reducing the area where fugitive dust emissions could potentially be generated. As a result, and in addition to those changes relating to the PFA extraction processes within Area A, an amended detailed Dust Management and Monitoring Plan (DMMP), Appendix 13.7, ESA Volume 3, has been developed. Hartfield Site Services prepared the DMMP, which is a specialist company with over twenty years' experience operating mineral operations including PFA recovery in and across the UK. The DMMP controls as illustrated in the diagram below (Image 2) provide a continuous process of dust control and monitoring to ensure that dust would be stringently managed in conjunction with a very small working area within Area A at any given time.

⁸ Issues regarding dust and air quality within responses received by Bassetlaw District Council and also by NWT in relation to ecological receptors.

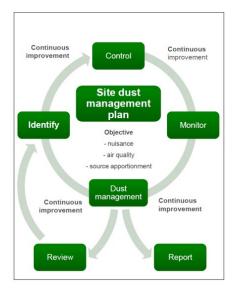


Image 2: Dust Management and Monitoring (DMMP) Processes

In addition, dust monitoring would also be undertaken for a minimum period of six months from the commencement of extraction activities, with an additional two months 'baseline' monitoring prior to any onsite works. The results would be compared to the benchmarks for the protection of amenity derived from Environment Agency (M17), Government sponsored best practice guidance⁹, and Institute for Air Quality Management guidance¹⁰ on dust monitoring. As a further measure, contingency plans have also been identified (DMMP, Appendix 13.7, ESA Volume 3, Section 5.0) which would be deployed where there is a malfunctioning/breakdown of machinery / equipment or water supply failure for dust dampening/suppression, with a final measure of cessation of all works until the issue is resolved.

In addition to the updated DMMP, an updated Air Emissions Risk Assessment (ESA Volume 1, Chapter 13, Section 13.4, and ESA Volume 3, Appendix 13.8) has been undertaken following the design changes to the Main Processing Site (Area C) regarding effects on human health resulting from potential air pollution from the PFA drying and export to road processes. The changes to the Main Processing Plant that were considered include:

- A Specified Generator (SG) comprising a single 6.1 MWth natural gas fired combined heat and power engine; and
- A reduction in the number of covered high efficiency drying lines (Coomtech SMR Kinetic Energy Dryer units), from 10 to 8. These would include external ventilation using individual filters, stacks and condensers and their purpose is to enable exhaust of clean air only.

Regarding the SG, nine receptor locations were assessed, one of which was the Idle Valley Nature Reserve RLC 11 . Following assessment for NO $_2$, PM $_{10}$ and NO $_3$, the assessment concluded that:

- The process contributions would not lead to any exceedances of the standards (long-term or short-term) for the protection of human health at any location outside of the Site; and
- The process contributions are considered to cause 'no significant pollution' at the Sutton and Lound Gravel Pits SSSI in relation to Critical Levels.

Also, in consideration of the proposed drying plant, the Air Emissions Risk Assessment concluded that the drying processes would not lead to any exceedances of the standards (long-term or short-

⁹ The Environmental Effects of Dust from Surface Mineral Workings, DETR (1995) Arup Environmental.

 $^{^{10}}$ IAQM, Guidance on Air Quality Monitoring in the Vicinity of Demolition and Construction Sites.

¹¹ Receptor HR5, Image 13.4: Site Setting and Modelled Receptors, Chapter 13, Air Quality, ESA Volume 1.

term) for the protection of human health at any location outside of the Site, including the Idle Valley Nature Reserve and by inference, the health of those visiting the Nature Reserve.

Extracted PFA was also noted to have no discernible odour and the risk of odour being generated from processing is therefore considered to be very low.

In summary, there would be a negligible effect on health, including the health of those visiting the Nature Reserve, as a result of the Amended Proposed Development and the stringent measures prescribed in the DMMP for the containment and suppression of dust.

2.4 Construction / Restoration Phase

In addition to the DMMP, an updated outline Construction Environmental Management Plan (oCEMP) has also been provided which is a live document that would be continuously updated during the life cycle of the Amended Proposed Development. This plan describes further measures to mitigate potential noise, dust and disturbance impacts during the construction, operation and restoration phases. This includes the consideration of the potential effects for nearby human receptors including the Idle Valley Nature Reserve Centre, the RLC, and the environs within the Nature Reserve.

2.5 Economic Impact of Amended Proposed Development on Idle Valley Nature Reserve

The Amended Proposed Development aims to create economic benefits during its lifecycle by generating new employment and revenue for the local economy through the procurement of local plant suppliers and contractors. However, the economic effect on the Idle Valley Nature Reserve Visitors Centre and the RLC are difficult to quantitatively determine due to lack of available detailed information as discussed in Section 1.1. However, given the non-significant environmental impacts for the Amended Proposed Development it is reasonable to assume that there would be no significant adverse effects on the Idle Valley Nature Reserve Visitor Centre and RLC revenues and visitor numbers both in the short and long term. It is also conceivable that positive benefits may also be derived from the Amended Proposed Development as follows:

- Site workers actively contributing to the economic prosperity of the Visitor Centre by choosing to use the café during opening hours;
- A restored landscape that would provide a buffer and an additional ecological resource to the Nature Reserve which in the long term would provide ecological benefits to support the ecological quality and integrity of the Nature Reserve, affirming and maintaining its ecological value and its stance as a visitor attraction; and
- A commitment to a 30-year aftercare plan which would prevent future development on the Site.

3. CONCLUSION

In conclusion, this assessment suggests that the Amended Proposed Development would not be likely to have a detrimental effect on the economic prosperity of the Idle Valley Nature Reserve Visitor Centre and RLC. The Applicant has provided detailed measures to manage potential environmental impacts that are more consistent with the higher level of detail usually reserved by planning condition and/or environmental permitting (the latter being twin tracked by the Applicant in conjunction with the planning application). This demonstrates a level of surety that environmental effects are fully considered and mitigated from the outset with embedded mitigation provided through the changes to the PFA extraction processes within Area A, and within the Main Processing Site (Area C). This would ensure that environmental effects of traffic, noise and dust are mitigated at source, and would mitigate potential economic impacts on the Idle Valley Nature Reserve, its Visitor Centre and RLC, as a whole both in the short and long term.

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