6 The Environmental Considerations

6.1 Landscape and Visual Considerations

Policy Context

6.1.1 The Environmental Impact Assessment Directive (85/337/EEC) states that the direct and indirect effects of development should be assessed in terms of their impact on specific factors. Based on the factors identified in Article 3 of the EIA regulations, the direct and indirect effects of the proposal on the landscape and visual impact have been assessed. The interaction that the impact upon the landscape resource may have upon the flora and fauna and the alteration of landscape features upon human beings have also been assessed. The visual impact of the proposed development has also been assessed.

6.1.2 The Minerals Local Plan and Bassetlaw Core Strategy both contain policies and text concerning the potential for landscape and visual impact in connection with development proposals. In particular:

- Minerals Local Plan Policies M3.3, M3.4, M3.22, M12.1, M12.3 and M12.6;
- Bassetlaw Core Strategy Policy DM9.

6.1.3 The thrust of these policies encompasses the advice in the NPPF to protect, maintain and enhance the landscape. In terms of development in the countryside, consideration must be given to the potential for material impact upon the landscape and visual amenity.

Consideration of the potential for impact

6.1.4 In considering the issues set out in the Development Plan and other Policy documents regard must be had to the impact of the development on the landscape as well as the degree of impact upon visual amenity.

6.1.5 In order to assess the level of landscape and visual impact, an assessment has been undertaken by ESP Limited. Their detailed findings form part of the Environmental Statement and are attached at Technical Appendix 1. A summary of the findings is provided below.

6.1.6 The site does not lie within or adjacent to any designated landscapes. The nearest Conservation Area is located at Blyth, approximately 2km south of the site

boundary, and at Oldcotes, approximately 2km west of the site boundary. The registered Historic Park and Gardens at Sandbeck Park lie approximately 2.5km west of the site boundary.

Baseline Studies - Landscape Character (see Technical Appendix 1, Section 3.3)

6.1.7 Landscape Character Assessments (LCA) have been developed at a series of scales in England, ranging from the National Character Areas (NCA) produced by Natural England through to the County, District and Zonal studies, often produced by Local Planning Authorities.

6.1.8 At the National Level, the site falls within NCA No. 39: 'The Humberhead Levels' however it is proximate to three other NCA's which are also noted in the assessment, namely NCA No. 30 'Southern Magnesium Limestone', NCA No. 49 'Sherwood' and NCA No. 48 'Trent & Belvoir Vales'. At a Regional Level, the site falls within the East Midlands Regional LCA 'Sandland Farmlands'. At the Local Level, the site falls within Nottinghamshire's Bassetlaw District LCA study, and is in the 'Idle Lowlands' character area. Further details regarding the Landscape Character Areas can be found at Technical Appendix 1, Section 3.3).

6.1.9 The Bassetlaw District LCA study includes a Landscape Analysis of the 'Harworth' Policy Zone. It details the landscape condition as 'poor' and describes the 'pattern of elements' as 'incoherent' and notes 'many detracting features; industrial and commercial land uses, evidence of mineral extraction, busy roads'. It also includes an assessment of sensitivity, in which it details the 'weak sense of place combined with moderate visibility results in a <u>low landscape sensitivity overall'</u> [emphasis added]. This is considered to be a reasonable assessment.

Baseline Studies - Visual Appraisal (see Technical Appendix 1, Section 3.4)

6.1.10 The Environmental Impact Assessment that accompanied the planning application for the current tip permission included a landscape and visual impact assessment (undertaken in 1996). The visual environment has not changed significantly since 1996 with the exception of the vertical extents of the Tip. As part of the assessment a visual appraisal plan was prepared identifying 20 representative viewpoints rated 'high' or 'medium' in sensitivity from a range of locations within a radius of approximately 3.5km from the centre of the tip. Details of the viewpoints can be found at Technical Appendix 1, Section 3.4.1.

Landscape Effects (see Technical Appendix 1, Section 5)

6.1.11 The overall landscape sensitivity has been assessed as low (see paragraph 6.1.09 above). It is considered that the proposed tipping and phased restoration will result in a large magnitude of effect on a landscape of low sensitivity resulting in a moderate adverse medium term impact on a very local scale. One of the main effects on the landscape will occur as a result of the temporary loss of approximately 3.5km of relatively young woodland plantation established prematurely on the site.

6.1.12 If landscape proposals are properly implemented and maintained, the long term impact of the mature development could mitigate the landscape impact significance from a rating of moderately adverse to slightly adverse.

6.1.13 In terms of potential cumulative landscape impacts, the only other mineral developments within the immediate setting of Tip 2 are Harworth Tip No.1 and a small sand and gravel pit on the southern edge of Styrrup. Other mineral workings that are prominent locally are Maltby and Holme Quarries, over 7km to the northwest. The assessment concluded that even if a potential cumulative impact could be construed, either from concurrent or successive mineral developments, the effects of not restoring Harworth Tip No.2 to its designed landform would have a far greater adverse landscape impact in the long and very long terms.

Visual Effects (see Technical Appendix 1, Section 5.2)

6.1.14 Five of the twenty viewpoints identified in the visual appraisal were chosen as being representative, for the purposes of the visual impact assessment. The detailed visual assessment for the five representative viewpoints with sightline sections are detailed on drawings numbered H8_LAN_006, 010, 013, 017 and 020 within Appendix 7.5 of Technical Appendix 1. A summary of the predicted effects is set out below.

6.1.15 In terms of views from residential properties, the landform extending south from the conical tip will dominate many views, and will generally be viewed against the skyline. However, these are only likely to be substantial adverse from the properties along the A614 on the northern edge of Blyth. The proposed mitigation measures, including the 'rounding-off' of the existing conical tip, will moderate these effects in the longer term to moderate adverse.

6.1.16 There are two Public Rights of Way in close proximity to the site, namely Footpath No.5 (Blyth) on Harworth Avenue and Foothpath No.2 (Styrrup with Oldcotes) on Styrrup Hall Golf Course. Due to intervening perimeter planting on the east bank there will only be moderate adverse effects from Footpath No.2. From Footpath No.5 the proposed landform will dominate the horizon to the south east, resulting in a substantial adverse visual effect. However, mitigation measures and the removal of the conveyor discharge will moderate these effects in the longer term to moderate adverse.

6.1.17 There are views from other public access along Whitewater Lane, where the landform extending south from the conical tip will generally be viewed against the skyline to the east, resulting in a substantial adverse visual effect. The implementation of mitigation measures, establishment of perimeter planting and removal of the conveyor discharge will moderate these effects in the longer term to moderate adverse.

6.1.18 In terms of views from the Public Highway, the landform extending south from the conical tip will dominate many views from roads within at least 1km from the site. From the A614, there are likely to be substantial adverse visual effects. However, mitigation measures and the removal of the conveyor discharge will moderate these effects in the long term to moderate adverse.

6.1.19 In the very long term all of the predicted visual impacts will be mitigated or moderated to ratings of slight to moderate adverse.

6.1.20 In terms of potential cumulative effects, neither the combined effects from inter-visibility with other development, nor the sequential visual effects of similar development along a route can be construed as creating adverse cumulative visual impacts. In fact, the very long term effects of completing the full tip landform and land cover will help to obscure views of industrial operations from settlements located to the south and southwest of the site.

6.1.21 Further information on the predicted visual effects can be found at Appendix 7.5 of Technical Appendix 1.

Consideration of Potential Mitigation

6.1.22 In terms of landscape mitigation, most of the existing perimeter side slopes are already restored and some woodland is already mature in state. The temporary loss

of woodland plantation on the northwest margins will be adequately compensated for by the replacement woodland planned for Restoration Phases 4, 6 and 7.

6.1.23 The phased restoration of the site will also minimise the landscape impact of the proposal. The final landform will be completed within 25 years, by which time the proposed tree and shrub planting will have matured, softening the tip flanks and assisting in integrating this man made feature into the wider landscape. The final profile of the restoration landform will enable the Tip to be accommodated within the landscape. By the 15 years post restoration stage it is anticipated that it will no longer be perceived as a post-industrial feature.

6.1.24 Providing that the above landscape proposals are properly implemented and maintained, the long term impact of the mature development could mitigate the landscape impact significance from a rating of moderately adverse to slightly adverse.

6.1.25 In terms of potential visual mitigation measures, the continued growth of the mixed broadleaf and coniferous woodland already well established on the lower banks will accommodate the rising tip within the landscape and obscure some of the shallow angled local views. Furthermore, the planned early construction of the outer side slopes, followed by seeding down and planting to woodland, will obscure tipping activity.

6.1.26 Progressive restoration of woodland and pasture on a sub-phase by sub-phase basis and detailed attention to the establishment and management of the land cover, will also assist in minimising adverse visual effects.

6.1.27 In the very long term all of the predicted visual impacts will be mitigated or moderated to ratings of slight to moderate adverse. Furthermore, the proposed restored site landform will obscure views of Harworth Colliery and industrial development from the southerly and south-westerly viewpoints.

Conclusions

6.1.28 The Landscape and Visual Assessment has concluded that the proposed tipping and phased restoration will result in a large magnitude of effect on a landscape of low sensitivity resulting in a moderate adverse medium term impact on a very local scale.

6.1.29 The long and very long term mitigation measures of creating a naturalistic landform and softening the profile with woodland would create a feature that could be accommodated within this partly industrial setting. The very long term residual landscape impact significance could be moderated from a rating of moderately adverse to slightly adverse.

6.1.30 There are no designated landscapes sufficiently close to the Tip for its continued operation and restoration to directly or indirectly affect them.

6.1.31 In accordance with the Scoping Opinion issued by Nottinghamshire County Council in March 2013, the Environmental Statement has considered the landscape character of the site and its surroundings and has described and assessed the potential impacts of working and restoration with regard to the landscape character. The visual impact of the proposal has also been assessed and the mitigation measures identified.

6.1.32 In terms of landscape and visual impact, the proposed development will not have an unacceptable impact on human beings, flora or fauna in accordance with EIA regulations.

6.1.33 In conclusion, the objectives of the NPPF, the Development Plan and other material policy considerations are met.

6.2 Nature Conservation and Ecology

Policy Context

6.2.1 The Environmental Impact Assessment Directive (85/337/EEC) states that the direct and indirect effects of development should be assessed in terms of their impact on specific factors. Based on the factors identified in Article 3 of the EIA regulations, the direct and indirect effects of the proposal on species and habitats have been assessed.

6.2.2 The Minerals Local Plan and Bassetlaw Core Strategy both contain policies and text concerning ecological impact issues in connection with development proposals. In particular:

- Minerals Local Plan Policies M3.17, M12.1, M12.3 and M12.6;
- Bassetlaw Core Strategy Policies DM3 and DM9.

6.2.3 The thrust of these policies encompasses the advice in the NPPF to protect, maintain and enhance nature conservation and biodiversity. The policies seek to protect species and habitats and, through restoration, provide replacement and enhanced habitats.

Consideration of the potential for impact

6.2.4 In considering the issues set out in the Development Plan, regard must be had to the impact of the development on sites of nature conservation interest, as well as on individual species, to minimise the impact and seek opportunities to maintain and enhance interest.

6.2.5 In order to assess the level of ecological impact an Extended Phase 1 Habitat Survey has been undertaken by Peak Ecology Limited. The detailed findings of the ecological impact assessment are attached at Technical Appendix 2. The findings of survey are summarised below.

Desk Based Study (see Technical Appendix 2, Section 3.1)

6.2.6 There are no internationally or nationally designated sites within 2km of the site boundary. The closest nationally designated site, Scrooby Top Quarry SSSI, is located approximately 3km east of the survey site boundary. No impacts to any designated sites are anticipated.

6.2.7 There are nineteen Local Wildlife Sites (LWS) within 2km of the site. The closest two LWSs lie over 600m from the site boundary, namely Styrrup Sand Quarry (a sand quarry with specific bird interest) and Ash Holt, Styrrup (an area of ancient woodland). No LWSs are located within or directly adjacent to the site boundary. As such, no impacts are anticipated as a result of the development.

6.2.8 As part of the desk based study, information was obtained from the Nottinghamshire Biological and Geological Records Centre regarding species that might occur on the site, given the habitats present. A summary of notable species records for within 2km of the site can be found at Technical Appendix 2, Table 2. The species records include:-

- Mammals – Badger, Pipistrelle Bat, Otter, Water Vole, Harvest Mouse, Brown Hare;
- Birds – Peregrine Falcon, Kestrel, Sand Martin, Linnet, Yellow Wagtail, Stock Dove, Golden Plover, Fieldfare, Golden Oriole, Yellow-legged Gull, Spotted Flycatcher;
- Reptiles – Grass Snake;
- Amphibians – Common Toad;
- Invertebrates – Water Beetle, Water Bug

Habitat Survey (see Technical Appendix 2, Section 3.2)

6.2.9 The proposed development site was surveyed in April 2013 using the standard Phase 1 Habitat assessment methodology extended to highlight the potential presence of protected and priority species. Further information regarding the methodology can be found at Technical Appendix 2, Section 2.2. The assessment involved a walkover survey to identify, classify and map the site survey boundaries and the habitat types present.

6.2.10 Within the survey site a total of eleven main habitat types were identified (these are shown on the Figure 1: Phase 1 Habitat Survey Map, Technical Appendix 2). A full description of each of the habitat types can be found at Section 3.2.2-3.2.12 of Technical Appendix 2. A summary of the habitat types present is provided below.

6.2.11 As shown on the Habitat Survey Map, the majority of the site comprises poor semi-improved acidic grassland along with large expanses of bare ground. The steeply

sloping sides of the existing spoil heap have been planted with a woodland mix, comprising both broadleaved and coniferous trees. The woodland in the north-east corner of the site is relatively mature whereas, towards the south of the site, the woodland is semi-mature (believed to have been planted in the last 15 years). Towards the top of the spoil heap slopes to the east, south and west, a newly-planted broadleaved woodland is present. Scattered trees are relatively uncommon on the site. However, occasional scattered oaks and silver birch are present towards the west side of the site and around the conveyor.

6.2.12 A number of ditches and ponds are present on the site, though the majority of these have limited aquatic and marginal vegetation. A number of hedgerows exist on the site most of which are dominated by hawthorn, blackthorn and scattered scrub. Ephemeral, short perennial species have begun to colonise the bare ground around the conveyor including species such as dandelion, creeping thistle and fescue.

6.2.13 Three built structures were identified during survey, the existing conveyor in the north-east corner of the site and two small brick buildings around the perimeter of the site.

6.2.14 Surrounding the site exist predominantly agricultural and industrial habitats i.e. pastures and arable fields and large warehouse, office and workshop complexes. Several isolated patches of woodland are located immediately around the site boundary, as well as in the wider vicinity.

6.2.15 Table 3 of Technical Appendix 2 sets out the habitats identified as being of biodiversity value. A summary of these habitats is provided below.

Habitats	**Value**	**Comments**
Hedgerows	Hedgerows – UK Biodiversity Action Plan (BAP) Priority Habitat. Hedgerows including ancient and/or species rich hedgerows – Local BAP Priority Habitat Important Hedgerows protected under Hedgerow	Any hedgerow over 20m long that consist of 80% or more of at least one native woody species could qualify as a UK BAP Priority Habitat. Therefore all of the hedgerows within the site could qualify. However, the hedgerows were unmanaged and becoming

	Regulations (1997)	overgrown and gappy in some places. They are therefore of low ecological value. Furthermore, they will remain unaffected by the proposals.
Ditches	Local BAP Priority Habitat	The ditches on site were clearly polluted and contained minimal aquatic or marginal vegetation.
Ponds	UK BAP Priority Habitat	Ponds are only included under this habitat when they meet certain criteria, including the presence of important faunal/botanical species. The ponds at the site are considered extremely unlikely to meet these criteria and as such, would not be covered under the UK BAP Priority Habitat.

Protected and Notable Species (see Technical Appendix 2, Section 3.3)

6.2.16 Full details of the protected and notable species identified during the site survey can be found at Technical Appendix 2, Section 3.3. Below is a summary of the findings.

Birds

6.2.17 Notable bird species identified during the survey included skylark, buzzard, kestrel, blackbird, wood pigeon and grey partridge. It was also reported by site staff that green woodpecker breed within the woodland along the site's eastern boundary and numerous woodpecker holes were seen. The woodland, scrub and hedgerows found within the site provided suitable nesting habitats for birds and numerous bird nests were seen during the survey. The site also provided good potential foraging habitat for birds and good connectivity with surrounding habitats.

Bats

6.2.18 The conveyor structure was considered extremely unlikely to be used by bats, due to its open, disturbed and generally draughty nature. There were however a small number of trees with features potentially suitable for roosting bats (these were generally woodpecker holes). The site itself was considered to provide good potential for foraging bats. The woodland screening and hedgerows around the boundaries were well connected and provided a reasonably large area of habitat suitable for foraging. However, the open bare ground associated with the spoil heap was considered extremely unlikely to be used by bats, due to the lack of cover and foraging resources.

Badgers

6.2.19 No evidence of badgers was seen during the survey. A single hole was noted which was characteristic of a badger sett entrance. However, rabbit droppings were present down the tunnel and a fox was also present nearby. This suggests the hole is not used by badger. The grassland and woodlands provided good foraging resources for large mammals such as badger.

Reptiles

6.2.20 No reptiles were seen during the survey. An area of habitat close to the site's north-western boundary was considered to provide potential for reptiles. The open grasslands in the site were considered unlikely to be used by reptiles due to the short sward and lack of associated cover. Similarly, the woodland habitats were likely to be too shaded for basking reptiles.

Amphibians

6.2.21 The ponds within the site and those accessible around the site's boundary were assessed for their potential to support great crested newts. The suitability of the ponds ranged from poor and below average to good. The full results of the habitat suitability test can be found at Technical Appendix 2, Section 3.3.5. The terrestrial habitats within the site were considered to offer some potential for great crested newts.

Other Aquatic/Riparian Species

6.2.22 The waterbodies were considered extremely unlikely to be used by other protected/notable aquatic or riparian species such as water vole, otter or white-

clawed crayfish, due to the lack of vegetation as well as the clearly polluted nature of the water.

Invertebrates

6.2.23 Although the desk study returned a number of notable water beetle and water bug records, these were from two designated sites over 1.5km from the survey site. The polluted water on the survey site was considered extremely unlikely to support a diverse assemblage of aquatic invertebrates.

Discussion and Recommendations (see Technical Appendix 2, Section 4)

Designated Sites and Habitats

6.2.24 During the initial phases of the proposed works spoil will be tipped on top of the existing bare ground of the spoil heap. It does not support any botanical species and is considered extremely unlikely to support faunal species due to its open and exposed nature. No adverse ecological impacts from this stage of works are therefore anticipated.

6.2.25 However, it is possible that some additional areas, predominantly to the west of the site (outside of the existing spoil heap area), may need to be brought on line in the future. Soil stripping around these areas would also be required in order to support the future restoration of the site. The two dominant habitats which would be affected by this stage of working are plantation woodland and well-managed acidic grassland. Given that the majority of the woodlands will remain unaffected, including the more established woodlands to the north-east, and that a number of grassland areas will remain at the site during tipping operations, the loss of small areas of this habitat in the future is not considered significant. Additionally, a restoration plan will be agreed for the site, similar to that already agreed, which will include additional woodland pasture and the retention of pasture areas, suggesting there may be an increase in these habitats upon the decommissioning of the site.

6.2.26 The ponds and ditches may also be affected by the tipping operations due to an increase of water flow. However, given that these habitats were lacking in typical aquatic and marginal vegetation and that they are subject to regular pH fluctuations, no significant ecological changes to these habitats are anticipated.

6.2.27 Other habitats at the site, such as hedgerows and scattered trees, should remain unaffected by the proposals.

Protected and Notable Species

6.2.28 Given the presence of skylark and grey partridge (red listed species) within the site and the likely diverse assemblage of breeding birds, which could be impacted by the tipping at the site, further breeding bird surveys are recommended.

6.2.29 Four trees with potential for roosting bat were noted during the survey, although there was no evidence visible to suggest that these trees had been used by bats. Of those trees identified, two trees lie within areas of the site that are likely to be cleared to create additional tipping capacity. However, this is likely to be several years into the future. All of the trees lie away from the top of the spoil heap and impacts from the tipping operation in the existing spoil areas are therefore considered unlikely. Furthermore, given the lack of bat roosts in the vicinity and the lack of evidence, the trees are unlikely to contain significant bat roosts.

6.2.30 The majority of habitats considered to provide good potential foraging and commuting habitat for bats will remain unaffected by the work. No adverse impacts to foraging or commuting bats are therefore anticipated.

6.2.31 Given the lack of evidence of badger at the site, impacts to this species are considered extremely unlikely and no further survey work is recommended.

6.2.32 Given the records of reptiles within 500m of the site and the potential for habitats within the site to support reptile species, a specific reptile survey is recommended.

6.2.33 Although there were a number of ponds on the site assessed as having some potential for use by great crested newts, their presence on the site is considered highly unlikely. The pH of the ponds has been shown to fluctuate widely since the spoil heap has been out of use, between 2.5 and 9. Research has shown that great crested newts do not successfully breed in pond less than pH5.3 and all of the ponds at the site fall outside of this range at times. Given that the waterbodies will not be directly affected by the proposals, there are no records of great crested newts within a 2km radius and the waterbodies are considered too acidic to support this species, no further survey work is recommended.

Consideration of Impacts and Outline Mitigation Proposals

6.2.34 Table 9 of Technical Appendix 2 provides an overview of the potential mitigation measures, recommendations and/or further survey work that may be required with regard to the proposals associated with the development. Below is a summary of these proposed measures.

6.2.35 To ensure that there are no adverse impacts on the on-site habitats during the proposed development, access for plant will follow existing access routes, hedgerows and individual mature trees will be retained, retained habitats will be adequately protected during construction and materials and machinery will be stored away from retained habitats.

6.2.36 In terms of the protection of notable species of bird, mitigation measures will seek to ensure that vegetation removal does not impact upon any active bird nests. A breeding bird survey will be undertaken at the appropriate time of year to supplement the information gained by the Phase 1 Extended survey.

6.2.37 To mitigate against any potential impacts upon bats, linear features such as hedgerows and wood are to be retained and protected and any new lighting is to be downward facing and of low intensity. A further bat inspection of those trees identified as of potential for bat roosts will be required, if they are to be impacted in the future. Due the transient nature of bat roosts in trees and the lack of current evidence, this should take place closer to the onset of works in their vicinity.

6.2.38 To ensure that there are no adverse impacts upon badgers, general good working practices will be followed to ensure badgers or other mammals do not become trapped in excavations or pipes. Due to the likely delay before the use of the tip, an additional badger survey is recommended closer to the onset of the proposed work.

6.2.39 It is proposed that further reptile survey work is undertaken at the appropriate time of year, particularly around those habitats identified as of good potential for reptile species.

Conclusions

6.2.40 The ecological assessment has concluded that the development will not impact upon any internationally or nationally designated sites of ecological or nature conservation interest. Furthermore, no impacts are anticipated in terms of any locally designated wildlife sites.

6.2.41 No adverse ecological impacts are anticipated in terms of the initial phases of the proposed works (i.e. the tipping of spoil on top of the existing bare ground of the spoil heap). This part of the site does not support any botanical species and is considered extremely unlikely to support faunal species due to its open and exposed nature.

6.2.42 However, it is possible that some additional areas, predominantly to the west of the site (outside of the existing spoil heap area), may need to be brought on line in the future. The two dominant habitats which would be affected by this stage of working are plantation woodland and well-managed acidic grassland. The loss of small areas of this habitat in the future is not considered significant.

6.2.43 In terms of the pond and ditches on site, no significant ecological changes are anticipated as a result of the development. Other habitats at the site, such as hedgerows and scattered trees, should also remain unaffected by the proposals.

6.2.44 A restoration plan will be agreed for the site which will include additional woodland pasture and the retention of pasture areas, suggesting there may be an increase in these habitats upon the decommissioning of the site.

6.2.45 In terms of protected and notable species, given the presence of skylark and grey partridge within the site and the likely diverse assemblage of breeding birds, further breeding bird surveys are recommended to be undertaken at a suitable time of the year. In addition, given the potential for habitats within the site to support reptile species, a specific reptile survey is recommended.

6.2.46 To ensure that any potential adverse impacts are avoided, a number of other mitigation measures are proposed prior to the commencement of operations. These include further bat survey work/tree inspections and a badger survey.

6.2.47 In accordance with the Scoping Opinion issued by Nottinghamshire County Council in March 2013, the Environmental Statement has determined the use of the site and its immediate surroundings by protected species and has considered the direct and indirect impacts of the proposed development on statutory and non-statutory sites of biological importance. All survey work was conducted during an appropriate season and using a recommended method. The Environmental Statement has also outlined appropriate mitigation measures.

6.2.48 In terms of ecology and nature conservation, the proposed development will not have an unacceptable impact on flora or fauna in accordance with EIA regulations.

6.2.49 In conclusion, the objectives of the NPPF, the Development Plan and other material policy considerations are met.

6.3 Noise

Policy Context

6.3.1 The Environmental Impact Assessment Directive (85/337/EEC) states that the direct and indirect effects of development should be assessed in terms of their impact on specific factors. Based on the factors identified in Article 3 of the EIA regulations, noise has the potential to impact human beings and fauna.

6.3.2 The Minerals Local Plan contains policies and text concerning the need for development to safeguard residential amenity. In particular:

- Minerals Local Plan Policies M3.5, M12.1 and M12.6;

6.3.3 The thrust of these policies is to ensure that development does not cause an unacceptable adverse impact in terms of noise. The policies seek to ensure the protection of sensitive receptors and users.

6.3.4 Mineral planning guidance, contained in the NPPF, advises on controlling the effects of mineral development and keeping potential impact to a minimum. The technical guidance to the NPPF guides local authorities in England on the use of their planning powers to minimise the adverse impact of noise. It outlines the considerations to be taken into account in determining planning applications both for noise-sensitive developments and for those activities which generate noise.

Consideration of Potential Impact

6.3.5 In considering the issues set out in the Development Plan and other policy documents there is a need to ensure that impacts on local communities and amenity are maintained or reduced to acceptable levels. An important point is that there is an acceptance within planning policy that there will be some adverse effects and that the test is whether the adverse effects have been reduced or controlled to sufficiently low levels.

6.3.6 The noise impact of the proposals has been assessed by Hepworth Acoustics, who has undertaken a Noise Impact Assessment as part of the EIA. The report by Hepworth Acoustics forms part of the Environmental Statement and can be found at Technical Appendix 3. A summary of the report is provided below.

6.3.7 The Noise Impact Assessment in respect of the proposed continuation of colliery spoil operations at Harworth Colliery No.2 Spoil Heap incorporates the following components:-

- Measurement of existing baseline noise levels at locations representative of dwellings close to the site;
- A review of relevant national and local guidance;
- A predication of operational noise levels from the site; and
- Recommendations of noise mitigation measures where necessary.

Scope and Assessment Methodology (see Technical Appendix 3, Section 2)

6.3.8 In terms of the scope of the report, the assessment considers the potential noise impact associated with any future short-term and operational activities on the spoil tip, including the loading of soil and spoil by wheeled loaders, transport of material around the site and bund/tip shaping by a dozer.

6.3.9 The currently approved hours of operation on the site are 07:00-19:00hrs Mon-Fri, 07:00-13:00hrs Saturday, with no operations at the site on Sunday or Bank Holidays. The assessment has been undertaken on the basis that there is no change to the hours of working at the site.

6.3.10 Following liaison with David Collins, Project Engineer of the Environment and Resources team at Nottinghamshire County Council, it was agreed that existing daytime noise levels at the nearest dwellings should be measured in the absence of any noise from the site, and used as a basis to compare any potential noise from the site to national and local planning guidance. The nearest dwellings to the site are to the north-west on Pagdin Drive, and to the south east at Kirk View Kennels and on Harworth Avenue.

Baseline Noise Survey (see Technical Appendix 3, Section 3)

6.3.11 In accordance with the methodology described above, baseline noise measurements were carried out at three locations representative of those dwellings most exposed to noise from the site. The noise monitoring locations are shown on Figure 1 of Technical Appendix 3. The location and purpose of the monitoring locations are set out in the table below.

Table of Noise Monitoring Locations

Location	**Purpose**
1: Adjacent to rear gardens of dwellings on Pagdin Drive	To measure baseline noise levels at a location representative off dwellings on Pagdin Drive closest to the development.
2: Front garden of Kirk View Kennels and Cattery	To measure baseline noise levels at a location representative of dwellings at Kirk View Kennels, and other dwellings on Harworth Avenue adjacent to Blyth Road.
3: Rear of dwellings on Harworth Avenue	To measure baseline noise levels at a location representative of dwellings further back from Blyth Road.

6.3.12 As agreed with Nottinghamshire County Council, the baseline monitoring was carried out between 10:00-16:00hrs on a weekday.

6.3.13 A summary of the measured daytime noise levels can be found at Table 2 of Technical Appendix 3.

6.3.14 Road traffic noise was the main source of noise at all locations. At Location 1, free-flowing traffic on the A1(M) was the dominant source of road traffic noise. At Location 2, road traffic on the A1(M) was audible in lulls of road traffic on Blyth Road, with occasional low levels of dogs barking. Chickens and other livestock were also occasionally audible at low level at Location 3.

6.3.15 The adopted noise criterion for each of the locations has been worked out based on the averaged background noise levels. These are set out in the table below:-

Table of the adopted daytime (07:00-19:00hrs) Noise Limits, dB $L_{Aeq, 1\ hr, free\text{-}field}$

Location	**Temporary Operations**	**Normal Operations**
1: Adjacent to rear gardens of dwellings on Pagdin Drive	70	55

2: Front garden of Kirk View Kennels	70	55
2A: Dwellings on Harworth Avenue adjacent to Blyth Lane	70	55
3: Rear of dwellings on Harworth Avenue	70	55

6.3.16 The above adopted noise limits are identical to the noise limits set out in Condition 15 and 16 of the extant Planning Permission for the site.

Noise Assessment (see Technical Appendix 3, Section 4)

6.3.17 Noise levels from the site operations have been calculated at each of the four noise calculation locations (see Table 3 of Technical Appendix 3). The calculated noise levels for short-term, temporary operations have been carried out for a number of scenarios to reflect worse case conditions (i.e. where items of plant will work closest to each of the nearby dwellings). The scenarios considered are as follows:-

- Scenario T1: Excavation and loading of soil in an area of land to the west of the tip, adjacent to the A1(M) (and closest to dwellings on Pagdin Drive) into dump trucks. Dump trucks transporting spoil to an area of land adjacent to existing soil mounds at the north-western corner of the site with a dozer to form new soil mound.
- Scenario T2: Loading of soil removed from the soil mound closest to western boundary at the north-west corner of the site into dump trucks. Dump trucks transporting soil in an area of land to the west of the tip.
- Scenario T3: Loading of soil removed from the mound closest to the western boundary at the north-west corner of the site into dump trucks. Dump trucks transporting soil to an area of restoration closest to dwellins on Pagdin Drive not currently restored.
- Scenario T4: Loading of soil removed from soil mounds at the north-western corner of the site into dump trucks. Dump trucks transporting soil to an area

of restoration closest to dwellings to the southeast of the site, i.e. Kirk View Kennels and dwellings on Harworth Avenue.

6.3.18 Similarly the noise calculated noise levels during normal operations have been carried out for a number of scenarios of normal operations to reflect worse-case conditions as follows:

- Scenario N1: Loading of spoil into dump trucks at the point of spoil deposition. Dump trucks transporting spoil to area of the tip closest to dwellings on Pagdin Drive that does not currently form part of the area of working.
- Scenario N2: Loading of spoil into dump trucks at the point of spoil deposition. Dump trucks transporting spoil to area of the tip closest to dwellings on Pagdin Drive not currently under restoration.
- Scenario N3: Loading of spoil into dump trucks at the point of spoil deposition. Dump trucks transporting spoil to an area of the tip closest to dwellings in the southeast (i.e. Kirk View Kennels and dwellings on Harworth Avenue), with the spoil haul road located adjacent and parallel to the eastern edge of the tip that has already undergone restoration.

6.3.19 Noise levels from the site during all other periods of short-term and normal operations will be lower and the calculated noise levels therefore represent worse-case scenarios. Furthermore, noise levels will tend to reduce as the operations are carried out further away from the site boundary.

6.3.20 All fixed and mobile plant has been given 100% on-times for the purposes of calculating the worst-case noise levels.

6.3.21 The results of the noise modelling are set out at Table 5, Technical Appendix 3. A summary table is provided below.

Table of predicted worst-case hourly noise levels (dB $L_{Aeq, 1hr, free\text{-}field}$)

Location	**Short Term Operations**					**Normal Operations**			
	Limit	**T1**	**T2**	**T3**	**T4**	**Limit**	**N1**	**N2**	**N3**
1	70	53	62	62	63	55	45	43	43

2	70	28	27	31	51	55	29	30	50
2A	70	26	26	30	47	55	29	29	45
3	70	26	25	30	46	55	28	29	43

6.3.22 The results of the calculations show that noise from the site, during both short-term and normal operations, will meet the adopted noise criteria.

Consideration of Potential Mitigation

6.3.23 The noise assessment has demonstrated that noise from the site can be controlled to below the adopted noise criteria without any specific noise mitigation measures, other than using plant that meets the adopted source noise levels.

6.3.24 In terms of compliance noise monitoring, UK Coal has developed an Environmental Management System (EMS) to cover all potential environmental impacts of their business. As part of the EMS, a Noise Management and Action Plan (NMAP) is developed for each site, to provide a co-ordinated approach to the control of noise. The NMAP provides for a scheme of noise monitoring at key noise sensitive locations to be agreed with the Local Authority prior to commencement of works.

6.3.25 Similar noise monitoring locations are envisaged in respect of proposed extension of time to those previously agreed with Nottinghamshire County Council. The requirement to carry out a suitable scheme of noise monitoring to assess compliance with the adopted noise criteria can be formalised by an appropriately worded planning condition attached to any planning approval for the site.

Conclusions

6.3.26 The Noise Impact Assessment has considered the potential noise impact associated with any future short-term and operational activities at Harworth Colliery No.2 Spoil Heap.

6.3.27 A baseline noise survey was carried out at the closest residential dwellings, the results of which have been used to derive noise limits for short-term (temporary) and normal operations at the site in accordance with the NPPF. The derived limits are identical to the noise limits set out in Condition 15 and 16 of the current Planning Permission for the site.

6.3.28 The calculations carried out in respect of noise during both short-term and normal operations have demonstrated that noise criteria will be achieved at all times and in respect of all the nearby sensitive receptors.

6.3.29 The need to ensure that noise from the site is adequately controlled and monitored can be formalised by appropriately worded planning conditions attached to any planning approval for the site, similar to those in the existing Planning Permission for the site.

6.3.30 The assessment concluded that as noise will meet the existing and adopted criteria, noise should not be considered reasonable grounds for refusal when determining the planning application outcome for this site.

6.3.31 The Noise Impact Assessment has found that with appropriate mitigation measures the relevant site noise limits are met and concludes that noise from the proposed site operations will not cause an unacceptable impact. The objectives of the NPPF, the Development Plan and other material policy considerations are met.

6.3.32 In accordance with the Scoping Opinion issued by Nottinghamshire County Council in March 2013, a comprehensive noise assessment has been undertaken to assess the impact of the operations on the surrounding area. Background noise monitoring was carried out at the nearest noise sensitive receptors and an assessment was undertaken of the predicted noise levels from the site operations including noise from the extraction operations, plant, construction plant and equipment, vehicle and traffic noise levels. The mitigation measures proposed have also been set out.

6.3.33 In terms of noise, the proposed development will not cause an unacceptable impact on human beings or fauna in accordance with EIA regulations.

6.4 Air Quality and Dust

Policy Context

6.4.1 The Environmental Impact Assessment Directive (85/337/EEC) states that the direct and indirect effects of development should be assessed in terms of their impact on specific factors. Based on the factors identified in Article 3 of the EIA regulations, dust has the potential to impact human beings, fauna and flora.

6.4.2 The Minerals Local Plan contains policies and text concerning the protection of amenity and pollution control in relation to development proposals. In particular:

- Minerals Local Plan Policies M3.7, M12.1 and M12.6;

6.4.3 The thrust of these policies highlight the need to reduce the impacts of pollution, noise, vibration, dust, mud and traffic. Mineral planning guidance in the NPPF also advises on controlling the effects of development and keeping impact to a minimum.

Consideration of Potential Impact

6.4.4 Dust can be generated by numerous activities associated with mining and quarrying. It can potentially be derived from soil stripping and overburden removal; the extraction of the mineral; transportation of material on-site; material processing; wind erosion from dry, un-vegetated surfaces; vehicle movements and their exhaust emissions; and the deposition of materials for restoration purposes.

6.4.5 The dust and air quality impact of the proposals has been assessed by URS Infrastructure & Environment UK Limited, who has undertaken an Air Quality Impact Assessment as part of the EIA. The report by URS forms part of the Environmental Statement and can be found at Technical Appendix 4. A summary of the findings is provided below.

6.4.6 The principle airborne emissions that could potentially cause impacts beyond the site boundary are dust and fine particulate matter (PM_{10}) from the proposed operational processes and restoration activities.

6.4.7 As set out in the Assessment Methodology section of Technical Appendix 4, the Air Quality Impact Assessment has considered the following:-

- a baseline scenario of current use without the proposed extension of time; and

- a development scenario that take into account the proposed scheme.

6.4.8 A qualitative assessment has also been undertaken of the potential for significant effects to occur as a consequence of uncontrolled emissions of coarse dusts and PM_{10} from all parts of the site during site operation and restoration.

Dust sensitive receptors (see Technical Appendix 4, Section 3.2)

6.4.9 There are residential properties to the southeast and northwest of the site. Each receptor has been selected as it represents the level of worst-case exposure that would be experienced at other receptors in the vicinity. Details of the dust sensitive receptors selected as part of the assessment are set out in Table 3.1 of Technical Appendix 4. A summary is provided below.

Table identifying the dust sensitive receptors

Receptor	Description and Type	Approximate distance from application boundary	Approximate distance from operational activities	Approximate distance from conveyor belt end
R1	Kirk View Kennels & Cattery - Residential	55m	215m	1,200m
R2	Residential properties to the Southeast	30m	330m	1,380m
R3	Residential properties to the Northwest	90m	275m	255m
R4	Industrial Units	15m	75m	405m

6.4.10 The receptors listed in the table above are composed of residential properties and light industry, and are considered to be of 'medium' sensitivity to dust (based on the guidance set out in the NPPF).

6.4.11 In terms of receptor 1 (R1), there is a currently vegetated soil mound on the site acting as a visual screen between the cattery and the site tip. This mound would not cause dust in its current state yet it is due to be dug up during final restoration. This activity will only be a temporary impact of minor magnitude.

6.4.12 Receptor 2 (R2) is used to represent the residential properties to the southeast of the site on Blyth Road, Kirk View. Although this receptor is only 30m from the application boundary, it is approximately 330m from operational activities. Both R1 and R2 are over 1km away from the conveyor belt end and have restored and vegetated land in between to act as a visual screen.

6.4.13 Receptor 3 (R3) represents the residential properties to the northwest of the site. The A1(M) runs between R3 and the west side of the application boundary. Receptor 4 (R4) is to the north of the site and represents the industrial units in the area.

Assessment criteria (see Technical Appendix 4, Section 3.3)

6.4.14 For the purposes of the air quality impact assessment, Harworth Colliery has been categorised as a 'large site', due to significant size of the works, the potential use of haul routes and long-term presence of mineral extraction and handling activities at the site, once work commences. As such, potentially significant impacts of soiling on dust sensitive receptors could occur within a 100m radius of the dust generating activity. Potentially significant exposure to concentrations of PM_{10} that may exceed the 24-hour objective value could occur within a 25-50m radius of the dust generating activity, while any effect on vegetation from exposure to dust would normally be expected to occur within a 25m radius of the dust generating activity.

6.4.15 The magnitude of the impact on amenity of receptors exposed to dust will be considered with respect to the potential for the receptor to be aware of the change relative to baseline conditions.

Baseline conditions (see Technical Appendix 4, Section 4)

6.4.16 In terms of local meteorological conditions, the wind rose indicates that the most frequent and strongest winds originate from the west, southwest and south sector yet the site is susceptible to winds from all directions.

6.4.17 The area subject to this assessment in not within an area considered by Bassetlaw District Council to be at risk of exceeding national air quality objectives or EU limit and target values for the protection of human health.

6.4.18 The baseline used for this assessment is based on the existing permitted operations. During historic site operations, dust monitoring was implemented via the measurement of reflectance by Smoke Strain Reflectometer. Monitoring was carried out during the years 2005, 2006 and 2007 in three different locations, Kirk View (to the southeast), the southwest corner of the site, and Field 1 (to the northwest). Statistical analysis has been carried out on the historic monitoring results to provide a summary for this assessment.

6.4.19 Table 4.1 of Technical Appendix 4 sets out the average percentage reflectance recorded at the three monitor locations between 2005 and 2007. In terms of reflectance, a clear adhesive strip would reflect 100% therefore any percentage value below 100% indicates dust present. The data suggests that dust was present at all three sites for the entire period yet, as the averages are close to 100% (95.9% being the lowest average figure), it is considered that there is little dust impact during the site operational phases.

6.4.20 The monitoring also identified that the prominent source of dust was from a broadly westerly direction. This indicates that dust is blown from outside of the application boundary instead of originating from the site as two of the monitors are on the west of the application boundary.

Potential impacts upon dust sensitive receptors (see Technical Appendix 4, Section 4.7)

6.4.21 In terms of the dust sensitive receptors, at any one point in the phased operation of the scheme, spoil disposal operations will be at least 100m from any residential receptors. During each phase of the works, if dust generating activities are subject to standard dust suppression measures of the type normally employed on mineral extraction sites, then impacts on dust sensitive receptors would be low under normal atmospheric conditions, producing an effect of negligible significance. Provided that best practice dust control measures are effectively implemented on the site it is unlikely that any significant levels of dust deposition would be

experienced at these receptors, even during periods of adverse meteorological conditions.

6.4.22 There is also little risk regarding their exposure to an exceedance of the 24-hour PM_{10} objective due to the distance of receptor from the site, the prevailing wind direction, the nature of the materials being quarried and the relatively low background concentrations that are characteristic of such a rural location. However, it is possible that occasional increases in local soiling rates could occur at times when activities are carried out in extremely dry and windy weather, but this is considered unlikely.

6.4.23 Overall, during the operational phase fugitive dust emissions from the site would be very low and would be likely to result in very low or low impacts at all sensitive locations outside the site boundary, producing effects of negligible significance.

6.4.24 It is possible that vegetation may be affected by the deposition of dust at rates that exceed the baseline conditions within 25m of operations during periods of adverse meteorological conditions. Emissions with the potential to affect off site vegetation could therefore only occur during operations in very close proximity to the operational area. However, as a large area of the site along the application boundary has already been restored, there is not any off site vegetation within 25m of operational activities. Thus there is no sensitive off site vegetation within close proximity to the site that could be impacted by dust.

6.4.25 The baseline study has assessed the effects associated with the currently permitted operation at the site. There will be no additional impacts from the proposed continuation of spoil disposal at Harworth Colliery providing all permitted operations remain the same, other than to extend the time over which operations would continue.

Consideration of Potential Mitigation

6.4.26 During the operation of the spoil disposal at the site, standard mitigation measures would be employed to control the generation of fugitive dust emissions. Such mitigation measures would be outlined in a dust management scheme to be used at the site. These would include, but not limited to, the following:-

- site manager to assess the potential for dust to be emitted during site activities as part of an environmental risk assessment prior to works commencing;
- use of water sprays, when necessary, to maintain surface moisture on internal haul roads and stock piles;
- minimising drop heights and protecting activities from the wind;
- imposition and enforcement of appropriate vehicle speeds on un-surfaced ground;
- locating any potential dust generating activity as far from sensitive locations as practical.

6.4.27 Other mitigation measures, specific to the extension of time of the permitted spoil disposal and restoration scheme, include the following:-

- after the placement of spoil on the site it will be immediately compacted;
- all earth moving equipment/HGVs to be fitted with upward facing exhaust;
- progressive restoration will be undertaken thus keeping the exposed area of spoil to a minimum;
- spoil heaps will be grassed when restoration is complete.

6.4.28 It should be noted that there have been no complaints regarding dust impacts since the site was in operation.

Conclusions

6.4.29 The Dust and Air Quality Impact Assessment has found that with appropriate mitigation measures the impacts of dust and air quality should be negligible. The objectives of the NPPF, the Development Plan and other material policy considerations are met.

6.4.30 The application site is in not within an area considered to be at risk of exceeding national air quality objectives or EU limits/target values for the protection of human health.

6.4.31 The assessment has concluded that during operations fugitive dust emissions from the site would be very low and would be likely to result in very low or low impacts

at all sensitive locations outside the site boundary, producing effects of negligible significance.

6.4.32 Essentially, there will be no additional impacts from the proposed continuation of spoil disposal at Harworth Colliery providing that all permitted operations remain the same, other than to extend the time over which operations would continue.

6.4.33 In accordance with the Scoping Opinion issued by Nottinghamshire County Council in March 2013, the Environmental Statement has included an assessment of the potential impacts of the development on air quality. Mitigation measures have also been identified where appropriate.

6.4.34 In terms of dust, the proposed development will not cause an unacceptable impact on human beings, flora or fauna in accordance with EIA regulations.

6.5 Cultural Heritage

Policy Context

6.5.1 The Environmental Impact Assessment Directive (85/337/EEC) states that the direct and indirect effects of development should be assessed in terms of their impact on specific factors. Based on the factors identified in Article 3 of the EIA regulations, the direct and indirect effects of the proposal on material assets and the cultural heritage have been assessed.

6.5.2 The Minerals Local Plan and Bassetlaw Core Strategy both contain policies and text concerning archaeological and cultural heritage issues in connection with development proposals. In particular:

- Minerals Local Plan Policy M12.6;
- Bassetlaw Core Strategy Policy DM8.

6.5.3 The thrust of these policies encompasses the advice in the NPPF to protect, conserve and enhance diverse historic character and manage change in such a way that respects local character and distinctiveness. The policies seek to protect sites of archaeological importance and their settings and preserve Listed Buildings, their setting and historical context. The policies set out the need for archaeological evaluation of the full effects of the development proposal.

Consideration of the Potential for Impact

6.5.4 The archaeological and cultural heritage impact of the proposals has been assessed by Heaton Planning Limited (HPL), who has undertaken a Cultural Heritage Assessment as part of the EIA. The report by HPL forms part of the Environmental Statement and can be found at Technical Appendix 5. A summary of the findings is provided below.

6.5.5 Heritage assets are defined as a building, monument, site, place, area or landscape positively identified as having a degree of cultural significance. Such significance requires consideration in the planning process, and therefore the Heritage Assessment summarises the heritage baseline conditions, considers the potential effects of the development on these assets and presents potentially appropriate mitigation measures.

6.5.6 In the preparation of the Cultural Heritage Assessment, the English Heritage National Heritage List for England (NHLE) and other relevant data sources have been used to assess the baseline conditions and examine the potential impacts the development could have on its surrounding landscape. Information about the relevant Conservation Areas has been obtained from the Bassetlaw District Council website.

6.5.7 The following table (Table 1 of Technical Appendix 5) sets out all of the most significant designated assets in proximity to Harworth Spoil Tip.

Site Name	Record Type	Approximate Distance and Direction From Closest Site Boundary (km)
Arch	Grade II* Listing	1.2 kilometres east
Blyth Priory	Scheduled Monument	1.8 kilometres south
Blyth New Bridge	Scheduled Monument	2 kilometres south
Roman villa at Oldcoates	Scheduled Monument	2.5 kilometres south west
Malpas Hill Gateway	Grade II* Listing	2.4 kilometres west
Sandbeck Park and Roche Abbey	Park and Garden	2.35 kilometres west

6.5.8 In addition to the above there are a number of less significant heritage assets in proximity to the Harworth Spoil Tip site which are assessed more broadly. These include Grade II Listed Buildings located at the surrounding settlements.

6.5.9 The site does not lie within or adjacent to any designated landscapes. The nearest Conservation Area is located at Blyth, approximately 2km south of the site boundary, and at Oldcotes, approximately 2km west of the site boundary.

6.5.10 Any potential indirect impacts upon the heritage assets in proximity to the Harworth Spoil Tip site will be as a result of the visual effects of the development and any potential noise impacts. However, as the spoil tip has been at the site since

1996 the visual impacts will not be new and the Application to extend the life of the tip will have minimal impact on the setting of any heritage assets.

6.5.11 There is some level of intervisibility between the site and Heritage Assets in proximity however these are largely distant (in excess of 1km) and views into the site broken by built development, landform and trees.

6.5.12 No major impacts to the setting of the Heritage Assets surrounding the site are predicted as a result of the proposed development.

Consideration of Potential Mitigation

6.5.13 The site has a limited influence on any of the heritage assets identified within this assessment and therefore minimal specific mitigation measures will be required.

6.5.14 The proposed visual mitigation measures given within the Landscape and Visual Impact Assessment at Technical Appendix 1 will ensure any visual impact is minimised. Therefore the potential for impact upon the setting of Heritage Assets will be controlled. Due to the distance of most of the Heritage Assets in proximity to the site visual impacts are likely to be the most significant effects of the development.

6.5.15 The phasing of the operations will help to reduce any potential impact through restrictions and for specific work activities. The length of time that any Heritage Asset will be affected by the site operations will therefore be minimal.

Conclusions

6.5.16 No direct impacts upon Heritage Assets are foreseen due to the distance of the closest Assets from the site. The potential indirect impacts upon the setting of heritage assets have been assessed in terms of their distance, the type of the use and any visual impact. There have been no major potential impacts identified to any of the heritage assets within close proximity to the site and therefore mitigation broadly includes screening and monitoring of impacts.

6.5.17 In accordance with the Scoping Opinion issued by Nottinghamshire County Council in March 2013, a desk based assessment has been undertaken of the historic landscape in consideration of the potential indirect impacts on the setting of nearby landscapes and Listed Buildings. The Environmental Statement also sets out appropriate mitigation measures.

6.5.18 In terms of cultural heritage, the proposed development will not cause an unacceptable impact on material assets and cultural heritage in accordance with EIA regulations.

6.6 The Impact on Water Resources

Policy Context

6.6.1 The Environmental Impact Assessment Directive (85/337/EEC) states that the direct and indirect effects of development should be assessed in terms of their impact on specific factors. Based on the factors identified in Article 3 of the EIA regulations, the direct and indirect effects of the proposal on water need to be assessed. Also the interaction that the impact upon the water environment may have upon human beings, flora and fauna will also need to be assessed.

6.6.2 The Minerals Local Plan and Bassetlaw Core Strategy both contain policies and text concerning the water environment in connection with development proposals. In particular:

- Minerals Local Plan Policies M3.8, M12.1, M12.3 and M12.6;
- Bassetlaw Core Strategy Policy DM12.

6.6.3 The thrust of these policies encompasses the advice in the NPPF regarding development, the prevention of pollution and protection of water quality.

Consideration of Potential Impact

6.6.4 The hydrological impact of the proposals has been assessed by Hafren Water, who has undertaken a hydrogeological and hydrological impact assessment as part of the EIA. The report by Hafren Water forms part of the Environmental Statement and can be found at Technical Appendix 6. The detailed findings of survey are summarised below.

6.6.5 In overall terms, the assessment concludes that resumption of tipping at the spoil heap is considered unlikely to alter the volume or quality of the water currently being discharged from the site, or that experienced when the site was previously operational.

6.6.6 There will be no additional impact to the groundwater system from resumption of operations above those already experienced from the operation of the site over the last sixty years.

Baseline Conditions (see Technical Appendix 6, Section 3)

6.6.7 Baseline conditions of the water environment have been defined by the collation and analysis of existing data and field observations. As part of the assessment, a

conceptual model has been developed to set out the current understanding of the geology and hydrogeology and identify potential sources of impact. A full description of the baseline conditions can be found at Technical Appendix 6, Section 3. A summary of the baseline conditions is provided below.

6.6.8 The hydrology of the area around the site has been derived from Ordnance Survey maps, a water features survey and data provided by the Environment Agency (EA). The locations of the water features are shown on Technical Appendix 6, Figure HC/HIA/04.

Rainfall

6.6.9 The nearest rain-gauge is located at Wiseton, approximately 9km east of the site. The long term average (LTA) rainfall is 595mm per annum. Monthly rainfall levels can be found at Technical Appendix 6, Table HC/HIA/T1.

Watercourses

6.6.10 Surface water drainage around the site is defined by two major rivers that pass within 3km of the site. These are the River Torne to the northwest and the River Ryton to the south and east. The ground to the northwest of the site drains towards the River Torne, while the remainder drains to the south and east to the River Ryton.

6.6.11 To the southwest of the site, the land between the B6463 and the A1 motorway (known as Whitewater Common) is low-lying and relatively flat. As such, artificial drains are necessary to prevent flooding. Drainage in the area is eatwards, passing beneath the A1 motorway and along the southern boundary of the site (the Whitewater Drain) to join the River Ryton west of Serlby Park. Drainage from the site is discharged into this drain, under a discharge consent.

Springs, ponds and waterbodies

6.6.12 There are no springs within 3km of the site boundary.

6.6.13 There are a number of small waterbodies within 3km of the site boundary. These are as follows:-

- Two lakes adjacent to the River Ryton at Serlby Park (referred to in the technical assessment as ‘P1’, located 1.3km to the east and ‘P2’, located 1km to the east);

- Pond adjacent to the River Ryton , approximately 2.6km northeast of the site (referred to as 'P3');
- A number of artificial waterbodies on the western side of Harworth Colliery (referred to as 'P4')

River flows

6.6.14 River flows have been recorded at three permanent gauges located within 3km of the site boundary (locations shown on Figure HC/HIA/04, Technical Appendix 6). Summary data from each of these gauges can be found at Table HC/HIA/T2, Technical Appendix 6.

Surface water abstractions and discharges

6.6.15 There are eleven licensed surface water abstractions within a 3km radius of the cite centre. A summary of these licences is provided at Table HC/HIA/T3 and their locations shown on Figure HC/HIA/04, Technical Appendix 6. Only three of the licences take water from locations down gradient of the surface water discharge from the spoil heap, all located on the River Ryton. The closest abstraction takes water for a pond throughflow.

6.6.16 There are twenty-four Environmental Permits for discharges within 3km of the site centre. Their locations are shown on Figure HC/HIA/06 and summarised in Table HC/HIA/T4 of Technical Appendix 6. Surface water from the spoil heap is discharged into the Whitewater Drain under an Enviromental Permit. The permit has three conditions on the quality of the discharge water. These relate to suspended solids, mineral oils/hydrocarbons and pH level.

Surface water quality

6.6.17 In terms of surface water quality, EA maps show that within 3km of the site the River Torne and Ryton and the Oldcotes Dyke all currently have a 'moderate' ecological status. The River Ryton has a 'good' chemical status (the River Torne and Oldcotes Dyke do not require assessment).

Landfill sites

6.6.18 The locations of historical and operational landfills within 3km of the site boundary are shown on Figure HC/HIA/08 and summarised in Table HC/HIA/T5 of Technical Appendix 6.

Protected sites and areas of ecological interest

6.6.19 There are two Sites of Special Scientific Interest (SSSI) within 3km of the site boundary, namely Styrrup Quarry and Scrooby Top Quarry. Neither of these sites are groundwater or surface water dependent.

6.6.20 There are no designated Special Areas of Conservation, Special Protection Areas or Ramsar sites within 3km of the site boundary.

6.6.21 There are a number of local wildlife sites within 3km of the site (see Figure HC/HIA/09 and Table HC/HIA/T6, Technical Appendix 6). None of the local wildlife sites are located on rivers or streams downstream of the site discharge, nor are any positioned down the groundwater gradient from the site.

6.6.22 Other considerations have been identified from information supplied by the EA and the Defra website. These are as follows:-

- The River Ryton is an eel migratory route and, as such, is protected under various legislation;
- The River Torne has records of bullheads, which are listed in the EU Habitats Directive;
- The floodplain of the River Ryton is a BAP Priority Habitat.

Geology and hydrogeology

6.6.23 The solid and superficial geology in the area is shown on Figure HC/HIA/10 and summarised in Table HC/HIA/T7, Technical Appendix 6. According to the geological map, most of the site is underlain by sandstone with no superficial deposits present.

6.6.24 The site is located within a Drinking Water Protected Area (DrWPA). The current chemical status of the waterbody is ‘poor’ and considered to be at risk of failing to meet the water quality objectives required for ‘good’ chemical status.

6.6.25 The Sherwood Sandstone in the area is also designated as a Nitrate Vulnerable Zone.

6.6.26 The nearest Public Water Supply (PWS) abstractions are located within 8km of the site. The spoil heap lies within the Total Catchment (Zone 3) of a Source Protection Zone.

Groundwater abstractions

6.6.27 There are six licensed groundwater abstractions within a 3km radius of the site centre. The location of the abstraction boreholes are shown on Figure HC/HIA/11 and summarised in Table HC/HIA/T8, Technical Appendix 6.

6.6.28 There are two private water supply abstractions within 3km of the site. These abstractions do not require a licence as the volume of water abstracted is less than $20m^3$/day.

Groundwater quality

6.6.29 The EA maintains one groundwater quality monitoring borehole within 3km of the site. The location of the borehole is shown on Figure HC/HIA/11, Technical Appendix 6. The observation borehole is located to the northeast of the site and it not down-gradient. It therefore represents background water quality, albeit in an area likely to have been affected by industrial activity associated with Harworth Colliery. Further information regarding the borehole can be found at Technical Appendix 6, Section 3.6.6.

Spoil heap operation

6.6.30 While Harworth Colliery was in operation, surface water run-off was captured by a peripheral drain and directed to a discharge pond in the southwest corner of the site. Water from the slurry lagoon, plus any rainfall collected, was pumped back to the processing plant for reuse. Water within the drainage ditches was treated with magnesium hydroxide to reduce the pH of the water.

6.6.31 Since the colliery has been in care and maintenance, a number of treatment ponds have been established in the southeast and southwest corners of the site. Three of these ponds are lined with high-density polyethylene (HDPE) with passive treatment systems designed to lower the pH of the drainage water before it reaches the discharge pond. Final treatment before discharge currently comprises the addition of water from a licensed groundwater abstraction at the colliery site, which is pumped to the discharge pond.

6.6.32 It is understood that part of the southern area of the spoil heap is underlain by an artificial low permeability layer. However, the exact area covered, thickness or permeability is not currently known.

Conceptual model

6.6.33 A hydrogeological conceptual model of the relationship between the spoil heap and the groundwater system has been compiled as part of the hydrological impact assessment (see Technical Appendix 6, Figure HC/HIA/14). As shown on the conceptual model, without mitigation there is considered to be the potential for leakage of contaminated water from the drains at the southern end of the site and the various treatment and discharge ponds into the underlying stone aquifer. In addition there may be leakage from the base of the spoil heap into the aquifer, although this might be limited by a low permeability layer thought to be in place in the southern part of the landfill.

Proposed development (see Technical Appendix 6, Section 4)

6.6.34 On resumption of mining at Harworth Colliery, it is proposed that the operation of the No.2 Spoil Heap will continue as it has in the past. The drainage arrangements on the site will be maintained as shown on Figure HC/HIA/13 of Technical Appendix 6.

6.6.35 In summary, the water management arrangements are as follows. Surface drainage from the spoil heap is intercepted in a perimeter drain which directs water towards a number of ponds located in the south of the site. Water in the slurry lagoon on the top of the spoil heap will be transferred back to the coal processing plant. As water flows around the peripheral drains it passes through a number of weirs constructed from limestone intended as a passive treatment to reduce the pH of the water. Additional active treatment, such as the use of magnesium hydroxide, will also be used as required to ensure that the water quality of the discharge meets the requirements of the Environmental Permit for the final discharge.

6.6.36 Site drainage will be managed so as to ensure that the drainage system can contain a 1 in 100 year event, plus climate change. Further details can be found at section 6.8 (Flood Risk Assessment) of this statement.

6.6.37 Post restoration the drainage on the restored site will comprise a peripheral drain and ponds, with discharge into Whitewater Drain. With the final soil cap in place on the spoil heap, the mining waste will be isolated from the atmosphere and the generation of low pH drainage will be significantly reduced. An initial period of active management to ensure the pH remains within the required limits may be required while the cap vegetation is established sufficiently to prevent exposure to

the waste. After this it is considered that only passive treatment would be required to condition the drainage before discharge.

Assessment of Impacts (see Technical Appendix 6, Section 5)

6.6.38 Based on the hydrological and hydrogeological factors considered throughout the assessment, both the development site's surface water catchment and the groundwater catchment are considered to have a moderate sensitivity.

Potential impacts of renewed tipping

6.6.39 There will be no increase in the footprint of the site and as the site lies above the groundwater table the direct impact of resuming the tipping operations on groundwater levels and groundwater flow is considered to be negligible with a significance of minor.

6.6.40 The resumption of tipping activities involves no changes to the existing drainage system around the site and there will therefore be no additional impact on groundwater quality above what is already occurring. It is considered that the direct impact on groundwater quality as a result of the development proposal will be negligible with a significance of impact of minor.

6.6.41 Given the above, the indirect impact of resuming the tipping operations on groundwater abstractions is also considered to be negligible with a significance of impact of minor.

6.6.42 In terms of surface water flows, discharge volumes are likely to remain similar to those at present, but could reduce depending on how any reinstated slurry lagoon is managed. Additional impacts from the recommencement of the tipping operations are considered to be negligible with minor significance.

6.6.43 The quality of surface water discharge is controlled under an Environmental Permit and measures are already in place to ensure compliance. Additional impacts from the recommencement of the tipping operations are considered to be negligible with minor significance.

6.6.44 There are no groundwater or surface water-dependant statutory or local wildlife sites within 3km of the boundary of the spoil heap. As the direct impacts to surface water and groundwater from the resumption of tipping operations are considered

to be negligible, indirect impacts are also considered negligible with a significance of minor.

Potential impacts after restoration

6.6.45 In terms of groundwater quality, there may be potential for leakage from the base of the spoil heap to enter the groundwater as well as water leaking from drains and ponds to generate acid drainage. However, given the presence of the soil cap over the restored waste, it is likely that any leakage from the base of the site will reduce over time. It is considered that the impact on groundwater quality of the restored site above that from the existing situation will be negligible with a significance of impact of none.

6.6.46 In terms of surface water quality, there may be some potential for generating acid discharge if the waste becomes exposed due to erosion or slope failure, but this risk will be reduced as vegetation becomes established. It is considered that the impact on surface water quality above that from the existing situation will be negligible with a significance of impact of none.

Cumulative impacts

6.6.47 There is not considered to be any significant difference between the current situation, where no tipping is taking place, and the operational situation as both require the same controls on the discharge quality. It is considered that there will be no cumulative impact from resumption of waste disposal at the site.

Consideration of Potential Mitigation

6.6.48 During tipping operations, it is proposed that a number of mitigation measures are put in place to ensure that any adverse impacts upon the water environment are controlled to an acceptable level. In terms of groundwater, it is proposed that monitoring boreholes are installed up- and down- gradient of the site before spoil tipping operations recommence. These will be sampled and tested on a regular basis. Sampling frequency and determinands will be specified in the Waste Mangement Plan to be completed as part of the application for an Environmental Permit required before operations can recommence.

6.6.49 In terms of surface water, mitigation measures will include the following:

- treating water (active and/or passive methods) in the peripheral drains and the final discharge lagoon to ensure that the consented discharge remains within the pH limits stipulated in the Environmental Permit for discharge;
- ensuring that any treatment lagoons are lined to prevent leakage that might enter the groundwater system;
- ensuring that contact time between standing water and exposed waste is minimised to prevent generation of acid drainage.

6.6.50 In the period post-restoration, a number of further mitigation measures are proposed. In terms of groundwater quality, observation of boreholes will continue until a time agreed with the MPA.

6.6.51 To ensure that run-off remains at Greenfield run-off rates, surface water will be managed using a number of attenuation ponds (full details can be found at Section 6.8 of this statement). A soil cover over the colliery spoil will prevent oxidisation of the sulphide materials in the waste and it is expected that over time, as ground stabilises, the pH of the run-off in the drainage ditches will gradually rise, preventing the mobilisation of metals in the waste. Any additional management required to ensure that the final discharge water meets the requirements of the Environmental Permit for the site discharge will be designed so that minimal on-going management is required.

6.6.52 Further details of the mitigation measures proposed can be found at Technical Appendix 6, Section 6.

Conclusions

6.6.53 The hydrogeological and hydrological assessment has concluded that resumption of tipping at the spoil heap is unlikely to alter the volume or quality of the water currently being discharged from the site, or that discharged when the site was previously operational. Furthermore, there will be no additional impact to the groundwater system from resumption of operations above those already experienced from the operation of the site over the last sixty years.

6.6.54 A number of mitigation measures are proposed to ensure that any potential adverse impacts upon the water environment are controlled to an acceptable level. In terms of groundwater, proposed mitigation measures include the installation and

monitoring of boreholes to assess the groundwater quality down-gradient of the site. For surface water, there is already control on the quality of the site discharge via conditions included in the Environmental Permit for discharge. Measures are already in place on the site to ensure that the quality of the discharge meets the compliance criteria and a continuation of these measures is proposed.

6.6.55 In accordance with the Scoping Opinion issued by Nottinghamshire County Council in March 2013, the Environmental Statement has incorporated a full assessment of the potential impacts on the quality and quantity of ground and surface waters both within the actual site and the surrounding area that could be influenced by the proposal. Mitigation measures and proposals for monitoring have also been outlined.

6.6.56 In terms of the water environment, the proposed development will not cause an unacceptable impact upon the water environment or have an impact upon human beings, flora and fauna in accordance with EIA regulations.

6.7 Flood Risk Assessment

Policy Context

6.7.1 The Environmental Impact Assessment Directive (85/337/EEC) states that the direct and indirect effects of development should be assessed in terms of their impact on specific factors. Based on the factors identified in Article 3 of the EIA regulations, the direct and indirect effects of the proposal on water need to be assessed. Also the interaction that the impact upon the water environment may have upon human beings, flora and fauna will also need to be assessed.

6.7.2 The Minerals Local Plan and Bassetlaw Local Plan both contain policies and text concerning the water environment in connection with development proposals. In particular:

- Minerals Local Plan Policies M3.9, M12.1, M12.3 and M12.6.
- Bassetlaw Core Strategy Policy DM12.

6.7.3 The thrust of these policies encompasses the advice in the NPPF regarding development and flood risk.

Consideration of Potential Impact

6.7.4 A Flood Risk Assessment (FRA) has been undertaken by Hafren Water in respect of the proposed development. The report forms part of the Environmental Statement and can be found at Technical Appendix 7. A summary of the findings of the FRA is provided below.

6.7.5 Overall, the risk *to* the development from flooding (i.e. fluvial flooding and flooding from sewers and surface water) is considered to be very low. In terms of flood risk caused by the proposed development, the risks would be very low in respect of fluvial flooding and sewer and groundwater flood risk. In terms of surface water run-off, the level of risk from flooding would be low to medium, with low confidence in the perimeter ditch, or very low to low, with greater confidence in the ditch.

Flood risk to the site (see Technical Appendix 7, Section 2)

6.7.6 The material to be deposited at the tip is non-hazardous but is not chemically inert, as the acidity of water may be increased by prolonged contact with it. Thus, the

development is classified as non-inert, non-hazardous landfill, which is classified as 'more vulnerable' to flooding in the NPPF technical guidance.

6.7.7 The entire site is situated within Flood Zone 1 on the Environment Agency's indicative flood map (see Technical Appendix 7, Figure HC/FRA/06); this is defined as having a 1 in 1000-yearor less (<0.1%) annual probability of flooding. The overall risk of fluvial flooding is considered to be very low and, therefore, mitigation measures are not considered necessary.

6.7.8 Borehole logs suggest that the phreatic surface remains below ground level in the vicinity of the site. If groundwater flooding were to take place in this area, it would occur on the low, flat ground of Whitewater Common, which lies between 10m and 15m Above Ordnance Datum (AOD). Therefore the water-table would not rise much beyond these elevations. The lower peripheral slopes around the spoil heap have already been restored and further tipping will take place only at higher elevations. Therefore, the spoil will not be subject to groundwater flooding. As such, the risk from this mode of flooding is considered to be very low.

6.7.9 As the proposed additional colliery spoil will be placed several metres above adjacent ground, the risk from flooding from surface water run-off and sewers is considered to be very low.

Flood risk from the site to the surrounding area (see Technical Appendix 7, Section 3)

6.7.10 It is envisaged that tipping operations will be resumed using the existing conveyor line, slurry pipeline and road access routes. Given this, the surface water catchment boundaries and external road network will remain unchanged from the existing situation.

6.7.11 Before placement of the restoration layer, the waste will be capped with low-permeability material to reduce ingress of rainwater. This will increase surface water run-off from the site after restoration.

6.7.12 As the site is located entirely outside any fluvial floodplain and there are no sewers passing through the site, increased surface water run-off is the only mechanism by which the proposed development might adversely affect flood risk or people and property outside the site.

6.7.13 Possible flood risk receptors in the vicinity of the proposed development are as follows:

- Harworth Avenue (immediately east of Blyth Road, off the site's southeast corner);
- Kirk View Kennels and Cattery (immediately on the east side of Blyth Road, to the southeast of the site);
- Elm Cottage and Steer Bank Farm (around 0.5km east of the site's eastern boundary);
- Industrial/commercial estates close to the site's north/northeast boundary.

6.7.14 In principle, the industrial estate north of the site, together with Harworth Colliery and attendant offices, could be flooded by storm run-off from the restored spoil heap if this were left unmitigated. These receptors are classed as 'less vulnerable' under the Technical Guidance to the NPPF. However, there is a perimeter drain around the site, collecting and routing run-off from the northern, restored part of the land raise towards the consented discharge to the Whitwater Drain, at the southern end.

6.7.15 The residential developments on the eastern side of Blyth Road, classed as 'more vulnerable' under the NPPF, might also receive direct run-off from the restored land raise if it were not for this perimeter drain. The probability of run-off crossing the perimeter drain and flowing onwards to affect these residences is considered to be 'very low' as long as the perimeter drain is maintained with sufficient flow capacity and freeboard.

6.7.16 Notwithstanding the above, the peak discharge to the Whitewater Drain would be increased by the proposed development, since the overall gradients in the flowpath to the outlet would be steepened by the land raise. The increased peak flows, if synchronised with a flood peak in the receiving channel, would interact with the culverts beneath Blyth Road and the A614 to raise flood water levels both upstream and downstream, thus affecting flood risk to the arable land adjoining this channel. Such land is classed as 'less vulnerable' in the NPPF Technical Guidance.

6.7.17 In terms of surface water run-off, the level of risk from flooding for the 'more vulnerable' residential properties is considered to be low to medium, and the

corresponding risk level for the 'less vulnerable' industrial/commercial receptors is considered to be low, were the perimeter drain were not in place. It is acknowledged that the perimeter drain does exist, but it is not clear how well maintained it is. With greater confidence that the drain functions satisfactorily to collect high rates of run-off, these levels of risk could be reassigned as low for the residential properties and very low for the industrial/commercial receptors.

Consideration of Potential Mitigation

6.7.18 Flood risk to the proposed development from the surrounding areas will not be significant and therefore will not require mitigation.

6.7.19 Two alternative options for the mitigation of increased run-off have been investigated. The first of these is the attenuation of the developments 100-year, climate-change peak discharge to the 2-year peak site discharge determined under baseline climate. The second is to allow the run-off from the development to be discharged unattenuated, with the intention of desynchronising its peak from that of the wider catchment.

6.7.20 The FRA concluded that the most appropriate way of ensuring that fluvial flood risk is not increased, is to provide as much water storage as possible within the site. As a minimum, 41,400m^3 of storage capacity should be provided as part of the development. This is likely to be provided not as a single storage unit, but rather as one or two chains of attenuation basins in series.

6.7.21 It is important that surface water run-off from the restored spoil heap is captured and prevented from leaving the site except via the outlet to the Whitewater Drain. Therefore, the perimeter drains around the site must be designed and maintained so as to do this.

6.7.22 Furthermore to mitigate for the increased surface run-off, a freeboard of at least 300mm above the design water profile should be applied to the outside of bank levels, in order to reduce residual risk to neighbouring properties. The freeboard should also be applied to the outside bank levels at the site discharge to the Whitewater Drain.

6.7.23 The surface water attenuation measures proposed above will be included in a drainage assessment and scheme that will be submitted to the Mineral Planning

Authority (MPA) prior to the re-commencement of spoil disposal operations at the site.

Conclusions

6.7.24 The proposed development is classified as non-inert, non-hazardous landfill, which is classified as 'more vulnerable' to flooding in the NPPF technical guidance.

6.7.25 The site lies entirely outside of the EA's indicative fluvial floodplain (i.e Flood Zones 2 and 3). However, since the proposed development area exceeds 1 hectare, a Flood Risk Assessment is required under the EA's Standing Advice on Development and Flood Risk.

6.7.26 As the site is located within Flood Zone 1, the overall risk to the development from fluvial flooding is very low and, therefore, mitigation measures are not considered necessary. Furthermore, as the mining spoil will be deposited on higher ground formed by previous tipping operations, the risk from flooding by externally sourced groundwater, sewers and surface water is also very low.

6.7.27 The development proposal would increase surface water run-off from the spoil heap, due to the increased ground surface gradients and reduction of infiltration by the low-permeability cap. It is possible that this would increase the risk to neighbouring properties in terms of surface water flooding, if the perimeter ditch around the site were not capable of dealing with high rates of run-off. With low confidence in the ditch the level of risk from flooding for the 'more vulnerable' residential properties would be low to medium, and for the 'less vulnerable' industrial/commercial properties would be low. With greater confidence in the ditch, these levels of risk could be reassigned to low and very low.

6.7.28 To ensure fluvial flood risk is not increased as a result of the development, a number of mitigation measures are proposed. These include providing additional surface water storage, maintaining the perimeter ditch and applying a 300mm freeboard above the design water profile to the outside of bank levels. The surface water attenuation measures proposed will be included in a drainage assessment and scheme that will be submitted to the MPA prior to the recommencement of tipping operations.

6.7.29 In accordance with the Scoping Opinion issued by Nottinghamshire County Council in March 2013, a Flood Risk Assessment has been undertaken to consider the flood

risk to the site and demonstrate that the proposal will not increase flood risk elsewhere.

6.7.30 In terms of flood risk, the proposed development will not cause an unacceptable impact upon the water environment or have an impact upon human beings, flora and fauna in accordance with EIA regulations.