



North Yorkshire County Council

MINERALS AND WASTE JOINT PLAN

Information to Inform Appropriate Assessment –
Blubberhouses Quarry





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Minerals and Waste Joint Plan

Appropriate Assessment Report

Site Ref: MJ15

Site Name: Blubberhouses Quarry, West of Harrogate

Date of assessment: July 2021

Appropriate Assessment Summary Information Statement:

No likely adverse effects are anticipated on the integrity of North Pennine Moors SAC / SPA, at this plan level. The mitigation recommended is considered capable of being achieved and will be included within changes to the Policy wording for the allocations. It is recognised this is a judgment reached at the plan-making stage, not at the application stage. An assessment of any likely significant effects will also be made within any project-level HRA. The following over-arching mitigating statement will be incorporated within the Policy: *'Any development that would be likely to have a significant effect on a European site, either alone or in combination with other plans or projects, will be subject to assessment under the Habitats Regulations at project application stage. If it cannot be ascertained that there would be no adverse effects on site integrity the project will have to be refused or pass the tests of regulations 63 and 64, in which case any necessary compensatory measures will need to be secured in accordance with regulation 68.'*

Table 1 – Project Background / Summary from Screening Assessment.

Assessment of the effects of the project or plan on the integrity of the site	
Describe the elements of the project or plan (alone or in combination with other projects or plans) that are likely to give rise to significant effects on the site (from screening assessment).	Extension of time to allow continuation of extraction of silica sand from existing site. 84.43 ha – of which 38.66 ha is proposed for extraction.
Current planning status	Site currently mothballed. Planning application submitted in 2011 seeking variation of condition No. 2 of planning permission reference C6/105/6A/PA (dating from 1986) to allow extraction of silica sand and erection of processing plant at the site until 2036 – after agreed deferments, currently awaiting determination. The planning permission boundary extends to approximately 84ha, 38.66ha being the extraction area. The permitted area comprises a plant site situated between the A59 and the Kex Gill Road, a small area opposite the site entrance, previously quarried and storage areas on either side of the North Moor Road and a large area of unworked land. Part of the permission includes for the relocation of the existing North Moor Road from its current position to allow access to the underlying silica resource, although details of the design for this aspect are not yet available.
Key document references	Planning application ref: NY/2011/0465/73 MWJP-SD18 – Discounted Sites Summary Oct 2016 – pp40-42 and p107.
Zone of Influence (Zoi) (in the absence of mitigation)	- Zoi for direct impacts (e.g. habitat loss and mortality): within footprint of MJ15 - Zoi for indirect construction impacts: within 200 m of the construction footprint of MJ15 - Operational Zoi based on the presence of suitable pathways e.g. hydrological, and/or functional linkage.
Identification of N2K Sites within ZOI	There are two European sites considered to be within the Zoi for MJ15; <ul style="list-style-type: none"> North Pennine Moors SPA / SAC: located immediately adjacent to the site.

Table 2 - Assessment of the effects of the project or plan on the integrity of the site

Designated Site	Site Qualifying Features and Conservation Objectives.	Describe how the project or plan will affect key species and key habitats. Describe how the integrity of the site (determined by structure and function and conservation objectives) is likely to be affected by the project or plan (e.g. loss of habitat, disturbance, disruption, chemical changes, hydrological changes and geological changes, etc.).	Describe what mitigation measures are to be introduced to avoid, reduce or remedy the adverse effects on the integrity of the site.
North Pennine Moors SAC	<p>The site is designated under Article 4(4) of Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:</p> <ul style="list-style-type: none"> • H7230 Alkaline fens. (Calcium-rich springwater-fed fens) • H7130 Blanket bogs* • H6130 Calaminarian grasslands of the <i>Violetalia calaminariae</i>. (Grasslands on soils rich in heavy metals) • H8210 Calcareous rocky slopes with chasmophytic vegetation. (Plants in crevices in base-rich rocks) • H4030 European dry heaths • H5130 <i>Juniperus communis</i> formations on heaths or calcareous grasslands. (Juniper on heaths or calcareous grasslands) • H4010 Northern Atlantic wet heaths with <i>Erica tetralix</i>. (Wet heathland with cross-leaved heath) • H91A0 Old sessile oak woods with <i>Ilex</i> and <i>Blechnum</i> in the British Isles. (Western acidic oak woodland) • H7220 Petrifying springs with tufa formation (<i>Cratoneurion</i>). (Hard-water springs depositing lime)* 	<p><u>Construction</u></p> <p>Direct habitat loss and disturbance – MJP15 is located immediately adjacent to the SAC. Proposals do not include for direct habitat loss from within the SAC; however, there is potential for indirect impacts as detailed below.</p> <p>Hydrological impacts – MJP15 is located immediately adjacent to the North Pennine Moors SAC and is hydrologically connected via Hall Beck. Adverse effects as a consequence of pollution/sedimentation and change in surface flows are considered possible during construction, due to proximity of the proposed realigned North Moor Road (c 30m at its closest point)¹.</p> <p>It is considered that a CEMP and following environmental best practices will mitigate for the unlikely event of any contaminants and sediments entering the SAC. The topography of the land to the west of MJP15 is also upslope, and the land rises to reach a high point c 700m west (URS, 2013)². Surface water movement will therefore be from within the SAC towards the Site, rather than from the site to the SAC. The construction works will therefore not result in the loss of any surface water into the SAC and will not have an adverse effect on the integrity of the SAC.</p> <p>Air quality - during construction of the proposed diverted North Moor Road there is a risk of dust deposition within the boundary of the SAC. Although there is currently no detailed design for the diverted North Moor Road (associated with MJP15), the SAC is at its closest point could be located c. 30m-100m distant, which in accordance with guidance (IAQM, 2014)³, will require a</p>	<p>Hydrological changes (ground water and aquifer assessment) – A permissible threshold of withdrawal of water will be subject to an Abstraction Licence issued by the Environment Agency at the Application stage. This Abstraction Licence will be underpinned by an updated hydrological assessment, which considers the quarrying activities along with the diverted North Moor Road. The hydrological assessment will ensure that abstraction at the site will not result in adverse effects on dependent ecological sites, including the North Pennine Moors SAC.</p> <p>Hydrological effects to surface/ground waters - A CEMP will be produced to include measures to prevent the release of contaminants and sediments into surface or ground water. The</p>

¹ No detailed design is available for the North Moor Road; however, on a precautionary basis, any re-alignment in the direction towards the SAC could reasonably be assumed to result in potential for change in surface water hydrological conditions within the SAC i.e. via contaminants / sediments entering the Hall Beck.

² URS (2013) Blubberhouses Quarry Habitats Regulation Assessment

³ <http://iaqm.co.uk/text/guidance/construction-dust-2014.pdf>

	<ul style="list-style-type: none"> • H6210 Semi-natural dry grasslands and scrubland facies: on calcareous substrates (Festuco-Brometalia). (Dry grasslands and scrublands on chalk or limestone) • H6150 Siliceous alpine and boreal grasslands. (Montane acid grasslands) • H820 Siliceous rocky slopes with chasmophytic vegetation. (Plants in crevices on acid rocks) • H8110 Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani). (Acidic scree) <p>* Priority feature</p> <p>Qualifying species: The site is designated under article 4(4) of the Directive (92/43/EEC) as it hosts the following species listed in Annex II:</p> <ul style="list-style-type: none"> • S1528 Marsh saxifrage <i>Saxifraga hirculus</i> <p>Conservation Objectives Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:</p> <ul style="list-style-type: none"> • The extent and distribution of qualifying natural habitats and habitats of qualifying species; • The structure and function (including typical species) of qualifying natural habitats; • The structure and function of the habitats of qualifying species; 	<p>construction dust assessment to be completed⁴. A CEMP and environmental best practices (i.e. dust suppression measures) will be implemented to mitigate for dust impacts during construction.</p> <p><u>Operation</u></p> <p>Hydrological effects – during operation hydrological effects as a consequence of pollution and change in surface/groundwater flows are considered possible due to proximity of the proposed realigned North Moor Road (c 30m at its closest point)⁵ and possible requirement for water abstraction as part of the quarry operations. Hydrological changes could significantly impact vegetation composition within the SAC.</p> <p>The detailed design of the proposed North Moor Road diversion (associated with MJP15) will ensure that during operation any surface water off the road flows east and north east, away from the SAC. The North Pennine Moors SAC comprises of a number of separate component SSSI's spread across four counties. The qualifying habitat types present within the SAC component immediately west of the Site, include blanket bog and upland heath. These habitat types are surface water fed (or spring fed from upslope), rather than groundwater dependent. The topography of the land to the west of MJP15 is also upslope, and the land rises to reach a high point c 700m west (URS, 2013)⁶. Surface water movement will therefore be from within the SAC towards the Site, rather than from the site to the SAC. The works will therefore not result in the loss of any surface water into the SAC during construction or operational phases of MJP15.</p> <p>Further to this, whilst requirements for water extraction during operation are not known at this stage, adverse impacts to groundwater will be avoided through compliance with the site's Application Licence issued by the Environment Agency, which will be a condition of consent. In addition, environmental best practices will be implemented to mitigate for the unlikely</p>	<p>diverted North Moor Road is to be designed so that any surface water off the road flows east and north east, away from the SAC.</p> <p>Air quality – compliance with good practice mitigation measures should apply to all mineral extraction sites⁹.</p> <p>A construction dust assessment will be completed, and a CEMP will be prepared and adhered to during construction of the diverted North Moor Road. The CEMP will include best practice dust suppression measures.</p> <p>During the operational phase of the quarry, industry standard dust suppression measures will be implemented if weather patterns are such that dust has the potential to be generated.</p> <p>The detailed design of the diverted North Moor Road will demonstrate that there will be no adverse effects on the integrity of the SAC (alone and in combination) as a result of air quality impacts during operation. Following the completion of the</p>
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⁴ Guidance (IAQM, 2014) states that a construction dust assessment will generally be required where there is an ecological receptor within 50m of the boundary of the site and / or routes used by constructing vehicles on public highway up to 500m from the site entrance(s).

⁵ No detailed design is available for the North Moor Road; however, on a precautionary basis, any re-alignment in the direction towards the SAC could reasonably be assumed to result in potential for change in surface water hydrological conditions within the SAC i.e. via contaminants / sediments entering the Hall Beck.

⁶ URS (2013) Blubberhouses Quarry Habitats Regulation Assessment

⁹ http://www.iaqm.co.uk/text/guidance/mineralsguidance_2016.pdf

	<ul style="list-style-type: none"> • The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely; • The populations of qualifying species; and, • The distribution of qualifying species within the site. 	<p>event of any contaminants and sediments entering the watercourses. Therefore, the excavation of mineral will not change the surface water / groundwater hydrological conditions within the SAC and will not have an adverse effect on the integrity of the SAC.</p> <p>Air quality – during operation there is potential for dust to be produced from soil stripping and restoration activities, although impacts within the SAC are not anticipated as these activities will be of short duration and the soils to be stripped and restored are the same type that occur within the SAC i.e. peat (URS, 2013). The quarry mineral operations will take place over a longer time period (20-25 years) and could therefore potentially produce accumulations of dust over time on both vegetation and soils within the SAC. However, any dust produced would be largely chemically neutral and as such would not induce pH changes in the peat soils within the SAC. Additionally, the likelihood of dust being deposited in significant quantities over the SAC is also considered very low risk. This is due to the prevailing weather conditions at the site (URS, 2013), with the quarry site generally sited downwind from the SAC and rainfall and wind patterns indicating that dust will only be generated for limited periods in any one year. The distance between the quarry activities and the SAC will also reduce the likelihood of dust deposition, with Phase 3 located closest to the SAC at 100m distant.</p> <p>Guidance⁷ also states it is commonly accepted that the greatest impacts of dust from quarrying operations will be within 100 m of a source. Larger particles have the potential to persist beyond 400 m but with minimal significance due to dispersion. The SAC boundary is at least 100m from the nearest excavation. Therefore, it is not considered that there will be adverse effects on the integrity of the SAC in relation to dust. To account for the very low risk of dust accumulation, during operation of the quarry works mitigation will include monitoring of weather patterns and should it be established that dust has the potential to be generated industry standard dust suppression measures will be implemented.</p> <p>During operation and due to the potential for closer proximity of the diverted North Moor Road to the SAC, there is also potential for air quality impacts alone or in-combination, which could adversely affect the habitats within the SAC. Although there is currently no detailed design for the diverted North Moor Road (associated with MJP15), the SAC is at its closest point could be</p>	<p>air quality assessment to support the detailed design, should the results indicate an adverse effect on the integrity on the site, in the absence of possible mitigation for air quality impacts, the existing North Moor Road will remain <i>in situ</i> to ensure avoidance of any air quality impacts within the SAC.</p> <p>A Project Level HRA will be required.</p>
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⁷ http://www.iaqm.co.uk/text/guidance/mineralsguidance_2016.pdf

		located c. 30m-100m distant and is therefore within the Zol for operational air quality impacts (IAQM, 2020) ⁸ . To ensure avoidance of any air quality impacts within the SAC an air quality assessment will be completed based on the detailed design and this shall include modelling of critical load ranges for N-depositions. Should the results show that the critical load will be exceeded and indicate that there may be an adverse effect on the integrity on the site, and in the absence of possible mitigation, the existing road will remain <i>in situ</i> .	
North Pennine Moors SPA	<p>Qualifying species:</p> <ul style="list-style-type: none"> • A082 <i>Circus cyaneus</i>; hen harrier (breeding) • A098 <i>Falco columbarius</i>; merlin (breeding) • A103 <i>Falco peregrinus</i>; peregrine falcon (breeding) • A140 <i>Pluvialis apricaria</i>; golden plover (breeding) <p>Conservation Objectives Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:</p> <ul style="list-style-type: none"> • The extent and distribution of the habitats of the qualifying features; • The structure and function of the habitats of the qualifying features; • The supporting processes on which the habitats of the qualifying features rely; • The population of each of the qualifying features; and, • The distribution of the qualifying features within the site. 	<p><u>Construction</u></p> <p>Direct habitat loss and disturbance – MJP15 is located immediately adjacent to the SPA. Proposals do not include for direct habitat loss from within the SPA; however, there is potential for indirect impacts as detailed below.</p> <p>Noise / blasting – there is potential for noise / vibration disturbance to the SPA during the proposed construction of the North Moor Road realignment, which could significantly impact SPA breeding birds. This is due to the potential for noise disturbance / vibration thresholds being met. Although there is currently no detailed design for the diverted North Moor Road (associated with MJP15), the SPA is at its closest point could be located c. 30m-100m distant. However, impacts are not anticipated as construction of the realigned road will take place outside the breeding bird season (March – August inclusive), and the qualifying species of the SPA are designated for breeding only. N.B. the proposed construction timings are based on a precautionary approach and following the completion of any update bird surveys at the detailed design stage, the timescales for construction may be subject to change.</p> <p>Lighting – there is potential for lighting disturbance to the SPA during the proposed construction of the realigned North Moor Road. Although there is currently no detailed design for the diverted North Moor Road (associated with MJP15), the SPA is at its closest point could be located c. 30m-100m distant. However, impacts are not anticipated as construction of the road is to take place outside the breeding bird season (March – August inclusive), and the qualifying species of the SPA are designated for breeding only. N.B. the proposed construction timings are based on a pre-cautionary approach and following the completion of any update bird surveys at the detailed design</p>	<p>Loss of breeding / foraging habitat – land to be secured within the quarry as part of the existing restoration/phasing plans, and management plans implemented to ensure the land would remain undisturbed and secured in perpetuity to maintain the availability of suitable habitat outside the SPA. Prior to the removal of any supporting habitat, this replacement land would be demonstrated to be of at least equal value to that being lost.</p> <p>Hydrological changes (ground water and aquifer assessment) – A permissible threshold of withdrawal of water will be subject to an Abstraction Licence issued by the Environment Agency at the Application stage. This Abstraction Licence will be underpinned by an updated hydrological assessment, which considers the quarrying activities along with the diverted North Moor Road. The hydrological</p>

⁸ <https://iaqm.co.uk/text/guidance/air-quality-impacts-on-nature-sites-2020.pdf>

		<p>stage, the timescales for construction may be subject to change.</p> <p>Visual disturbance - To allow full working of the quarry, there is a proposal for the North Moor Road is to be relocated. Although there is currently no detailed design for the diversion, at its closest point could be located c. 30m-100m distant approximately 300m to the west, bringing the diverted North Moor Road much closer to the boundary of the SPA. Therefore, during construction and operation there would be potential for visual disturbance within the SPA.</p> <p>However, impacts are not anticipated during construction, as the diverted North Moor Road is to be constructed outside the breeding bird season (considered to be March – August inclusive), and the qualifying species of the SPA are designated for breeding only. N.B. the proposed construction timings are based on a precautionary approach and following the completion of any update bird surveys at the detailed design stage, the timescales for construction may be subject to change.</p> <p>Hydrological effects – The considerations outlined for the North Pennine Moors SAC above apply to habitats upon which qualifying species of the SPA rely. With mitigation applied, hydrological effects do not result in residual adverse effects on site integrity.</p> <p><u>Operation</u></p> <p>Impacts to species using functionally linked habitat – habitats representative of the SPA, upland heath and blanket bog, are present within MJP15. Therefore, the quarry site has the potential to support qualifying bird species and provide functionally linked habitat. The results of breeding and wintering bird surveys completed 2017- 2019¹⁰, recorded one SPA species, golden plover, to be present within and up to 500m of the site. This included a single golden plover breeding territory recorded within the MJP15, and a further breeding territory outside the MJP15, within the SPA on land to the west. The number and the location of the golden plover territories is broadly consistent with surveys carried out in the Blubberhouses Quarry area in 2011-2012 (URS, 2012, 2013). The 2018-19 golden plover flight path data also showed golden plover to cross the site during the breeding season, suggesting movement</p>	<p>assessment will ensure that abstraction at the site will not result in adverse effects on dependent ecological sites, including the North Pennine Moors SPA.</p> <p>Hydrological effects to surface/ground waters - A CEMP to include measures to prevent the release of contaminants and sediments into surface or ground water.</p> <p>Air quality - Compliance with good practice mitigation measures should apply to all mineral extraction sites¹⁴.</p> <p>A construction dust assessment will be completed and a CEMP will be prepared and adhered to during construction of the diverted North Moor Road. The CEMP will include best practice dust suppression measures.</p> <p>During the operational phase of the quarry industry standard dust suppression measures will also be implemented if weather patterns are such that dust has the potential to be generated.</p> <p>Following the completion of an air quality assessment of the proposed diverted North Moor</p>
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¹⁰ North Yorkshire County Council (2019) A59 Kex Gill Diversion: information to inform appropriate assessment

¹⁴ http://www.iaqm.co.uk/text/guidance/mineralsguidance_2016.pdf

		<p>between the two breeding territories.</p> <p>For the three raptor species (hen harrier, merlin, peregrine), the 2018-2019 bird survey data indicated there to be no functional linkage to the quarry site for these species. Breeding merlin and peregrine were recorded flying over the survey area only, whilst hen harrier was not recorded breeding within the survey area.</p> <p>The operation of the quarry will result in the temporary loss over a period of 20 - 25 years of 39ha of land outside but adjacent to the SPA; however, proposals also include for an increased area being restored back to heathland from around Year 12. The species that could be impacted by loss of this land is golden plover. The loss of habitat outside of the SPA for a single breeding territory (representative of 0.025% of the SPA population based on 2016 SPA data), is not considered to be significant and the wider area has the carrying capacity to absorb the breeding pair. Additionally, to ensure no residual effect mitigation will include replacement of such habitat by securing land outside the SPA (see below).</p> <p>The loss of potential supporting habitat, offering foraging to nesting birds within the SPA is also not considered to be significant. The 2018-2019 bird survey results show there to be limited movements of qualifying bird species from the SPA into the site, rather data shows movement between the two identified golden plover territories only. Furthermore, the 2019 golden plover breeding flight path data shows some visits to the silt lagoons within MJP15. However, the flight paths display movement from the north of the site into MJP15, and not from within the SPA boundary. Additionally, the silt lagoons provide habitat not found in the wider area and will be present throughout the working life of the quarry and on restoration proposals include for shallow water and bare ground habitat.</p> <p>Overall, whilst no adverse effects on the integrity of the SPA are anticipated in light of the above, it should be noted that the majority of the habitat within the quarry site is still considered to be suitable for all qualifying SPA species. Therefore, following the precautionary approach, and considering actual potential to provide supporting habitat, rather than level of use, the construction of the realigned North Moor Road and reinstatement of quarry activities (excavation of mineral) may cause a loss in potential breeding / foraging habitat. In order to ensure no residual adverse effects on site integrity into the future, mitigation will be provided. This will include securing</p>	<p>Road, should the results show an adverse effect on the integrity on the site, in the absence of possible mitigation for air quality impacts, the existing road will remain in situ to ensure avoidance of any air quality impacts within the SPA.</p> <p>Lighting – there will be no lighting of the diverted North Moor Road and movements of quarry vehicles hours will be restricted to between the hours of 07:00 - 16:00 only. The plant site will be sunk within an area of screen bunds and natural hills to prevent light spill.</p> <p>Noise / blasting – construction of the diverted North Moor Road to take place outside the breeding bird season (March – August / September inclusive). Following the completion of any update bird surveys at the detailed design stage, the timescales for construction may be subject to change.</p> <p>If the road is to be re-sited mitigation will be implemented, including the installation of appropriate acoustic screening / noise bunds and monitoring undertaken to ensure noise levels are below the 55db(A) threshold within the SPA prior to the road becoming operational.</p>
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		<p>land within the quarry and/or wider surrounding area as part of the existing restoration/phasing plans¹¹ and implementing an appropriate management plan to ensure maintenance of suitable habitat in an undisturbed state. Prior to the removal of any supporting habitat, this replacement land would be demonstrated to be of at least equal value to that being lost. The land will be secured for in perpetuity to maintain the availability of suitable habitat outside the SPA. The management plan would form part of any planning application for the site and would include the results of updated surveys and any defined Zol's.</p> <p>Collision risk - flight path data shows movement of golden plover over the proposed North Moor Road realignment, in a westerly / easterly direction. However, it should be noted that the potential diverted North Moor Road will not present a new collision risk. Proposals include for the existing road to be decommissioned and re-sited 300m west. The diverted North Moor Road would run parallel to the existing access road, presenting a change in the location only. In addition, any collision risk is considered to be low due to the number of golden plover breeding territories recorded (2) within the survey area representing 0.05% of current SPA breeding population. The survey data also showed golden plover to fly at heights presenting a collision risk only a low proportion of the time (6-9%). However, taking a precautionary approach to ensure no residual adverse effects, mitigation will be implemented including placing the road in a sufficient cutting and / or creating bunds and designing a planting scheme to ensure birds pass over the road a sufficient height to avoid risks of collisions (i.e. planting heathland with rocky outcrops and specimen trees).</p> <p>Noise / blasting – During operation there is the potential for noise disturbance to the SPA from the following sources; (1) road noise, (2) quarry noise and (3) the blasting. It is considered that during operation threshold levels of noise from traffic of between 55dB - 70dB could start to disturb birds (URS, 2013). The 55dB(A) threshold has been noted to be exceeded within the SPA along an approximate 90m stretch at the projected position of realignment (30-100m from the SPA), where the levels do not fall below 55dB(A) until 10m into the SPA (URS, 2013). For the remaining length of the realigned road, the level falls below 55dB(A) before the SPA boundary. To ensure no residual adverse effects to the SPA from road noise mitigation will be implemented, including the installation of appropriate acoustic screening / noise bunds.</p>	<p>Blasting within Phases 3 and 5 will be restricted to the period end of August – beginning of March i.e. outside of the potential breeding season of golden plover. These timings are based on a pre-cautionary approach and could be reduced following survey work at the detailed design stage.</p> <p>Collision risk - mitigation would be implemented including placing the road in a sufficient cutting and / or designing a planting scheme to ensure birds pass over the road a sufficient height to avoid risks of collisions (i.e. planting heathland with rocky outcrops).</p> <p>Vibration - blasting within Phases 3 and 5 will be restricted to the period end of August – beginning of March i.e. outside of the potential breeding season of golden plover. These timings are based on a pre-cautionary approach and could be reduced following survey work at the detailed design stage.</p> <p>Visual – construction of the diverted North Moor Road to take place outside the breeding bird season (March – August / September inclusive). Following the completion of any update bird surveys at the detailed design stage, the timescales for</p>
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¹¹ [Aecom \(2015\) Blubberhouses Quarry: Initial Management Plan](#)

		<p>Modelling of anticipated noise levels from quarrying and quarry vehicles shows levels to fall below 55dB(A) before reaching the SPA boundary (URS, 2013), therefore, no impacts are anticipated from this source.</p> <p>Blasting data has been used to calculate vibration levels at the SPA site boundary and distances into the SPA (URS, 2013). The data shows that using a threshold of 8mm/s, which is the level used for habitation, the level will be exceeded at least 500m into the SPA from blasting within Phases 3 and 5. Whilst blasting is likely to be no more than monthly and possibly at longer intervals, within the breeding season it could cause significant disturbance to breeding birds within the SPA. To avoid such impacts blasting within Phases 3 and 5 will be restricted to the period end of August – beginning of March i.e. outside of the potential breeding season of golden plover. These timings are based on a precautionary approach and could be reduced following survey work at the detailed design stage. This will avoid disturbance to these species. The SPA is designated for breeding bird species only and therefore outside the breeding season a significant impact on SPA species cannot occur.</p> <p>Lighting - There is the potential for lighting disturbance to the SPA during operation from the following sources; (1) passing traffic, (2) quarry vehicles and (3) the plant site. However, the diverted North Moor Road will not be lit, and lights from traffic passing along the diverted North Moor Road will be very similar to that along the existing road, due to there being no predicted increase in traffic use of the diverted North Moor Road. Additionally, bird usage within the immediate area of the existing road has been noted to not be adversely impacted¹² (URS, 2013). Therefore, due to distance impacts via passing traffic are not anticipated to the 2 recorded golden plover breeding territories. Any residual effects from light spill within the SPA boundary would be mitigated via measures for noise / visual which will include screening.</p> <p>The lighting from quarry vehicles will also generally only be during the winter, as hours of working are 07:00 - 16:00 and vehicles will largely be working below ground level. The qualifying species of the SPA include breeding populations only, and therefore when breeding birds are present, lighting will rarely be used. The plant site is sunk within an area of screen bunds and natural hills and any light spillage would be minimal and will not result in any likely significant effects on the SPA. Therefore, it is concluded that lighting</p>	<p>construction may be subject to change.</p> <p>If the diverted North Moor Road is to be re-sited mitigation will be implemented including placing the diverted North Moor Road in a sufficient cutting and / or installing appropriate visual screening. The proposed mitigation will be designed in consultation with Natural England.</p> <p>A Project Level HRA will be required.</p>
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¹² in 2012, 2 pairs of golden plover were recorded breeding within 300m of the existing road

		<p>will not result in a significant impact on the maintenance of the populations of these species within the SPA as a whole.</p> <p>Visual disturbance - during operation, there is potential for visual disturbance from passing traffic within the SPA, which inhibit use of the area affected by breeding birds. The RSPB in their response to the original ES, (letter dated 12th January 2012) stated that there is evidence of (not referenced) that upland waders show avoidance and displacement of between 300m - 600m (URS, 2013). Whilst the 2 recorded golden plover breeding territories are not located within the zone of influence for visual disturbance impacts¹³, to avoid any residual effects from visual disturbance within the SPA boundary, mitigation will be implemented. This will include placing the road in a sufficient cutting and / or installing appropriate visual screening. The proposed mitigation will be designed in consultation with Natural England.</p> <p>Hydrological effects – The considerations outlined for the North Pennine Moors SAC above apply to habitats upon which qualifying species of the SPA rely. With mitigation applied, hydrological effects do not result in residual adverse effects on site integrity.</p> <p>Air quality effects – The considerations outlined for the North Pennine Moors SAC above apply to habitats upon which qualifying species of the SPA rely and therefore all proposed mitigation measures will also apply to the North Pennine Moors SPA.</p>	
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¹³ the territory within the SPA is located >600m from the new road alignment, and the second territory is located 300m east of the existing road

In-combination

It is considered that with the mitigation presented above, there would be no residual adverse effects alone, which, as a result of their de-minimis nature, could act in combination and contribute to an adverse effect on integrity. However, for completeness, and due to the proximity of the A59 Kex Gill Diversion (Planning Reference: NY/2019/0191/ENV), this project has been considered in combination with the Proposed Scheme.

The A59 Kex Gill Diversion was predicted to have Likely Significant Effects on the North Pennine Moors SAC and North Pennine Moors SPA, and these were examined for adverse effects on site integrity. A summary of which is provided below, alongside an assessment of the potential for in-combination effects with Blubberhouses Quarry (MJP15):

Table 3 - Assessment of in-combination effects between A59 Kex Gill Road and Blubberhouses Quarry (MJP15)

Site	Pathways (how the A59 Kex Gill Road project will affect key species and key habitats).	Mitigation measures are to be introduced to avoid, reduce or remedy the adverse effects on the integrity of the site.	Potential In-Combination Effects with Blubberhouses Quarry (MJP15)
North Pennine Moors SAC	Habitat loss - direct habitat loss of 0.32ha of bracken, and 0.10ha of European dry heath, qualifying habitats of the North Pennine Moors SAC.	N/A - Habitat loss was concluded to be <i>de minimis</i> due to its location, size and the condition of the habitat. No adverse effects on Integrity identified.	MJP15 does not results in direct loss; however, there is potential for indirect impacts (refer to hydrology and air quality below).
	Hydrology - Sedimentation and spillages to surface water during construction could potentially result in an adverse effect on site integrity, adversely affecting the supporting processes on which blanket bog and European dry heath rely. In operation, road runoff would also result in an adverse effect on site integrity due to its effects on the quality, but not the flow, of surface waters upon which the SAC's qualifying habitats rely.	Sedimentation and spillages to watercourses will be mitigated through standard best practice pollution controls on site and production of a detailed Construction Environmental Management Plan (CEMP). During operation HAWRAT assessment and development of a Drainage Strategy to include filter drains and attenuation ponds will mitigate hydrological effects. Mitigation measures will result in no residual adverse effect on site integrity.	MJP15 is located immediately adjacent to the North Pennine Moors SAC and is hydrologically connected via Hall Beck. Hydrological effects as a consequence of pollution/sedimentation and change in surface/groundwater flows are considered possible due to proximity of the proposed realigned North Moor Road (c 30m at its closest point) ¹⁵ and possible requirement for water abstraction as part of the quarry operations ¹⁶ . Hydrological changes could significantly impact vegetation composition within the SAC. The mitigation and

¹⁵ No detailed design is available for the North Moor Road; however, on a precautionary basis, any re-alignment in the direction towards the SAC could reasonably be assumed to result in potential for change in surface water hydrological conditions within the SAC i.e. via contaminants / sediments entering the Hall Beck.

¹⁶ Water abstraction is only relevant to, and considered alone for, MJP15 only – abstraction was not identified as a pathway to adverse effects from the A59 Kex Gill Road. Therefore, is not considered in-combination with the A59 Kex Gill Road.

			safeguards prescribed in Table 2 of this AA would however ensure that there would be either no effect (due to the detailed design of the road) or residual adverse effects of, at most, a de-minimis nature. If this was to be combined with the residual adverse effects (post-mitigation, de-minimis) from the A59 Kex Gill Road, it would not act in-combination to result in adverse effect on integrity ¹⁷ ..
	<p>Air quality – during construction dust deposition would have an adverse effect on site integrity without due to localised air quality (dust deposition) on qualifying habitats and associated plants.</p> <p>During operation air quality changes will include a mixture of increases and decreases in N-deposition, although NOx and related N-depositions do not present an adverse effect on site integrity as the level of expected increase is well below that which would result in loss of species from qualifying habitats.</p>	<p>Standard dust control procedures will be implemented during construction and prevailing winds will blow materials away from the SAC. during construction mitigation measures will result in no residual adverse effect on site integrity.</p> <p>During operation NOx and related N-depositions do not present an adverse effect on site integrity.</p>	<p>During the construction of the MJP15 diverted North Moor Road, there is a risk of dust deposition within the boundary of the SAC, and during operation due to the potential for closer proximity of the diverted North Moor Road to the SAC, there is also potential for air quality impacts alone or in-combination, which could adversely affect the habitats within the SAC.</p> <p>During the operation of MJP15 there is also potential for dust to be produced from soil stripping and restoration activities, although impacts within the SAC are not anticipated as these activities will be of short duration. The quarry mineral operations will take place over a longer time period (20-25 years) and could potentially produce accumulations of dust over time on both vegetation and soils within the SAC.</p> <p>The mitigation and safeguards prescribed in Table 2 of this AA would ensure that there would be either no effect or residual adverse effects would be of, at most, a de-minimis nature. If these were to be</p>

¹⁷ It should be noted that the consented A59 Kex Gill scheme also undertook an in-combination assessment for MJP15 and concluded no in-combination effects. Natural England were consulted as part of the A59 Kex Gill Road scheme and their views were integrated into this assessment.

			combined with residual adverse effects (post-mitigation, also de-minimis) from the A59 Kex Gill Road, they would not act in-combination to result in adverse effect on integrity ¹⁸ .
North Pennine Moors SPA	Disturbance – during construction there will be disturbance to the distribution of qualifying species, including disturbance to two breeding pairs of golden plover, which would have an adverse effect on site integrity.	Mitigation will include timing of works (commence in May, with main works no earlier than August 2020) and restricted working hours affording periods when birds will be undisturbed. Directional working within 500m of the SPA shall be from west to east. Appropriate acoustic and visual screening provided. Noise mitigation measures and compliance with permissible noise levels. No adverse effect on site integrity identified.	During the construction of MJP15 there is potential noise / vibration disturbance to the SPA during the proposed construction of the North Moor Road realignment, which could significantly impact SPA breeding birds, with potential for noise disturbance / vibration thresholds being met. There is also potential for lighting disturbance to the SPA during the proposed construction of the realigned North Moor Road. Additionally, to allow full working of the quarry, there is a proposal for the North Moor Road is to be relocated. There is currently no detailed design for the diversion, although it could be located approximately 300m to the west, bringing the diverted North Moor Road much closer to the boundary of the SPA (c. 30-100m distant). Therefore, during construction and operation there would be potential for visual disturbance within the SPA. The mitigation and safeguards prescribed in Table 2 of this AA would ensure that there would be either no effect or residual adverse effects would be of, at most, a de-minimis nature. If these were to be combined with residual adverse effects (post-mitigation, also de-

¹⁸ It should be noted that the consented A59 Kex Gill scheme also undertook an in-combination assessment for MJP15 and concluded no in-combination effects. Natural England were consulted as part of the A59 Kex Gill Road scheme and their views were integrated into this assessment.

			minimis) from the A59 Kex Gill Road, they would not act in-combination to result in adverse effect on integrity ¹⁹ .
	Collision risk - the northwards realignment of the Proposed Scheme in operation, will increase collision risks for two qualifying species within the SPA, namely golden plover and hen harrier.	<p>The risks of collision for golden plover in operation were deemed low, due to the low percentage (6-9%) of golden plover flights at collision risk height. Hen harrier foraging in winter were recorded flying over the Proposed Scheme at collision risk heights; however, this species is well able to avoid moving obstacles. The Proposed Scheme is also in cutting in its western sections, up to CH3100. These factors along with mitigation landscape planting will encourage higher flight levels.</p> <p>No residual adverse effect on site integrity identified.</p>	<p>Flight path data for MJP15 shows movement of golden plover over the proposed North Moor Road realignment, in a westerly / easterly direction. However, the diverted North Moor Road will not present a new collision risk. The survey data also showed golden plover to fly at heights presenting a collision risk only a low proportion of the time (6-9%). However, taking a precautionary approach, mitigation has been implemented (refer to Table 2 of this AA). The mitigation and safeguards prescribed in Table 2 of this AA would ensure that there would be either no effect or residual adverse effects would be of, at most, a de-minimis nature. If these were to be combined with residual adverse effects (post-mitigation, also de-minimis) from the A59 Kex Gill Road, they would not act in-combination to result in adverse effect on integrity²⁰.</p>
	Habitat loss - direct loss of a small amount of non-qualifying habitat (0.32ha of bracken, originally acid grassland).	<p>N/A - the area of habitat loss was recorded to not be used by qualifying breeding species of the SPA. The planting up of earthworks in this area also presents an opportunity to provide improved connectivity to functional habitats of the wider SPA.</p> <p>No residual adverse effects on site integrity identified.</p>	<p>Habitats representative of the SPA, upland heath and blanket bog, are present within MJP15. Therefore, the quarry site has the potential to support qualifying bird species and provide functionally linked habitat. The results of breeding and wintering bird surveys completed 2017- 2019²¹, recorded one SPA species, golden plover, to be present</p>

¹⁹ It should be noted that the consented A59 Kex Gill scheme also undertook an in-combination assessment for MJP15 and concluded no in-combination effects. Natural England were consulted as part of the A59 Kex Gill Road scheme and their views were integrated into this assessment.

²⁰ It should be noted that the consented A59 Kex Gill scheme also undertook an in-combination assessment for MJP15 and concluded no in-combination effects. Natural England were consulted as part of the A59 Kex Gill Road scheme and their views were integrated into this assessment.

²¹ North Yorkshire County Council (2019) A59 Kex Gill Diversion: information to inform appropriate assessment

			<p>within and up to 500m of the site, including a single golden plover breeding territory.</p> <p>Whilst there is potential for in-combination effects, and the operation of the quarry will result in the temporary loss over a period of 20 - 25 years of 39ha of land outside but adjacent to the SPA; proposals include for an increased area being restored back to heathland from around Year 12. The loss of habitat for a single golden plover breeding territory is not considered to be significant. Additionally, to ensure no residual effects, mitigation will include securing land outside the SPA, which will be managed to ensure it is of equal value to that being lost. No supporting habitat will be lost until this replacement habitat is demonstrated to be functional (see Table 2 of this AA). The mitigation and safeguards prescribed in Table 2 of this AA would ensure that there would be either no effect or residual adverse effects would be of, at most, a de-minimis nature. If these were to be combined with residual adverse effects (post-mitigation, also de-minimis) from the A59 Kex Gill Road, they would not act in-combination to result in adverse effect on integrity²².</p>
	Air quality and hydrology – the considerations for the SAC apply to the SPA	The considerations for the SAC apply to the SPA.	The mitigation and safeguards prescribed in Table 2 of this AA would ensure that there would be either no effect (due to the detailed design of the road) or residual adverse effects would be of, at most, a de-minimis nature. If these were to be

²² It should be noted that the consented A59 Kex Gill scheme also undertook an in-combination assessment for MJP15 and concluded no in-combination effects. Natural England were consulted as part of the A59 Kex Gill Road scheme and their views were integrated into this assessment.

			combined with residual adverse effects (post-mitigation, also de-minimis) from the A59 Kex Gill Road, they would not act in-combination to result in adverse effect on integrity ²³ .
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Taking into account the proposed mitigation, it is concluded that the effects from the above scheme will not cause the Project (MJP15) effects to be worsened, in-combination.

Conclusion

Overall, the Proposed Scheme has no predicted residual adverse effects on site integrity. As such, it is concluded that the Habitats Regulations Assessment can be concluded at the end of the current stage, Appropriate Assessment.

²³ It should be noted that the consented A59 Kex Gill scheme also undertook an in-combination assessment for MJP15 and concluded no in-combination effects. Natural England were consulted as part of the A59 Kex Gill Road scheme and their views were integrated into this assessment.



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