This amended Phased Working and Restoration Strategy has been developed following liaison with the Local Authority. It is confirmed that the conclusions contained in the ES (including Appendix A4 Development Proposals, Restoration and Aftercare Plan) remain valid notwithstanding the clarifications and additional detail made to the Working and Restoration Strategy as described below.

The stages detailed below are illustrated with a series of drawings and sections (appended to this annex) summarising the general site layout and profiles through the quarry during each working phase and final restoration phase.

The timescales over which each phase will be extracted and the amount of spoil available for restoration will be heavily dependent on both market conditions (i.e. demand, which will determine the actual tonnes per annum produced) and quality of rock (i.e. the ratio of saleable rock to spoil). The timescales quoted for completion of each phase are based on the average production over the past six years; i.e. 5,300 tonnes per annum (t/a) and maximum permitted production of 10,000 t/a. The volume of spoil produced assumes 40% spoil.

1. Pre-Excavation Works (Drawing RP-15):
   a) The un-vegetated northern part of the existing bund (Area B) will be re-graded as follows:
      - The angle of slope of the outside face will be reduced (from ~45° to ~25°/30°).
      - The height of the bund will be lowered (from 255m AOD to 252m AOD) consistent with the height of the vegetated bund adjacent to the quarry entrance (Area A); and graded at the northern end to blend into the natural ground contours. [Note: the height during this stage will be slightly lower that the final height to allow for the placement of soil from Phase 1a – stripping of soil/overburden].
      - The width will be reduced and the upper 2m-4m of the inner face of the bund will be re-profiled (to ~25°/30°).

      The volume of spoil to be removed from the existing bund is estimated at approximately 9,500m^3. This will be placed in the south-eastern part of the existing quarry (Area C) and backfilled in layers against the quarry face at a safe angle of repose; the method and arrangement will be determined by the quarry operators. This area will become the main area for placing spoil throughout the lifetime of the operational phase of the quarry until the slope extends to the height of the quarry face.
   b) In accordance with the Common Land Management Report (Appendix A3b in the ES, by Luscombe Maye), **5.67ha** of gorse and bracken overgrowth will be randomly flailed / swiped (cut down by mechanical means) to restore land to grazing ground, which will

more than compensate for the loss of **1ha** of land related to the extension. This will be carried out prior to fencing off any part of the extension area.

c) A new stock-proof fence will be erected around the western half of the extension area. The fence will be erected approximately 10m from the edge of the extraction area in order to minimise the amount of Common Land lost for grazing. During this stage, an ecological contractor will undertake any translocations required prior to scrub clearance, followed by an archaeological contractor conducting any necessary geophysical surveys and assessments.

d) A public information board will be designed for erection at the quarry entrance providing information on the history of the quarry and adjacent tramway. The board will be erected once agreement on the content and design has been achieved with DNPA.

Timescales (to be carried out concurrently once land management has been completed):

a) Re-grading of existing bund - allow 4 weeks.

b) Land management elsewhere on Yennadon Down to increase grazing – allow 1 week.

c) Construction of fencing - allow 1 week; Ecological surveys – allow 4 weeks (dependent on time of year); Scrub clearance – allow 1 week; Archaeological surveys – allow 4 weeks.

d) Production of (incl. approval of contents from DNPA) of public information board – allow 8-12 weeks.

2. Phase 1a – Stripping Soil / Overburden (Drawing RP-16):

a) Approximately 3m depth of soil and overburden (weathered rock) will be removed over the Phase 1 extraction area (approximately 1,480m^2 in area; and 4,440m^3 volume of soil / overburden) using a back-hoe excavator. Soil / overburden will be battered back to an approximately 45° slope to enable vegetation to self-establish/naturally regenerate.

b) Where possible, soil suitable for restoration will be separated from any overburden that is unsuitable for restoration. Approximately 2,000m^3 of soil will be placed directly onto Area B (re-profiled existing bund). Once soil has been placed (and any initial planting carried out as recommended by an ecologist, as laid out in the Biodiversity Mitigation and Enhancement Plan (BMEP) provided in Appendix A14 in the ES); Area B will no longer be part of the operational area of the quarry and vegetation will be allowed to establish naturally.

c) Of the remaining soil/overburden, any soil is to be placed in a temporary soil stockpile for use in later restoration; weathered rock not suitable for use in restoration will be placed in Area C.

d) The area between the new fence line and the extraction area will become a 'landscape buffer zone' in which existing scrub and gorse will be allowed to mature and compensatory

planting of trees will be carried out in accordance with the Biodiversity Mitigation and Enhancement Plan (BMEP) (Appendix A14 in the ES). The only access to the Phase 1 area will be from the northwest corner of the existing quarry; i.e. via the haulage road that leads to the existing bund. With no grazing within the landscape buffer zone, the scrub and gorse will become denser within one growing season, which will provide additional beneficial visual and acoustic screening of the quarry; and in the long-term, together with the permanent fence, will provide a robust barrier adjacent to the steep quarry faces.

Timescales: Stripping of soil/overburden and placement over existing bund or in new temporary stockpile - allow 4 weeks.

3. Phase 1b – 'High Level Working':

An initial 4m trench will be excavated from the haulage road in the NW corner of the existing quarry, from which further excavations will progress horizontally northwards. Due to the gradient of slope, the western face will be 4m and eastern face will be 6m (approximately 11,000 tonnes reserves; 7,500 tonnes of spoil). Spoil will be placed in backfilling Area C.

As is the current working practice at the quarry, two faces are worked simultaneously; usually one at low level and one at a higher level. During Phase 1, remaining reserves in the south-east corner of the existing quarry will be worked at low level, while the 'high level' reserves within the Phase 1 of the extension are worked.

Timescales: (*assuming* 11,000 tonnes reserves in 1b and 10,000 tonnes of reserves in *'Low Level' working area in existing quarry; and extraction in extension starts end-2016):*

a) 2 years - assuming maximum permitted production rate of 10,000 t/a - end 2018.

b) 3 years 10 months – assuming average production rate of 5,300 t/a - end 2020.

Three months prior to the completion of Phase 1b - Phase 2a can be commenced.

4. Phase 2a – 'Stripping Soil/Overburden' (Drawing RP-17):

a) Stock-proof fencing will be extended eastwards to encompass the Phase 2 area. The area will be cleared by the ecological and archaeological contractors.

b) The soil and overburden (approximately 3m depth) will be removed over the Phase 2 extraction area (~1,900m^2 area and 5,700m^3 volume) using a back-hoe excavator. Soil / overburden will be battered back to a 45° slope to enable vegetation to self-establish.

c) Place soil directly onto areas to be restored that have been backfilled to final profile (Area E (along southern boundary), or temporarily on Area D if required.

Timescales (Phase 2a):

a) **Construction of fencing - allow 1 week; Ecological surveys – allow 4 weeks (dependent on time of year); Scrub clearance – allow 1 week; Archaeological surveys – allow 4 weeks.**
b) **Stripping of soil/overburden and placement over restoration areas - allow 4 weeks.**

5. Phase 1c – 'Low Level Working' and Phase 2b – 'High Level Working' (Drawing RP-18):
Phase 1c and Phase 2b will be worked concurrently.

The workings within the Phase 1c area will be taken down to a maximum level of 240m AOD; which will provide approximately 11,100 tonnes reserves. Phase 2b will be worked horizontally from the Phase 1 area. The western face for Phase 2b will be approximately 4m and eastern face will be approximately 6m, giving in the order of 12,500 tonnes reserves.

By the end of Phase 1b it is anticipated that the existing quarry will be depleted; therefore, spoil from Phase 1c (and 2b) will be used to continue to backfill against the southern and eastern faces. By the end of Phase 1c/2b the south-eastern end of the existing quarry will be close to its final profile (consistent with the sections provided in Drawing RP-06 within the Development Proposals, Restoration and Aftercare Plan; Appendix A4 in the ES).

Timescales (concurrent working of 1c and 2b):

a) **2 years - assuming maximum production rate of 10,000 t/a – end 2020.**
b) **4.5 years – assuming average production rate of 5,300 t/a – mid 2025.**

Three months prior to the completion of Phase 1c/2b; Phase 3a can be commenced. Assessment to be made at this stage as to the actual area for Phase 3 required to take production up to end of planning permission.

6. Phase 3a – 'Stripping Soil/Overburden' (Drawing RP-19):
   a) Stock-proof fencing will be extended eastwards around the Phase 3 area as required. [Note: the drawing shows the maximum potential area for Phase 3a]. The area will be cleared by the ecological and archaeological contractors.
   b) The soil and overburden (approximately 3m depth) will be removed over the Phase 3 extraction area (volume will depend on final size of Phase 3 area) using a back-hoe excavator. Soil / overburden will be battered back to a 45° slope to enable vegetation to self-establish.

c) Soil from Phase 3a, together with any soil stockpiled in area D, will be placed onto areas within the south and south-eastern end of the existing quarry. Carry out any initial planting as recommended by an ecologist (as laid out in the BMEP; Appendix A14 in the ES).

Timescales:

a) Construction of fencing - allow 1 week; Ecological surveys – allow 4 weeks (dependent on time of year); Scrub clearance – allow 1 week; Archaeological surveys – allow 4 weeks.

b) Stripping of soil/overburden and place over restoration areas - allow 4 weeks.

7. Phase 2c – 'Low Level Working' and Phase 3b – 'High Level Working'

Working face within Phase 2c area will be up to 10m to bring down to maximum depth of 240m AOD (25,175 tonnes reserves). The volume to be extracted from the Phase 3b area will be dependent on tonnage required to take production up to the end of planning permission. Waste generated during this stage will be temporarily stockpiled within the Phase 1 area for use in final restoration.

Timescales (working of 2c only):

a) 2.5 years - assuming maximum production rate of 10,000 t/a – Mid 2023

b) Assuming production rate of 5,300 t/a – Early 2026 (end of planning permission).

8. Final Restoration (Drawing RP-20)

The restoration phase, which will be carried out prior to cessation of works in early 2026, involves the backfilling the southern and eastern faces within the quarry extension and re-grading / landscaping of the remaining areas within the quarry (as per the landscape strategy laid out in Appendix A15 of the ES). All buildings and infrastructure within the quarry area will be removed. As requested by the Local Authority, **no soil will be imported**; only soils derived during the stripping of soil/overburden from the extension area will be used in site restoration.

The quarry will remain permanently fenced off providing a habitat for wildlife.

As laid out in the Biodiversity Mitigation and Enhancement Plan (Appendix A14 in the ES), an ecological contractor will manage creation of habitats during site restoration and after-care biological monitoring (beneficial residual effect). In particular:

- A wildlife pond and wetland will be created in the base of the quarry (the pond will be between 10cm and 1.2m deep, maximising marginal, shallow habitats) in order to enhance the site for wildlife (particularly invertebrates including dragonflies). The habitat immediately surrounding the pond will be seeded using a species-rich seed mix of native plant species suitable for pond edge habitats.

- Sections of near vertical quarry face will be left to enhance biodiversity.

In the remaining areas, vegetation will be allowed to establish itself naturally. In accordance with the BMEP (Appendix A14 in the ES), during the operational phase of the quarry, monitoring of vegetation will be carried out regularly by the quarry manager, with any invasive species (e.g. buddleia) being removed, as well as annually by the ecological contractor. During the aftercare phase, an ecological contractor will be employed to provide on-going monitoring and management of the site.

It is anticipated that this final stage will be undertaken over the following timescale:

a) Backfilling eastern faces, landscaping remaining areas within the quarry, including creation of pond/seasonal wetland area. Place soil, shape and seed/plant - **allow 2 months**
b) Remove buildings, infrastructure – **allow 2 weeks**
c) Allow vegetation to establish – assume at least **two growing seasons**.

Attached drawings:
Drawing 7397/RP-15 to Drawing 7397/RP-20