

Curraghinalt Project County Tyrone

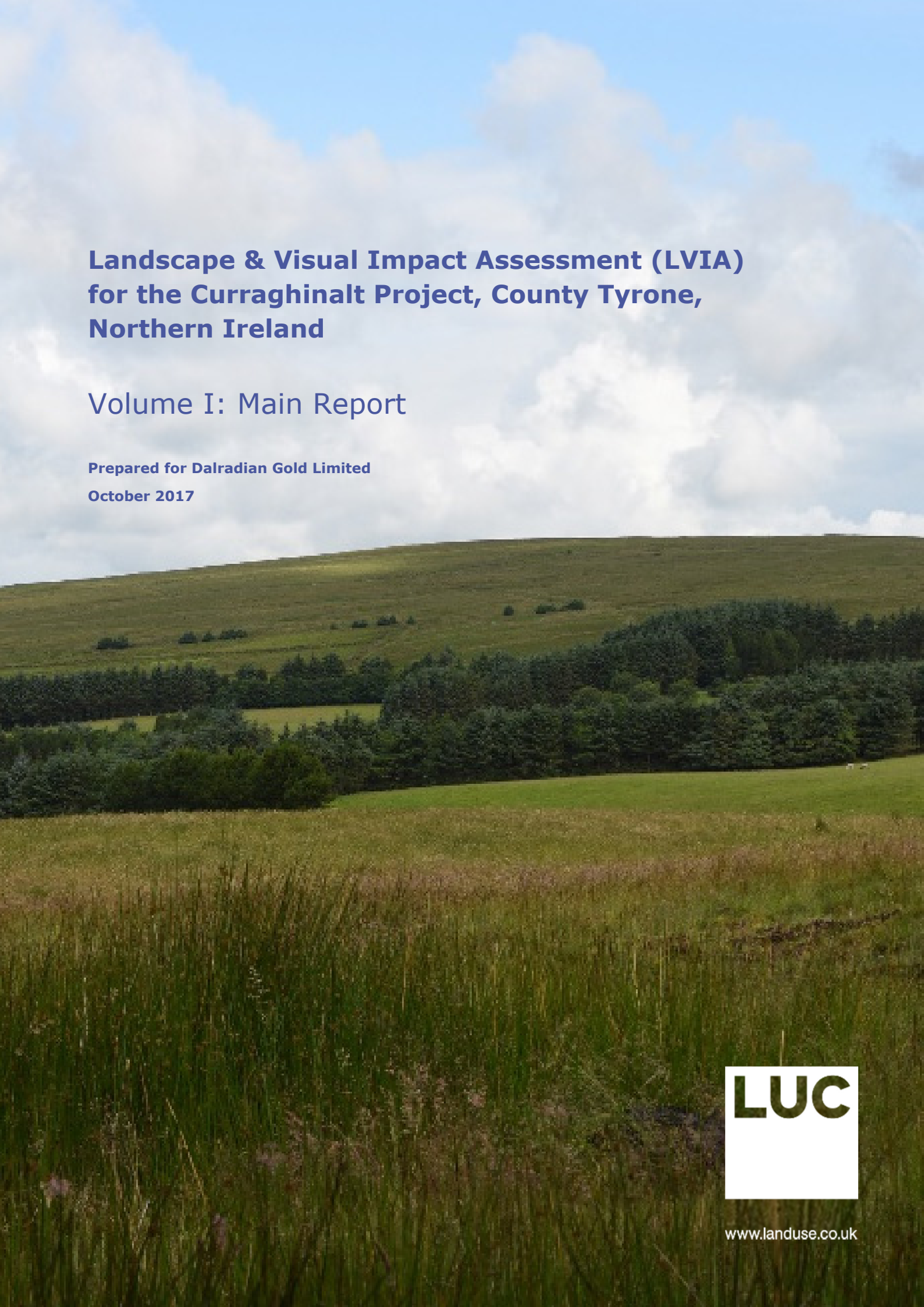
Prepared for Dalradian Gold Limited

Environmental Statement - Volume 3

C16 Landscape and Visual Impact Assessment and Visualisations

November 2017

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Landscape & Visual Impact Assessment (LVIA) for the Curraghinalt Project, County Tyrone, Northern Ireland

Volume I: Main Report

**Prepared for Dalradian Gold Limited
October 2017**



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October 2017



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1 Introduction

- 1.1 LUC (Land Use Consultants Ltd.) was commissioned by SRK Consulting Ltd. to undertake a Landscape and Visual Impact Assessment (LVIA) for the Curraghinalt Project in Co. Tyrone, Northern Ireland, on behalf of Dalradian Gold Limited (DGL).
- 1.2 This report details the approach and methodology for the assessment of landscape and visual effects, including cumulative effects, and a background on the legislation and policy in Northern Ireland referred to by the competent authorities responsible for the protection of landscape and visual amenity.
- 1.3 The report also details the existing baseline conditions of the project area and the surrounding environs of the agreed study area, in relation to landscape and visual amenity, describing the existing landscape character and potential visual receptors (people). The study area for the assessment of landscape and visual effects is shown on **Figure 1.1**.
- 1.4 The assessment of effects examines the potential of the Curraghinalt Project and related construction, operation and closure/restoration activities to cause landscape and visual effects, as well as cumulative effects alongside other developments across the study area, and makes recommendations as to how these effects can be avoided or reduced in the detailed design process. It also details mitigation measures for restoration following closure of the proposed project.
- 1.5 The assessment focuses on the potential landscape and visual effects associated with the above ground infrastructure of the project site defined within the proposed infrastructure site (Area A) located on the south side of the broad ridge formed by Mullydoo, Crocknamoghil and Crockanboy Hill, north-west of Greencastle. The assessment does not consider potential landscape and visual effects associated with the proposed retention of the existing surface infrastructure site (Area C) located on the north side of the ridge, alongside Camcosy Road, although it acknowledges its associated post-closure and restoration effects.
- 1.6 The assessment forms part of the Environmental Impact Assessment (EIA) for the Curraghinalt Project and should be read in conjunction with the Environmental Statement (ES)¹.

¹ Environmental Statement for the Curraghinalt Project, Northern Ireland, 2017

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2 Approach to the Assessment

Background to the Assessment

- 2.1 The assessment considers the potential effects of the Curraghinalt Project on the landscape and visual resources of the project area and the surrounding study area for the LVIA, during construction and operation, and post-closure and restoration of the site.
- 2.2 The assessment considers the potential effects on:
- the landscape as a resource in its own right (caused by changes to the constituent elements of the landscape, its specific aesthetic or perceptual qualities and the character of the landscape);
 - views and visual amenity as experienced by people (caused by changes in the appearance of the landscape).
- 2.3 The assessment deals with landscape and visual effects separately, followed by an assessment of cumulative landscape and visual effects, which considers the proposed project in addition to other developments which are existing, consented or proposed in the study area². The assessment is supported by a series of figures.
- 2.4 The assessment has been undertaken by Chartered Landscape Architects (Chartered Members of the Landscape Institute (CMLI)) at LUC with extensive experience in the assessment of landscape and visual effects.

Scope of the Assessment

Effects Assessed in Full

- 2.5 The key objective of the assessment is to identify and assess the likely significant landscape and visual effects associated with the proposed project. This emphasis on identifying significant effects is supported by the EIA regulations³ and relevant guidance⁴, and these are assessed in full.
- 2.6 Effects on the landscape include physical changes to the landscape as well as changes in landscape character. They may also include effects on areas designated for their scenic or landscape qualities, at a national or local policy level. Effects on visual amenity relate to changes in views resulting from the introduction of the Curraghinalt Project into those views. Effects on landscape and visual receptors (including residents, motorists and recreational users) may also include changes in relation to the interaction between the Curraghinalt Project and other existing, consented or proposed projects (cumulative effects).
- 2.7 As such, all potentially significant landscape and visual effects, as well as cumulative landscape and visual effects, are examined, including those relating to construction (short-term, typically lasting less than three years), operation (medium-term, lasting between 3-20 years) and closure/restoration (long-term, typically lasting more than 20 years).

² It is noted that there remains uncertainty as to whether all of the developments considered in the CLVIA will be built in due course, however, the assessment assumes a 'maximum case effect' scenario where all developments are constructed.

³ The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2015

⁴ Landscape Institute and the Institute of Environmental Management & Assessment (Third Edition, 2013) Guidelines for Landscape and Visual Impact Assessment.

2.8 The following effects resulting from the introduction of the Curraghinalt Project are assessed in full:

- Effects on the landscape resources, including physical changes to the landscape of the site;
- Effects on the perceived landscape character of the Landscape Character Areas (LLCAs) within the study area;
- Effects on areas designated for their scenic or landscape qualities, at a national or local level;
- Effects on views and visual amenity, extending to examination of changes in views arising from the introduction of the Curraghinalt Project components in those views; and
- Effects on landscape and visual receptors resulting from changes in relation to the interaction between the Curraghinalt Project and other existing or proposed projects of a similar nature or scale (cumulative impacts).

Effects Scoped Out

2.9 On the basis of desk and field based work, initial assessment, the professional judgement of the LVIA team and experience from other relevant projects, the following potential effects have been 'scoped out' of the assessment of landscape, visual and cumulative effects:

- The underground proposed mineral extraction area (Area B) and mineral exploration area (Area E) will not give result in above surface changes which may result in landscape and visual effects;
- This feasibility study explores the potential landscape and visual implications of alternative sized turbines defined as four distinct development scenarios. These scenarios (Scenario 1-4) were agreed in collaboration with EDF/LWP prior to the progression of the study and are outlined in more detail in Table 2.2 below.
- Due to the alternative turbine sizes and parameters, most notably the considerable change in the minimum turbine spacing in comparison to the consented schemes being considered within each scenario, the existing consented turbine locations are unlikely to be appropriate for the same or similar total number of turbines;
- Effects on landscape and visual receptors associate with the temporary passing bays and HGV turning area (Area D) located along Camcosy Road have not been assessed as it is judged that potential significant landscape or visual effects are unlikely to occur in relation to these temporary works during the construction phase of the project;
- Effects on landscape and visual receptors beyond around 15km from the outermost components of the Curraghinalt Project, where it is judged that potential significant effects are unlikely to occur;
- Locations where receptors are unlikely to be affected by the Curraghinalt Project, through having minimal or no predicted visibility, as predicted by the Zone of Theoretical Visibility (ZTV);
- Cumulative visual effects on views from residential property groups within approximately 3km of the project site, from which significant additional cumulative visual effects are considered unlikely to occur; and
- Cumulative effects in relation to other developments located beyond 15km from the Curraghinalt Project.

Guidance

2.10 The landscape and visual impact assessment (LVIA) has been carried out in accordance with current policy and best practice guidelines. Referenced guidance and data sources used are set out below.

Methodology Guidance

- Landscape Institute and the Institute of Environmental Management & Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3);
- Landscape Institute (2011) Advice Note 01/11 Photography and photomontage in landscape and visual impact assessment;
- Landscape Institute (2017) Technical Guidance Note 02/17 Visual representation of development proposals;
- Scottish Natural Heritage, 2012. Assessing the Cumulative Impact of Onshore Wind Energy Developments⁵;
- Natural England (2014) An approach to landscape character assessment;
- Countryside Agency and SNH (2002) Landscape Character Assessment Guidance for England and Scotland⁶;
- Scottish Natural Heritage (2017) Visual Representation of Wind Farms - Version 2.2⁷; and
- Department for Communities and Local Government (2014) Minerals Practice Guide.

Landscape Character Assessments/Information

- LUC (Land Use Consultants) in association with Mullin Design Associates and Julie Martin Associates (2015) Northern Ireland Regional Landscape Character Assessment (NIRLCA);
- Environmental Resources Management (1999) Northern Ireland Landscape Character Assessment, Environment and Heritage Service Research and Development Series No. 99/1-26; and
- Fermanagh and Omagh District Council (December 2015) Position Paper 14: Landscape Character Assessment.

Data Sources

2.11 The landscape and visual impact assessment (LVIA) was informed by data gathered from the below sources:

- Base mapping (1:100,000 and 1:50,000 maps);
- Field surveys and baseline site photography;
- Aerial imagery;
- Computer generated Zones of Theoretical Visibility (ZTVs);
- Computer modelled images (3D model views (wirelines) and photomontages); and
- Baseline information from other associated environmental disciplines within the EIA.

2.12 Sources used for the modelling of potential visibility included the following digital data:

- 3-D Topography information at 5m contour intervals; and
- 3-D Topography information at 25m contour intervals.

⁵ Scottish guidance for assessing the cumulative impact of wind farms, but methodology is applicable and referenced within GLVIA3

⁶ Although prepared mainly for use in England and Scotland, the guidance listed is equally applicable in Northern Ireland, where there is no equivalent existing guidance

⁷ Scottish guidance for production of visualisations of wind farms, but methodology is applicable for other types of development

Visualisations and Modelling

- 2.13 The methodology for production of the visualisations was based on current good practice guidance. Detailed information about the approach to viewpoint photography, and Zone of Theoretical Visibility (ZTV) and visualisation production is provided in **Appendix 2**.

Consultation

- 2.14 To inform the approach, consultation was undertaken with the relevant statutory authorities during scoping for the EIA and preparation of the LVIA.
- 2.15 Until midway through 2016 the statutory authority in Northern Ireland with responsibility for the natural environment and for planning matters with relevance to the protection of the landscape and of visual amenity was the Department of the Environment (DOENI), which included the Northern Ireland Environment Agency (NIEA). However, these departments were replaced by the Department of Infrastructure (DfI) Strategic Planning Division (SPD) and the Department of Agriculture, Environment & Rural Affairs (DAERA), the latter of which now encompasses the environmental functions from the former DOENI.
- 2.16 Consultation was carried out regarding the selection of viewpoints, methodology and other developments to be considered for the LVIA and Cumulative LVIA, in addition to the EIA scoping consultation undertaken by SRK Consulting.
- 2.17 Details of consultation and issues raised during consultation, specifically relating to the LVIA, are set out in **Table 2.1** below.

Table 2.1 Consultation Correspondence

Scoping/Other Consultation	Issue Raised by Consultee	LUC Response/Action Taken
DfI SPD (formerly DOE) and/or DAERA (formerly NIEA)		
Formal Scoping Consultation (Scoping report submitted December 2015)	Summary of Scoping Responses received from Statutory Consultees found in the main Curraghinalt Project ES	Responses to matters raised by consultees during Scoping are summarised in the main Curraghinalt Project ES
Pre-Application Discussions / Technical Meeting: Landscape & Visual Impact Assessment (18 th January 2016)	Lynda Connolly (LC) and John Lennon (JL) attended for NIEA. LC and JL made the following observations: LC confirmed that there is no past or current management plan for the Sperrin Area of Outstanding Natural Beauty (AONB) and suggested talking to Mark Hammond (MH). LC confirmed that other than the NI RLCA, there are no other applicable guidance or background documents that she is aware of, but a new local plan is in development.	It has not been possible to locate a citation for the Sperrin AONB which describes the specific special qualities and the reasons for the designation of the area. Where relevant special qualities/key characteristics have been drawn from the national and regional landscape character assessments. The Guidelines for Landscape and Visual Impact Assessment (3rd edition) (GLVIA3)⁸ is the main applicable guidance. Reference is made to relevant local policies.

⁸ Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3) (2013), The Landscape Institute and Institute for Environmental Management and Assessment.

Scoping/Other Consultation	Issue Raised by Consultee	LUC Response/Action Taken
	LC recognises that development will be phased and may require illustration at various stages. An accompanied site visit was suggested to assist LC in understanding the proposals. Discussion was held about the inclusion of the powerline in the visualisations, noting it will be a separate application. LC recognises that separate assessments will not be undertaken from every house: representative viewpoints will be used. Mitigation was discussed: an indicative mitigation plan will be included in the LVIA (i.e. areas for planting and likely species) but not a detailed planting plan. Transplants and whips will be favoured over larger trees. LC stated that consideration should be given to what the landscape should be restored to after closure: i.e. the current linear belts of coniferous trees form artificial lines through the landscape – consider ultimate objective for rehabilitation. LC stated that she had concerns over cumulative effects. It was agreed that LC will comment on the list of assessment viewpoints once a map and draft ZTV had been provided to her. JL said they had no comments to make on these at the meeting, but requested a set of photomontages. Dark sky zones were discussed (by Stephen Hamilton (SH)). Effects to be considered.	The project is illustrated at various stages in the 3D model views and photomontages. A site visit was discussed further between LC and DGL/Turley. No accompanied site visit was undertaken with LC in advance of the application. As the powerline will be subject to a separate application, and its route/alignment is currently uncertain, it is not included in the visualisations. Representative viewpoints are used, and consideration is given to potential effects on views from residential property groups within 3km of the site. Indicative appropriate mitigation (landscape and ecology) is identified and included in the assessment. The post restoration landscape has been considered as part of the closure and rehabilitation plan for the site. Cumulative effects are assessed where applicable, where the proposal has the potential to interact with other existing, consented and proposed developments. The assessment of cumulative effects focuses on the likely significant effects. A map and ZTV was provided and consultation was undertaken to agree the representative viewpoints. Potential effects associated with artificial lighting of the project infrastructure site, project components and vehicle movements on site have been considered, with reference to potential effects on dark skies.
LVIA Consultation (Consultation material sent via email and post: 15th February 2016)	(Consultation response received via email 25th February 2016) – direct quotes: <i>"Concerns were raised at the meeting on 18th January 2016, about the landscape effects of the lorries along "a temporary road across the Curraghinalt ridge" (ref: page 11 para 3.1 of the Scoping Report) and the visual effects in the views from the north around the Owenkillew River area and the rising</i>	The proposed temporary haul/access road across the broad ridge formed by Mullydoo, Crocknamoghil and Crockanboy Hill no longer forms part of the final development proposal.

Scoping/Other Consultation	Issue Raised by Consultee	LUC Response/Action Taken
	<i>land beyond. We suggest that consideration is given to the inclusion of an additional viewpoint(s) in the area east of Greenan Bridge to assess these effects."</i> <i>"Otherwise the 8nr. viewpoints to be used for the photomontages and determined by the Zone of Theoretical Visibility (ZTV) appear reasonable".</i> <i>"With regard to the Cumulative LVIA, large commercial scale wind farm developments, smaller scale single turbines, mineral extraction sites and other large scale built developments etc. are to be included in the assessment. We advise that the final list for inclusion is agreed with strategic planning as they have information re: planning approvals, applications etc. not ourselves."</i> <i>"Finally, to confirm, the methodology and guidance laid out in "Guidelines for Landscape and Visual Impact Assessment", 3rd edition by the Landscape Institute and Institute of Environmental Management and Assessment published 2013 is to be used. The Landscape Institute Advice Note 01/11 "Photography and Photomontage in Landscape and Visual Assessment" should also be considered."</i> <i>"Please also refer to the NI Regional Landscape Character Assessment (NIRLCA) 16 and the NI Landscape Character Assessment 2000 which can be found at www.doeni.gov.uk/articles/landscape-character-northern-ireland"</i> <i>"It should be noted that the site lies within the Sperrin AONB."</i>	The eight agreed assessment viewpoints, plus one additional viewpoint (VP4) have been included. The Cumulative LVIA considers cumulative landscape and visual effects associated with the addition of the Curraghinalt Project with the other developments listed in Appendix 4 and refined in Table 6.6, which includes large scale wind farms, single turbines, mineral extraction sites and large scale built developments, as agreed with the Department of the Environment Northern Ireland (DOENI) Strategic Planning team. The LVIA and Cumulative LVIA has been prepared in accordance with the approach described in GLVIA3 (as detailed within Chapter 4). Visualisations to accompany the assessment have been produced in accordance with the Landscape Institute Advice Note 01/ and the methodology for production of the visualisations was based on applicable guidance as detailed in Appendix 2 of this report. The landscape assessment considers effects upon the baseline landscape described in the NIRLCA and the NI Landscape Character Assessment 2000. The LVIA considers effects on the landscapes of the Sperrin AONB, and views from and towards this nationally designated landscape.
Pre-Application Discussions Meeting: Landscape & Visual Impact Assessment (16th August 2016)	The strategy for the siting and design of the proposed project was discussed, and included a short presentation from LUC to illustrate the potential landscape and visual effects which may arise based on the emerging design at this time. A potential accompanied site visit with the DAERA Landscape Architect was offered. Landscape Architect confirmed that attendance of DAERA would need to be requested by DfI SPD.	DAERA Landscape Architect confirmed the proposed approach to the LVIA was acceptable. No accompanied site visit with the Landscape Architect from DAERA occurred prior to finalising the design or undertaking the assessment.

Study Area

- 2.18 The study area for the assessment of landscape and visual effects, and cumulative effects, extends to 15km from the outermost edges of the proposed infrastructure site (Area A) and is shown on **Figure 1.1**. The study area was defined with reference to existing guidance and in

consultation with statutory consultees. A detailed description of the study area is included in **Chapter 6: Baseline Information** of this report.

Field Survey

- 2.19 Field survey work was carried out during several visits under differing weather conditions between January 2016 and July 2016, and records were made in the form of field notes and photographs. Field survey work included examination of the site, visits to potential representative viewpoints and designated landscapes, and extensive travel around the study area to consider potential effects on landscape character and on experiences of views and visual seen from routes (roads and recreational routes), settlements and key static viewpoint locations.

Key Steps in Assessment

- 2.20 The key steps in the assessment are as follows:

- Identification of designated areas of relevance to landscape and visual amenity;
- Identification of landscape features that may be affected by the Curraghinalt Project;
- Identification and description of Regional Landscape Character Areas (RLCAs) and Local Landscape Areas (LLCAs) located across the study area, informed by field surveys, taking into account aspects such as geology, topographical structure, vegetation, features of landscape importance (e.g. cultural, archaeological, ecological), existing condition, quality and any given value (reflecting landscape designations);
- Determination of the sensitivity of each RLCA and/or LLCA to the type and scale of development proposed, taking account of their value and susceptibility to change;
- The production of a draft Zone of Theoretical Visibility (ZTV) for the key Curraghinalt Project components, using computer modelling extending to up to a 15km radius from the proposed infrastructure site (Area A), in order to determine the study area, and highlight potential landscape and visual receptors;
- Identification of viewpoints to inform the visual assessment, which are representative of the range of views and types of receptor likely to be affected, and determination of the nature or sensitivity of the receptors they represent to change, taking account of their value and susceptibility to change;
- Iterative project design development (see **ES Chapter 5: Alternatives Considered**), and identification and evolution of appropriate measures to mitigate potential landscape and visual effects;
- The production of computer modelled 3D model views (wirelines) and photomontage images to illustrate the Curraghinalt Project from an appropriate selection of representative assessment viewpoints;
- Making judgements about the nature or magnitude of effects on the landscape (both in terms of direct changes to landscape features and resources, and indirect changes to the local character of surrounding landscapes), taking cognisance of size/scale, geographical extent, duration and reversibility;
- Making judgements about the nature or magnitude of effects on views and visual amenity at each representative viewpoint, taking cognisance of size/scale, geographical extent, duration and reversibility;
- Making judgements about the significance of the potential resultant landscape and visual effects, and setting out appropriate mitigation measures;
- Evaluation of the level and significance of residual effects following the application of mitigation measures (i.e. assuming mitigation is taken on board); and
- Consideration of cumulative issues so as to judge the effects of the Curraghinalt Project in combination with other existing, consented or proposed projects, or other anticipated changes nearby.

Structure of the Assessment

2.21 The remainder of this report is structured as follows:

- Legislation and Policy;
- Assessment Methodology;
- Proposed project Siting & Layout Design;
- Landscape and Visual Baseline;
- Mitigation Measures;
- Assessment of Effects on Landscape, including cumulative effects;
- Assessment of Effects on Views, including cumulative effects;
- Implications for Designated Landscapes; and
- Summary of Landscape & Visual Effects.

3 Legislation & Policy

Legislation

- 3.1 The protection of the landscape and visual amenity in Northern Ireland is governed by European Union (EU) Directives and their transposition into Northern Ireland law by way of Statutory Rules.
- 3.2 There are no specific EU Directives or national orders/regulations with regard to the protection of the landscape and visual amenity in Northern Ireland. However, the following are of relevance:
- EIA Directive (2011/92/EU);
 - Habitats Directive (Natura 2000 Sites) (92/43/EEC);
 - The Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 2015;
 - Amenity Lands (NI) Act 1965; and
 - Nature Conservation and Amenity Lands (NI) Order 1985.

National Planning Policy

Planning Strategy for Rural Northern Ireland

- 3.3 Current planning policies for minerals within the FODC region are set out in the Planning Strategy for Rural Northern Ireland (PSRNI)⁹ and, specifically of relevance to landscape and visual effects, the development of mineral workings should have regard to the following policies:
- **Policy MIN 2: Visual Implications** – “to have regard to the **visual** implications of mineral extraction.”
 - **Policy MIN 6: Safety and Amenity** – “to have particular regard to the safety and **amenity** of the occupants of developments in close proximity to mineral workings.”
 - **Policy MIN 8: Restoration** – “to require mineral workings to be restored at the earliest opportunity.”

Strategic Planning Policy Statement for Northern Ireland (SPPS)

- 3.4 The relevant strategic objectives of the SPPS¹⁰ with regard to minerals are:
- “facilitate sustainable minerals development through balancing the need for specific minerals development proposals against the need to safeguard the environment;
 - minimise the impacts of minerals development on local communities, **landscape** quality, built and natural heritage, and the water environment; and
 - secure the sustainable and safe restoration, including the appropriate reuse of mineral sites, at the earliest opportunity”.
- 3.5 The SPPS sets out strategic policy provisions which must be taken into account in the preparation of LDPs and in the determination of planning applications.
- 3.6 The following regional strategic policies, specifically of relevance to landscape and visual effects, which must be taken into account in the determination of planning applications for mineral development.

⁹ Planning Strategy for Rural Northern Ireland (September 1993) The Planning Service, Department of Environment.

¹⁰ Strategic Planning Policy Statement for Northern Ireland (SPPS) (September 2015) Department of the Environment.

- Para 6.154 (Balance the Need) - the regional strategic policies which must be taken into account in determination of planning applications for mineral development
- Para 6.157 (Valuable Minerals) - From time to time minerals may be discovered which are particularly valuable to the economy. Their exploitation may create environmental effects which are particular to the methods of extraction or treatment of that mineral. There will not be a presumption against their exploitation in any area, however in considering a proposal where the site is within a statutory policy area, due weight will be given to the reason for the statutory zoning.
- Para 6.158 (Designated Areas and Mineral Development) - Minerals development within or in close proximity to an area that has been designated (or is proposed for designation) to protect its landscape, scientific or natural heritage significance will not normally be granted permission where this would prejudice the essential character of the area and the rationale for its designation.
- Para 6.161 (Restoration Proposals) - Applications for the extraction of minerals must include satisfactory restoration proposals. The preferred types of reclamation and after use depend on a number of factors, including, the characteristics of the deposits, nature of excavation, availability of fill materials, the surrounding landscape, the needs of the local community and the potential for nature conservation on the site.
- Para 6.165 (Visual Intrusion) - visual intrusion is often the most significant environmental impact associated with mineral workings and where permission is granted, landscape quality should be protected by attaching conditions designed to avoid or mitigate any adverse impacts. Particular regard should be paid to the preservation of skylines and to the proposed location of plant, stockpiles and overburden/waste within the development.
- Para 6.167 (Restoration) - in line with the objective to secure the sustainable restoration, including the appropriate re-use of mineral sites, planning applications should be required to provide adequate details demonstrating the satisfactory restoration of sites subsequent to the completion of operations. Such provisions must be underpinned by appropriate conditions attached to any grant of planning permission.

3.7 Paragraphs 6.186-6.188 relate specifically to development within AONBs.

- Para 6.186 - Areas of Outstanding Natural Beauty (AONBs) are designated by the Department primarily for their high landscape quality, wildlife importance and rich cultural and architectural heritage under the Nature Conservation and Amenity Lands (NI) Order 1985 (NCALO).
- Para 6.187 - Development proposals in AONBs must be sensitive to the distinctive special character of the area and the quality of their landscape, heritage and wildlife, and be in the accordance with relevant plan policies.
- Para 6.188 - in assessing proposals, including cumulative impacts in such areas, account will also be taken of the Landscape Character Assessments and any other relevant guidance including AONB Management Plans and local design guides.

3.8 Planning Policy Statements (PPS) express the policies of the Department of the Environment for Northern Ireland on different aspects of land use planning. The contents are taken into account in preparing development plans and, in appropriate circumstances, will also be material to decisions on individual planning applications and appeals. There is currently no PPS relating to Minerals in Northern Ireland.

Planning Policy Statement 2 Natural Heritage (PPS2) – July 2013

3.9 Planning Policy Statement 2¹¹ supersedes the previous *Planning Strategy for Rural Northern Ireland Regional Planning Policies: Policy DES 4 Areas of Outstanding Natural Beauty* and sets out the Department of Environment's planning policy for the conservation, protection and

¹¹ *Planning Policy Statement 2 Natural Heritage* (July 2013) Department of Environment.

enhancement of our natural heritage. PPS 2 includes the following policy of relevance to potential landscape and visual effects:

- **Policy NH6 – Areas of Outstanding Natural Beauty** – *"Planning permission for new development within an Area of Outstanding Natural Beauty will only be granted where it is of an appropriate design, size and scale for the locality and all the following criteria are met:*
 - *a) the siting and scale of the proposal is sympathetic to the **special character of the Area of Outstanding Natural Beauty** in general and of the particular locality; and*
 - *b) it respects or conserves features (including buildings and other man-made features) of importance to the character, appearance or heritage of the **landscape**; and*
 - *c) the proposal respects: local architectural styles and patterns; traditional boundary details, by retaining features such as hedges, walls, trees and gates; and local materials, design and colour."*

Planning Policy Statement 21 Sustainable Development in the Countryside (PPS21) – June 2010

3.10 PPS 21¹², adopted in June 2010, takes precedence over a number of policy provisions for designations contained in existing and published draft development plans. The following policies within PPS 21 are considered to bear some relevance to landscape and visual effects:

- **Policy CTY 1 – Development in the Countryside** – *"... All proposals for development in the countryside must be sited and designed to integrate sympathetically with their surroundings and to meet other planning and environmental considerations including those for drainage, access and road safety. ..."*
- **Policy CTY 13 – Integration and Design of Buildings in the Countryside** – *"Planning permission will be granted for a building in the countryside where it can be visually integrated into the surrounding **landscape** and it is of an appropriate design. ..."*
- **Policy CTY 14 – Rural Character** – *"Planning permission will be granted for a building in the countryside where it does not cause a detrimental change to, or further erode the rural character of an area. ..."*

Regional Planning Policy Context

- 3.11 Regional planning policy relevant to minerals within this region are set out in the Department for Regional Development (2010) Regional Development Strategy (RDS) 2035 – Building a Better Future, Department of Environment (1993); A Planning Strategy for Rural Northern Ireland (PSRNI); and the Department of Environment (2014) Strategic Planning Policy Statement (SPPS) (2015). The Department of Environment Planning Policy Statements (PPS) are also taken into consideration in conjunction with existing planning policy.
- 3.12 The RDS does not provide specific policy aims and objectives for minerals but identifies the significance of rural areas including towns and villages, which have a role as a reservoir of natural resources and highly valued landscapes.

Local Planning Policy Context

Local Development Plan

- 3.13 The Curraghinalt Project is proposed within the Fermanagh and Omagh District Council (FODC) region of Northern Ireland. FODC is responsible for producing its own Local Development Plan (LDP) which is currently in preparation. Prior to the establishment of the current local government districts on the 1st April 2015, the existing local plan for the region was set out in the Omagh Area Plan 2002. On 3 October 2016, FODC published their Local Development Plan Preferred Options

¹² *Planning Policy Statement 21 Sustainable Development in the Countryside* (June 2010) Department of the Environment.

Paper ('POP') for consultation, with detail in relation to minerals development contained in Main Issue 7: Minerals Development.

Omagh Area Plan 2002

- 3.14 The Omagh Area Plan 2002 (OAP 2002) acknowledges that mineral reserves in the district include sand, gravel, hard rock, gold and peat deposits.
- 3.15 The OAP 2002 recognises the important role of minerals in both the physical and economic development of the area, while also aiming to protect the quality of the landscape. It recognises that it also causes a loss of visual amenity. Therefore the plan seeks to protect landscape quality and ensure that where planning permission is granted it includes conditions to mitigate or avoid visual disturbance. In addition, it states that all new mineral developments would be conditional upon the ultimate rehabilitation of sites to a safe and tidy condition.
- 3.16 The basic strategy of both existing and emerging policies is aimed at promoting mineral development while affording protection to the existing environment.

4 Assessment Methodology

Background to Assessment

- 4.1 The methodology used for the assessment was developed in accordance with UK current good practice guidance including that contained within the Guidelines for Landscape and Visual Impact Assessment – Third Edition (GLVIA3)¹³. GLVIA3 provides guidance on the assessment of both landscape and visual effects, including assessing the overall significance of effects, taking account of the sensitivity of the receptor and the magnitude of the impact. The methodology developed for the LVIA generally conforms to the methodology used for the EIA more broadly as a whole, as defined in the ES¹⁴, but has been refined to take on board the details of the subject-specific guidance outlined in GLVIA3.
- 4.2 **Appendix 1** sets out the full methodology used for the LVIA and Cumulative LVIA. The methodology used is specific to the type of effect being considered, and describes how the sensitivity (nature of receptor), based on considering both susceptibility and value, and the magnitude of effect (nature of the effect), based on considering size/scale/geographical extent, duration and reversibility, on each receptor were identified, and how these were used to judge the overall significance of both landscape and visual effects, consistent with the approach outlined in GLVIA3 (GLVIA3, Figure 3.5, Page 39).
- 4.3 With respect to terminology, GLVIA3 generally distinguishes *"between the 'impact', defined as the action being taken, and the 'effect', defined as the change resulting from that action"* and recommends that the terms should be used consistently in this way (GLVIA3 Para 1.15). The terms are used in this way within the assessment.
- 4.4 Assessment of potential effects on landscape, which deals with changes to the landscape as a resource, and visual effects, which addresses changes in views and visual amenity are related but distinct components of LVIA¹⁵. The methodologies used to assess potential landscape and visual effects are broadly similar, but do include some differences.
- 4.5 The LVIA considers the potential landscape and visual effects arising from the addition of the Curraghinalt Project to the existing landscape, against a baseline that includes other existing built development. This may include, but is not limited to, mineral extraction sites, wind farms and single wind turbines and large scale agricultural or industrial developments, which are either existing or are currently under construction.
- 4.6 The cumulative landscape and visual impact assessment (Cumulative LVIA) considers the potential effects which may occur from the addition of Curraghinalt Project, against a less certain baseline landscape, that includes development that may or may not be present in the landscape in the future (e.g. developments with a viable planning consent or proposed projects subject to a valid planning application).
- 4.7 In order that the differences are clear, the methodology and means of assessing significance for landscape and visual effects, and cumulative effects is set out separately, under the following headings:
- Assessing Landscape Effects;
 - Assessing Visual Effects; and
 - Assessing Cumulative Effects.

¹³ Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3) (2013), The Landscape Institute and Institute for Environmental Management and Assessment.

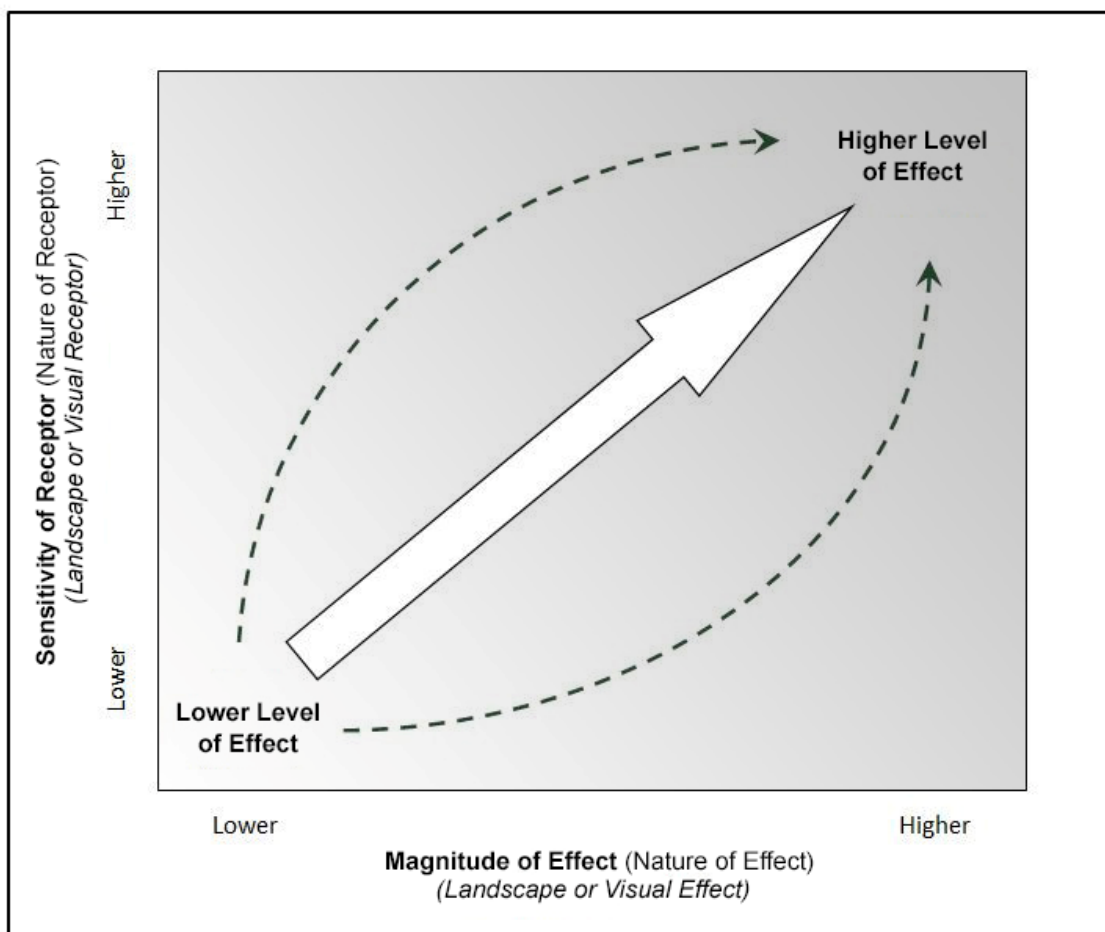
¹⁴ Environmental Statement for the Curraghinalt Project, Northern Ireland, 2017

¹⁵ This distinction is emphasised and clearly defined in the GLVIA 3rd Edition.

General Approach

- 4.8 The assessment of both landscape and visual effects, including cumulative effects, requires consideration of the **sensitivity** or nature of receptors (taking account of their value and their susceptibility to change) and the **magnitude** or nature of the effect (taking account of scale and extent, duration and reversibility). Each variable is examined, and professional judgements made, based on the use of a consistent set of standard terms.
- 4.9 The assessment of landscape and visual effects is based on the weighing up and evaluation of the various contributory aspects, resulting in the presentation of a reasoned judgement as to how each has been assessed, and their contribution to the overall level and significance of the identified resultant landscape and visual effects. A numerical or formal weighting system, or rigid matrix-type approach, whereby the level and significance of effect is defined by the direct correlation between the level of sensitivity and the magnitude of effect is not appropriate for the assessment of landscape and visual effects. Consideration is therefore given to the relative importance against each criteria, to inform the overall judgement, which is accompanied by detailed narrative text providing justification for the judgements.
- 4.10 Each effect can however be evaluated with reference to **Diagram 4.1**, which is shown below as a guide.

Diagram 4.1 Determining Significance of Effects



- 4.11 As required by the EIA Regulations, the assessment must identify the direction of effects as either being adverse, beneficial or neutral (also referred to as negative or positive). With regard to this assessment, the direction of landscape and visual effects is determined as either **beneficial** ('negative'), **adverse** ('negative') or **neutral**. However, adopting a precautionary approach, all effects are assumed to be **adverse** ('negative') unless otherwise stated.

5 The Proposed project

Siting and Design

- 5.1 An iterative approach was adopted during the siting and design of the Curraghinalt Project, enabling an understanding of the baseline environment and the early identification of potential landscape and visual effects to be fed into the evolving design, refining and adapting it so as to help develop the final development proposals.
- 5.2 This iterative design, including the alternative sites considered for the location of key development components, is detailed in **ES Chapter 5: Alternatives Considered** and the final proposed project is described in detail in **ES Chapter 4: Project Description**.

Project Components Related to Landscape & Visual Resources

- 5.3 As described in **ES Chapter 4: Project Description**, the proposed project consists of a number of below ground and above ground surface components, however the assessment of landscape and visual effects focuses on the effects associated with above ground surface components which may alter the physical fabric, or perceptual character of the existing landscape, and lead to visible changes in views and visual amenity as experienced by people. These are limited to the proposed infrastructure site (Area A) as shown on **Figure 1.1** and described below.
- **The proposed surface infrastructure site (Area A):** The site where the process plant and dry stack facility (DSF) will be located, accessed from Crockanboy Road (B46). The area includes the surface portal to the underground decline; covered ore stockpile; crusher pad; process plant; DSF; maintenance workshop; fuel and live station; water treatment plant (WTP) and water management ponds; admin and mine dry buildings; and perimeter fencing.
- 5.4 The existing surface infrastructure site (Area C) is an existing site that is located on the northern side of Camcosy Road. It comprises an exploration compound that will be retained. It will be used as an early works base and for underground development and future training. There is a waste rock storage area at the site that will be decommissioned and rehabilitated. Effects arising in relation to these existing components have not been considered in the assessment.
- 5.5 The existing adit (horizontal entrance to the mine) is located within the proposed mineral extraction area (Area B) and was developed¹⁶ for exploration of the mineral deposit. This infrastructure will be used as a secondary access to the mine. The project includes the retention of all the existing infrastructure at this site during the life of the mine, however effects arising in relation to the retention of this existing component have not been considered in the assessment of landscape and visual effects as no material changes to this area or the infrastructure therein are proposed, beyond those which were considered for the original planning application(s) and subsequent consents.
- 5.6 Sources of potential landscape and visual impact were identified based on the project activities, and the related development components. The project components will occupy varying extents of the development site and hence result in varying levels of landscape and visual effect, of both a direct nature in relation to landscape resources, and an indirect nature in relation to wider landscape character and visual amenity. Those components of greatest height, size and extent will generally result in the greatest effects on both landscape and visual receptors.
- 5.7 The key components of the project which will be the main source of landscape and visual effects are listed below:
- A DSF for storage of dry stack tailings and uneconomic rock;

¹⁶ The site is operated under the planning permissions K/2014/0387/F, K/2014/0246/F and K/2013/0072/F.

- Surface portal to the decline and berm to processing site;
 - Water Treatment Plant (WTP) and water management ponds;
 - A mineral process plant, including crushing facility; process plant buildings; and
 - ancillary buildings.
- 5.8 Other components which may be seen but which will contribute to a lesser degree are:
- Administrative buildings;
 - Maintenance workshop;
 - Warehouse facilities;
 - Parking;
 - Site roads
 - Vehicle movements; and
 - Connections, to offsite infrastructure including the Northern Ireland road network, the electrical grid, along with the sewer and water supply networks in the area of the mine.
- 5.9 It is understood that the mine will operate 365 days a year, 24 hours a day. Therefore, there will be Artificial lighting associated with some componentry and infrastructure, as well as vehicle movements within the site which may be visible during hours of darkness. Where applicable, consideration of visual effects associated with the lighting of specific componentry is included within the assessment.
- 5.10 An appraisal of potential landscape and visual effects associated with the development of a new 33 kV electricity distribution line that will be developed by Northern Ireland Electricity Networks (NIE) to supply power to the Curraghinalt Project mineral process plant is found in **Appendix Z** to the ES.

Project Phases & Assessment Phases

- 5.11 The LVIA has considered a sequence of the main project phases which are outlined in **Table 5.1** below. Within each phase, a number of project activities are identified and are scheduled to be undertaken at different stages. Landscape and visual impacts associated with the following phases are considered at three different assessment stages, as outlined in **Table 5.1** below:
- 5.12 Table 5.1 These are a simplification of the more detailed phases and sub-phases, in order that the landscape and visual impacts associated with each key phase can be set out and illustrated. They are fully detailed in **Chapter 4: Project Description**. Whilst the project is live, it will be divided into the three main phases (construction through to closure as listed below), however, in practice there will be a fluid transition between the end of one phase and the start of the next, and some activities will occur concurrently.
- 5.13 The construction phase can expect to take approximately 2 years (including construction of infrastructure and initial development of the mine workings). The operational phase of the mine (known as the Life-of-Mine) is expected to be between 20 to 25 years based on the known mineral resources and proposed production rate, however this may vary dependant on the processing rate. During the operational mining phase, further exploration drilling could extend the mining reserves and the life of mine. It is estimated that closure of the mine and complete restoration of the mine site will take one year, after which monitoring and maintenance will continue for five years.
- 5.14 In summary:
- Construction Phase for the mine and related infrastructure will occur over two years;

- Operational Phase will extend to 20-25 years¹⁷;
- Closure and restoration phase will be undertaken over one year; and following this
- Post-closure monitoring and maintenance will extend for a five year phase.

5.15 Within each phase, a number of project activities are identified and are scheduled to be undertaken at different stages. Landscape and visual impacts associated with the following phases are considered at three different assessment stages, as outlined in **Table 5.1** below:

Table 5.1 Project Phases and Assessment Phases

Project Phases and Assessment Phases			
Project Phase	Duration	Key Project Activities	Assessment Phase
Construction (includes construction of infrastructure and initial development of the mine workings)	2 years	Facilitation of site access roads; Movement of onsite construction vehicles and machinery; Construction of project components (including DSF); Night time lighting.	Assessment at c. Year 2 of project (assumed to be before operational activities begin). Representing: Construction Phase: Year -1. (This will reflect short-term often temporary effects experienced during construction).
Operational (known as the Life-of-Mine)	20 - 25 years (Dependant on processing rate of mineral resource)	Movement of vehicles required for operational phase on site; Development of DSF as material is removed from the underground mine; Night time lighting.	Assessment at c. Year 20 of project (assumed to be during the development of the final extent of the DSF as shown in photomontage visualisations, with 3D model views representing Year 5 and Year 11 of the operational phase included for a number of viewpoints). Representing: Operational Phase: Year 1 – 25. (This will reflect the 'maximum case' assessment of the project life).
Closure and Restoration	6 years (It is estimated that it will take 1 year to rehabilitate the site, this will be followed by 5 years post closure monitoring and maintenance.)	Cessation of operations; Implementation of Closure activities, restoration measures and monitoring of restoration.	Assessment at c. Year 25 of project (assumed to be when closure works cease, and illustrated in photomontage visualisations for a number of viewpoints). Representing: Closure and Restoration Phase: Year 26 – 31.

¹⁷ Dependant on processing rate of mineral resource

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6 Baseline Information

Introduction

The Project Site and Context

- 6.1 The Curraghinalt Site is proposed within the Fermanagh and Omagh District Council (FODC) area, approximately 17km to the north-east of Omagh, with the main componentry centred on approximately Irish grid reference 72320, 546130.
- 6.2 The Infrastructure Site (Area A), as shown on **Figure 6.1**, is situated on the lower broadly south facing slopes of the broad ridge, which forms part of the southern Sperrin Mountains. The highest points from east to west include the local hills of Crockanboy Hill (287m AOD), Crocknamoghil (355m AOD) and Mullydoo (325m AOD).
- 6.3 In the west to north-western part of the site landcover comprises moorland and rough grazing, above the limit of enclosed land, comprising bog, heath and rush pasture habitats. At lower elevations, the land use of and surrounding the ridge predominately comprises pastoral farmland used for grazing, with long narrow rectilinear fields bound by a combination of post and wire fences, stone walls and hedgerows, with linear coniferous tree belts as well as lines of broadleaf trees, along boundaries.
- 6.4 The field pattern is representative of the characteristic 'ladder fields', and runs up slope in a broadly south-west to north-east orientation. The eastern part of the site is largely composed of more intensively managed improved pastoral farmland at lower elevation, delineated by coniferous trees will form a matrix of linear enclosing shelterbelts which are a key characteristic of the site, but do not reflect the character of the wider landscape.
- 6.5 The ridge formed by Crockanboy Hill and Crocknamoghil directly north of the site forms the watershed between the Owenkillew River valley to the north (river located at approximately 120m AOD) and the Owenreagh River valley to the south (river located at approximately 105m AOD), and this landform limits views towards the site from the north, including the Sperrin Mountains which form the core central area of the Sperrin AONB.

The Study Area

- 6.6 The landscape of the study area is varied and includes the Sperrin Mountains, upland moorland, valley farmland and areas of coniferous plantation as well as natural and native woodland. The topography of the study area is also varied, as illustrated on **Figure 6.2**. To the north of the site lie the higher hills of the Sperrin Mountains with notable summits, running from east to west including Sawel Mountain the highest point within the Sperrins range (678m AOD) approximately 13km to the north-east of the site, Dart Mountain (619m AOD) approximately 10km to the north-west and Mullaghclogha (635m AOD) approximately 10.5km to the north. Land cover to the north primarily comprises open moorland and heathland at higher altitudes.
- 6.7 To the east and north-east, the landform comprises a series of ridges and valleys, with a high point at Oughtmore (382m AOD), 13km to the east. Land cover consists of an extensive patchwork of plantation forestry, lower valley farmland and elevated open moorland.
- 6.8 Directly south of the site, the ridge and valley topography continues but is generally at a lower elevation to the Sperrins to the north, with a land cover of farmland and moorland on higher ground.
- 6.9 To the west and south-west lie the south-west Sperrins, with a high point of Mullaghcarn (542m AOD). This is the most southerly hill of the Sperrins and is located on the edge of Gortin Glen Forest Park. Land cover to the west consists of plantation forestry, broadleaf woodland, moorland and extensive areas of farmland at lower elevations.

- 6.10 There are a number of communication routes throughout the study area which mainly link valley towns, regular well-spaced detached residence and farmsteads. Within 5km, these include the B46 and a network of minor roads. Between 5km to 15km roads include the A505, B46, B47, B48 and B5536.
- 6.11 Settlement and residences in the study area are generally located at a lower elevation, in association with existing roads and the river valley. The settlement pattern within 5km of the proposed project largely comprises well-spaced detached houses and farmsteads, adjacent to connecting roads and a number of small settlements; including Rouskey 2.7km to the west, Greencastle 2.8km to the south-east, Glenhull 3km to the north-east and Scotch Town 3.6km to the north-west.
- 6.12 At over 5km distance, the largest settlements include Loughmacrory 9.6km to the south, Mountfield 8.4km to the south-west, Gortin 8.5 km to the west, Plumbridge 11.4km to the north-west, Dunnamore 11.8km to the east, Creggan to the south-east 8km, Carrickmore 13km to the south-east, Loughmacrory 9.4km to the south, and Mountfield 8.2km to the south-west. The town of Omagh lies just outside the 15km study area to the south-west.

Visual influence of the Curraghinalt Project

- 6.13 In order to understand the potential landscape and visual effects of the Curraghinalt Project, a Zone of Theoretical Visibility (ZTV) was generated based on the maximum extent of the DSF¹⁸. The ZTV extends to an area of approximately 15km radius from the project infrastructure site, and despite areas of higher visibility indicated beyond this distance in some instances, the likelihood of significant landscape and visual impacts occurring beyond 15km are considered unlikely. The ZTV is based on a bare ground terrain model and therefore illustrates a 'maximum case scenario' with no account taken of screening by vegetation and buildings.
- 6.14 ZTVs illustrates the extent of theoretical visibility possible across the 15km study area for the process plant buildings and the DSF at different stages of development (Year 5, Year 11 and Year 20 – Maximum extents) as shown on **Figures 6.3a-d**. The ZTVs were used to help identify the landscape and visual receptors likely to experience effects as a consequence of the introduction of the Curraghinalt Project.

Landscape Baseline

- 6.15 This section presents an overview of the landscape baseline including the existing landscape character (and constituent landscape elements), as well as comment on landscape condition and any designations attached to the landscape.
- 6.16 Available documents and guidelines which describe landscape character and protected landscapes within the study area were reviewed. The data relevant to study area is detailed below.

Landscape Character

- 6.17 Landscape is primarily concerned with the relationship and interaction between people and place. Landscape is defined by GLVIA3 as an area which is perceived by people, the character of which is the result of natural and/or human factors. Different components of the environment, both natural (geology, soils, climate, flora, fauna) and cultural (historical, land use, settlement and other human intervention) combine to shape landscape character as perceived and related to by the people who experience it.
- 6.18 The landscape character of the site and study area is described in the following documents:
- Northern Ireland Regional Landscape Character Assessment, 2015 (NIRLCA)¹⁹; and

¹⁸ The DSF represents the largest component of the development, and which consequently has the most extensive visual influence. It is considered unlikely that other project components within the proposed infrastructure site (Area A) will be seen out with the context of the DSF, therefore individual ZTVs for other project components were not generated.

¹⁹ LUC in association with Mullin Design Associates and Julie Martin Associates (2015) Northern Ireland Regional Landscape Character Assessment.

- Northern Ireland Landscape Character Assessment, 2000 (NILCA)²⁰.

6.19 Regional and Local Landscape Character Areas (LLCAs) are shown on **Figure 6.4** and **Figure 6.5** and are shown overlaid with the ZTV on **Figure 6.4a** and **Figure 6.5a**. The LLCAs broadly nest within the larger scale RLCAs, covering the same areas of landscape, but providing greater levels of detail, albeit that some of the baseline information on the 1999 assessment is now dated. Whilst the baseline material from each study is summarised in this chapter, the assessment considers the areas holistically rather than assessing areas divided up in different ways twice, as this would result in double counting of effects.

Regional Landscape Character Areas (RLCAs)

- 6.20 In 2015, the then Northern Ireland Environmental Agency (NIEA) commissioned LUC to prepare a Regional Landscape Character Assessment. The resulting Northern Ireland Regional Landscape Character Assessment provides a strategic overview of the landscape and subdivides the country into 26 Regional Landscape Character Areas, based upon information on people and place and the combinations of nature, culture and perception which make each part of Northern Ireland unique.
- 6.21 Regional Landscape Character Areas are shown on **Figure 6.4** and are shown overlaid with the ZTV in **Figure 6.4a**.

Regional Landscape Character Areas

- 6.22 The Curraghinalt Project is proposed within two Regional Landscape Character Areas (RLCAs). These are named: **7 Sperrins** and **12 Carrickmore Plateau and Pomeroy Hills**. Key characteristics of these RLCAs are quoted below.

RLCA 7 Sperrins

"Introduction

The principal mountain range of the north-west, the Sperrins comprise some of the wildest and most rugged terrain in Northern Ireland. The main ridges, divided by the scenic Glenelly valley, are surrounded by a series of outliers including Bessy Bell and Mullaghcarn above the River Strule, Slieve Gallion in the east, and Benbradagh across the Glenshane Pass. The boundaries follow the main east-west ridges of the Sperrins, separating them from the lower hills to north and south.

Location and Setting

The Sperrins are the principal mountain range of the north west of Northern Ireland. The RLCA covers the uplands and valleys focused on the spine of the Sperrin Mountains which runs from west to east. The mountains begin at the detached hill of Bessy Bell above Newtownstewart, and continue to the east and north east through the area surrounding Mount Sawel, the highest peak in the range, and across the Glenshane Pass to Benbradagh and Carntogher. The RLCA also covers the westward outlying peak of Slieve Gallion and the valley around Draperstown.

The RLCA falls mainly within County Tyrone and includes small areas of County Londonderry. The RLCA is surrounded by lower lying landscapes of valleys and foothills, with the exception of the Bievenagh Ridge (RLCA 10) which continues to the north-east, curving around to the North Coast. The Foyle Valley (RLCA 6) lies to the west, where the landform falls away beyond Owenreagh Hill and Bessy Bell. To the south west the RLCA skirts around the edges of the settlement of Omagh and overlooks the Omagh Basin (RLCA 4) and Fairy Water valley (RLCA 5).

To the south, the mountains drop down to a more level plateau between Mullaghcarn and Slieve Gallion, which has been identified as the Carrickmore Plateau (RLCA 12). To the east, Slieve Gallion is a major presence overlooking the drumlin farmland along the western flanks of Lough Neagh (RLCA 11) and Lower Bann Valley beyond. The North Sperrins Hills and Valleys (RLCA 8) is to the north where the lower foothills

²⁰ Environmental Resources Management (1999) Northern Ireland Landscape Character Assessment 2000, Environment and Heritage Service Research and Development Series No. 99/1-26.

RLCA 7 Sperrins

of the Sperrins are interspersed with valleys which become progressively shallow and less steep towards the coast.

Landscape Character Description

The Sperrins are characterised by a spine of mountains which runs from Owenreagh Hill in the west to Carntogher in the north-east, along with outlying hills. Many of the peaks of the range are over 500m with the more dramatic summits towards the north including the highest, Sawel Mountain (678m) and Mullaghaneany (627m). The broad rounded ridges surrounding these higher peaks are prevalent throughout the entire RLCA with moorland features and bog land also found extensively. Gortin Glen and the surrounding upland area towards Mary Gray and the outlying Bessy Bell act as a gateway to the Sperrins to the south west with the A5 the key route to the north-west from Omagh to the south. The Strule cuts between these projections forming a scenic valley with Bessy Bell particularly prominent in the landscape despite its relatively diminutive stature (420m).

To the north-east of Mullaghaneany the Sperrins join with the bold basalt escarpment of Benbradagh dominating the head of the Roe Valley. The conifer plantations at Banagher and along the Glenshane Pass contrast with the surrounding open moorland. The Glenshane Pass provides the main corridor of access from the north-west towards Belfast and the east. The screes of Mullaghmore are a prominent feature above Draperstown, within the farmed upper Moyola valley. Slieve Gallion is the most easterly peak of the Sperrins, with distinctive ladder fields on its flanks, and provides views from its eastern slope over the surrounding area to Lough Neagh to the east and beyond to Mount Slemish in the north-east.

There are multiple fast running streams throughout the slopes and gullies have resulted in places sometimes becoming deep and branching. The Glenelly Valley cuts through the RLCA from east to west from Mullaghaneany to Plumbridge. The river has cut deep into the softer deposits and meanders between steep ridges which combine with to give the area a hidden quality which is at odds with the expansive nature of the uplands area surrounding on either side. Glenelly is recognised as a scenic route of particular quality. To the south beyond the broad rounded ridge of Cragnamaddy the Owenkillew River has formed another upland valley to the north of Crocknamoghil which in comparison is much more open. There are many areas of ancient woodland, though most of these are very small in extent.

The mountainous peak of Mullaghcarn is within Gortin Glen Forest Park, an important recreational location that enables expansive views of the western ridge of the higher Sperrins to the north. The Forest Park itself is popular with tourists and the Ulster Way trail passes through the extensive conifer plantations.

Key characteristics:

- The more elevated Sperrin Mountains are characterised by expansive swathes of moorland with coniferous forest plantations contrasting harshly with the windswept broad summits which give an open character to these areas. Hedgerows and stone walls become more prevalent moving away from the higher grounds giving a more interconnected feeling at these locations.
- The higher peaks in the northern part of the RLCA are distinctly more mountainous, comprising a ridge with knife-like projections and rocky summits beyond. These mountains provide the backdrop for many of the views from the lower hills in the area.
- Given the elevated position of the landform and the low-lying nature of much of the surrounding area, expansive views are provided over the Moyola Valley towards Lough Neagh and beyond the River Foyle into Donegal.
- Fast flowing streams throughout the RLCA have resulted in the formation of deep steeply sided gullies and valleys in places with native tree cover becoming much denser along the floors of valleys.
- Main transport routes and settlements are confined to the valleys surrounding the mountains, including the Strule, Glenelly, Owenkillew, Douglas and Moyola Rivers and their tributaries. The Glenshane Pass is the main crossing of the Sperrins itself and is an extremely busy route.
- Bessy Bell the westward outlier of the Sperrins range is a distinctive landmark in the area given its isolated position beyond the main ridge and the deep wooded Strule Valley which separates it from Slieveard. Similarly Slieve Gallion is a major presence from the lowlands to the east.
- Though the valleys are populated, the hill areas of the Sperrins are a sparsely settled area with a high degree of remoteness and tranquillity. The mountains and upper glens have significant wildness character arising from their inaccessibility, and are a dark sky resource."

RLCA 12 Carrickmore Plateau and Pomeroy Hills

"Introduction

These plateau hills extend south from the Sperrins to separate the Lough Neagh and Omagh basins. The area has extensive peat bog, forest and upland pasture. The plateau east of Carrickmore in particular is rich in Neolithic monuments, with a number of well-known sites open to visitors. The northern area is hemmed in by the Sperrins, though the southern hills are more open with longer views.

Location & Setting

This RLCA comprises an irregular area of low hills and plateau, which divides the Lough Neagh Basin to the east from the Omagh Basin to the west. It sits to the south of the main ridge of the Sperrins, and is mainly in County Tyrone. The area is fringed by higher hills on its northern sides, including the Sperrins to the north, Mullaghcarra to the north-west and Slieve Gallion to the north-east. To west and east the plateau slopes down to lowland farmland, towards Omagh and Cookstown respectively. The plateau hills extend south around Pomeroy to Slievemore, which overlooks the Clogher Valley at Ballygawley.

To the north and west of the Carrickmore Plateau are the uplands of the Sperrins (RLCA 7). To the east, Slieve Gallion and the adjacent lowland around Cookstown form RLCA 11, sloping down to Lough Neagh. The southern Pomeroy Hills overlook the drumlins around Dungannon (RLCA 13) and the Clogher Valley (RLCA 3), and the lowland to the south-west is within the Omagh Basin (RLCA 4).

Landscape Character Description

This area of low uplands lies at elevations between 150m and 300m, with a group of higher hills at Davagh Forest rising to Oughtmore (382m). It comprises the Carrickmore Plateau in the north and the Pomeroy Hills to the south. These areas are upland in character, with landcover dominated by peat bog, rough grazing and coniferous forestry, though with significant areas of enclosed pasture. Mineral extraction is ongoing in several locations across the landscape.

The Carrickmore Plateau is an extensive area of relatively even topography, largely occupied by peat bogs and forest. It is broad and flat for the most part, with low rocky hills rising in places. To the north-west it is dissected by the Owenkillev River valley, forming more sheltered upland pastoral areas within the exposed plateau. The peat bogs in this area have formed since Neolithic times, when the area was farmed and settled. Removal of peat has revealed numerous monuments of this phase, including a number of notable stone circles.

A low ridge bounds the plateau north of Carrickmore, and the hills to the south form a relatively continuous block between Pomeroy and Ballygawley. These hills are more undulating in form, with open rough grazing and peat on high ground, and a fringe of enclosed pasture. Large-scale forestry and mineral extraction are again significant features.

Key characteristics:

- *An area of low hills, mainly below 350m, forming a broad plateau which separates the Lough Neagh and Omagh basins, narrowing to the ridge of the Pomeroy Hills to the south.*
- *Radial drainage pattern of upland streams and rivers flowing outward from the centre of this area.*
- *Remarkable concentrations of important Neolithic monuments, including the well-known stone circles of Beaghmore, which predate the development of peat bog over the area.*
- *Broad expanses of peat bog on the open upland plateau, giving way to enclosed upland pasture and rough grazing around Pomeroy and Carrickmore.*
- *Scattered upland settlements around the edges of this area, on the fringes of the adjacent basins and along pastoral valleys.*
- *Glacial deposits of sand and gravel in the form of eskers and moraine, which are being extracted at several large quarries; there are stone quarries further south.*
- *Views north to the Sperrins which frame the plateau around Beaghmore, and broad views east and west over lower-lying landscapes.*
- *A505 and B4 are important east-west routes across the hills."*

Local Landscape Character Areas (LLCAs)

- 6.23 The earlier Northern Ireland Landscape Character Assessment (NILCA) undertaken in 1999 subdivided the countryside into 130 Landscape Character Areas (LLCAs), each based upon local patterns of geology, landform, land use, cultural and ecological features. For each LLCA, the key characteristics were described and an analysis of landscape condition and its sensitivity to change was made. This information was used to inform the 2015 NIRLCA, and both are used as the basis for this assessment.

Local Landscape Character Areas to be assessed

- 6.24 On the basis of extensive experience of landscape assessment and the type and scale of development proposed, effects on landscape character are unlikely to result in significant effects over distances in excess of 15km. The assessment of landscape effects, contained in **Chapter 8: Assessment of Landscape Effects** is therefore tailored to focus on likely potential significant effects. **Table 6.1** lists the LLCAs which are found within 15km of the site, and describes the level of theoretical visibility of the Curraghinalt Project from each LLCA, with reference to the ZTV (**Figure 6.5a**).
- 6.25 In order to focus on potentially significant effects, LLCAs of which the site is not a part and from which the proposed project will (i) not be visible; (ii) will be visible only intermittently at a distance; or (iii) where key characteristic views are not focused towards/include the LLCA of which the site is a part; are not considered further in the assessment, since there is no likelihood that their intrinsic character will be affected to a significant degree.
- 6.26 Significant effects on landscape character occur where the presence of the new development alters perceptions of the landscape and begins to subvert other key characteristics. They may arise during the construction, operation and closure phases. This is unlikely to occur in an area where the new development will be viewed as a distant feature in a limited number of views. It is also unlikely if the key characteristics of LLCAs do not include views of the surrounding landscape or the LLCA of which the site is a part. Effects on views may still occur, and may still be significant, and these are examined further in **Chapter 8: Assessment of Visual Effects**.

Table 6.1 Local Landscape Character Areas

Landscape Character Areas (LLCAs)	Potential theoretical visibility of the Proposed project (as indicated by extent of ZTV within 15km)
22 Omagh Farmland	Located approximately 14km to the south of the Curraghinalt Project. Limited visibility at the north-eastern periphery of this LLCA, however, visibility of project components unlikely to be discernible at this distance and not likely to result in significant landscape effects – not considered further in assessment.
23 Camowen Valley	Located approximately 9km to the south, south-west of the Curraghinalt Project. Very limited theoretical visibility from LLCA – not considered further in assessment.
24 South Sperrin	Landscape Character Area which the majority of the development components are proposed within. Considered within the assessment. Direct effects on the LLCA and extensive theoretical visibility of the Curraghinalt Project across immediate surrounding area - considered within the assessment .
25 Beaghmore Moors and Marsh	Landscape Character Area which some of the eastern and southernmost development components are proposed within. Considered within the assessment. Theoretical visibility from areas of LLCA to the east and south-east - considered within the assessment .
26 Bessy Bell and Gortin	Located approximately 4km to the west, south-west of the Curraghinalt Project. Theoretical visibility of project components possible from eastern extents of the LLCA - considered within the assessment .

Landscape Character Areas (LLCAs)	Potential theoretical visibility of the Proposed project (as indicated by extent of ZTV within 15km)
28 Glenelly Valley	Located approximately 5km to the north of the Curraghinalt Project. No theoretical visibility due to intervening topography - not considered further within the assessment.
29 Sperrin Mountains	Located approximately 9km to the north of the Curraghinalt Project. Very limited theoretical visibility of main project components, however existing exploratory works and mine access visible from distant hill summits and upper slopes of the Sperrin Mountains - considered within the assessment.
41 Slieve Gallion	Located beyond 10km to the east of the Curraghinalt Project. Limited theoretical visibility indicated by the ZTV from the elevated and densely wooded areas of Davagh Forest which will further limit any potential visibility from further east, north-east, and not likely to result in significant landscape effects – not considered further in assessment.
43 Carrickmore Hills	Located approximately 5km south-west of the Curraghinalt Project. Theoretical visibility from elevated areas at the northern periphery of the LLCA - considered within the assessment.
44 Slievemore	Located approximately 13km south-east of the Curraghinalt Project. Limited theoretical visibility indicated from elevated areas at the northern extent of this LLCA, including Slievebeg. Visibility of project components unlikely to be discernible at this distance and not likely to result in significant landscape effects – not considered further in assessment.

Local LLCA Descriptions

- 6.27 The development is proposed within LLCA 24 South Sperrin and will extend into LLCA 25 Beaghmore Moors & Marsh. Descriptions of these LLCAs along with the other LLCAs found across the study and considered further in the assessment are quoted below.

24 South Sperrin LLCA

"Landscape Description

South Sperrin includes the upland river valley of the Owenkillew and Owenreagh Rivers and the broad ridges to the south of the Glenelly valley, including the summits of Spaltindoagh (410m) and Mullaghmore (554) to the north of the Owenkillew River and Crocknamoghil (335m) to the south. The broad upland ridges of the Sperrins in this area form a backdrop to the valley landscapes. The mountain skyline is open, with upland grasses and rocky screes on the slopes leading to the summits. The valley slopes are deeply undulating and dissected by tributary burns flowing in rocky, open channels. The lower slopes of Spaltindoagh and Mullaghmore, in the remote eastern parts of the uplands, have conifer plantations with bold, dark shapes. Elsewhere, the river valleys have a diverse pattern of hedgerow trees, small copses and woodlands, with the largest deciduous woodlands, such as Drumlea Wood, on the margins of the Owenkillew River floodplain. Small blocks of conifers have often been planted to shelter farmsteads. Tree cover becomes progressively sparser and more stunted towards the upper slopes, where patches of scrub and coarser grasses form a textured, open mosaic on the edge of the moor.

The character and pattern of the landscape changes gradually from the valley floor to the upper moorland slopes. The slopes of the upper Owenkillew and Owenreagh River valleys are characterised by a patchy mosaic of derelict pastures and scrub, with broken stone walls, earthbanks and gappy remnant hedgerows marking the former pattern of fields. Poorly-drained land is often infested with rushes. The lower river valleys, to the west of the confluence of the Owenkillew and Owenreagh Rivers, have a more secluded, pastoral character. Here the historic field pattern remains intact and stone walls are often striking landscape features. The village of Gortin is sheltered by the steep slopes of Mullaghcarra to the south, and by the woodlands associated with the Beltrim Castle estate. There is a linear settlement pattern, with small farmsteads strung out at regular intervals along the valley roads. The slightly larger settlements, such as

24 South Sperrin LLCA

Greencastle and Scotchtown are typically sited at the junctions of roads and near to river crossing points. There are prominent raths, and standing stones on the margins of the river floodplains. Lisdoon Rath is a striking example. The small stone bridges at river crossing points are also important local landscape features

Key characteristics:

- Broad rounded ridges with deep, branching gullies and fast-flowing upland streams;
- Meandering rivers are a focus for views - the narrow floodplain is often subdivided by irregular mounds of glacial till;
- Patches of peaty marsh in low-lying areas between ridges of moraine and valley sides;
- Marginal farmland, with scrub, rushes and moorland vegetation on upper slopes of stream valleys;
- Hedgerows and stone walls on lower slopes follow historic townland boundaries and emphasise the undulating landform; and
- Narrow lanes along margins of river floodplains - stone bridges at crossing points are local landscape features.

Landscape Condition and Sensitivity to Change

The river valleys are overlooked by viewpoints from roads on the surrounding ridgetops and the meandering Owenkillew River near Gortin is particularly prominent in views from the popular picnic sites on the ridgetop roads above Gortin. The whole area is therefore extremely sensitive to changes which would affect its unspoilt character and the transition from the secluded valley landscape pattern to that of the upland summits. Derelict cottages and farm buildings are commonplace in the marginal farmland landscapes to the east.

This landscape would be sensitive to the expansion of commercial forestry and to any large scale development, particularly relating to mineral extraction, which would be prominent in views from the surrounding ridges.

Principles for Landscape Management

- Deciduous species should be used to help integrate conifer shelterbelts and the edges of conifer forests with the natural landform
- The restoration of stone walls and earthbanks on the upper slopes (under the ESA programme) will conserve the historic landscape pattern

Principles for Accommodating New Development

- New development with a suburban character should not be permitted. It would be out of place and extremely prominent in this scenic and historic landscape setting
- There is a risk that small-scale development relating to tourism (car parks, picnic areas, sign posts etc.) may have a cumulative effect; careful siting and the use of local materials will be important in minimising any negative impact."

25 Beaghmore Moors & Marsh LLCA

"Landscape Description

A relatively elevated, rolling plateau of wide shallow valleys and broad, rounded ridges to the south and east of the Sperrin Mountains. Extensive glacial deposits form irregular ridges and mounds throughout the area. Slopes typically have shallow, smooth profiles, although some quarried outcrops have an irregular skyline. This is an expansive, relatively homogeneous landscape, fragmented in some areas by small conifer shelterbelts protecting the whitewashed farmsteads from the prevailing wind. Despite the conifer woodlands, the area feels exposed. Broad, peaty marsh extends across the shallow valley floors. The pastures on the lower slopes are divided by open, straight drainage channels; in more elevated areas they are often enclosed by low stone walls. Scrubby, stunted hedgerows and wire fences surround fields where stone walls are absent. Extensive conifer plantations on the shallow valley slopes often mask the landform.

The plantations have hard, geometric edges and sometimes form an abrupt transition at the edges of the valley marsh. There are some deciduous woodlands in gullies on valley sides and the incidence of woodland increases towards the slopes of the Sperrins to the north-west. Roads crossing the valley marshes are generally straight and raised on embankments, crossing the many streams at stone, hump-

25 Beaghmore Moors & Marsh LLCA

backed bridges. There are no large villages, only scattered farmsteads, and occasional groups of cottages on higher land. The buildings are typically white-washed and stand out clearly against the dark green backdrop of the shelterbelts. Farm buildings often have red roofs. The farmsteads are prominent and form a visual focus throughout the area.

Key characteristics:

- Shallow low ridges of glacial moraine separated by extensive peaty marsh
- Numerous winding small rivers and tributary streams flow in open channels with scrubby margins
- Pasture predominates on higher land, with exposed moorland on some ridgetops and extensive conifer plantations on shallow slopes
- Most fields enclosed by wire fences or broken scrubby hedgerows
- Small conifer shelterbelts are prominent around most farmsteads
- Few settlements but many farmsteads on higher land, connected by straight, embanked roads
- Bronze Age sites.

Landscape Condition and Sensitivity to Change

Much of the landscape is in poor condition, with broken stone walls and gappy, stunted hedgerows. The area is pitted with sand and gravel quarries. Spoil heaps, quarry scars and hollows often create small-scale, irregular and rather lumpy terrain. Derelict buildings and flytipping are commonplace. Scattered built development has a strong visual influence. The most significant pressure for change is from the large, modern sand and gravel quarries, most of which are close to the A505.

The plant, machinery and vast spoil heaps associated with these quarries have a wide visual influence in this relatively expansive, rolling landscape. Conifer plantations are a strong pressure for change and many are newly planted. They form a large-scale, irregular patchwork which fits fairly comfortably with the extensive valley bogs and marshes and forms a backdrop to the scattering of farmsteads and shelterbelts.

Principles for Landscape Management

- The abrupt boundaries of conifer plantations may be softened by forming indented edges and planting some broadleaves as forests are progressively felled and replanted.
- Restoration of the many small derelict quarries and spoil heaps will improve landscape quality and biodiversity.
- The removal of fly-tipping and derelict plant from quarrying activities will improve the quality of the landscape.
- The structure of the landscape would be improved by the restoration of stone walls, particularly near the slopes of the Sperrins to the north.

Principles for Accommodating New Development

- Much of the area is unsuitable for larger scale development as it is low-lying and marshy; such development would also be out of character with the existing scattered farmsteads.
- There are opportunities to restore existing derelict buildings; new development in such locations should be relatively low in height.
- Buildings, and their associated conifer shelterbelts, are generally prominent on low ridges and new buildings could be more carefully integrated using broadleaf trees as well as conifers to form shelter.
- The long term restoration of the large active sand and gravel quarries along the A505 will provide a significant opportunity to reinforce local landscape character and quality."

26 Bessy Bell & Gortin LLCA

"Landscape Description

The Bessy Bell and Gortin landscape is a distinctive, scenic and much visited part of the North West; the twin peaks of Bessy Bell and Mary Gray form a gateway to the south of the Sperrins. The high summits of Mullaghcarn (542m), Slieveard (419m) and Bessy Bell (420m) are outliers to the south west of the

principal Sperrins range. They are divided by the scenic valley of the River Strule, which flows northwards from Omagh towards the Foyle.

In common with the rest of the Sperrins, the high summits of Mullaghcarn and Slieveard have a dramatic, mountainous appearance, with distinct, sharp ridges and rocky summits. The slopes are littered with grey scree and carved by steep, fast-flowing burns, which flow in deep gullies. A long ridge extends from the main mountain block to the north-west, enclosing the undulating valley of Cappagh Burn and its branching tributaries. Its sequence of lower summits, Ballnatubbrit Mountain, Beauty Mountain and finally, Mary Gray, form a scenic backdrop to views along the Strule Valley. The lower slopes of the Mullaghcarn Mountains have a striking landscape pattern, with stone walls and earth banks following the historic townland boundaries. The stone farmsteads on these slopes are an attractive element in most views. The western slopes of Mullaghcarn are covered by the extensive conifer plantations of the Gortin Glen Forest, which forms a prominent blocky pattern on the steep slopes.

To the west of the Strule, Bessy Bell, and the neighbouring smaller summits of Deer's Leap and Forster's Mountain, have a more rounded character, in common with the foothills to the north of the Sperrins. The open summits are capped with open moorland, with a transition to marginal pastures and richer farmland on the lower slopes. The wind farm on the slopes of Bessy Bell is a prominent local landmark. From the confluence with Cappagh Burn to Newtownstewart, the Strule River meanders within a deeply incised, wooded channel, with the road on a river terrace alongside. To the south, the river is more visible as it winds between fertile fields and the woodlands of the Mountjoy Estate. The valley to the west of Bessy Bell is dominated by the woodlands and deer park of the Baronscourt Estate. The river channel has been dammed to create a sequence of loughs on the valley floor.

Key characteristics:

- Scenic, accessible landscape on the western fringes of the Sperrins; steep mountain of Mullaghcarn to east and rounded moorland summit of Bessy Bell to west;
- River Strule flows within incised, wooded valley, with roads following river course on terraces alongside;
- Diverse landscape pattern, with a transition from steep, wooded river banks to farmland to open moor within relatively short distances;
- Hedgerows enclose all fields, becoming gappy, with wire fencing on higher land; stone walls in areas of higher land close to the Sperrins;
- Relatively dense tree cover, with numerous hedgerow trees and small copses; landscape becomes more open on elevated slopes; and
- Long scenic views from mountain slopes and along valley.

Landscape Condition and Sensitivity to Change

This is a highly accessible and scenic landscape. Mullaghcarn and Gortin fall within the Sperrins AONB, but Bessy Bell and the adjacent Baronscourt Estate are classified as part of the Sperrins Foothills Area of Scenic Quality. The landscape as a whole is in good condition and is extremely sensitive to change and the mountain slopes form a backdrop to the long river views.

The upland summits and steep upper slopes are particularly sensitive to changes, such as the introduction of transmission masts or commercial forestry; the wind farm on Bessy Bell and the plantations of the Gortin Glen Forest are already prominent. The river corridor is also extremely sensitive to change and its scenic character would be affected by any form of built or infrastructure development along the valley roads. The historic landscape of the Baronscourt Estate is also sensitive to the impact of change from tourist developments and from commercial forestry.

Principles for Landscape Management

- Deciduous species may be used to soften harsh edges of plantations and to integrate them with the neighbouring upland and valley landscapes
- Hedgerows and riverside woodlands are important in defining the landscape pattern and should be priorities for conservation & restoration.

26 Bessy Bell & Gortin LLCA

Principles for Accommodating New Development

- *Siting new development within the existing settlements of Newtownstewart and Gortin will help to retain the rural, scenic qualities of this special landscape; these settlements have distinctive and robust landscape settings and may accommodate some sensitively designed development.*
- *The undulating glacial landforms and existing tree cover within parts of the valley may offer some opportunities to shelter new development.*
- *Compact two-storey farms with red-roofed outbuildings are characteristic."*

29 Sperrin Mountains LLCA

"Landscape Description

The Sperrin Mountains form a spine across the North West and a backdrop to views. Formed from resistant metamorphic Dark Schists and Upper Glenelly Schists, they extend broadly east - west across the southern part of County Londonderry and the northern part of County Tyrone. The steeper summits average 500m, with the highest peak, Sawel Mountain, rising to 678m. The Sperrins have a dramatic, mountainous appearance; the ridges have a broad, rounded profile, leading to summits with a rocky, pointed silhouette. Glacial deposits sometimes form mounds and terraces along the lower slopes, softening and confusing the natural break of slope.

Fast-flowing moorland streams are fairly straight and open in character, sometimes eroding deep channels between steep ridges of glacial moraine. Deep gullies, some with broken, eroded edges, create strong dendritic patterns, carving and moulding the steep slopes into striking forms. Outcrops of grey rock and minor screes litter many of the slopes. Water flows in deep gullies to the upland plateau. Summits have extensive areas of bog supporting acres of heather and rushes. The bogs are punctuated by small, rounded loughs, the source of many streams.

Key characteristics:

- *Broad, rounded ridges with rocky outcrops leading to steep, pointed summits*
- *Deep, branching gullies and open, fast-flowing moorland streams*
- *Carpet of open moorland pasture and heather with extensive bog and areas of damp grassland on flatter land and lower slopes*
- *Earthbanks and stone walls follow historic townland boundaries on lower slopes; some pastures are derelict and infested by scrub and rushes*
- *Winding moorland roads and straight tracks leading across contours*
- *Broadleaf woodland concentrated within lower valleys; some conifer woodland on mountain slopes. Isolated barns on upper slopes; clachans and farmsteads in valleys*

Landscape Condition and Sensitivity to Change

This open mountain landscape is extremely sensitive to change since even relatively small elements in the landscape, such as electricity pylons or a single building are visible over long distances. The most significant pressures for change are from conifer plantations, mineral extraction and windfarms on the upper slopes, and built development on the valley slopes. The upland summits are generally in good condition, but the quality of the landscape deteriorates towards the edges of the character area, particularly on the lower summits to the west, where transmission masts, roads and conifer plantations have a cumulative negative influence.

Conifer plantations are often very extensive and form vast homogeneous blocks which mask out the subtle variations of colour and landform which are such an important local characteristic. The Sperrins have long been the source of building materials and are now subject to exploration for gold. The quarries form prominent scars on the landscape, visible for miles around. The plant, machinery and roads associated with the works are also a negative visual influence. There is very little evidence of new buildings on these upland slopes.

29 Sperrin Mountains LLCA

Principles for Landscape Management

- *The large scale of the landscape is best reflected by large woodlands, rather than small, isolated stands; the edges may be softened by broadleaf planting designed to utilise natural diversity of landform.*
- *Restoration of abandoned quarries and the removal of derelict plant and fly-tipping would enhance the upland landscape.*
- *Restoration and conservation of stone walls and earthbanks would conserve the historic townland boundaries and associated field patterns.*

Principles for Accommodating New Development

- *Any form of built development would be extremely visually intrusive and would threaten the intrinsic qualities of this landscape, in particular, its valued sense of wild remoteness.*
- *The wider landscape setting of archaeological sites is especially sensitive to the impact of built development and should be conserved.*
- *The use of local stone for new buildings, or for the restoration of older properties is essential to help integrate new development, particularly where it is prominent on lower mountain slopes."*

43 Carrickmore Hills LLCA

Landscape Description

The Carrickmore Hills are a distinctive upland landscape to the south of the Sperrins. The area is underlain by a variety of igneous rocks which form an elevated plateau, with numerous steep, rocky granite summits, including Evishanoran Mountain, Cregganmore and Loughmacrory Hill. Parts of the plateau are raised bog and there are numerous rounded loughs, particularly in an area known as The Murrins. The landform of the plateau is undulating, with ridges of glacial moraine and rocky outcrops giving the landscape an irregular pattern and scale. The summits have a more irregular, rocky landform and distinctive, crinkled silhouettes which are landmarks for miles around.

Fields on the fringes of the upland have a more even scale and form, but become increasingly irregular and deeply undulating on the steep slopes of the rocky summits. Most are partially enclosed by hedges and wire fencing, with rough stone walls made of large boulders in some areas. Gorse predominates in the hedgerows, giving them a distinctive, lumpy character. Scrubby, regenerating birch/alder woodlands give an irregular, patchy landscape pattern in poorly drained hollows. The uplands are exposed, with relatively few hedgerow trees, except at the entrances to farms. There are some small blocks of conifers, for instance to the north of Pomeroy, and occasional larger plantations. Hedgerow ash trees are common around fields at lower elevations, where houses are located at road junctions and small farms set back from the road and reached by narrow, angular tracks.

Key characteristics:

- *Steep, rocky summits with a crinkled ridge-top profile, separated by extensive moss and small, rounded loughs. Irregular, deeply undulating landform in areas of glacial moraine*
- *On higher land, small, rough pastures are enclosed by gorse hedgerows and wire fences or by granite boulders and earthbanks form the margins to some fields*
- *Rolling lowland landscape of poor quality farmland with patches of marsh and rush infested pastures in low-lying areas*
- *Narrow, twisting roads link scattered farms on lower slopes; small settlement clusters are concentrated at junctions*
- *Scrubby woodland on margins of marsh; tree cover becomes sparse and the landscape more exposed on elevated land*
- *Extensive sand and gravel quarrying*

Landscape Condition and Sensitivity to Change

This is a landscape of marginal farmland, which has a rough character and is in relatively poor condition. Few of the field boundaries are complete, there are substantial areas of waste ground and fly tipping is a common problem. The upland summits are relatively small in comparison to the surrounding uplands and their distinctive rocky skylines are extremely sensitive to change.

The uplands are a landmark from a wide area and even small changes, due to mineral extraction, built development or the introduction of forestry would have a detrimental impact. The most obvious current pressure is from sand and gravel quarries; the area is pitted with quarry scars and spoil heaps. There is a possibility that the rich archaeological heritage is at risk.

Principles for Landscape Management

- *This diverse, irregular landscape pattern would easily be masked by extensive commercial forestry; extensive tree planting in upland areas requires careful visual analysis*
- *There are opportunities to restore some of the quarries, maximising their ecological value and removing fly-tipping or derelict plant*
- *The restoration of earth banks and stone walls, using local boulders, would conserve this unique landscape feature*

Principles for Accommodating New Development

- *The wild character and small-scale undulating landform of upland areas could be eroded by built development, particularly if the buildings are of a substantial scale*
- *On the lowland fringes the rolling landform, tree cover and scattered settlement pattern suggest that there are opportunities to accommodate further built development, provided it is accompanied by substantial planting*
- *Whitewashed buildings and red-roofed barns are characteristic features of the landscape which could be imitated by new development"*

Designated Landscapes

- 6.42 The areas of landscape within the study area which are designated for their scenic or landscape value are described below and shown on **Figure 6.4**, and are shown overlaid onto the ZTV on **Figure 6.4a**.

Area of Outstanding Natural Beauty (AONB)

- 6.43 Area of Outstanding Natural Beauty (AONB) designations help to protect, conserve, promote and facilitate public access to landscapes of national importance for the people who live there, visitors and everyone who comes to enjoy their special qualities. The AONB designation is indicative of the scenic quality of the landscape. Relevant policy associated with the AONB is introduced in **Chapter 3** of this report.
- 6.44 The development is proposed within the Sperrin AONB which comprises an area of just over 118,200ha.
- **Sperrin AONB** – The Sperrin AONB was originally designated in 1968 under the 1965 Amenity Lands Act and latterly in 2008 under the Nature Conservation and Amenity Lands (NI) Order (NCALO) 1985 with a revised boundary which states: *"lying in the heart of Northern Ireland, the Sperrin AONB encompasses a largely mountainous area of great geological complexity. Stretching from the Strule Valley in the west to the perimeter of the Lough Neagh lowlands in the east this area presents vast expanses of moorland penetrated by narrow glens and deep valleys. In its south, the Burren area is noted for its lakes, sandy eskers and other glacial features. The area is rich in historic and archaeological heritage and folklore."*²¹

²¹ <https://www.daera-ni.gov.uk/articles/sperrin-aonb>

"The Sperrin AONB was designated in 2008 under the Nature Conservation and Amenity Lands (NI) Order 1985. This enables the Department of Environment to formulate proposals to:

- conserve or enhance the natural beauty or amenities of the area;*
- conserve wildlife, historic objects or natural phenomena within it;*
- promote its enjoyment by the public; and*
- provide or maintain public access to it."*

- 6.45 Lying in the heart of Northern Ireland the Sperrin AONB encompasses a largely mountainous area of great geological complexity, and stretches from the Strule Valley in the west to the perimeter of the Lough Neagh lowlands in the east. This area presents vast expanses of moorland penetrated by narrow glens and deep valleys. In its south the Burren area is noted for its lakes, sandy eskers and other glacial features. The area is rich in historic and archaeological heritage and folklore.
- 6.46 Management plans are often developed for AONBs to set out appropriate management measures to conserve and enhance the landscape quality of these designated landscapes, however, very little descriptive information exists for the Sperrin AONB, and no management plan currently exists for it²².
- 6.47 In terms of more local features of the AONB in the vicinity of the Curraghinalt Project, the following are noted:
- An intact and designated area of native woodland along the south side of the Owenkillew River (Drumlea-Mullan Wood);
 - Archaeological features which are marked on maps and/or signposted in the area including:
 - Ogham Stone and Standing Stone near Crouck Bridge; and
 - Cloghmore Chambered Grave and Doonroe Cairn east of Glenhull.

Areas of Scenic Quality

- 6.48 The NILCA also defines sixteen potential Areas of Scenic Quality (ASQ) which represent landscapes that are considered to be important at a regional level within Northern Ireland, representing a second tier (below AONBs) in the hierarchy of landscape classifications. The nearest ASQs are located beyond the extents of the 15km study area and are unlikely to experience any or very limited theoretical visibility of the Curraghinalt Project (as shown on **Figure 6.4a** and **Figure 6.5a**). Potential effects on the key landscape characteristics on these non-statutory designated landscapes or views from these landscapes are therefore not considered further in the assessment.

Visual Baseline

- 6.49 This section identifies the extent of potential visibility of the Curraghinalt Project, and identifies visual receptors (people) to be considered in the assessment. This section also introduces the representative viewpoints that are used to assess visual effects on people, including the reasoning for their selection.

ZTV Analysis

- 6.50 ZTVs were generated to indicate the extent of theoretical visibility of the process plant buildings shown on **Figure 6.3a** and the DSF, the largest and most extensive component of the Curraghinalt Project at different stages of development (Year 5, Year 11 and Year 20 – Maximum extents) as shown on **Figures 6.3b-d**, across the study area, extending to an area of approximately 15km radius from the outermost components within which the maximum extent of potential significant visual impacts are considered likely to be contained (shown on **Figures 6.3a-d**). The ZTVs are

²² A Proposed Future Search Process for the Sperrins is currently in the early stages of development, in order to establish a new shared vision and strategy for the management of the Sperrins region, including the extents of the Sperrin AONB.

based on a bare ground terrain model and therefore illustrate a 'maximum case scenario' with no account taken of screening by intervening vegetation and buildings.

Analysis of Visibility across the Study Area

- 6.51 The study area is described in the landscape baseline earlier in this section of the report. The ZTVs are calculated based on the maximum vertical and horizontal extents of the DSF at Year 5, Year 11 and Year 20 (maximum extent) from a viewing height of 2m above ground level. Theoretical visibility is illustrated by a colour spectrum, indicating the areas where the process plant buildings, and the different stages of the DSF are likely to be visible during the operational phase.
- 6.52 Generally the highest levels of visibility will be experienced in views from the south of the project site, and contained within a distance of approximately 10km. Limited levels of visibility will be experienced from more elevated areas to the north and east, and views from the west along the Owenreagh Valley will be very limited, with some distant visibility likely to be experienced from higher hills within the Glenpark Forest Park to the south-west.

Theoretical visibility of project components within 3km

- 6.53 Within 1km of the Project Site, extensive theoretical visibility of the process plant buildings will be possible prior to development of the DSF, and as the operational phase progresses visibility of the DSF will increase in extent. Areas of theoretical visibility are indicated to south of the ridge, largely between Pollanroe Bridge in the east and to the east of Altateel Bridge. Between 1km and 3km, theoretical visibility is largely concentrated across elevated areas to the south of the Owenreagh River Valley, where generally higher levels of visibility are predicted. From some areas of lower ground, the ZTVs indicate that the DSF will become visible in the latter part of the operational phase (Year 11 and Year 20). Some visibility of the DSF during the operational phase is indicated from areas around Greencastle and Slievemenagh to the east, and across the slopes of Greenan Hill and Oaghmonicroy Hill in the north.

Theoretical visibility of project components within 5km

- 6.54 Between 3km and 5km, visibility is largely indicated from areas to the south-east of Glenmaccoffer Road in the west and Crockanboy Road in the east. The ZTVs indicate relatively high levels of visibility from elevated slopes, with no visibility indicated from lower lying areas near Glensawisk Burn and Cashel Burn. Visibility of the DSF from Crockanboy Road will be possible throughout the operational phase. Some limited areas of visibility from the north are also indicated; including areas to the south and north-east of Greenan Hill and to the east and west of Oaghmonicroy Hill. Visibility from these areas is likely to predominantly be of the process plant buildings and cell one of the DSF once it reaches its maximum vertical height (at c. Year 5).

Theoretical visibility of project components within 15km

- 6.55 From distances between 5km and 15km, visibility will become increasingly intermittent, with the highest levels of predicted visibility shown to be beyond 5km, across the eastern slopes of Mullaghcarn, at the edge of the Glenpark Forest Park, and Crockakeeferty and Mulderg to the south-west. Small areas of visibility are also indicated to the south near Mulnafye of Barraclay, Laght Hill, Black Hill and Creggan Rocks. Visibility from the north and east is generally limited, with some areas where the ZTVs indicate potential for views east of the Glenelly Valley. Limited visibility of the process plant buildings and DSF (once cell one reaches its maximum vertical extent at approximately Year 5) from some slopes of the Sperrin Mountains is indicated by the ZTVs. Theoretical visibility is indicated from the southern slopes of Dart Mountain and southern and eastern slopes of Sawel Mountain, however, views towards the project site from these areas will be at distances of over 10km, at which the process plant buildings and DSF will only be seen as distant small scale features in the view. Visibility from the west of the study area is generally very limited.

Selection of Viewpoints for Assessment

- 6.56 This section sets out the viewpoints that are used to represent and assess the visual effects of the Curraghinalt Project. The assessment viewpoints do not represent an exhaustive list of locations from which the development will be visible.

6.57 Potential visual receptors include:

- Local residents, mainly scattered farmsteads and small hamlets within the more immediate site context;
- Recreational users, including people using cycle and walking routes, as well as hill walkers; and
- People travelling through the landscape on roads.

Representative Assessment Viewpoints

6.58 Eight viewpoints were selected through review of initial ZTVs, desk study and field work and were subsequently approved with DAERA (formerly NIEA) (as detailed VIA, **are** set out in **Table 2.1** below.

6.59 Table 2.1). An additional ninth viewpoint was identified during fieldwork undertaken in July 2016. These viewpoints are all situated in publicly accessible locations and include:

- locations selected to represent the experience of different types of visual receptor (residential, recreational, travellers);
- specific viewpoints selected because they are promoted viewpoints within the landscape; and
- illustrative viewpoints chosen specifically to demonstrate a particular effect or specific issue (which could include restricted visibility in certain locations).

6.60 The representative viewpoints used to assess the visual effects are listed in **which** also illustrates the ZTV for the DSF at Year 20 (maximum extent).

6.61 **Table 6.2** below and their locations are shown on **Figure 6.6** which also illustrates the ZTV for the DSF at Year 20 (maximum extent).

Table 6.2 Representative Assessment Viewpoints

VP No.	Location	Grid Reference		Approximate distance from project site (km)	Reason for Inclusion
		Easting	Northing		
1	Farmsteads off Crockanboy Road	258031	384011	0.2km	Located on minor road leading from the B46 to the west, south-west of the proposed infrastructure site, representing views experienced by road users travelling north along the road, and similar views experienced from nearby residential properties (farmsteads and individual houses).
2	Mullydoo Road	259180	383993	0.2km	Located on minor road to the east of the proposed infrastructure site, representing views experienced by road users travelling along Mullydoo Road.
3	Crockanboy Road (B46)	258575	383202	0.8km	Situated at the junction of the minor Mullydoo Road and the B46 (Crockanboy Road), this viewpoint represents the views experienced by road users travelling west along this road, and similar views experienced from residential properties in the vicinity.

VP No.	Location	Grid Reference		Approximate distance from project site (km)	Reason for Inclusion
		Easting	Northing		
4	Aghaboy Road – South of site	257291	382073	2.0km	Represents views from residential properties directly south of the proposed infrastructure site, located alongside this minor road and often affording open views north across the Owenreagh River Valley.
5	Greencastle Road	257256	381507	2.8km	Situated on Greencastle road south, south-west of the proposed infrastructure site, this viewpoint represents the views experienced by road users travelling north-east along this road and the similar views likely to be experienced from nearby residential properties.
6	Cashel Rock	259954	380850	3.3km	Representative of views north-west towards the proposed infrastructure site experienced by recreational walkers and visitors to the Cashel Rock hill fort site of archaeological interest.
7	Aghaboy Road – South-west of site	255689	381866	3.5km	Viewpoint located adjacent to the minor Aghaboy Road south of the scattered settlement of Aghaboy, and representing the views experienced north-east towards the proposed infrastructure site by road users and nearby residential receptors.
8	Barony Road (A505)	256751	379452	4.9km	Situated on the main A-road through the study area and part of the Central Sperrins Scenic Route; the A505 (Barony Road), this viewpoint represents views north, north-east towards the proposed infrastructure site, experienced by road users travelling east along the road.
9	Mullaghcarn	251052	380975	8.0km	Illustrative of long distance views from south-west of the proposed infrastructure site, representing views experienced by recreational walkers/cyclists at the summit of Mullaghcarn mountain on the edge of the Gortin Glen Forest Park.

Settlements

- 6.62 The main settlements located across the study area are listed in
- 6.63 **Table 6.3** below. The extent of theoretical visibility from each is considered, and a judgement made on the potential for significant effects on views from the group of properties or settlement, based on the availability of views in the direction of the Curraghinalt Project.
- 6.64 The ZTVs (**Figures 6.3a-d**) show that there will be very limited visibility from any major settlements within the study area.

Table 6.3 Settlements within Study Area

Settlements	Theoretical visibility of proposed project (within ZTV)
Settlements - within 5km	
Greencastle – approximately 2km from site	Majority of settlement outside ZTVs, limited theoretical visibility of project components from north-western edge of settlement west of Greencastle Road. Considered further in assessment.
Rouskey – approximately 3km from site	Settlement outside ZTVs. Not considered further in assessment.
Glenhull – approximately 2.5km from site	Settlement outside ZTVs to north side of broad ridge. Not considered further in assessment.
Scotch Town – approximately 4.5km from site	Settlement outside ZTVs to north side of broad ridge. Not considered further in assessment.
Settlements - 5km > 15km	
Creggan – approximately 7km from site	Theoretical visibility of project components indicated by the ZTVs, however views from scattered properties within this settlement will be screened by extensive forestry plantations to the north of Barony Road and west of Crockanboy Road. Not considered further in assessment.
Mountfield – approximately 7.5km from site	Settlement outside ZTVs. Not considered further in assessment.
Gortin – approximately 9km from site	Settlement outside ZTVs, limited theoretical visibility from hills west and south of settlement. Not considered further in assessment.
Loughmacrory – approximately 8km from site	Majority of settlement outside ZTVs, limited theoretical visibility of project components from north-western edge of settlement north of Ballybrack Road. Not considered further in assessment.
Dunnamore – approximately 8km from site	Settlement outside ZTVs. Not considered further in assessment.
Carrickmore – approximately 12km from site	Settlement outside ZTVs. Not considered further in assessment.
Plumbridge – approximately 12.5km from site	Settlement outside ZTVs. Not considered further in assessment.
Omagh – approximately 15km from site	Settlement outside ZTVs. Not considered further in assessment.

Residential Property Groups

- 6.65 Properties located within approximately 3km radius of the proposed infrastructure site (Area A) were mapped (using data provided by SRK/QUOD) and were then grouped based on their geographical location, distance from the project site and the theoretical visibility indicated by the ZTV shown on **Figure 6.7**.
- 6.66 An assessment of potential changes in the view from each property has not been undertaken, however where appropriate a number of properties have been considered as representative of views experienced from different identified property groups. The nature of the view from properties, including the direction of the view, the orientation of buildings, location of garden or curtilage areas, access and the presence of intervening features such as vegetation are considered, whilst the seasonality of vegetation screening and potential changes to forestry are referred to where applicable.
- 6.67 All residential receptors (people) are considered to be of high susceptibility to changes in views from their place of residence (property, curtilage, and access). An appreciation of the surrounding view is often material to the quality of life from residential properties, they are however judged to be of medium value. Taking account of the susceptibility of receptors and the value of the view, the overall sensitivity of residential receptors is judged to be **high**.
- 6.68 As indicated by **Figure 6.7** a large number of residential properties lie outside the ZTV, and are generally situated to the north, north-west and north-east of the Curraghinalt Project site. The lack of visibility from these areas is largely due to the visual shadow created by the broad ridge. Some limited theoretical visibility is indicated from the north-east of the proposed project site, with a small area of potential visibility to the south of Oaghmonicroy Hill, which is likely to be experienced by a very small number of properties north-east of Glenhull (noted as **Property Group A** in **Table 6.4**). However, sequential views of the proposed project are likely to be experienced when travelling to and from properties, within the areas where the ZTV indicates theoretical visibility of the DSF.
- 6.69 Groups of residential properties located within the ZTV are outlined in **Table 6.4** below, potential effects on views from each will be considered in the assessment of visual effects. Details of individual properties located within each residential property group are contained in **Appendix 3**.

Table 6.4 Residential Property Groups within 3km of project site

Residential Properties Groups	Theoretical visibility of proposed project (within ZTV)
Residential Property Groups – within approximately 3km	
Residential Property Group A	Three residential properties located on Gortcashel Road, over 3km from the site including properties on the road running north-east, east of the Owenkillew River. The ZTV indicates theoretical visibility of the DSF, predominantly in the latter part of the operational phase. Visibility of project components will vary in extent dependant on the orientation, outlook and available screening at individual properties.
Residential Property Group B	53 residential properties located on Crockanboy Road and Mullydoo Road, east of Greencastle at distances of 2km to 3km east of the site. The ZTV indicates theoretical visibility of the DSF, predominantly in the latter part of the operational phase. Visibility of project components will vary in extent dependant on the orientation, outlook and available screening at individual properties.
Residential Property Group C	12 residential properties located in the northern part of Greencastle, including properties located north of Crockanboy Road, 1 to 2km east of the site. The ZTV indicates theoretical visibility of the DSF, predominantly in the latter stages of operational phase. Visibility of project components will vary in extent dependant on the orientation, outlook and available screening at individual properties.

Residential Properties Groups	Theoretical visibility of proposed project (within ZTV)
Residential Property Group D	81 residential properties located in the southern part of Greencastle South, including properties located south of Crockanboy Road, 1 to 2km south-east of the site. The ZTV indicates theoretical visibility of the DSF, predominantly in the latter part of the operational phase. Visibility of project components will vary in extent dependant on the orientation, outlook and available screening at individual properties.
Residential Property Group E	14 residential properties located north of Crockanboy Road, within 1km south of the site. The ZTV indicates theoretical visibility of the DSF throughout the operational phase. Visibility of project components will vary in extent dependant on the orientation, outlook and available screening at individual properties.
Residential Property Group F	17 residential properties located south of Crockanboy Road, within 1km south of the site. The ZTV indicates theoretical visibility of the DSF throughout the operational phase. Visibility of project components will vary in extent dependant on the orientation, outlook and available screening at individual properties.
Residential Property Group G	7 residential properties located along Cashel Road to the south-east of Cashel Bridge, within 1km to 2km south-east of the site. The ZTV indicates theoretical visibility of the DSF throughout the operational phase. Visibility of project components will vary in extent dependant on the orientation, outlook and available screening at individual properties.
Residential Property Group H	24 residential properties located along Aghaboy Road, mainly between Campbell's Bridge in the east and Cashel Bridge in the west, within 1 to 2km south-west of the site. The ZTV indicates theoretical visibility of the DSF throughout the operational phase. Visibility of project components will vary in extent dependant on the orientation, outlook and available screening at individual properties.
Residential Property Group I	15 residential properties located between Fallagh Lower and Fallagh Upper, within 1 to 3km south-east of the site. The ZTV indicates theoretical visibility of the DSF, predominantly in the latter part of the operational phase. Visibility of project components will vary in extent dependant on the orientation, outlook and available screening at individual properties.
Residential Property Group J	21 residential properties located along Greencastle and Cashel Road south of Cashel Bridge within approximately 2 to 3km south of the site. The ZTV indicates theoretical visibility of the DSF throughout the operational phase. Visibility of project components will vary in extent dependant on the orientation, outlook and available screening at individual properties.
Residential Property Group K	12 residential properties located along near Brackagh South, over 3km south of the site. The ZTV indicates theoretical visibility of the DSF throughout the operational phase. Visibility of project components will vary in extent dependant on the orientation, outlook and available screening at individual properties.
Residential Property Group L	11 residential properties located along Inisclan Road, near Cornagillach Bridge over 3km south of the site. The ZTV indicates theoretical visibility of the DSF throughout the operational phase. Visibility of project components will vary in extent dependant on the orientation, outlook and available screening at individual properties.
Residential Property Group M	22 residential properties located along Fallagh Road, and Aghaboy Road approximately 2 to 3km to the south-west of the site. The ZTV indicates theoretical visibility of the DSF throughout the operational phase. Visibility of project components will vary in extent dependant on the orientation, outlook and available screening at individual properties.

Residential Properties Groups	Theoretical visibility of proposed project (within ZTV)
Residential Property Group N	Eight residential properties located along Lenagh Road over 3km to the south-west of the site. The ZTV indicates theoretical visibility of the DSF throughout the operational phase. Visibility of project components will vary in extent dependant on the orientation, outlook and available screening at individual properties.

Routes

- 6.70 Visual effects on views from key roads, recreational routes (e.g. long distance footpaths and cycle routes) located across the study area, and that fall within the ZTV (refer to **Figure 6.8**) are listed in **Table 6.5** below. In order to focus on potential significant effects, routes with very limited theoretical visibility of the proposed project and/or those located beyond 15km are not considered in the assessment.

Table 6.5 Routes within Study Area

Route	Theoretical visibility of proposed project (within ZTV)
Roads	
B46 – Crockanboy Road - within 5km of the site	The B46 is located to the south of the proposed project, running through Gortin and Creggan. Theoretical visibility from sections of road to south-east, south and south-west of the site. Considered further in assessment.
A505 – Barony Road - within 10km of the site	The A505 is located to the south of the proposed project, running between Cookstown in the east and Omagh in the west. Theoretical visibility indicated from sections of the road to the south. Considered further in assessment.
B47 - within 10km of the site	The B47 is located to the west of the proposed project, running through Gortin. Very limited theoretical visibility from this route. Not considered further in assessment.
B48 - within 10km of the site	The B48 is located to the north-west of the proposed project, running though Plumbridge. Very limited theoretical visibility from this route. Not considered further in assessment.
B536 - within 10km of the site	The B536 is located to the north of the proposed project, running though Plumbridge. Very limited theoretical visibility from this route. Not considered further in assessment.
Minor roads - within 5km of the site	This refers to the minor road network located within 5km of the proposed project site Varying extents of theoretical visibility likely from the following local minor roads: - Mullydoo Road - Crockanboy Road - Aghaboy Road - Aughnamirigan Road - Pollanroe Road - Fallagh Road

	- Greencastle Road - Inisclan Road Effects on sequential views experienced from local minor road network considered further in assessment.
Scenic Driving Routes	
Central Sperrins Scenic Driving Route²³ - follows route of B46 and A505 - within 5km of the site	Promoted tourist/scenic driving route which passes to the east, south-east of the site along the B46 at its closest point, and north of the site along the Owenkillew Valley. Limited theoretical visibility from this route from sections to the east, south-east of the site, and more distant views from the A505 to the south Considered further in assessment.
South Sperrins Scenic Driving Route²⁴ - follows the B48 and B46 through the Gortin Glen Forest Park and Gortin - within 10km of the site	Promoted tourist/scenic driving route which passes through the Owenreagh Valley and Gortin at its closest point to the site. Very limited theoretical visibility from this route. Not considered further in assessment.
Barnes Gap Scenic Route²⁵ - follows the B47 north from the Owenkillew Valley - within 10km of the site	Promoted tourist/scenic driving route to the north-east of the site and signposted north from the Owenkillew Valley. Very limited theoretical visibility from this route. Not considered further in assessment.
Glenhull Scenic Route - Gorticashel Road - within 5km of the site	Driving route signposted to the north of the Owenkillew Valley. No theoretical visibility from this route. Not considered further in assessment.
Walking Routes	
Vinegar Hill Loop²⁶ - within 5km of the site	The Vinegar Hill Loop, an 11km circular walking route passes approximately 1km to the north-west of the exploratory mine works, where it joins Gorticashel Road. Walking route to the north of the Owenkillew Valley. No theoretical visibility from this walking route. Not considered further in assessment.
Ulster Way²⁷ - within 5km of the site	Walking route along the Glenelly Valley to the north. No theoretical visibility from this walking route. Not considered further in assessment.
Cycle Routes	
Gold Cycle Route²⁸ - Gorticashel Road - within 5km of the site	Along the Owenkillew Valley. No theoretical visibility from this cycle route. Not considered further in assessment.

²³ <http://www.discovertyroneandsperrins.com/site/wp-content/uploads/2014/10/Inside-Final.1.pdf>

²⁴ <http://www.discovertyroneandsperrins.com/site/wp-content/uploads/2014/10/Inside-Final.2.pdf>

²⁵ <http://www.discovertyroneandsperrins.com/attraction/barnes-gap-scenic-route/>

²⁶ http://www.walkni.com/d/walks/536/Vinegar_Hill_Loop.pdf

²⁷ <http://www.walkni.com/ulsterway/sections/lough-bradan-to-gortin/> & <http://www.walkni.com/ulsterway/sections/gortin-to-moneyneany/>

²⁸ http://www.cycleni.com/d/routes/91/gold_cycle_route.pdf

White Hare Cycle Route²⁹ - within 5km of the site	Promoted 58km circular cycling route, passes through Greencastle approximately 2km to the east. Limited theoretical visibility from this cycle route to the east, south-east of the site. Considered further in assessment.
Cycle Network Route 95³⁰ - Gorticashel Road - within 5km of the site	Promoted national cycle network route which shares a similar route to the Gold Cycle Route along the Owenkillev Valley. No theoretical visibility from this cycle route. Not considered further in assessment.
Cycle Network Route 92³¹ - within 10km of the site	Promoted national cycle network route which follows the B46 through Gortin. No theoretical visibility from this cycle route. Not considered further in assessment.

Key Visual Considerations

6.71 The following list summarises the key areas of potential visibility and visual receptors which are examined in the assessment of visual effects:

- The south facing slopes north of the Owenreagh River valley, between Rouskey and Greencastle, including the B46 road and scattered properties on the north-east side of the Owenreagh River Valley.
- The village of Greencastle (and the two schools, shop and pub located here) which is located on the south-west facing flanks of the Owenreagh River valley between Crockanboy Hill and Slievemenagh, and which is predominantly orientated to look south;
- Parts of the south-western slopes above the Owenreagh River valley including to the east and west of the confluence with the Glensawisk Burn, including scattered properties around Binnafreaghan on the south side of the Owenreagh River valley, which are predominantly orientated with views northwards towards the site;
- The plateau to the north and south of the A505 and to the north-west of Cashel Rock and parts of the area along the B46 to the north of the junction with the A505; and
- The east facing slopes of the hills of Crockanmadan and Mullaghcarn at the eastern edge of the Gortin Forest Park.

Cumulative Baseline Information

6.72 The LVIA also considers the additional landscape and visual effects arising from the introduction of the Curraghinalt Project to a more uncertain and speculative future baseline. Other proposed developments within a 15km radius of the Curraghinalt Project which may give rise to potential significant cumulative landscape and visual effects, including those which have a planning consent, or are the subject of an undetermined valid planning application, were identified by Turley through the Planning Northern Ireland and Planning Online in June 2017. The complete list of developments identified by Turley is contained in **Appendix 4**.

Other Developments to be considered in the Cumulative LVIA

6.73 A review of these developments was undertaken to determine the likelihood for potential significant cumulative landscape and visual effects, taking consideration of the following criteria:

²⁹ http://www.cycleni.com/d/routes/122/White_Hare_Cycle_Route.pdf

³⁰ <http://www.sustrans.org.uk/ncn/map/route/route-95>

³¹ <http://www.sustrans.org.uk/ncn/map/route/route-92>

- Type and extent of development proposed;
- The distance between the development proposed and the Curraghinalt Project;
- The arrangement of the development proposed in the landscape or view(s);
- Likely visual influence of the development proposed;
- Potential intervisibility between the development proposed and the Curraghinalt Project;
- Potential for cumulative landscape effects on the physical fabric of the landscape or its scenic qualities (e.g. the Sperrin AONB); and
- The potential for combined, successive and sequential visual effects in the context of the Curraghinalt Project.

6.74 **Appendix 4** provides details of the review undertaken in relation to each development. More detailed information about each of the developments is provided in **ES Chapter 9: Cumulative Impacts**.

6.75 As a result of this initial review a number of developments have been scoped out and are not considered further in the Cumulative LVIA (CLVIA). **Table 6.6** below provides summary details of the other developments considered in the CLVIA, and the location of these developments, in relation to the Curraghinalt Project, are shown on **Figure 6.9**.

Table 6.6 Other Developments considered in Cumulative LVIA³²

No.	Proposal description	Development type	Status ³³	Approx. distance from Curraghinalt Project	Review of cumulative landscape and/or visual effects
Developments within <5km radius of application site					
8	650m of new overhead line consisting of eight new wooden poles to supply a wind turbine (LA10/2016/0338/F)	Overhead powerline	Consented	1.35km to west, north-west	Intervisibility of proposed overhead line and Curraghinalt Project possible. Potential cumulative effects on the Sperrin AONB. Considered in CLVIA
10	11kv overhead line to supply wind turbine (LA10/2015/0711/F)	Wind turbine	Consented	2.1km to north-west	Intervisibility of proposed overhead line and Curraghinalt Project possible. Potential cumulative effects on the Sperrin AONB. Considered in CLVIA
13	Installation of a 15m high lattice tower with 6 antennas and 2 dishes. The development includes the installation of 6 equipment cabinets, ancillary development within 2.2m high fencing and new access lane. (LA10/2015/0449/F)	Antenna mast	Consented	315m to east	Intervisibility of proposed communication tower and Curraghinalt Project possible. Potential cumulative effects on the Sperrin AONB. Considered in CLVIA

³² Information obtained by Turley from Planning NI and Planning Online 30th June 2017.

³³ Existing/operational, consented, pending consideration/valid planning application submitted or refused.

No.	Proposal description	Development type	Status ³³	Approx. distance from Curraghinalt Project	Review of cumulative landscape and/or visual effects
15	Alteration of 3 no. existing wind turbines approved, from 225kw on 30m towers to 250kw turbines on 50m towers (from ground level to hub) (LA10/2015/0369/F)	Wind turbines	Consented	1.5km to north-west	Intervisibility of proposed wind turbines and Curraghinalt Project possible. Potential cumulative effects on the Sperrin AONB. Considered in CLVIA
17	A single 250kw wind turbine with a turbine tower of 30m and a blade length of 16.5m (additional information submitted) (LA10/2015/0048/F)	Wind turbine	Appeal pending consideration (2016/A0089)	1.5km to east, south-east	Intervisibility of proposed wind turbines and Curraghinalt Project possible. Potential cumulative effects on the Sperrin AONB. Considered in CLVIA
21	Amendment to increase turbine output from 50Kw to 250Kw, with an overall height of 54.5m, to supply farm and associated enterprises with excess sold to the grid (K/2014/0526/F)	Wind turbine	Consented	2.8km to south-east	Intervisibility of proposed wind turbines and Curraghinalt Project possible. Potential cumulative effects on the Sperrin AONB. Considered in CLVIA
26	Erection of a domestic wind turbine with 13m blades on a 20m hub (K/2013/0062/F)	Residential	Consented	60m to west, south-west	Intervisibility of proposed wind turbines and Curraghinalt Project possible. Potential cumulative effects on the Sperrin AONB. Considered in CLVIA
28	Proposed erection of a 31m hub height Vestas V27 225 kW wind turbine to serve farm and export surplus to the grid (K/2012/0170/F)	Wind turbine	Consented	1.5km to west, north-west	Intervisibility of proposed wind turbines and Curraghinalt Project possible. Potential cumulative effects on the Sperrin AONB. Considered in CLVIA
Developments within <15km radius of application site					
1	Crockdun (K/2006/0074/F)	Wind farm	Consented	6.4km to south-east	Intervisibility of proposed wind farm (5 turbines of 100m to blade tip height) and Curraghinalt Project possible. Potential cumulative landscape and/or visual effects on the Sperrin AONB. Considered in CLVIA
2	Doraville	Wind farm	Application submitted /	11.7km to north-east	Intervisibility of proposed 33 turbine wind farm (turbines of 136m – 149m to blade tip

No.	Proposal description	Development type	Status ³³	Approx. distance from Curraghinalt Project	Review of cumulative landscape and/or visual effects
	(LA10/2015/0292/F)		Pending consideration		height) and Curraghinalt Project possible. Potential cumulative landscape and/or visual effects on the Sperrin AONB. Considered in CLVIA
3	Cregganconroe (K/2006/0242/F)	Wind farm	Consented	11.8km to south-east	Intervisibility of proposed wind farm (5 turbines of 125m to blade tip height) and Curraghinalt Project possible. Potential cumulative landscape and/or visual effects on the Sperrin AONB. Considered in CLVIA
4	Beltonanean (5 turbines, 126.5m to blade tip height) (I/2014/0413/F)	Wind farm	Application submitted / Pending consideration	11.8km to east	Intervisibility of proposed wind farm and Curraghinalt Project possible. Potential cumulative landscape and/or visual effects on the Sperrin AONB. Considered in CLVIA
5	Beltonanean (1 turbine, 92.5m to blade tip height) (LA09/2017/0272/F)		Consented		
	Beltonanean (1 turbine, 92.5m to blade tip height) (I/2014/0399/F)		Appeal Pending consideration		
	Proposed 60m high temporary lattice anemometer mast, use of existing entrance and access track (I/2012/0414/F)		Consented		
7	Proposed shale mineral extraction associated storage phased restoration concrete batching plant and associated storage silos (I/2012/0446/F)	Mineral extraction	Consented	8.8km to south-east	Intervisibility of mineral extraction proposal and Curraghinalt Project possible. Cumulative landscape and visual effects likely. Considered in CLVIA
8	Extension of existing mineral extraction site (K/2015/0143/F)	Mineral extraction	Consented	11.2km to south	Intervisibility of mineral extraction proposal and Curraghinalt Project possible. Cumulative landscape and visual effects likely. Considered in CLVIA
9	Retrospective extraction of sand and gravel (1.2ha) and proposed	Mineral extraction	Consented	9.4km to south-east	Intervisibility of mineral extraction proposal and Curraghinalt Project possible.

No.	Proposal description	Development type	Status ³³	Approx. distance from Curraghinalt Project	Review of cumulative landscape and/or visual effects
	restoration (4ha) by way of infilling with inert material, including inert waste to return the land to agricultural use. (K/2013/0507/F)				Cumulative landscape and visual effects likely. Considered in CLVIA
10	Proposed Barony Road Wind Energy Project comprising 4 turbines of 126.5m to blade tip height. (LA10/2015/0283/F)	Wind farm	Appeal pending consideration	5.3km to the south, south-west	Intervisibility of proposed Barony Road Wind Energy Project and Curraghinalt Project possible. Potential cumulative landscape and/or visual effects on the Sperrin AONB. Considered in CLVIA

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7 Mitigation Measures

- 7.1 This section presents an overview of the landscape and visual mitigation measures for each phase of the Curraghinalt Project.
- 7.2 Landscape and habitat mitigation, restoration and enhancement, will be implemented in the early years of the project, and will be developed and agreed in consultation with DGL, landowners and statutory consultees before construction commences on site. Mitigation measures will be incorporated into a Landscape Restoration Plan and the successful implementation of these will be monitored and advised by an Environmental Clerk of Works.

Proposed Mitigation Measures

Mitigation by Design

- 7.3 The mitigation of potential landscape and visual effects is embedded within the iterative project design development process (see ES Chapter 4: Project Description and Chapter 5: Alternatives), whereby the location and design of project components was devised, as far as practical given the location of the mineral reserves, in order to reduce and/or avoid direct or indirect landscape effects and reduce and/or avoid visual effects upon identified receptors.
- 7.4 The location, design and integration of the project and specific components into the existing landscape and views was undertaken, where practical, to help reduce the extent and magnitude of potential landscape and visual effects that will result from the project. As such, the objective is to create final landforms with naturalistic and sympathetically designed landscape profiles as far as is practicable.
- 7.5 The DSF has been designed so that the final landform will tie in with surrounding natural southern slopes of the broad ridge and Owenreagh Valley in so far as possible. Design iterations of the DSF were undertaken to seek to integrate the facility into the surrounding topography, where it occupies a natural shallow valley head, on the south facing slopes of the Owenreagh Valley, helping to reduce the potential extents of visual influence. A number of sensitive locations, specifically the Sperrin Mountains and core area of the Sperrin AONB to the north, and the settlements of Greencastle and Gortin to the east and west respectively were considered. Minimising visibility where possible from the Crockanboy Road (B46) to the south between Greencastle and Gortin, whilst acknowledging that some visibility will be unavoidable was also a key consideration.
- 7.6 The phasing of the project is designed to allow progressive reclamation and rehabilitation of project components as construction and operation is undertaken and completed, so that bare unvegetated areas can be kept to a minimum, and so that stored topsoil and vegetation can be replaced on graded areas as operations are completed. In particular, the DSF will be progressively restored and revegetated throughout the operational phase to integrate this large scale landform feature into the surrounding landscape. Peat will be dealt with separately in line with the specific guidance and regulations required, and as detailed in the Peat Management Plan.
- 7.7 The location, layout and design of the project components, associated buildings, infrastructure and ancillary componentry, including their aggregation, shape, and the texturing and colouring of external surfaces (RAL 6002 leaf green) has been designed to help reduce the magnitude of the impacts that will result from the project.
- 7.8 Inspection and/or agreement with the determining authority will be utilised in order that tests and samples (i.e. use of specific materials, colours and finishes to buildings and componentry) can be used to demonstrate proposed mitigation measures before being rolled out across the project-affected area as a whole.

Construction Phase Mitigation

7.9 The following mitigation measures will be implemented throughout the construction phase to ensure landscape and visual effects are avoided or reduced wherever possible. The removal of onsite vegetation will be undertaken in accordance with the **Removal of Existing Vegetation Plan**:

- Construction activities will be conducted in accordance with the Construction Environmental Management Plan;
- Existing woodland and tree belts will be retained as far as practical;
- Post-delivery of equipment for enabling works, construction vehicles will access the site area from the south via Crockanboy Road (the B46). All heavy traffic will be required to use the defined site access roads;
- Construction vehicles will not track across undisturbed areas outside their defined working area and access corridor;
- Materials and machinery will be stored tidily during the works. Machinery will not be left in place for longer than required for construction purposes, in order to minimise visual effects on views and visual amenity;
- Any contractors compounds and storage areas will be located away from sensitive receptors as far as possible;
- Reclamation of exploration works (construction lay down areas, access roads) will be ongoing during the construction phase to restore and revegetate previously disturbed areas, which will not be affected by the operational phase of the project. This will include any redundant access roads, provided they are not within the planned mine facilities;
- Topsoil, and the seedbank within it, will be carefully stripped from all construction areas, including the base of the DSF and will be stored in areas where it will not be disturbed or tracked upon, in low uncompacted mounds. Stored topsoil will be used for the progressive restoration of disturbed areas. Soft materials will be used to grade slopes prior to promotion of natural recolonisation of vegetation;
- Peat will be carefully extracted and moved from construction areas and stored in accordance with the Peat Management Plan;
- Regular looking engineered profiles will be avoided where practical. Irregular concave and convex slopes mimicking existing contours, which match with the scale of the existing hill slopes, will be created as far as possible during construction of the DSF and other necessary ground works for process plant componentry of the project;
- Wherever possible, slopes will be designed and engineered so that long-term visible man-made slopes are not required or can be entirely covered with turves and revegetated;
- Localised grading of selected sections of track cutting slopes, embankments and sides will be undertaken. Scarred track sides, slopes and tie-ins will be rounded to concave or convex profiles, and where available, topsoil/turves will be placed upon them, to encourage regeneration of vegetation;
- Seeding will be undertaken using locally native species of plants, and to tie in with adjacent vegetation types, where considered appropriate and essential to prevent erosion;
- On completion of the construction phase, all equipment and temporary installations, buildings, etc. not required for future operational use will be dismantled and removed, including removal of construction waste and its appropriate disposal; filling and compacting of pits, hollows and excavation trenches with the appropriate stockpiled materials;
- Slope regrading activities will be undertaken to provide sustainable and erosion resistant landforms compatible with the post-closure land use and water management strategies; and
- Exposed soil and overburden slopes will be regraded so that they conform with adjacent landform, in order to achieve the mine closure and restoration design objectives.

Operational Phase Mitigation

- 7.10 The following mitigation measures will be implemented throughout the operational phase to ensure landscape and visual effects are avoided or reduced wherever possible:
- As each phase of operation is completed, the DSF will be progressively restored by shaping and grading to help make these slopes match in with surrounding natural contours; treating the edges of the slopes in particular, so that scarred and eroded tie-ins are avoided, and placing soil onto slopes and ledges to promote recolonisation with appropriate natural vegetation;
 - Vehicular access to the site will be minimised. The majority of workers will arrive on site from Crookanboy Road (B46) to the south of the site, and limited car parking will be available for employees within the extents of the site;
 - The mine and the surrounding area will be maintained in a clean and uncluttered state: The Construction Environmental Management Plan will include landscape and habitat management requirements;
 - Spoil mounds of topsoil and soft materials will be established on the periphery of the working areas of site components, located where feasible to the outer edge of access roads and components, and will be seeded and grassed to assist in reducing visual effects from receptors east, south and west of the site, including to reduce the perceptibility of artificial lighting sources such as lighting on buildings and to working areas, and vehicle movements along access roads. Haulage, stockpiling and monitoring of growth medium and subsoil layers will be undertaken, to serve as a visual screen during construction, and a seed bank and to use for revegetation at closure;
 - Berms and mounds will be incorporated alongside on site access and haul roads to reduce light spill from the headlights of vehicles moving across the site and specifically to avoid or reduce visual effects from the headlights of vehicles on nearby visual receptors;
 - Opportunities for further localised screening and tree planting during the years of operation are included in the **Landscape Plan**. Existing tree belts will be managed, reinforced, and gaps filled with newly planted trees wherever practical. New planting will be implemented around the periphery of the DSF and along the north side of the B46, within the land which is available to DGL; and
 - Progressive restoration and revegetation of the DSF will take place throughout the operational phase to integrate the new landform more sympathetically into the surrounding landscape, and will extend into the restoration and closure phase where more extensive revegetation of the DSF will be undertaken.

Mitigation of Night Time Lighting

- 7.11 The introduction of night time operation activities will potentially result in visual effects where views of the various working components may occur, arising from the lighting of project components and headlights of mobile plant machinery and vehicles on site. The following mitigation measures will be implemented throughout the construction and operational phases to ensure visual effects associated with lighting are reduced or avoided:
- Contractors will be requested to use lowest emission lighting that will still provide sufficient light for safety purposes. Low visibility spectrum lights and appliances (full cut-off fixtures that emit no light above the light's horizontal line) will be preferred on project components, with lighting mounted at the minimum necessary safe height and shrouded where appropriate;
 - Lighting will be carefully enclosed within buildings so as not to contribute to light pollution/ light spillage off site/glare to the sky. Shutters will be used during darkness. There will be minimal security lighting in external areas (sensors will be used to ensure it does not get left on);
 - Lighting of work sites will be restricted to agreed working hours and that which is necessary for security. Light sources for night-time construction and operation activities will be pointed

downward and away from sensitive receptors such as nearby communities (without forgoing safety purposes);

- Vehicle and mobile plant machinery operators and drivers will be instructed in the appropriate use of headlights (high and low beams) to reduce impacts on visual receptors within local communities close to the site;
- Work in areas in the direct view of sensitive receptors (settlements/residential properties) will be avoided at night and/or lighting will be directed away from these locations, where practical; and
- Opportunities for further localised screening and tree planting to reduce potential visual effects from lighting will be explored in the detailed construction plans and included in any landscape and visual mitigation plans developed.

Closure and Restoration Phase Mitigation

- 7.12 Once the operation and production phases of the project cease, the closure of all project components will begin with the removal of all temporary project components and will be followed by the restoration of the site. Measures to be implemented at closure are detailed on the **Closure Plan**. Restoration proposals are detailed on the **Landscape Restoration Plan**.

Progressive Restoration

- Progressive rehabilitation of affected areas of the site will be undertaken, where possible, throughout the mine life, including the DSF which will be progressively revegetated throughout the operational phase. Provision will be made for reinstatement of vegetation across disturbed areas during the entire length of the project;

Removal of buildings and structures

- Removal or redistribution of temporary buildings and structures will be undertaken once their purpose has been fulfilled; all defunct machinery, clutter, fencing and man-made objects will be removed from the site; redundant settlement/filtration ponds will be removed;

Reprofiling, grading and landscaping

- Re-profiling and regrading of the DSF, access roads and areas of hardstanding will be undertaken when no longer required as part of the operational phase; landscaping and revegetation of slopes will be undertaken to provide erosion resistant, sustainable landforms;
- Cutting and embankment slopes will be graded to tie in with existing natural slopes, and sharp edges will be avoided, except where minor rock or stone covered faces may be considered appropriate; the edges of the slopes will be treated, so that scarred and eroded tie-ins are graded out. Layers of subsoil then topsoil will be placed in the correct stratigraphic order back onto the surface to promote recolonisation with appropriate native vegetation;
- The profiled faces of the DSF, their top surface, as well as any remaining spoil heaps and horizontal breaks (vehicle access berms and more minor footways) at completion of the operational phase will be designed to tie into existing contours, so that slopes match in with surrounding natural contours - using available materials as fill to soften angles and create a rolling profile. Shaping and grading of the completed faces will be implemented prior to seeding or the placement of turves to promote natural recolonisation of vegetation;

Ripping and scarifying

- Surfaces with significant compaction or degradation will be scarified or contour ripped to promote revegetation, and any overburden that was excavated will be pushed, raked or pulled back over the area. Any redundant access tracks will be ripped and windrows back-graded. Stockpiled topsoil and vegetation will be re-spread over the sites and any sumps will be backfilled;

Revegetation

- Revegetation of disturbed areas will be compatible with the selected post-mining land use, prioritising native species and vegetation types that existed before the mining operation began, and tying in with the existing vegetation in the surrounding area;
- Revegetation will be encouraged so as to soften the appearance of the DSF and pond faces, and to help integrate both the natural and manmade land forms, and the existing and new areas of vegetation with the objective of integrating the DSF into the landscape whilst replicating the linear ladder field boundary pattern and character of the surrounding landscape across the lower slopes of the DSF. The type and form of vegetation will be developed in accordance with advice from the engineers, in order to maintain the permanent structural integrity of the DSF, with a suitable depth of planting media incorporated where necessary to accommodate shrubs;
- Opportunities for further localised screening and tree planting during restoration and closure will be included in the **Landscape Restoration Plan**;

Post restoration management and monitoring

- Restoration will be managed and monitored according to ongoing landscape and habitat management actions, so as to promote complete and successful regeneration of the site; and
- Ongoing specialist supervision of vegetation recovery will be required to ensure the efficiency and effectiveness of revegetation and enhancement planting.

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8 Assessment of Landscape Effects

Landscape Assessment

- 8.1 The assessment of landscape effects follows the methodology presented in **Chapter 4** and **Appendix 1**, and is based upon the Project Description contained in the ES³⁴. The LVIA reports on effects which will occur during the construction, operation, and closure and restoration phases (as defined in **Table 5.1**) separately, and the magnitude and significance of landscape effects assessed assumes implementation of all the mitigation measures outlined in **Chapter 7** of this report.
- 8.2 Judgements on the potential for cumulative landscape effects are made with reference to the developments considered within the CLVIA which are listed in **Table 6.6** and shown on **Figure 6.9**.

Landscape Effects on the Project Site

- 8.3 Potential effects on the landscape of the Project Site are considered in **Table 8.1** below.

Table 8.1 Landscape Effects on the Project Site

The Project Site	
Sensitivity (Nature of receptor)	The project site is described in detail in the baseline chapter, however the key characteristics are noted below. The site is situated on the lower broadly south facing slopes of the ridge, where the landform slopes down towards the Owenreagh River in the south and rises to the north to a high point of 335m AOD at Crocknamoghil. The west to north-western part of the site comprises moorland and rough grazing, whilst the eastern part of the site is largely composed of more managed pastoral farmland at lower elevation, delineated by lines of coniferous trees. A distinctive field pattern of locally characteristic 'ladder fields', are bound by a combination of degraded hedgerow, wire and post fencing and stone walls. A number of existing residential properties and agricultural buildings lie within the proposed footprint of the site. The susceptibility of this medium scale upland landscape based on the occurrence of localised key characteristics is judged to be medium. It is recognised that there is some value attached to the landscape of the project site, taking account of its location at the southern periphery of the nationally designated Sperrin AONB. However, the site has little intervisibility with the core area of the dramatic range of the south Sperrin Mountains. The area which will be affected will be situated south of the ridge, extending between Crocknamoghil and Crockanboy Hill. The project components will be predominantly contained within the existing matrix of coniferous shelterbelts. Taking into consideration the key characteristics of the underlying landscape of the project site, proximity to settlement and the location of the site within the Sperrin AONB, the landscape value is judged to be medium. On balance, the sensitivity of the project site is judged to be medium.
Magnitude of change (Nature of effect)	The localised landscape of the project site will experience direct landscape changes from the construction of the DSF, mineral process plant, administrative buildings, maintenance workshop, warehouse facilities, mine dry, parking, site roads, fencing, vehicle movements, and infrastructure elements. These components will require extensive earth works, resulting in the removal of existing vegetation, manipulation of existing landform, diversion of natural drainage and the loss of landscape features such as moorland, areas of rough grazing, rectilinear pastoral land and field boundaries, however through the design of the proposal, the loss of existing lines of coniferous trees has been minimised.

³⁴ Environmental Statement for the Curraghinalt Project, Northern Ireland, 2017

The Project Site	
	The large scale physical changes to the landscape of the project site will be experienced over a localised area south of the summits of Crocknamoghill to the north-west and Crockanboy Hill to the north-east of the site, extending southwards towards the lower slopes of Owenreagh River valley. The extent of the DSF will develop throughout the duration of the project in accordance with the phases set out in the Project Description, therefore it is anticipated that the extent of landscape effects will increase through the operational phase as the DSF increases in size. The changes resulting from many of the project components will be largely reversible, as the process plant infrastructure components will be removed at closure and restoration of the development site is undertaken. However, long-term impacts from the change in landform and vegetation cover across the DSF will lead to localised permanent and non-reversible changes to the key characteristics of the site.
Significance of landscape effects during each Assessment Phase	
Construction Phase	Construction of project components will result in a large/size scale physical change experienced at a localised level. The duration of construction effects will be short-term, and some disturbance necessary to facilitate construction will be reversible, however the main components constructed during this phase will remain into the operational phase. The magnitude of landscape change for the site during construction is judged to be high. Combined with the overall medium sensitivity of the site, the landscape effect during construction is judged to be major (significant).
Operational Phase	The introduction of project components and development of the DSF will result in direct, large scale landscape change experienced at a localised level. The duration of these landscape effects will be long-term, throughout the operational phase of the project. The majority of operational activities will be reversible, however, the eventual foot print and profile of the DSF will remain as a permanent feature within the project site, and will be subject to progressive reclamation and revegetation to integrate this large scale feature into the surrounding landscape during the long-term operational phase. The magnitude of landscape change during operation is judged to be high. Combined with the overall medium sensitivity of the site, the landscape effect during operation is judged to be major (significant).
Closure and Restoration Phase	This phase will see the reversal of many operational effects through the removal of the majority of the project components. However, the DSF and passive water treatment system using the existing water management ponds will remain, and lead to a permanent and non-reversible change to the site. During restoration the shaping and grading of the DSF will be designed to tie into existing contours and topography of the site prior to revegetation of this new landform. Following closure and restoration of the site in accordance with the proposed Landscape Restoration Plan, the magnitude of change is judged to be medium. Combined with the overall medium sensitivity of the site, the landscape effect following closure and restoration is judged to be moderate (significant).
Potential Effects from Lighting	Effects from the lighting of key project components along with visibility of vehicle movements will be evident in across some areas of the site during the construction and operational phase, introducing artificial lighting sources into a landscape otherwise free of artificial lighting. However, the site lies within close proximity to other artificial lighting sources associated with residential properties and farmsteads, and effects from the lighting of key componentry will be contained during the latter stages of the project by the screening created by the landform of the DSF. Following closure and restoration all artificial lighting sources will be removed. Overall the effects from lighting on the landscape of the site will be medium during the construction and operational phases, reducing to barely perceptible following closure and restoration. Combined with the medium sensitivity of the site, the landscape effect as consequence of lighting is judged to be moderate (significant) during construction and operation, reducing to negligible (not significant) following closure and restoration.
Potential for Future Cumulative Effects	A consented but as yet unbuilt domestic scale wind turbine is located in close proximity to the site (60m to the south-west) and is likely to be visible in views from the immediate surrounding area south and west of the DSF. The turbine is of modest scale, typical of the

The Project Site	
	type of development associated with modern agricultural farms and will be seen in the context of the DSF in the latter stages of the operational phase. A consented but as yet unbuilt telecommunications mast of 15m in height is located on the summit of Crockanboy Hill in close proximity to the site, potentially appearing as a project component and acting as a reference to the location of the site in views from the wider surrounding area. Despite the proximity of these nearby small scale developments, significant additional or total cumulative effects on the landscape of the project site are unlikely to occur.

Landscape Effects on Local Landscape Character Areas

- 8.4 Potential effects on local landscape character areas are considered in **Table 8.2** and **Table 8.6** below. These are then summarised in terms of the effects upon the RLCAs of which they form a part, given in each instance several LLCAs combine to form a single larger RLCA. This approach enables the consideration of potential effects on key characteristics of LLCAs which may only occur at local scale, but allows for a wider more holistic consideration which each affected LLCA may make to the character of the wider RLCAs.

Table 8.2 Landscape Effects on the LLCA 24 South Sperrin

LLCA 24 South Sperrin	
Sensitivity (Nature of receptor)	This LLCA includes the site, and extends across the centre of the Study Area, from east of the summit of Carnanelly to south of the Owenreagh valley. Key characteristics which, together with field work, have informed an understanding of the susceptibility of this landscape to the development proposed are described in the NILCA as: • <i>"Broad rounded ridges with deep, branching gullies and fast-flowing upland streams;</i> • <i>Meandering rivers are a focus for views - the narrow floodplain is often subdivided by irregular mounds of glacial till;</i> • <i>Patches of peaty marsh in low-lying areas between ridges of moraine and valley sides;</i> • <i>Marginal farmland, with scrub, rushes and moorland vegetation on upper slopes of stream valleys;</i> • <i>Hedgerows and stone walls on lower slopes follow historic townland boundaries and emphasise the undulating landform; and</i> • <i>Narrow lanes along margins of river floodplains - stone bridges at crossing points are local landscape features"</i> Overall the character of this LLCA is strongly influenced by the skyline of the Sperrin Mountains to the north. The character and pattern of the landscape changes gradually from the valley floor to the upper moorland slopes. It is also noted that the: <i>"This landscape would be sensitive to the expansion of commercial forestry and to any large scale development, particularly relating to mineral extraction, which would be prominent in views from the surrounding ridges".</i> Susceptibility to mineral extraction development of the nature proposed is judged to be medium. Although the entirety of the LLCA is located within the Sperrin AONB the area which will be affected is located to the south of the more dramatic range of the south Sperrins Mountains, and will be located below the skyline of Crocknamoghil and Crockanboy Hill, contained within the existing matrix of coniferous shelterbelts. The potential for intervisibility with the core area of the Sperrin AONB and northern extents of this LLCA are limited. Overall the landscape value of this LLCA is judged to be high. Given the susceptibility and value attached to the LLCA, the overall sensitivity of this LLCA is judged to be medium.
Magnitude of change (Nature of effect)	This LLCA will experience direct landscape changes from the construction project components. Most of the components will require extensive earth works, resulting in the removal of existing vegetation, manipulation of existing landform, diversion of natural drainage and the loss of landscape features such as moorland, areas of rough grazing, arable and pastoral land, field boundaries and lines of coniferous trees, however these will be limited to the proposed infrastructure site and will not extend elsewhere across the LLCA.

LLCA 24 South Sperrin

	The direct landscape changes which will occur within this LLCA as a result of the project will be visible across the southern area of this LLCA. However, the project components will be located below the horizon formed by Crocknamoghil and Crockanboy Hill, and are unlikely to interrupt the key characteristic views from surrounding ridges. Visibility of the project components will be localised, concentrated within 5km of the project site, but largely contained to the south of the area, including the south facing slopes and summits of Crocknamoghil and Crockanboy Hill, and from the north facing slopes south of the Owenreagh River. More limited visibility will also be experienced from elevated areas of the LLCA to the north-east, including the southern slopes and summit of Oaghmonicroy Hill. Visibility of these large scale changes will be experienced over a small geographical area of the LLCA south of the ridge, and will not be evident from many of the surrounding ridges from adjacent LLCAs to the north, and towards the interior/core of the Sperrin AONB. Effects on the landscape will be localised when considering the full extent of the LLCA within the study area. Effects associated with the DSF will extend during the operational phase as this component increases in size, resulting in potential visibility from areas of the LLCA to the north-east, including the hills of Oaghmonicroy, Spaltindogagh and Keraghbrien. The changes resulting from some of the project components will be reversible following closure and restoration, however long-term, permanent impacts from the change in landform and vegetation cover across the DSF will lead to localised changes to key characteristics and the landscape pattern within the LLCA.
Significance of landscape effects during each Assessment Phase	
Construction Phase	Construction of project components will result in a large/size scale change experienced at a localised level, which will be evident in views across the Owenreagh River valley to the south of the site. Construction effects will be short-term some disturbance necessary to facilitate construction will be reversible, however the main components constructed during this phase will remain present throughout the operational phase. The magnitude of landscape change during construction for the LLCA will be medium for the LLCA locally, and barely perceptible for the LLCA as a whole. Taking account of the medium sensitivity, the landscape effect for this LLCA is judged to be moderate (significant) locally (within 1km of the project site), and negligible (not significant) for the LLCA as a whole.
Operational Phase	Direct effects will arise during the operational phase as the DSF increases in horizontal and vertical extent, leading to the creation of a new large scale land form within the site, and will be visible across the Owenreagh River Valley area of the LLCA to the south. In the latter stages of operation visibility of the DSF will extend to areas of the LLCA to the north-east, although this will be limited to marginal visibility of the DSF above the ridge from elevated south facing slopes and hill summits located 4-12km from the site. Landscape effects experienced during operation will be medium-term, and will be largely reversible apart from those associated with the DSF which will remain in the landscape as a permanent feature. The magnitude of change is judged to be medium during operation. Combined with the medium sensitivity of the LLCA, the landscape effect is judged to be moderate (significant) locally within 1km of the site, and negligible (not significant) for the LLCA as a whole.
Closure and Restoration Phase	This phase will see the removal of all project components except the DSF which will result in a large/size scale of effect experienced at a localised level. The final shaping and grading of the DSF land form will be designed to tie into existing contours and will be revegetated during closure and restoration phase. The magnitude of landscape change following closure and restoration will reduce to low locally and barely perceptible for the LLCA as a whole. When combined with the medium sensitivity of the LLCA, this will result in a minor (not significant) landscape effect locally and negligible (not significant) for the LLCA as a whole following removal of the majority of the project components and the reshaping and revegetating of the DSF which will reduce its perceptibility across a wider extent of the LLCA, and ensure that the sites retains the character of the transitional landscape between the open moorland of the ridge to the north and the improved pastoral farmland of the Owenreagh River Valley to the south.
Potential Effects from Lighting	During the hours of darkness, lighting will be apparent across the area of the LLCA occupied by the site (as described above), and from areas on the north facing slopes of the Owenreagh river valley direct south, and south-west of the site. Visibility will be restricted to within approximately 3km of the site. Visibility will occur during the construction and

LLCA 24 South Sperrin	
	operational phase due to the introduction of artificial lighting sources, however visibility of lighting from across the Owenreagh valley will be seen in the context of other existing artificial lighting associated with residential properties and farmsteads, and the local sports ground north of Greencastle. Overall the landscape effects arising from lighting will be localised, and will be moderate (significant) locally and negligible (not significant) for the LLCA as a whole during the construction and operational phases. Following closure and restoration the effects from lighting will reduce to negligible (not significant) both locally and for the LLCA as a whole.
Potential for Future Cumulative Effects	A number of consented and proposed small scale developments are located within 5km of the site and within this LLCA, including domestic scale wind turbines (up to 31m hub height) and overhead powerlines which lie further west and north of the site but out with the ZTV. The majority of these developments are located within marginal farmland close to existing residential or agricultural development and do not generally encroach on the more exposed higher elevations of the LLCA where intervisibility with the project components may occur. The proposed Doraville Wind Farm is located at the northern periphery of this LLCA, and given the large scale of this development and its potential to alter some of the key characteristics of this LLCA, significant landscape effects are likely to arise in relation to this proposal. However, due to the presence of intervening topography and coniferous forestry intervisibility between the Curraghinalt Project and this commercial scale wind farm is likely to be very limited. Despite the presence of these nearby small scale developments each will have a small visual influence across the wider LLCA and there are unlikely to be significant cumulative effects on the LLCA as a consequence. The <i>additional</i> cumulative effect on this LLCA associated with the Curraghinalt Project, in the context that all the consented and proposed developments are constructed are judged to be minor (not significant).

Table 8.3 Landscape Effects on the LLCA 25 Beaghmore Moors & Marsh

LLCA 25 Beaghmore Moors & Marsh	
Sensitivity (Nature of receptor)	This LLCA includes a small area at the eastern extent of the proposed infrastructure site, whilst the LLCA extends across the central and eastern extent of the study area, encompassing the Owenreagh Valley to the south of the site and extending to the Davagh Forest to the north-east. Key characteristics which informs this landscapes susceptibility are described in the NILCA as: • <i>"Shallow low ridges of glacial moraine separated by extensive peaty marsh;</i> • <i>Numerous winding small rivers and tributary streams flow in open channels with scrubby margins;</i> • <i>Pasture predominates on higher land, with exposed moorland on some ridgetops and extensive conifer plantations on shallow slopes;</i> • <i>Most fields enclosed by wire fences or broken scrubby hedgerows;</i> • <i>Small conifer shelterbelts are prominent around most farmsteads; and</i> • <i>Few settlements but many farmsteads on higher land, connected by straight, embanked roads Bronze Age sites."</i> Key characteristics within the area including exposed moorland, conifer plantation and field enclosures are judged to be of high susceptibility. It is also noted in the NILCA that: <i>"Much of the landscape is in poor condition, with broken stone walls and gappy, stunted hedgerows. The area is pitted with sand and gravel quarries. Spoil heaps, quarry scars and hollows often create small-scale, irregular and rather lumpy terrain. Derelict buildings and fly-tipping are commonplace. Scattered built development has a strong visual influence. The most significant pressure for change is from the large, modern sand and gravel quarries, most of which are close to the A505.</i> <i>"The plant, machinery and vast spoil heaps associated with these quarries have a wide visual influence in this relatively expansive, rolling landscape. Conifer plantations are a strong pressure for change and many are newly planted. They form a large-scale, irregular</i>

LLCA 25 Beaghmore Moors & Marsh	
	<i>patchwork which fits fairly comfortably with the extensive valley bogs and marshes and forms a backdrop to the scattering of farmsteads and shelterbelts".</i> Most of the LLCA is located within the Sperrin AONB which is considered to be of high landscape value. However the area which will be affected is located to the south of the more dramatic range of the south Sperrins and will be largely located below the skyline of Crocknamoghil and Crockanboy Hill, amongst existing lines of coniferous trees. Taking account of the level of human intervention within the LLCA, the landscape value is judged to be low to medium. Based on the susceptibility and value attached to this LLCA, the overall sensitivity of this LLCA is judged to be medium.
Magnitude of change (Nature of effect)	The project components that will be located within this LLCA are largely limited to the clean water pond at the north-eastern extent of the proposed infrastructure site. Visibility within this LLCA is locally wide spread in the west to the north and south of the Owenreagh valley including the elevated positions of Slievemenagh and Cashel Rock. A small part of the project site will be located within the north-western periphery of this LLCA, which will experience some direct landscape changes during the construction of project components. Most of these components will require extensive earth works, resulting in the removal of existing vegetation, manipulation of existing landform and the diversion of natural drainage. This will result in the loss of some key characteristic landscape features including high pasture and linear conifer shelterbelt. However the small area affected by this minimal loss of key characteristics will not give rise to undue changes to the wider LLCA. Direct and indirect changes which will affect this LLCA as a result of the project will be mainly visible from the west of this LLCA. Project components are likely to be located below the horizon formed by Crocknamoghil and Crockanboy Hill. Visibility of these medium scale changes will be experienced over a small geographical area of the LLCA south of the ridge. Effects on the landscape will be localised when considering the full extent of the LLCA within the study area. Indirect effects associated with DSF will extend during the operational phase as this component increases in size, resulting in potential visibility from areas of the LLCA to the south-east, largely near Greencastle, between Slievemenagh and Creggan, and to the north and north-east of Crockmorris. Predicted visibility from the areas beyond Greencastle will be experienced at distances of over 3km. In reality views towards the DSF from these areas will often be foreshortened and screened by intervening features. The changes resulting from some of the project components will be reversible following closure and restoration. Indirect experience of the changes in landform resulting from the development of the DSF in the neighbouring South Sperrins (LLCA 24) will be long-term and permanent.
Significance of landscape effects during each Assessment Phase	
Construction Phase	Construction of project components will result in a medium/size scale landscape change experienced at a localised level, which will be evident in views looking north from elevated locations south of the Owenreagh River valley. Construction effects will be short-term, some disturbance necessary to facilitate construction will be reversible, however the main components constructed during this phase will remain present throughout the operational phase. The magnitude of landscape change during construction for the LLCA is judged to be medium locally, and low for the LLCA as a whole. Combined with the medium sensitivity of this LLCA the landscape effect is judged to be moderate (significant) local within approximately 1km of the project site, and negligible (not significant) for the LLCA as a whole.
Operational Phase	Direct landscape effects will arise during the operational phase with the development of part of the Fresh Water Pond and other project components within the LLCA. Indirect effects will arise as the DSF increases in horizontal and vertical extent, leading to the creation of a new large scale landform, and will be visible from elevated areas south of the Owenreagh River. In the latter stages of the operational phase predicted visibility of the DSF extends to areas of the LLCA to the south-east and some limited areas to the north-east at distances over 3km. It is considered likely that visibility of the DSF from these areas will be foreshortened and screened by intervening features.

LLCA 25 Beaghmore Moors & Marsh	
	Direct landscape effects experienced during operation will be medium-term, and will be largely reversible. Indirect effects associated with the DSF will remain in the landscape as a permanent feature. During operation the magnitude of landscape change is judged to be medium locally and barely perceptible for the LLCA as a whole. Taking account of the medium sensitivity of the LLCA, the landscape effect is judged to be moderate (significant) locally (within approximately 1km of the site), and negligible (not significant for the LLCA as a whole).
Closure and Restoration Phase	This phase will see the removal of all project components except the DSF which will remain within neighbouring LLCA 24 South Sperrin to the west and will result in a medium/size scale of effect experienced at a localised level. The final shaping and grading of the DSF land form will be designed to tie into existing contours and will be revegetated during closure and restoration phase. The magnitude of landscape change following closure and restoration will reduce to low, resulting in a minor (not significant) landscape effect locally and negligible (not significant) for the LLCA as a whole following removal of the majority of the project components and the reshaping and revegetating of the DSF which will reduce its perceptibility across a wider extent of the LLCA.
Potential Effects from Lighting	During the hours of darkness, lighting will be apparent across the area of the LLCA occupied by the site (as described above), and from areas near Pollanroe Bridge and from elevated areas south of the Owenreagh River valley. Visibility will be restricted to within approximately 3km of the site. Visibility will occur during the construction and operational phase due to the introduction of artificial lighting sources, however visibility of lighting from areas south of the Owenreagh River the will be seen in the context of other existing artificial lighting associated with residential properties and farmsteads, and the local sports ground north of Greencastle. Overall the effects from lighting on this LLCA will be localised, resulting in a moderate (significant) effect very locally (within 1km of the site), and will be negligible (not significant) for the LLCA as a whole during the construction and operational phases, reducing to negligible (not significant) following closure and restoration.
Potential for Future Cumulative Effects	A number of consented and proposed small scale wind turbines and a telecommunications mast are located within 3km of the project site and within this LLCA, i and a number of other small scale wind turbines (up to 54.5m hub height). The majority of these developments are located within marginal farmland close to existing residential or agricultural development and do not generally encroach on the more exposed higher elevations of the LLCA where intervisibility with the project components may occur. Each development, given the small scale and limited visual influence of the developments they will result in only local effects on this LLCA. In addition, a consented shale mineral extraction site is located approximately 8.5km south-east of the Curraghinalt Project and within this LLCA. This development is located close to other existing mineral extraction sites, which are common feature within this landscape. Intervisibility between the two sites will be limited at this distance, and each development will exert a localised effect on this LLCA. It is considered that there are unlikely to be significant cumulative effects on the LLCA as a consequence of each of the developments being constructed, however the additional of further mineral extraction development within this LLCA will result in an extension of this character defining land use. The <i>additional</i> effects associated with the introduction of the Curraghinalt Project in the context that all the consented and proposed developments are constructed are judged to be minor (not significant).

Table 8.4 Landscape Effects on the LLCA 26 Bessy Bell & Gortin

LLCA 26 Bessy Bell & Gortin	
Sensitivity (Nature of receptor)	This extensive character area is focussed on the outlying foothills of the Sperrins, defined by rounded hills to the west and rising to more prominent peaks to the east including Mullaghcarn. Key characteristics which, together with field work, have informed and understanding of the susceptibility of this landscape are described in the NILCA as: "<i>Scenic, accessible landscape on the western fringes of the Sperrins; steep mountain of Mullaghcarn to east and rounded moorland summit of Bessy Bell to west;</i>

LLCA 26 Bessy Bell & Gortin

	• <i>River Strule flows within incised, wooded valley, with roads following river course on terraces alongside;</i> • <i>Diverse landscape pattern, with a transition from steep, wooded river banks to farmland to open moor within relatively short distances;</i> • <i>Hedgerows enclose all fields, becoming gappy, with wire fencing on higher land; stone walls in areas of higher land close to the Sperrins;</i> • <i>Relatively dense tree cover, with numerous hedgerow trees and small copses; landscape becomes more open on elevated slopes; and</i> • <i>Long scenic views from mountain slopes and along valley."</i> Key characteristics relative to the proposed project components are the slopes and summit of Mullaghcarn and long scenic views from mountain slopes and along valleys. The key characteristics are judged to combine to result in a high susceptibility. The majority of the eastern extents of the LLCA are located within the Sperrin AONB, whilst the western extents out with the study area fall within the non-statutory Sperrin Foothills Area of Scenic Quality. As a result, the overall landscape value of the LLCA is judged to be high. The overall sensitivity of this LLCA is judged to be high.
Magnitude of change (Nature of effect)	No project components are located within this LLCA located south-west of the project site, however visibility of project components will be possible from localised within 5km of the site, seen largely from elevated areas in the north-eastern extent of this LLCA. Beyond 5km, visibility is indicated from higher ground including the summits and slopes of Mullaghcarn and Crocknakeeferty, becoming increasingly intermittent to the east of Mulderg. However at such distances, the project is unlikely to be perceptible. Indirect effects will arise from the construction of project components. Visibility of these medium scale changes will be experienced over a small geographical area of the LLCA south-west of the ridge. Effects on the landscape will be localised when considering the full extent of the LLCA within the study area. Effects associated with the DSF will extend during the operational phase as this component increases in size, resulting in potential visibility from some additional limited areas of the LLCA to the south of Gortin. However predicted visibility from these areas are from distances over 5km and views towards the DSF will likely be foreshortened and screened by intervening features. Visibility is indicated from key characteristic mountain Mullaghcarn and from the slopes and summits of Crocknakeeferty and Mulderg further south. However it is considered unlikely that this accessible landscape and the key characteristic scenic views experienced from mountain slopes will be unduly affected as project components will be largely contained below the skyline formed by Crocknamoghil and Crockanboy Hill, and where visible will be from a distance over 5km and barely perceptible.
Significance of landscape effects during each Assessment Phase	
Construction Phase	Indirect construction of project components will result in in a medium/scale landscape change experienced a localised area and restricted to views from elevated positions on the south-west of the Owenreagh River valley. Construction effects will be short-term and reversible, however the main components constructed during this phase will remain present throughout the operational phase. The magnitude of landscape change during construction for the LLCA is judged to be low locally within approximately 3km of the site, and barely perceptible for the LLCA as whole. Taking account of the high sensitivity of the LLCA, a minor (not significant) landscape effect will arise locally within approximately 2km of the site, reducing to negligible (not significant) for the LLCA as a whole.
Operational Phase	During the operational phase the DSF will increase in horizontal and vertical extent, leading to the creation of a new large scale landform in views from this LLCA towards the northern slopes of the Owenreagh River Valley. These views will be experienced from an area of high ground east of Glensawisk Burn, the slopes and summits of Mullaghcarn, Crocknakeeferty and Mulderg. As noted above visibility indicated from slopes and summits are from distances over 5km from where the site will form a small feature in the landscape and will not interrupt the skyline in views from this LLCA. In the latter stages of operation visibility of the DSF will extend to some limited areas south of Gortin at distances over 5km.

LLCA 26 Bessy Bell & Gortin	
	Landscape effects experienced during operation will be medium-term, and will be largely reversible, apart from those associated with the DSF, which although this component will be progressively restored throughout the operational phase reducing its perceptibility in views from this LLCA, it will remain in the landscape as a permanent feature. The magnitude of landscape change during the operational phase for the LLCA is judged to be low locally within approximately 3km of the site, and barely perceptible for the LLCA as whole. Taking account of the high sensitivity of the LLCA, a minor (not significant) landscape effect will arise locally within 2km of the site, reducing to negligible (not significant) for the LLCA as a whole.
Closure and Restoration Phase	The removal of most project components from the site and the final shaping, grading and revegetating of the DSF landform, designed to tie this feature into the surrounding topography and landcover will reduce the perceptibility of the project site following closure and restoration. The magnitude of landscape change following closure and restoration will reduce to be low locally and barely perceptible for the LLCA as whole. Taking account of the high sensitivity of the LLCA, a minor (not significant) landscape effect will arise locally, which will be negligible (not significant) for the LLCA as a whole.
Potential Effects from Lighting	During the hours of darkness lightning will be apparent from the localised north-eastern fringe of the LLCA within approximately 3km of the site. Visibility will occur during the construction and operational phases due to the introduction of artificial lighting sources, however visibility of lighting from across the Owenreagh River valley will be seen in the context of other existing artificial lighting associated with residential properties and farmsteads, and the local sports ground north of Greencastle. Overall the effects from lighting on this LLCA will be localised, and will be minor (not significant) for the LLCA as a whole during the construction and operational phases, reducing to negligible (not significant) following closure and restoration.
Potential for Future Cumulative Effects	No other additional developments considered in the cumulative assessment are located within this LLCA, therefore no <i>additional</i> cumulative effects on this LLCA will occur.

Table 8.5 Landscape Effects on the LLCA 29 Sperrin Mountains

LLCA 29 Sperrin Mountains	
Sensitivity (Nature of receptor)	Extending west to east across the most northerly extents of the study area this LLCA forms the core area of the Sperrin AONB. This mountain landscape is characterised by remote wilderness and high peaks, generally devoid of manmade features or development. Key characteristics which, together with field work, have informed an understanding of the susceptibility of this landscape are described in the NILCA as: • <i>"broad, rounded ridges with rocky outcrops leading to steep, pointed summits;</i> • <i>deep, branching gullies and open, fast-flowing moorland streams;</i> • <i>carpet of open moorland pasture and heather with extensive bog and areas of damp grassland on flatter land and lower slopes;</i> • <i>earthbanks and stone walls follow historic townland boundaries on lower slopes; some pastures are derelict and infested by scrub and rushes;</i> • <i>winding moorland roads and straight tracks leading across contours; and</i> • <i>broadleaf woodland concentrated within lower valleys; some conifer woodland on mountain slopes. Isolated barns on upper slopes; clachans and farmsteads in valleys. "</i> The key characteristics are judged to combine to result in a high susceptibility. The majority of the LLCA is located within the Sperrin AONB which is considered to be of high landscape value. The overall sensitivity of this LLCA to the type of development proposed is judged to be high.
Magnitude of change	Intervisibility between this LLCA and the proposed infrastructure site is limited by the intervening topography of Crocknamoghil and Crockanboy Hill which form the ridge directly

LLCA 29 Sperrin Mountains	
(Nature of effect)	north of the main project components. As a result visibility from across this LLCA will be very limited, restricted to distant views of only the DSF once cell one of this component reaches its maximum vertical extent (approximately year 5). This will be limited to elevated areas at distances of over 10km, including the southern slopes and summits of Mullaghclogha, Mullaghdoe, Dart Mountain and Sawel Mountain. At such distances it is extremely unlikely that the DSF will be discernible. As a result of this very limited visibility it is not considered likely that the key characteristics of this LLCA will be adversely affected by the proposal.
Significance of landscape effects during each Assessment Phase	
Construction Phase	Indirect effects arising from the construction phase are considered unlikely to be experienced from this LLCA as the majority of construction activities will be screened behind the elevated landform of Crocknamoghil and Crockanboy Hill north of the project site. The magnitude of landscape change during construction will be barely perceptible, which when combined with the high sensitivity will result in negligible (not significant) landscape effects on this LLCA.
Operational Phase	Indirect effects will arise during the operational phase as the DSF increases in horizontal and vertical extent, Visibility of the DSF from within the LLCA will be limited to the above noted areas in views looking south from distances over 10km. Where discernible the DSF will appear as a small scale change in landform above the ridge within the wider landscape, remaining as a permanent feature. The magnitude of change is judged to be barely perceptible, resulting in a negligible (not significant) landscape effect.
Closure and Restoration Phase	The final shaping, grading and revegetation of the DSF will be designed to tie into the existing landform and landcover of project site and surrounding landscape, which will further reduce the perceptibility of this project component in long distance views from this LLCA. The magnitude of landscape change following closure and restoration will be barely perceptible resulting in negligible (not significant) landscape effects.
Potential Effects from Lighting	Some distant illumination from artificial lighting of project components and vehicles is likely to be perceptible during the hours of darkness throughout the construction and operational phases from elevated areas and hill summits highlighted above. However visibility of lighting will largely be seen in the context of other existing artificial lighting associated with residential properties and farmsteads located north of the Curraghinalt Project site and closer to the Sperrin Mountains. Furthermore higher sensitivity recreational receptors are unlikely to be present within the above noted areas after daylight hours. The effects from lighting on this LLCA will be negligible (not significant) throughout the project
Potential for Future Cumulative Effects	There are no additional developments considered in the cumulative assessment located within this LLCA, however the proposed commercial scale Doraville Wind Farm is located sloe to this LLCA and is likely to exert an extensive visual influence across this LLCA. Due to the distance between and location of the Curraghinalt Project on the south side of the ridge, visibility of the site from the Sperrins (29) LLCA will be very limited, as outlined above. In contrast the proposed Doraville Wind Farm is likely to result in significant effects on the key characteristics of the LLCA, appearing in views from across an extensive area of this LLCA due to its location on elevated and exposed land within the adjacent South Sperrin (24) LLCA. In the context that the Curraghinalt Project introduced to a situation where all consented and proposed developments are constructed, the <i>additional</i> cumulative effects on this LLCA are judged to be negligible (not significant).

Table 8.6 Landscape Effects on the LLCA 43 Carrickmore Hills

LLCA 43 Carrickmore Hills	
Sensitivity	The Carrickmore Hills LLCA covers the south-eastern extents of the study area, extending south and south-east from the Sperrins and consisting of upland areas of moorland, fringe

LLCA 43 Carrickmore Hills	
(Nature of receptor)	farmland on lower slopes, with settlement and development generally concentrated along the network of roads which dissect this landscape. This LLCA displays relatively widespread human influences, including agriculture, settlement, linear features (roads and tracks) and active and inactive mining activities. Key characteristics which informs this landscapes susceptibility are described in the NILCA as: • <i>"Steep, rocky summits with a crinkled ridge-top profile, separated by extensive moss and small, rounded loughs. Irregular, deeply undulating landform in areas of glacial moraine;</i> • <i>On higher land, small, rough pastures are enclosed by gorse hedgerows and wire fences or by granite boulders and earthbanks form the margins to some fields;</i> • <i>Rolling lowland landscape of poor quality farmland with patches of marsh and rush-infested pastures in low-lying areas;</i> • <i>Narrow, twisting roads link scattered farms on lower slopes; small settlement clusters are concentrated at junctions;</i> • <i>Scrubby woodland on margins of marsh; tree cover becomes sparse and the landscape more exposed on elevated land; and</i> • <i>Extensive sand and gravel quarrying."</i> It is also noted that: <i>"...due to mineral extraction, built development or the introduction of forestry would have a detrimental impact. The most obvious current pressure is from sand gravel quarries; the area is pitted with quarry scars and soil heaps..."</i> Taking account of the above, the susceptibility of this LLCA is judged to be medium. The north-western extents of the LLCA is at the southern periphery of the Sperrin AONB, and offers long distant views towards the more dramatic uplands of the Sperrin Mountains to the north, north-east. The landscape value of the whole LLCA is judged to be medium. Overall the sensitivity of this LLCA to the type of development proposed is therefore judged to be medium.
Magnitude of change (Nature of effect)	Visibility of the project components will be possible from the north and north-western extents of this LLCA, generally concentrated across elevated areas along the corridor of the A505, including the Murrins to the south, and within approximately 7km. Visibility is indicated beyond this to the south-east, however the presence of extensive coniferous woodland at Creggan will reduce the likelihood of views from these areas of the LLCA, with some very distant views possible from the elevated summits of Cregganconroe and Evishanoran Mountain. The project will appear in the context of existing sand and gravel mineral extraction sites which are located both within this LLCA and within the Owenreagh River valley to the north. In views from within 5km the project site will potentially be discernible during construction and operation, however components will be contained below the horizon formed by Crocknamoghil and Crockanboy Hill, with the majority of the process plant components contained within the existing matrix of coniferous shelterbelts. As a result distant views towards the Sperrin Mountains will be uninterrupted. Perceptibility of the DSF will potentially increase during the operational phase as this component increases in horizontal and vertical extent, however the progressive restoration of this component will reduce how discernible this component appears within the surrounding landscape. It is considered unlikely that the key characteristics of the LLCA will be affected.
Significance of landscape effects during each Assessment Phase	
Construction Phase	Indirect construction effects will result in a small scale change in views from this LLCA experienced across a relatively localised extent of the LLCA. Visibility of the project site is generally limited to areas of the LLCA at lower elevations including the corridor of the A505 road and areas of higher ground west of Cashel Rock. Construction effects will be short-term and largely reversible, however the main components constructed during this phase will remain present throughout the operational phase of the project. More distant views of construction activities will be possible from elevated areas to the south-east including Cregganconroe and Evishanoran Mountain.

LLCA 43 Carrickmore Hills	
	The magnitude of landscape change during construction is judged to be low, resulting in a negligible (not significant) landscape effect for the LLCA as a whole.
Operational Phase	Indirect effects arising during the operational phase will mainly arise in relation to the DSF as it increases in horizontal and vertical extent, leading to the creation of a new large scale landform within the neighbouring LLCA. This will become the most perceptible component of the development, but will be visible from only a small localised area of this LLCA, including elevated land west of Cashel Rock and from the corridor of the A505 at the northern periphery of the LLCA. As noted above predicted visibility of the DSF is also indicated from areas in the centre and east of the LLCA towards the latter stages of development. However visibility from these areas is from distances of approximately 10km, from which a changes will be barely perceptible. Landscape effects experienced during operation will be medium-term, and will be largely reversible apart from those associated with the DSF which will remain in the landscape as a permanent feature. The magnitude of change during the operational phase will be barely perceptible for the LLCA as whole, resulting in a negligible (not significant) landscape effect.
Closure and Restoration Phase	The removal of project components, and the final shaping, grading and restoration of the DSF landform, designed to tie into existing contours and surrounding landscape, will reduce the perceptibility of the project site from the areas noted above. The magnitude of landscape change following closure and restoration will reduce further but will remain barely perceptible for the LLCA as whole, resulting in a negligible (not significant) landscape effect.
Potential Effects from Lighting	During the hours of darkness lightning will be apparent from the localised north-western fringe of the LLCA within approximately 4km of the site. Visibility will occur during the construction and operational phase due to the introduction of artificial lighting sources, however visibility of lighting will be seen in the context of other existing artificial lighting associated with the settlement of Greencastle, and other residential properties and farmsteads within the Owenreagh River Valley. Overall the effects from lighting on this LLCA will be localised, and will be negligible (not significant) for the LLCA as a whole during the construction and operational phases, and reducing further following closure and restoration.
Potential for Future Cumulative Effects	As referenced within the key characteristics, evidence of mineral extraction is a common feature within this LLCA. A number of other consented and proposed mineral extraction sites are located within this LLCA, as well as in close proximity within the adjacent Beaghmore Moors and Marsh (25) LLCA, which have the potential to influence landscape change within this LLCA. Although mineral extraction is a key and evident land use across this LLCA the effects associated with each individual development are often localised. A number of commercial scale wind farms have been consented within or in close proximity to this LLCA, and if all are constructed will likely result in wind energy developments, and views thereof, becoming a key feature of this LLCA. Given the distance between the Curraghinalt Project and its limited effect on this LLCA (minor, not significant), it is judged that <i>additional</i> significant effects on this LLCA will be negligible (not significant) when considered in the context of all consented and proposed developments being constructed. It is noted however that there is potential for significant <i>total</i> or <i>combined</i> cumulative effects on this LLCA as a result of the multiple existing, consented and proposed mineral extraction sites and commercial scale wind farms.

Implications for Regional Landscape Character Areas (RCLAs)

- 8.5 The potential landscape effects for LLCAs identified above may also have a consequential effect on key characteristics of RCLAs which define the study area. A further independent assessment of potential effects on these RCLAs was not undertaken, however, the implications for these larger scale units of landscape characterisation, with specific reference to the several LLCAs which make up the potentially affected regional units. The detailed analysis in relation to LLCAs above informs an understanding of the potential effects upon the units of this more recent classification.

- 8.6 The Curraghinalt Project sits at the transition between Sperrins (7) RLCA and the Carrickmore Plateau and Pomeroy Hills (12) RLCA, therefore implications for these two regional scale landscape units are considered in **Table 8.7** and **Table 8.8** below.

Table 8.7 Implications for RLCA 7 Sperrins

RLCA 7 Sperrins	
LLCAs which make up this RLCA	LLCA 24 South Sperrin LLCA 25 Beaghmore Moors & Marsh LLCA 26 Bessy Bell & Gortin LLCA 29 Sperrin Mountains
Sensitivity (Nature of receptor)	Key characteristics of the area which, together with field work, has informed an understanding of the susceptibility of this landscape to change are described in the NIRLCA as: • "...moorland with coniferous forest plantations contrasting harshly with the windswept broad summits which give an open character to these areas. Hedgerows and stone walls become more prevalent moving away from the higher grounds giving a more interconnected feeling at these locations; and • The higher peaks in the northern part of the RLCA are distinctly more mountainous, comprising a ridge with knife-like projections and rocky summits beyond. These mountains provide the backdrop for many of the views from the lower hills in the area." Some of the localised characteristics of the RLCA area may be affected by the Curraghinalt Project including the landcover comprising moorland and rough grazing in the west to north-west, and the 'ladder fields' bound by a combination of degraded hedgerow, post and wire fencing and stone walls. Elsewhere the RLCA shows evidence of man-made features and landscape change through agriculture, settlement and mineral extraction. The site also lies within the Sperrin AONB, however it is located to the south of the more dramatic south Sperrin Mountains range. The area which will be affected is located below the skyline of Crocknamoghil and Crockanboy Hill, within an area of lines of coniferous trees. A large proportion of this RLCA makes up the area designated as the Sperrin AONB, including the Sperrin Mountains which influence many of the key characteristics of the RLCA.
Conclusions with respect to effects on component LLCAs	The Curraghinalt Project is situated within this RLCA, with the majority of the project site located at the very southern periphery of this extensive RLCA which is centred on the Sperrin Mountains. Taking account of the potential effects on the constituent LLCAs (as documented in Table 8.2 to Table 8.5), landscape effects on this RLCA will be very localised, predominantly concentrated on the South Sperrin (24) LLCA which will experience physical changes as a consequence of the Curraghinalt Project. Visibility of the project across the extents of the RLCA will be extremely limited as indicated by Figure 6.4a. The key characteristics of the RLCA, most of which are concerned with the wild, tranquil and often inaccessible mountainous core area of the Sperrin Mountains to the north, will be largely unaffected by the presence of the Curraghinalt Project. The loss of characteristic landscape features found at lower elevations across the RLCA (e.g. ladder field boundaries and coniferous shelterbelts) will be experienced at a very local level and these features will remain abundant across the RLCA. In conclusion, despite significant landscape change experienced across localised areas of South Sperrin (24), Beaghmore Moors & Marsh (25) and Bessy Bell & Gortin (26) LLCAs, effects on the landscape of this RLCA will be very localised, affecting only a very small proportion of the RLCA occupied by the project site and areas within 4km where the project components may be perceptible. The effects will result in no substantial change to the key characteristics defined within the NIRLCA.

Table 8.8 Implications for RLCA 12 Carrickmore Plateau and Pomeroy Hills

RLCA 12 Carrickmore Plateau and Pomeroy Hills	
LLCAs which make up this RLCA	LLCA 25 Beaghmore Moors & Marsh LLCA 26 Bessy Bell & Gortin LLCA 43 Carrickmore Hills
Sensitivity (Nature of receptor)	Key characteristics of the area, which together with field work have informed an understanding of the susceptibility of this landscape, are described in the NIRLCA as: • <i>"An area of low hills, mainly below 350m, forming a broad plateau which separates the Lough Neagh and Omagh basins, narrowing to the ridge of the Pomeroy Hills to the south; and</i> • <i>Broad expanses of peat bog on the open upland plateau, giving way to enclosed upland pasture and rough grazing around Pomeroy and Carrickmore;</i> • <i>Glacial deposits of sand and gravel in the form of eskers and moraine, which are being extracted at several large quarries; there are stone quarries further south; and</i> • <i>Views north to the Sperrins which frame the plateau around Beaghmore, and broad views east and west over lower-lying landscapes."</i> The Carrickmore Plateau and elevated areas of Cregganconroe offer broad views west and north-west over lower-lying landscapes, including the Owenreagh and Owenkillev River valleys, to the Sperrin Mountains beyond. In relation to mineral extraction, the NIRLCA states: <i>"Extensive mineral workings are already a feature of this area, and there is likely to be more pressure to extract glacial sands and gravels, as well as the hard rock resource further south. Further quarries could begin to erode the qualities of tranquillity and remoteness within this landscape, as well as the time-depth which is a key characteristic"</i>. Existing mining activities within the RLCA, including several large quarries for extracting glacial deposits of sand, gravel and stone, are located south-east of the proposed Curraghinalt Project and have been the source of large scale landscape change evident across this RLCA. Other man made features include agriculture, and settlement. The northern proportion of this RLCA forms part of the designated Sperrin AONB, however it is located to the south of the more dramatic range of the south Sperrin Mountain range with elevated areas of the RLCA offering open views towards the mountainous landscapes to the north.
Conclusions with respect to effects on component LLCAs	Part of the Curraghinalt Project (main site access and eastern periphery of the proposed infrastructure site) is situated within this RLCA, with the majority of the project site located within the adjacent landscape of the Sperrins RLCA. Taking account of the potential effects on the constituent LLCAs (as documented in Table 8.3, Table 8.4 and Table 8.6), landscape effects on this RLCA will be very localised, predominantly concentrated on the Beaghmore Moors & Marsh (25) LLCA which will experience some very localised physical changes as a consequence of the Curraghinalt Project. Visibility of the project across the extents of the RLCA will be extremely limited as indicated by Figure 6.4a, limited to areas within 10km to the south, south-east, whilst more distant views of the project from across the RLCA will be less discernible due to intervening forestry cover. Although views of the project will be possible from areas of the RLCA directly south, south-east, project components will be predominantly located below the horizon formed by Crocknamoghil and Crockanboy Hill, largely contained amongst existing coniferous tree lines and will not affect views towards the distant Sperrin Mountains to the north, which form a key characteristic of the RLCA. In conclusion, based on the limited extent of physical changes to landscape features within this RLCA, and despite significant landscape change which will be experienced across localised areas of the Beaghmore Moors & Marsh (25) and Bessy Bell & Gortin (26) LLCAs, effects on the landscape of this RLCA will be very localised, affecting only a very small proportion of the RLCA occupied by the project site and areas within 4km where the project components may be perceptible. The effects will result in no substantial change to the key characteristics defined within the NIRLCA,. The project will appear in the context of other mineral extraction developments which form a key landscape characteristic of the area of the RLCA from which visibility of the Curraghinalt Project will be experienced.

RLCA 12 Carrickmore Plateau and Pomeroy Hills

It is acknowledged that the restoration of other existing or past mineral extraction sites has been somewhat limited, however the proposed progressive reclamation of the DSF and long-term restoration of the Curraghinalt Project site will reverse many of the adverse landscape changes associated with the development, notwithstanding that some long-term permanent landscape changes as a result of this mineral development will remain.

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9 Assessment of Visual Effects

Visual Assessment

- 9.1 The assessment of visual effects follows the methodology presented in **Chapter 4**, and is based upon the Project Description contained in the ES. The LVIA reports on effects which will occur during the construction, operation, and closure and restoration phases (as defined in **Table 5.1**) separately, and the magnitude and significance of visual effects assessed assumes implementation of all the mitigation measures outlined in **Chapter 7** of this report.
- 9.2 This section describes the residual effects resulting from the Curraghinalt Project on static locations (viewpoints), settlements, groups of residential properties and when travelling through the area along routes (sequential effects), which have been identified in **Chapter 6** as requiring detailed consideration.
- 9.3 Judgements on the potential for cumulative visual effects are made with reference to the developments considered within the CLVIA which are listed in **Table 6.6** and shown on **Figure 6.9**.

Effects on views from Representative Viewpoints

- 9.4 Visual effects from representative viewpoints considered within the LVIA are outlined in **Table 9.1** to **Table 9.4** below.

Table 9.1 Viewpoint 1 – Farmsteads off Crockanboy Road

Viewpoint 1 - Farmsteads off Crockanboy Road			
Grid Ref	258031, 384011	Figure Number	Figure 9.1
LLCA	LLCA 24 South Sperrin	Landscape Designations	Sperrin AONB
Direction of View	East, north-east	Distance from nearest Project Components	0.2km
Description of existing view and potential receptors	This viewpoint is located on the single track section of the minor road leading north from Crockanboy Road (B46) and north of Pollanroe Bridge, to the south-west of the project infrastructure area. The viewpoint represents views experienced by road users, walkers and cyclists along this road, and similar views experienced from the curtilages of nearby residential properties (farmsteads and individual houses). From this location, there are close proximity views available looking north-east towards the project infrastructure area. Landform rises gradually to the north-east with the immediate foreground of the view occupied by sparse hedgerows, rough grazing and a wood pole distribution line running north-eastwards across the view. The horizon is formed by the upper pasture and lower moorland slopes of Crocknamoghil, with individual broadleaf trees, shrubs and blocks of conifer woodland breaking the skyline to the east. The viewpoint affords open panoramic views across and along the Owenreagh Valley to the south and south-west respectively, including distant views to the most southerly summit of the Sperrins, Mullaghcarn, approximately 10km to the south-west.		
Sensitivity (Nature of receptor)	Users of this minor road are judged to be of medium susceptibility as they are transient receptors, many of which may be recreating (cycling or walking). However, a small number of residential properties are also represented by this viewpoint, and residential receptors are judged to be of high susceptibility to changes in their views and visual amenity. The view does not represent a recognised stopping place or documented viewpoint and does not form part of a national tourist route, despite its location within the Sperrin AONB.		

Viewpoint 1 - Farmsteads off Crockanboy Road	
	However, appreciation of the surrounding view is material to the quality of life from the residential properties it represents, therefore the value of the view is judged to be high. Overall the sensitivity is judged to be high.
Magnitude of change (Nature of effect)	During the construction phase the main source of effect from this viewpoint will be construction activities seen in close proximity to facilitate the introduction of the project components including the DSF, portal and berm, the WTP and ponds, the main access road, mineral process plant, and other ancillary components. During the operational phase the main source of effect from this viewpoint will be the DSF, which as it is developed will form an increasingly large feature in the view, becoming more perceptible as it increases in size from the deposition of waste rock. The DSF will largely obscure the view of other project components located to the north during the latter part of the operational phase. Visual effects will be relatively localised in extent, with similar views experienced from along this single track section of Crockanboy Road to the north and south, and from the curtilages of a small number of nearby residential properties to the south of the viewpoint. The principal views of nearby residential properties will not be affected and views from curtilages towards the site will be limited by the presence of agricultural buildings and dense vegetation and tree cover. The change in landform from the creation of the DSF will be permanent, with progressive restoration evident as the DSF increases in horizontal and vertical extent. Following closure and restoration the DSF will be regraded to tie into existing contours and surrounding landform, and revegetated to tie in with the surrounding landcover. This permanent landform will be distinguishable on the skyline in these close proximity views.
Significance of visual effects during each Assessment Phase	
Construction Phase	During the construction phase disturbance associated with preparatory groundworks and construction of the project components will be evident from this viewpoint, resulting in a large/size scale change in the view from this viewpoint, experienced locally. Although many of the construction effects will be short-term, many of the changes to the view will remain as the project components become operational. The majority of construction activities will be reversible, and some areas of disturbance only necessary to facilitate construction will be restored. The magnitude of visual change during construction will be high, and taking account of the duration of the effects and high sensitivity will result in a major (significant) visual effect.
Operational Phase	During the operational phase large scale changes in the view will occur, mainly associated the DSF as it increases in size and the berm between the portal and the processing site. Overall, the project components will occupy an angle of view of approximately 90 degrees in views north, north-east from this viewpoint. Viewed at close proximity, the project components will form the main focus of the view and the DSF extend above the skyline from the early years of the operational phase onwards. With the exception of the WTP and ponds which will remain in the foreground of the view, other project components will be obscured during the operational phase (approximately year 5 onwards) as the DSF increases in vertical height. Operational effects will arise through the introduction of all project components, however the development of the DSF will result in a large/size scale of effect experienced from the locality of the viewpoint. The effects will occur long-term, gradually increasing as the DSF increases in size, and despite the progressive restoration and revegetation of this feature it will remain as a perceptible feature in the view. The magnitude of visual change during the operational phase will be high, and taking account of the high sensitivity will result in a major (significant) visual effect.
Closure and Restoration Phase	This phase will see the removal of the majority of the project components which are otherwise screened from this location by the DSF. The DSF, passive water management ponds will remain visible from this viewpoint, however, the shaping, grading and revegetation of the DSF is designed to tie this component into the surrounding topography and landcover, however, the DSF will remain as a large scale perceptible change in the existing landform in close proximity views from this location. The magnitude of visual change following closure and restoration will be high, and taking account of the high sensitivity will result in a major (significant) visual effect.

Viewpoint 1 - Farmsteads off Crockanboy Road	
Potential Effects from Lighting	Artificial lighting of project components, including the process plant, ancillary components and illumination associated with vehicle movements accessing the project site will be perceptible during the construction phase and the initial years of the operational phase. Artificial lighting of the process plant will be less perceptible as the DSF increases in size, gradually screening views towards these project components located to the north of the large scale landform during the operational phase (approximately year 5 onwards). Illumination from vehicles entering the site via the access road, and activities associated with the DSF and WTP will be evident and seen in close proximity views from this location throughout the operational phase, however, lighting sources will be removed following closure and restoration of the site. Overall the effects from lighting from this viewpoint will be localised, and will be moderate (significant) during the construction and operational phases, reducing to negligible (not significant) following closure and restoration once any artificial on site lighting has been removed.
Potential for Future Cumulative Effects	A consented, but as yet unbuilt, small scale domestic wind turbine is located north-west of the viewpoint. Appearing in the context of the DSF this will be seen as a minor feature in successive views north-west from the viewpoint. No other developments are likely to be visible from this viewpoint. Despite the proximity of this nearby small scale development, significant <i>additional</i> or <i>total cumulative</i> effects on views from this location are unlikely to occur. In summary, potential cumulative visual effects on views from this viewpoint are judged to be negligible (not significant).

Table 9.2 Viewpoint 2 – Mullydoo Road

Viewpoint 2 - Mullydoo Road			
Grid Ref	259180, 383993	Figure Number	Figure 9.2
LLCA	LLCA 24 South Sperrin	Landscape Designations	Sperrin AONB
Direction of View	West	Distance from nearest Project Components	0.2km
Description of existing view and potential receptors	This viewpoint is located on Mullydoo Road, a minor road to the east of the project infrastructure area, representing views experienced by road users travelling along this road, and local recreational users (cyclists and walkers) who use this road. The viewpoint offers open views west along the Owenreagh Valley including distant views to the most southerly summit of the Sperrins, Mullaghcarn, approximately 10km to the south-west, and close proximity views towards the project infrastructure area. Landform rises gradually to the summit of Crocknamoghil to the north-west of the viewpoint, with the ridge extending westwards to form the central horizon and backdrop to views towards the site. Views south-west with the hill of Crocknamadhan rising above the valley in the background. Rough pasture in the immediate foreground extends to more managed farmland divided by lines of coniferous trees in the middle distance. Moorland and rough grazing are seen at higher elevations, above the lines of coniferous trees in the middle ground.		
Sensitivity (Nature of receptor)	Receptors on this minor road are judged to be of medium susceptibility as they are transient receptors, whether travelling by motor vehicle or undertaking recreation (cycling or walking) along this road and un-promoted route. The view does not represent a recognised stopping place or promoted viewpoint and does not form part of a national tourist route despite its location within the Sperrin AONB, therefore the overall value of the view is considered to be medium. Overall the sensitivity is judged to be medium.		
Magnitude of change	During the construction phase, the main source of effect will be the introduction of the project components including the DSF, portal and berm, and mineral process plant. The		

Viewpoint 2 - Mullydoo Road	
(Nature of effect)	main site access road will be the closest component to the viewpoint, located along the eastern boundary of the project infrastructure area. During the operational phase the main source of effect from this viewpoint will be the project components including the mineral process plant, ancillary components, access road and the DSF. As it is developed, the DSF will form a large feature in the view becoming more perceptible as it increases in size through the deposition of waste rock and filtered tailings. Mitigation planting along the eastern edge of the proposed infrastructure site will be implemented to screen views of the access road and most easterly project components, however the main process plant buildings and the DSF will remain visible above this screening throughout the operational phase. Visual effects will be relatively localised in extent, with similar views experienced from along Mullydoo Road to the north and south, and from nearby residential properties located west of the road. The change in landform from the creation of the DSF will be permanent. Following closure and restoration of the mine, the DSF will be regraded to tie into the contours of the surrounding landscape, and revegetated to fit with the surrounding landcover.
Significance of visual effects during each Assessment Phase	
Construction Phase	During the construction phase disturbance associated with preparatory groundworks and construction of project components will be evident from this viewpoint, resulting in a large/size scale change in the view, experienced locally. The project components will be contained within the matrix of coniferous shelterbelts which will be largely retained. Although many of the construction effects will be short-term, many of the changes to the view will remain through the operational phase. The majority of construction activities will be reversible, and some areas of disturbance only necessary to facilitate construction will be restored. The magnitude of visual change during construction will be high, and taking account of the medium sensitivity will result in a major (significant) visual effect from this viewpoint.
Operational Phase	During the operational phase large scale changes in the view will occur, associated with the process plant components and the DSF. Overall, the project components will occupy approximately 70 degrees of the available view from this location. Viewed at close proximity, project components will introduce a new focal point visible below the skyline during the majority of the operational phase, however the DSF will appear above the skyline formed by the Curraghinalt Ride in views west from this viewpoint during the operational phase (approximately year5 onwards). Operational effects will arise through the introduction of all project components, however, the development of the DSF will result in a large/size scale of effect experienced at a localised level. The effects will occur long-term, gradually increasing as the DSF increases in size, and despite the progressive restoration and revegetation of this feature it will remain as a perceptible feature in the view. The magnitude of visual change during the operational phase will be high, and taking account of the medium sensitivity will result in a major (significant) visual effect.
Closure and Restoration Phase	This phase will see the removal of the majority of the project components which are visible from this viewpoint, except the DSF which will remain as a large scale feature within the available view. The shaping, grading and revegetation of the DSF is designed to tie into the surrounding topography and landcover, which will reduce its perceptibility in views from this location. The magnitude of visual change following closure and restoration will be medium, and taking account of the medium sensitivity will result in moderate (significant) visual effect.
Potential Effects from Lighting	Artificial lighting of project components, including the process plant and warehouse, and lighting from vehicles along the access road and car parking area will be evident and seen in close proximity from this location throughout the construction and operational phases. This will introduce lighting to the view towards ridge which is otherwise unaffected by artificial light sources. Overall the effects from lighting from this viewpoint will be localised, and will be major (significant) during the construction and operational phases, reducing to negligible (not

Viewpoint 2 - Mullydoo Road	
	significant) following closure and restoration once any artificial on site lighting has been removed.
Potential for Future Cumulative Effects	A consented but as yet unbuilt telecommunications mast of 15m in height is located on the summit of Crockanboy Hill in close proximity to the site, potentially appearing as a relatively minor feature in successive views to the north from this viewpoint. A consented small scale domestic wind turbine is also located west of the viewpoint close to the southern extent of the DSF, however visibility is unlikely to be possible from this viewpoint, with views screened by the DSF as it increases in extent. No other developments are likely to be visible from this viewpoint. Despite the proximity of these nearby small scale developments, significant <i>additional</i> or <i>total/combined</i> cumulative effects on views from this location are unlikely to occur. In summary, potential cumulative visual effects on views from this viewpoint are judged to be negligible (not significant).

Table 9.3 Viewpoint 3 – Crockanboy Road (B46)

Viewpoint 3 - Crockanboy Road (B46)			
Grid Ref	258575, 383202	Figure Number	Figure 9.3
LLCA	LLCA 25 Beaghmore Moors & Marsh	Landscape Designations	Sperrin AONB
Direction of View	North, north-west	Distance from nearest Project Components	0.8km
Description of existing view and potential receptors	This viewpoint is located south of the project infrastructure area at the junction of Mullydoo Road and Crockanboy Road (the B46) and represents views experienced by road users travelling west along this road, and similar views experienced from residential properties located to the north and south of the road. The viewpoint offers views north, north-west towards the project infrastructure area, partially screened by intervening foreground topography. The foreground is occupied by pastoral fields bound by degraded hedgerows and post and wire fences and more occasional deciduous boundary trees and shrubs. The open moorland and rough grazing across the slopes of Crocknamoghil, and foreground pastoral landscape, punctuated by broadleaf trees form the distant skyline of the view. Agricultural buildings, partially screened by vegetation, are seen within the landscape towards the centre of view and near the horizon to the north-east. The viewpoint also offers views west along the Owenreagh Valley, with the distinguishable Mullaghcarra visible in distant views to the south-west. Views east and south are defined by the foreground of enclosed pasture fields, however more distant views are possible towards the south-east where Cashel Rock and Cregganconroe are visible on the skyline.		
Sensitivity (Nature of receptor)	Road users on this minor road are judged to be of medium susceptibility to changes in the view as they are transient receptors who will experience oblique views towards the development site. The small number of residential receptors which are represented by this viewpoint are judged to be of high susceptibility to changes in the view. The viewpoint does not represent a recognised stopping place and does not form part of a national tourist route, despite its location within the Sperrin AONB. However, appreciation of the surrounding view is material to the quality of life from the nearby residential properties it represents, therefore the value of the view is therefore judged to be medium. Overall, taking account of the susceptibility of the receptors and the value of the view, the sensitivity is judged to be medium.		
Magnitude of change (Nature of effect)	During the construction phase the main source of effect from this viewpoint will be the introduction of the project components including the DSF, access track, WTP and ponds, and other ancillary components. Project components located within the north-east of the project site will be largely screened by the elevated foreground pastoral landscape.		

Viewpoint 3 - Crockanboy Road (B46)	
	During the operational phase the main source of effect from this viewpoint will be the WTP and ponds, access track and the DSF, which as it is developed will form a large feature becoming more perceptible as it increases in size from the deposition of waste rock. Visual effects will be relatively localised in extent, with similar views experienced east and west of Pollanroe Bridge along Crockanboy Road, and from the curtilages of nearby properties located north and south of the road. However, it is considered unlikely that nearby residential properties will experience principal views looking north-east towards the project infrastructure area. The change in landform from the creation of the DSF will be permanent. Following closure and restoration of the mine the DSF will be regraded to tie into existing contours and revegetated to fit with the surrounding landcover, and will extend above the skyline and will be seen to form part of the horizon to the east of Crocknamoghil. Mitigation in the form of landform bunding and planting along the southern periphery of the infrastructure area will screen some project components of the development, and the lower elevations of the DSF during the early years of operation.
Significance of visual effects during each Assessment Phase	
Construction Phase	During the construction phase disturbance associated with preparatory groundworks and construction of project components will be evident from this viewpoint, resulting in a medium scale change in the view, with similar views experienced from sections of Crockanboy Road to the west of the viewpoint. Although many of the construction effects will be short-term, many of the changes to the view will remain as the project components become operational. The majority of construction activities will be reversible, and some areas of disturbance only necessary to facilitate construction will be restored. The magnitude of visual change during construction will be low, and taking account of the duration of the effects and the medium sensitivity will result in a minor (not significant) visual effect.
Operational Phase	During the operational phase large scale changes in the view will occur, predominantly associated with the increase in size of the DSF. As the DSF increases in both vertical and horizontal extent, the perceptibility of this component will increase eventually breaking the skyline east of Crocknamoghil during its operational life (approximately year 5 onwards). This will result in a large scale visual effect experienced from this viewpoint and nearby locations, including sections of Crockanboy Road to the west. Overall, the project components will occupy approximately 40 degrees of the available views to the north-west. The effects will occur long-term, gradually increasing as the DSF increases in size, and despite the progressive restoration and revegetation of this feature it will remain as a perceptible feature in the view. The magnitude of visual change during the operational phase will be medium, and taking account of the medium sensitivity will result in a moderate (significant) visual effect.
Closure and Restoration Phase	The majority of the project components which will be removed following closure and restoration, will be screened by the final form of the DSF. The reshaping, grading and revegetation of the DSF is designed to tie into the surrounding topography and landcover, to reduce the perceptibility of this large feature in views from this location, however the landform will permanently redefine the skyline of Crocknamoghil in views from this location. The magnitude of visual change following closure and restoration will be low, and taking account of the medium sensitivity will result in minor (not significant) visual effect.
Potential Effects from Lighting	Existing views north, north-west towards the ridge are relatively unaffected by artificial lighting at present, with no street lighting present along Crockanboy Road and lighting influences limited to nearby farmsteads and residential properties. Artificial lighting of project components, including the WTP and ponds, and activities associated with the access track and DSF will be perceptible during hours of darkness. Illumination associated with the process plant components located to the north-east of the DSF may also be perceptible during the earlier stages of operation, reducing as the DSF increases in size screening potential night glow associated with this area. Overall the effects from lighting from this viewpoint will be localised, and will be moderate (significant) during the construction and operational phases, reducing to negligible (not

Viewpoint 3 - Crockanboy Road (B46)	
	significant) following closure and restoration once any artificial on site lighting has been removed.
Potential for Future Cumulative Effects	A consented, but as yet unbuilt, small scale domestic wind turbine located to the south-west of the project site is likely to be seen in successive views to the north-west, seen in the context of the adjacent large scale feature of the DSF. No other developments located within close proximity are likely to be perceptible from this viewpoint. Despite the proximity of this small scale development close to the Curraghinalt Project site, significant <i>additional</i> or <i>total/combined</i> cumulative effects on views from this location are unlikely to occur. In summary, potential cumulative visual effects on views from this viewpoint are judged to be negligible (not significant).

Table 9.4 Viewpoint 4 – Aghaboy Road – South of site

Viewpoint 4 – Aghaboy Road – South of site			
Grid Ref	257291, 382073	Figure Number	Figure 9.4
LLCA	LLCA 24 South Sperrin	Landscape Designations	Sperrin AONB
Direction of View	North, north-east	Distance from nearest Project Components	2.5km
Description of existing view and potential receptors	This viewpoint offers wide panoramic views across the Owenreagh River valley looking north, north-east towards the project infrastructure area from an elevated location on the single track Aghaboy Road. The viewpoint represents often oblique views northwards experienced by road users travelling along this road and views experienced from nearby residential properties and their curtilages. From east and west of the viewpoint available views across the valley to the north are often restricted by the presence of roadside hedgerows, field boundary trees and local landform. The viewpoint therefore represents one of a limited number of open views northwards from this minor road. The immediate foreground of the view is occupied by a partially constructed residential property. An undulating patchwork of arable and pastoral farmland, bound by hedgerows, mature field boundary trees and post and wire fences, occupies the middle distance rising gradually to the north. Individual farmsteads, agricultural buildings and residential properties punctuate this pastoral landscape. The horizon is formed by the contrasting open moorland of Crocknamoghil to the north-west and the coniferous shelterbelts which break the skyline west and south of Crockanboy Hill, whilst more distant views towards the core area and Central Sperrin Mountains of the Sperrin AONB are not possible from this viewpoint.		
Sensitivity (Nature of receptor)	Residential receptors are judged to be of high susceptibility to changes in their view, with nearby residential properties affording elevated views northwards across the Owenreagh valley towards the open moorland of the ridge. The viewpoint does not represent a recognised stopping place and does not form part of a national tourist route, despite its location within the Sperrin AONB. However, appreciation of the surrounding view is material to the quality of life from the nearby residential properties it represents, therefore the value of the view is therefore judged to be medium. Overall, taking account of the susceptibility of the receptors and the value of the view, the sensitivity is judged to be high.		
Magnitude of change (Nature of effect)	The proposed infrastructure site will be located towards the centre of view currently occupied by pasture fields defined by shelter belts and blocks of coniferous trees which extend across the horizon between the high points of Crocknamoghil and Crockanboy Hill. During the construction phase the main source of effect from this viewpoint will be the introduction of the project components including preparation of the DSF site, mineral process plant, portal and berm, administrative buildings, warehouse facilities, access tracks, WTP and ponds, and other ancillary components.		

Viewpoint 4 – Aghaboy Road – South of site

	During the operational phase the main source of effect from this viewpoint will be the above noted project components which will gradually become obscured by the DSF as this feature increases in size, with the process plant, administrative buildings and warehouses becoming almost entirely screened during the latter stages of the operational phase as the DSF extends above the skyline east of Crocknamoghill. The WTP and ponds, portal and berm, and site access track will remain visible to the west and south of the DSF. As it is developed, the DSF will form a large feature in the view becoming more perceptible as it increases in size through the deposition of waste rock and filtered tailings, however progressive restoration of this component will reduce its perceptibility within the surrounding landscape. Residential properties located north and south of Aghaboy Road with principal views looking north will experience open views of the Curraghinalt Project during construction, operational, and closure and restoration phases. Similar views will be experienced from within property curtilage, and when accessing properties from the east and west along Aghaboy Road. Mitigation in the form of landform bunding and planting along the southern periphery of the infrastructure area will be implemented to screen close proximity views, however, from this location the majority of the project components, most notably the DSF, will remain visible. The change in landform from the creation of the DSF will be permanent. Following closure and restoration of the mine, the DSF will be regraded to tie into the contours of the surrounding landscape, and revegetated to fit with the surrounding landcover.
Significance of visual effects during each Assessment Phase	
Construction Phase	During the construction phase disturbance associated with preparatory groundworks and construction of project components will be evident from this viewpoint, resulting in a medium scale change in the view, with similar views experienced from localities to the east and west along Aghaboy Road. Although many of the construction effects will be short-term, many of the changes to the view will remain as the project components become operational. The majority of construction activities will be reversible, and areas of disturbance only necessary to facilitate construction will be restored. The magnitude of visual change during construction will be medium, and taking account of the high sensitivity and duration of the effects will result in a moderate (significant) visual effect.
Operational Phase	During the operational phase, larger scale and more perceptible changes in the view will occur as the DSF increases in horizontal and vertical extent. At its maximum extent the Curraghinalt Project components will occupy approximately 20 degrees of the available view north from this viewpoint. Although viewed at a distance of over 2km, the project components will introduce a new focal point visible largely below the skyline during the majority of the operational phase, although the covered stock pile and process plant will appear above the skyline following their construction. The DSF will eventually screen these components and appear above the skyline formed by the broad ridge during the operational phase (approximately year 5 onwards). The effects will occur long-term, gradually increasing as the DSF increases in size. However, although the progressive restoration and revegetation of this new large scale landform will help reduce its perceptibility over time, it will remain as a perceptible feature in the view. The magnitude of visual change during the operational phase will be medium, and taking account of the high sensitivity will result in a moderate (significant) visual effect.
Closure and Restoration Phase	This phase will see the removal of the majority of the project components, except the DSF and passive water management ponds. The reshaping, grading and revegetation of the DSF is designed to tie into the surrounding topography and landcover, reducing its perceptibility within the surrounding landscape in views from this location. The magnitude of visual change following closure and restoration will be low, and taking account of the high sensitivity will result in minor (not significant) visual effect.
Potential Effects from Lighting	Artificial lighting of the project components, and lighting from vehicles along the access road and car parking area will be evident from this location throughout the construction and operational phases. Artificial lighting from the process plant area will become less evident as the DSF increases in size, gradually screening views during the operational phase (approximately year 5 onwards). However, illumination from vehicles entering and

Viewpoint 4 – Aghaboy Road – South of site	
	accessing the site via the access road, and activities associated with the DSF will be evident throughout the operational phase seen in the context of other limited artificial lighting associated with farmsteads and residential properties within the Owenreagh Valley. Overall the effects from lighting from this viewpoint will be localised, and will be moderate (significant) during the construction and operational phases, reducing to negligible (not significant) following closure and restoration once any artificial on site lighting has been removed.
Potential for Future Cumulative Effects	A consented, but as yet unbuilt, telecommunications mast of 15m in height is located on the summit of Crockanboy Hill in close proximity to the site, potentially appearing as a relatively minor feature in combined views to the north-east from this viewpoint. A consented small scale domestic wind turbine is also located to the north-west of the viewpoint, appearing in the context of the DSF, and likely be imperceptible from this viewpoint at a distance of approximately 2km. No other developments are likely to be perceptible from this viewpoint. Despite the close proximity of these nearby small scale developments to the Curraghinalt Project, significant <i>additional</i> or <i>total/combined</i> cumulative effects on views from this location are unlikely to occur. In summary, potential cumulative visual effects on views from this viewpoint are judged to be negligible (not significant).

Table 9.5 Viewpoint 5 – Greencastle Road

Viewpoint 5 - Greencastle Road			
Grid Ref	257256, 381507	Figure Number	Figure 9.5
LLCA	LLCA 25 Beaghmore Moors & Marsh	Landscape Designations	Sperrin AONB
Direction of View	North, north-east	Distance from nearest Project Components	2.8km
Description of existing view and potential receptors	This viewpoint is located on Greencastle Road, a minor road located south, south-west of the project infrastructure area and representing views experienced by road users and views experienced from nearby residential properties (farmsteads and individual houses). From this location, there are largely open views looking north, north-east towards proposed site. Pastoral farmland and rough grazing forms the immediate foreground of the view with field boundaries comprising hedgerows, treelines and post and wire fences. An undulating patchwork of arable and pastoral farmland bound by hedgerows and treelines rises to the north, with the settlement of Greencastle visible to the north-east. The distant horizon is formed by the open moorland of Crocknamoghil (north-west) and the more settled farmland beneath Crockanboy Hill (north-east). The project site will be located towards the centre of view currently distinguished by the linear belts of coniferous trees. Built features include well-spaced farmsteads, detached residences and wood pole transmission lines, and evidence of recent mineral extraction is visible to the north along Greencastle Road.		
Sensitivity (Nature of receptor)	Vehicular road users are the main transient receptors, however the road also forms part of the White Hare Cycle Route, therefore recreational users on this route are considered to be of medium susceptibility as their attention will be focused on the direction of travel as well as the wider landscape. Similar views are also possible from adjacent residential properties situated along this road to the north and south of the viewpoint which are judged to be of high susceptibility to changes in their views and visual amenity. The view is experienced as part of a promoted cycle route and appreciation of the surrounding view is also material to the quality of life from nearby residential properties. Despite the location of the viewpoint within the Sperrin AONB it is not promoted or documented as representative of particular scenic views and distant views of the Central Sperrins are not possible beyond the intervening skyline of the broad ridge formed by Crockanboy Hill, Crocknamoghil and Mullydoo. Overall the value of the view is judged to be medium.		

Viewpoint 5 - Greencastle Road	
	Overall, taking account of the susceptibility of the receptors and the value of the view, the sensitivity of is judged to be high.
Magnitude of change (Nature of effect)	During the construction phase the main source of effect from this viewpoint will be the construction activities to facilitate the introduction of the project components including the portal and berm, the DSF, mineral process plant, administrative buildings, warehouse facilities, access track, water management ponds, WTP and ancillary components. During the operational phase the main source of effect from this viewpoint will be the above noted project components which overtime will gradually become obscured by the DSF, with the exception of the water management ponds, and WTP. As it is developed, the DSF will form an increasingly large and more perceptible landform feature in the view. The change in landform from the creation of the DSF will be permanent and will irreversible. Following closure and restoration of the mine, the DSF will be regraded to tie into the contours of the surrounding landscape, and revegetated to assimilate this feature as closely as possible into the surrounding landcover.
Significance of visual effects during each Assessment Phase	
Construction Phase	During the construction phase disturbance associated with preparatory groundworks and construction of project components will be evident from this viewpoint, resulting in a medium scale change in the view, experienced locally. Although many of the construction effects will be short-term, the changes to the view will remain as the project components become operational. The magnitude of visual change during construction will be low, and taking account of the high sensitivity will result in a minor (not significant) visual effect.
Operational Phase	During the operational phase large scale changes in the view will occur, associated with the above noted project components and the DSF. At a distance of almost 3km the individual project components will be largely undiscernible however the DSF will form a new focal point within the available view, eventually extending above the existing skyline to the east of Crocknamoghil during the latter stages of operation (approximately years 16-25). Overall, the project components will occupy approximately 15 degrees of the available view, and at its maximum extents the introduction of the DSF will result in a medium scale change which will remain as a perceptible feature in the view. The magnitude of visual change during the operational phase will be medium, and taking account of the high sensitivity will result in a moderate (significant) visual effect.
Closure and Restoration Phase	This phase will see the removal of the majority of the project components, the majority of which will be screened by the DSF. The WTP will be decommissioned and removed, replaced by a passive water treatment system using existing water management ponds, which along with the DSF will remain as permanent features. The regrading, shaping and revegetation of the DSF is designed to assist in the assimilation of this large scale permanent landform into the surrounding topography and landcover, which will reduce its perceptibility in views from this location. The magnitude of visual change following closure and restoration will be low, and taking account of the high sensitivity will result in minor (not significant) visual effect.
Potential Effects from Lighting	Artificial lighting and glow from project components, and lighting from vehicles accessing the site along the main access road will be evident from this location throughout the construction and operational phases. However, artificial lighting of the process plant will become less perceptible as the DSF increases in size, gradually screening views towards, and containing light from, this area. Illumination from vehicles entering the site via the access road, and activities associated with the DSF will be evident throughout the operational phase, but will be seen in the context of other artificial lighting sources from the settlement of Greencastle, including the local sports ground north of Greencastle, and scattered residential properties and farmsteads within the Owenreagh Valley. Overall the effects from lighting from this viewpoint will be localised, and will result in a minor (not significant) visual effect during the construction and operational phases, reducing to negligible (not significant) following closure and restoration once any artificial on site lighting has been removed.
Potential for Future	A consented but as yet unbuilt telecommunications mast of 15m in height is located on the summit of Crockanboy Hill in close proximity to the site, potentially appearing as a minor feature in successive views to the north-east from this viewpoint.

Viewpoint 5 - Greencastle Road	
Cumulative Effects	Three small scale wind turbines are proposed to the east of the project site, which will potentially be evident within views north, north-east from this viewpoint. The scale of these turbines (largest of 54.5m to blade tip height) is unlikely to result in these developments becoming a defining or key feature(s) within the available view and when seen in combined and successive views alongside the Curraghinalt Project, significant additional changes in the view are unlikely to arise. No other developments considered in the cumulative assessment are unlikely to be visible from this viewpoint. In conclusion, significant <i>additional</i> or <i>total/combined</i> cumulative effects on views from this location are unlikely to occur, therefore potential cumulative visual effects on views from this viewpoint are judged to be negligible (not significant).

Table 9.6 Viewpoint 6 – Cashel Rock

Viewpoint 6 – Cashel Rock			
Grid Ref	259954, 380850	Figure Number	Figure 9.6
LLCA	LLCA 25 Beaghmore Moors & Marsh	Landscape Designations	Sperrin AONB
Direction of View	North-west	Distance from nearest Project Components	3.3km
Description of existing view and potential receptors	This viewpoint is located on the western slopes of Cashel Rock, a local hill and site of archaeological interest south-east of the project infrastructure area, representing views experienced by recreational walkers and visitors to this location. This location offers elevated open views north-westwards towards the project site from a distance of approximately 3.3km. The foreground comprises open moorland and rough pasture land cover extending down to the Owenreagh River valley, from where the valley slopes rise towards the rounded open moorland of Crocknamoghil, between Mullydoo in the west and Crockanboy Hill in the east. In more distant views Crockanamadan is visible to the west above the Owenreagh River valley. A number of summits (part of the south Sperrin range) form the horizon to the north-east between Crocknamoghil and Crockanboy Hill. An undulating patchwork of arable and pastoral farmland bound by hedgerows, tree lines and post and wire fences occupy the middle distance and extend west, north-west along the Owenreagh River valley. Linear belts of coniferous trees help distinguish the project site beyond the settlement of Greencastle, whilst the pastoral landscape is punctuated by farmsteads and detached residences situated along the network of minor roads which cross the mid slopes of the valley. The distant most southerly summit of the Sperrins, Mullaghcarn, forms a formidable feature in views to the south-west and existing mineral extraction sites and commercial scale wind farms are visible in views to the south-east and east from this viewpoint.		
Sensitivity (Nature of receptor)	The hill is not a regularly visited location, though recreational receptors who do visit are focused on the view and are considered to be of medium susceptibility. The value of the view is judged to be medium since this is not a recognised viewpoint or well-visited location within the Sperrin AONB, however the location is of particular cultural heritage significance. Overall, sensitivity is judged to be medium.		
Magnitude of change (Nature of effect)	During the construction phase the main source of effect from this viewpoint will be the construction activities to facilitate the introduction of the project components including the portal and berm, the DSF, mineral process plant, administrative buildings, warehouse facilities, access track, water management ponds, WTP and ancillary components. During the operational phase the main source of effect from this viewpoint will be the above noted project components, and the DSF as it increases in size and becomes a large scale feature in the view. The project components, including the DSF will remain below the skyline in views from this location and will not alter the intervening skyline in views towards the more distant and distinguishable mountains of the Central Sperrins. These visual effects will be relatively localised in extent, affecting only a small proportion of the view, and will be viewed within the wider landscape setting.		

Viewpoint 6 – Cashel Rock	
	The change in landform from the creation of the DSF will be permanent following closure and restoration of the mine, however this feature will be regraded to tie into the contours of the surrounding landscape, and revegetated to fit with the surrounding landcover, reducing its perceptibility over time.
Significance of visual effects during each Assessment Phase	
Construction Phase	During the construction phase disturbance associated with preparatory groundworks and construction of project components will be evident from this viewpoint, resulting in a small scale change in the view, occurring below the skyline and open moorland of the ridge beyond. Although many of the construction effects will be short-term, the changes to the view will remain as the project components become operational. The majority of construction activities will be reversible, and some areas of disturbance necessary to facilitate construction will be restored. The magnitude of visual change during construction will be low, and taking account of the medium sensitivity will result in a negligible (not significant) visual effect.
Operational Phase	During the operational phase medium scale changes in the view will occur, associated with the above noted project components. Overall, the project components will occupy a small (approximately 10 degree) proportion of the available view from this location. Viewed at a distance of approximately 3.3km, the individual project components will be largely undiscernible and appear below the skyline throughout the operational phase. Throughout the operational phase the DSF will gradually increasing in perceptibility as it increases in both horizontal and vertical size, and despite the progressive restoration and revegetation of this feature it will remain as a perceptible feature in the view. Nevertheless the magnitude of visual change during the operational phase will remain low, and taking account of the medium sensitivity will result in a minor (not significant) visual effect.
Closure and Restoration Phase	This phase will see the removal of the majority of the project components which are visible from this viewpoint, except the DSF and minor components to the south of this feature (water management ponds and WTP). The regrading and revegetation of the DSF will assimilate this large landscape feature into the surrounding topography and landcover, which will reduce its perceptibility in views from this location. The final landform of the DSF will not extend above the skyline of the ridge beyond and the distant skyline of the Sperrin Mountains to the north. The magnitude of visual change following closure and restoration will be low, and taking account of the medium sensitivity will result in negligible (not significant) visual effect.
Potential Effects from Lighting	The illumination of project components will be visible during the hours of darkness throughout the construction and operational phase from this location. However, visibility of lighting will largely be seen in the context other existing artificial lighting associated with residential properties, farmsteads and the small settlement of Greencastle in the middle ground of views towards the ridge. Lighting from moving vehicles across the site will also be visible. Overall the effects from lighting from this viewpoint will be localised, and will be minor (not significant) during the construction and operational phases, reducing to negligible (not significant) following closure and restoration once any artificial on site lighting has been removed.
Potential for Future Cumulative Effects	Due to the elevated and open panoramic views available a number of other existing, consented and proposed developments including commercial scale wind farms and mineral extraction sites will be visible from this viewpoint. Within close proximity to the project site, a number of small scale domestic scale wind turbines often appearing close to agricultural buildings and farmsteads on the edge of Greencastle, and a small scale telecommunications mast will be visible in views north, north-east across the Owenreagh River Valley. However, due to the small scale of these turbines (largest of 54.5m to blade tip height) these developments are unlikely to become a defining or key feature(s) within the available view and when seen in combined and successive views alongside the Curraghinalt Project, significant additional changes in the view are unlikely to arise. In more distant views (5-15km) to the north-east, south-east and east of the viewpoint, large scale wind farms are visible, often forming a distinguishable feature on the skyline. Additional consented and proposed mineral extraction sites are located to the east, south-

Viewpoint 6 – Cashel Rock	
	east of the viewpoint however intervisibility is likely to be screened by intervening topography and coniferous woodland. In conclusion, significant <i>additional</i> or <i>total/combined</i> cumulative effects on views from this location are unlikely to occur, therefore potential cumulative visual effects on views from this viewpoint are judged to be negligible (not significant).

Table 9.7 Viewpoint 7 – Aghaboy Road – South-west of site

Viewpoint 7 - Aghaboy Road – South-west of site			
Grid Ref	255689, 381866	Figure Number	Figure 9.7
LLCA	LLCA 24 South Sperrin	Landscape Designations	Sperrin AONB
Direction of View	North-east	Distance from nearest Project Components	3.5km
Description of existing view and potential receptors	This viewpoint is located on the single track Aghaboy Road, approximately 3.5km south-west of the project infrastructure area on the north facing slopes of the Owenreagh River valley. The viewpoint represents views experienced by road users and nearby residential receptors. The viewpoint offers open views northwards across the valley and west along the valley, however, views to the south and east are largely contained by surrounding landform. Distant views to the Sperrin Mountains to the north, north-east are screened by the intervening broad ridge of Mullydoo, Crocknamoghil and Crockanboy Hill, which forms the defining open moorland skyline, punctuated by linear blocks of coniferous forestry which define the Curraghinalt Project site. No other existing mineral extraction sites are visible in views from this viewpoint. The immediate foreground of the view comprises rough grazing bound by post and wire fencing, hedgerows and broadleaf woodland, whilst Glensawick Burn dissects the improved pastoral farmland in the middle ground, descending towards the Owenreagh River to the north. Characteristic 'ladder fields' are evident across the south facing slopes of the Owenreagh Valley, with scattered properties and farmsteads punctuating the farmland landscape. The pastoral farmland rises towards the upper slopes, from where a landcover of rough grazing and open moorland presents an evident change in character. The project site is identifiable on the skyline between Crocknamoghil and Crockanboy Hill, with the matrix of coniferous woodland blocks a discernible feature in the view.		
Sensitivity (Nature of receptor)	Road users of this minor road are judged to be of medium susceptibility as they are transient receptors, however it is acknowledged that these people may be travelling to and from nearby residential properties. The viewpoint also represents views from a small number of residential properties situated along Aghaboy Road. These residential receptors are judged to be of high susceptibility to changes in their views and visual amenity. The view does not represent a recognised stopping place or documented viewpoint and does not form part of a national tourist route, despite its location within the Sperrin AONB. However, appreciation of the surrounding view is material to the quality of life from the residential properties it represents, therefore, the value of the view is judged to be medium. Overall, the sensitivity of representative receptors is judged to be high.		
Magnitude of change (Nature of effect)	During the construction phase the main source of effect from this viewpoint will be the construction activities to facilitate the introduction of the project components including the portal and berm, the DSF, mineral process plant, administrative buildings, warehouse facilities, access road, water management ponds, WTP and ancillary components. Visual effects will be localised in extent and will affect a small proportion of the view. During the operational phase the main source of effect will be the increase in size and extent of the DSF which will also gradually obscure views towards the mineral process plant components located to the north, north-east of the DSF.		

Viewpoint 7 – Aghaboy Road – South-west of site	
	Mitigation planting along the southern edge of the proposed infrastructure area will be implemented and will partially screen views of the access road, water management ponds and WTP from this viewpoint. The new landform of the DSF will become a permanent feature in the landscape, however, this feature will be graded during closure and restoration to tie the landform into the contours of the surrounding landscape, and revegetated to fit with the surrounding landcover.
Significance of visual effects during each Assessment Phase	
Construction Phase	During the construction phase general disturbance associated with preparatory groundworks and construction of project components will be evident from this viewpoint, resulting in a medium scale change in the view. The process plant components, including the covered stockpile and process plant, will extend above the skyline partially backclothed by the existing matrix of coniferous woodland belts which will be retained. Although many of the construction effects will be short-term, the changes to the view will remain as the project components become operational introducing a new feature and land use, mineral extraction site, to the view. The majority of construction activities will be reversible, and some areas of disturbance necessary to facilitate construction will be restored. The magnitude of visual change during construction will be low, and taking account of the duration of the effects and the high sensitivity will result in a negligible (not significant) visual effect.
Operational Phase	During the operational phase further changes in the view will occur, predominantly associated with the increasing horizontal and vertical extent of the DSF, which will introduce a new focal point to the view visible during the majority of the operational phase. However, at its maximum extent the DSF and project components will occupy a small proportion of the available view (approximately 10-12 degrees). Most project components north of the DSF will gradually become obscured by the DSF during the operational phase (approximately year 5 onwards), when this component will eventually extend above the existing skyline of coniferous woodland between Crocknamoghil and Crockanboy Hill. Project components located to the south of the DSF including the water management ponds and WTP will remain visible. The effects during the operational phase will occur long-term, gradually increasing as the DSF increases in size, and despite the progressive restoration and revegetation of this feature it will remain as a perceptible feature in the view. The magnitude of visual change during the operational phase will be low, and taking account of the high sensitivity will result in a minor (not significant) visual effect from this location.
Closure and Restoration Phase	This phase will see the removal of the majority of the project components which are visible from this viewpoint, except the DSF and passive water management ponds which will remain. The shaping, grading and revegetation of the DSF will be undertaken to integrate this permanent feature into the surrounding topography and landcover, which will reduce its perceptibility in views from this location. The magnitude of visual change following closure and restoration will be barely perceptible, and taking account of the high sensitivity will result in a negligible (not significant) visual effect.
Potential Effects from Lighting	Illumination from artificial lighting of project components will be visible during the hours of darkness throughout the construction and operational phases from this location. Although visibility of lighting will largely be seen in the context other existing artificial lighting associated with residential properties and farmsteads within the Owenreagh Valley, the proposal will introduce lighting to the upper reaches of the valley towards the broad ridge which is otherwise unaffected by existing artificial light sources. Overall the effects from lighting from this viewpoint will be localised, and will be minor (not significant) during the construction and operational phases, reducing to negligible (not significant) following closure and restoration once any artificial on site lighting has been removed.
Potential for Future	Due to the relatively contained nature of views to the south and east from this viewpoint, and the absence of views northwards outside of the Owenreagh River Valley very few other developments considered in the assessment will be visible from this viewpoint.

Viewpoint 7 - Aghaboy Road – South-west of site	
Cumulative Effects	Within close proximity to the project site, a number of small scale domestic scale wind turbines often appearing close to agricultural buildings and farmsteads on the edge of Greencastle, and a small scale telecommunications mast will be visible in views north, north-east across the Owenreagh River Valley. However, due to the small scale of these turbines (largest of 54.5m to blade tip height) these developments are unlikely to become a defining or key feature(s) within the available view and when seen in combined and successive views alongside the Curraghinalt Project, significant additional changes in the view are unlikely to arise. In conclusion, potential significant <i>additional</i> or <i>total/combined</i> cumulative effects on views from this location are unlikely to occur, therefore cumulative visual effects on views from this viewpoint are judged to be negligible (not significant).

Table 9.8 Viewpoint 8 – Barony Road (A505)

Viewpoint 8 – Barony Road (A505)			
Grid Ref	256751, 379452	Figure Number	Figure 9.8
LLCA	LLCA 43 Carrickmore Hills	Landscape Designations	Sperrin AONB
Direction of View	North	Distance from nearest Project Components	4.9km
Description of existing view and potential receptors	This viewpoint is situated on the main A-road through the study area, the A505 (Barony Road) which forms part of the Central Sperrins Scenic Route, and represents relatively long distance often oblique views north towards the proposed infrastructure site experienced by road users. The landform in the immediate foreground is relatively flat with the Owenreagh River valley appearing out of view in the middle distance. Landform rises north to the high point of Crocknamoghil between Mullydoo in the west and Crockanboy Hill in the east. From west to east the horizon is formed by the background summits of Slievebeg, Slievemore, Craignamaddy, Mullaghibane and Mullaghibolig rising between Crocknamoghil and Crockanboy Hill. Further west are the summits of Oaghmonicroy, Keraghbrien and Mullaghturk. Foreground landcover comprises moorland and rough grazing divided by wire and post fencing, hedgerows, individual broadleaf trees and shelterbelts. The background landscape consists of undulating farmland to the north-east and more open elevated moorland to the north-west. Built features include scattered farmsteads, wood pole power lines and the small settlement of Greencastle can be seen in the background to the north. The area which will be occupied by the project site consists of farmland bound by existing coniferous tree lines, situated on lower ground between Crocknamoghil and Crockanboy Hill. It should be noted that direct views of the proposed development are unlikely to be experienced from this route as views towards the project infrastructure area will be largely oblique to the direction of travel.		
Sensitivity (Nature of receptor)	Receptors on this A-road are judged to be of medium susceptibility as they are transient receptors. Although the view is experienced as part of the Central Sperrins Scenic Route, a promoted tourist visitor route through the Sperrin AONB, this elevated section of the road offers very few opportunities to appreciate the view safely. Overall the value of the view is considered to be medium. Taking account of the transient nature and susceptibility of receptors on this route and the oblique angle and value of the views, overall the sensitivity is judged to be medium.		
Magnitude of change (Nature of effect)	During the construction phase the main source of effect from this viewpoint will be the construction activities seen at a distance of approximately 4.9km to facilitate the introduction of the project components including the portal and berm, the DSF, mineral process plant, administrative buildings, warehouse facilities, access track, vehicle movement, water management ponds and WTP, and ancillary components. During the operational phase the main source of effect from this viewpoint will be the operational activities associated with the above noted project components.		

Viewpoint 8 – Barony Road (A505)	
	Visual effects will be relatively localised in extent and viewed within the wider landscape setting. The change in landform from the creation of the DSF will be permanent. Following closure and restoration of the mine, the DSF will be regraded to tie into the contours of the surrounding landscape, and revegetated to fit with the surrounding landcover, and reducing its perceptibility.
Significance of visual effects during each Assessment Phase	
Construction Phase	During the construction phase disturbance associated with preparatory groundworks and construction of project components will be evident from this viewpoint, resulting in a small scale change in the view from this viewpoint. Changes will be seen below the skyline formed by the broad ridge. Although many of the construction effects will be short-term, the changes to the view will remain as the project components become operational. The majority of construction activities will be reversible, however some areas of disturbance necessary to facilitate construction will be restored. The magnitude of visual change during construction will be low, taking account of small scale, short duration and distance from the project site. Combined with the judgement of medium sensitivity, this will result in a negligible (not significant) visual effect.
Operational Phase	During the operational phase, a small scale change in the view will occur, associated with the above noted project components. Overall, the project components will occupy an angle of view of approximately ten degrees. Viewed at a distance of approximately 3.5km, project components will be largely visible below the skyline during the majority of the operational phase, and will not affect the intervening skyline of views towards the distant summits of the Central Sperrins to the north, north-west. Project components located north of the DSF will gradually become obscured during the operational phase (approximately year 5 onwards) as the DSF increases in size. Project components to the south of the DSF including the water management ponds and WTP will remain visible, but will be largely undiscernible at this distance. The effects will occur long-term, and the DSF will become gradually more discernible as this component increases in size, and despite the progressive restoration and revegetation of this feature it will remain as the most perceptible feature in the view. The magnitude of visual change during operational phase will be low, taking account of small scale change and distance from the project site. Considering the sensitivity of receptors, the overall visual effect will be minor (not significant).
Closure and Restoration Phase	This phase will see the removal of the majority of the project components which are visible from this viewpoint, except the DSF and passive water management ponds which will remain as permanent features. Restoration of the DSF will reduce its perceptibility, and will consist of reshaping, regrading and revegetation designed to tie this component into the surrounding topography and landcover. The magnitude of visual change following closure will be low, and when combined with the medium sensitivity of receptors, will result in a negligible (not significant) visual effect.
Potential Effects from Lighting	Some distant illumination produced by artificial lighting of project components will be perceptible during the hours of darkness throughout the construction and operational phase from this location. However, any visibility will largely be seen in the context of other existing artificial lighting associated with residential properties and farmsteads, and the local sports ground north of Greencastle to the east of the project site. The project site will introduce lighting to the view towards the broad ridge which is otherwise unaffected by artificial light sources. Overall the effects from lighting from this viewpoint will be seen for a short duration at an oblique angle of view, and will be minor (not significant) during the construction and operational phases, reducing to negligible (not significant) following closure and restoration once any artificial on site lighting has been removed.
Potential for Future Cumulative Effects	Due to the elevated and open panoramic views available from this location, a number of other existing, consented and proposed developments including commercial scale wind farms and mineral extraction sites will be visible from this viewpoint and nearby sections of the A505 No other developments are likely to be visible in the direction of the project site, however commercial scale wind farms will be visible in longer distance views to the north-east (Doraville), east (Beltonanean) and south-east (Crockdun), each of which will appear as a more discernible feature in the view when seen in combined and successive views

Viewpoint 8 – Barony Road (A505)	
	alongside the Curraghinalt Project. Small scale domestic wind turbines will be visible in views towards Greencastle, however these will appear backclothed and within the context of other man-made elements in the view. Significant additional changes in the view are unlikely to arise from the presence of these other developments. Additional consented and proposed mineral extraction sites are located to the south and south-east of the viewpoint, however intervisibility of these developments is likely to be screened by intervening topography and coniferous woodland. In conclusion, significant <i>additional or total/combined</i> cumulative effects on views from this location are unlikely to occur, therefore potential cumulative visual effects on views from this viewpoint are judged to be negligible (not significant).

Table 9.9 Viewpoint 9 – Mullaghcarn

Viewpoint 9 – Mullaghcarn			
Grid Ref	251052, 380975	Figure Number	Figure 9.9
LLCA	LLCA 26 Bessy Bell & Gortin	Landscape Designations	Sperrin AONB
Direction of View	North-east	Distance from nearest Project Components	8.0km
Description of existing view and potential receptors	This viewpoint is situated at the summit of Mullaghcarn, the most southerly summit of the Sperrins, and highest point at the eastern edge of the Gortin Forest Park. The viewpoint represents long distance views experienced by recreational walkers/cyclists. The foreground of the elevated view towards the site is occupied by open moorland and areas of rough grazing, rolling down to the Owenreagh River valley. The characteristic 'ladder' field pattern of the pastoral farmland across the valley slopes is clearly visible in the middle distance fields are bound by hedgerows, stone dykes and tree lines. Linear belts of coniferous trees are located above the fields on the lower ground between Crocknamoghil and Crockanboy Hill, which define the project site. To the north the vast expanses of open moorland and coniferous woodland plantations of the South Sperrins are evident, whilst the distinguishable Sperrin Mountains form the distant skyline to the north, north-east. Built features include scattered farmsteads and detached residencies dotted across the farmland landscape, with the small settlement of Greencastle visible at the eastern reaches of the Owenreagh River valley. Panoramic views to the east, south-east and south are punctuated by the presence of commercial scale wind farms and evidence of mineral extraction across the Carrickmore Hills and plateau, whilst views west across the Gortin Forest Park and the Strule River Valley below extend westwards to the settlement of Newtownstewart within the Foyle Valley. Views south-west towards the town of Omagh are largely screened from the summit by intervening landform, however the expansive farmland landscape which defines the lowlands of this area is evident to the south.		
Sensitivity (Nature of receptor)	Walkers and cyclists are judged to be of high susceptibility to changes in the surrounding view whilst experiencing the landscape from this location, and whilst undertaking the journey to the summit. Views from this prominent hill summit are considered to be of regional importance and of value to receptors who visit this area from further afield. However, the viewpoint is not part of a national tourist route, although the Ulster Way passes through the Gortin Forest Park to the west and the viewpoint represents an accessible and promoted location to visit from within the Gortin Forest Park, offering panoramic views across the Sperrin AONB. Man-made features are an existing part of the available wider view in each direction from this location, whilst two telecommunication masts and a helipad are located close to the summit cairn. Overall the sensitivity is judged to be high.		
Magnitude of change	Construction activities, seen at a distance of approximately 8km, will be barely perceptible from this viewpoint. However, the general change in landcover as the project site, largely contained within the matrix of linear shelterbelts of coniferous woodland, is cleared of		

Viewpoint 9 – Mullaghcarn	
(Nature of effect)	existing vegetation prior to construction of the project components and the DSF will be discernible. During the operational phase individual project components are unlikely to be discernible, however the portal berm, and the DSF will gradually become perceptible as new landforms in the view. The change in landform from the creation of the DSF will be permanent, however, following closure and restoration of the proposed development, the DSF will be regraded to tie into the contours of the surrounding landscape, and revegetated to fit with the surrounding landcover reducing its perceptibility.
Significance of visual effects during each Assessment Phase	
Construction Phase	Construction disturbance associated with preparatory groundworks and construction of project components will be evident from this viewpoint, resulting in a small scale change, seen within the vast views of the surrounding landscape. All changes will be visible below the skyline, and will not affect the distinguishable mountainous skyline of the Sperrins to the north, north-east. The magnitude of visual change during construction will be barely perceptible, taking account of the distance from the project site and the small scale of change, affecting only a very small proportion of the available view from this location. Despite the high sensitivity of receptors, this will result in a negligible (not significant) visual effect.
Operational Phase	During the operational phase a small scale changes in the view will occur, as the DSF increases in size and perceptibility. However, at this distance the individual components of the project will be largely undiscernible, and those located north of the DSF will gradually become partly obscured during the operational phase (approximately year 5 onwards) as the DSF increases in size. Although visible in the view to high sensitivity receptors, the project will not become a focal point in the panoramic views available from this viewpoint, and will result in a minor (not significant) visual effect from this viewpoint and similar elevated locations on the eastern flanks of the Gortin Forest Park.
Closure and Restoration Phase	This phase will see the removal of the majority of the project components, however the main source of visual effects, the DSF, will remain permanently. The regrading and shaping of the DSF will be largely indiscernible at this distance, however as this feature is revegetated surrounding land cover, which will reduce its perceptibility in views from this location. The magnitude of visual change following closure and restoration will be barely perceptible, taking account of the long distance views and small scale change within the context of the wider landscape. Taking account of the high sensitivity of receptors, this will result in a negligible (not significant) visual effect from this location.
Potential Effects from Lighting	Evidence of distant artificial lighting across the landscapes found at lower elevations is a feature of views in every direction from this viewpoint. Project components illuminated by artificial lighting will be visible during the hours of darkness throughout the construction and operational phase. However, this will largely be seen in the context of other existing lighting associated with residential properties and farmsteads, and the settlement of Greencastle. Nevertheless the site will also extend the influence of artificial lighting towards the ridge which is otherwise unaffected by artificial lighting sources, however, higher sensitivity recreational users are unlikely to be present at this viewpoint location after daylight hours to experience these effects. Overall the effects from lighting from this viewpoint will be localised, and will be minor (not significant) during the construction and operational phases, reducing to negligible (not significant) following closure and restoration once any artificial on site lighting has been removed.
Potential for Future Cumulative Effects	The hill summit of Mullaghcarn offers long distance 360 degree panoramic views from which many of the other developments considered in the cumulative assessment will be discernible. However, due to the distance and scale of many of these developments (e.g. domestic scale wind turbines, wood pole power lines, mineral extraction sites), significant visual effects are very unlikely to arise from the presence of these additional developments, or in combination with the Curraghinalt Project. A number of commercial scale wind farm developments will be visible from this viewpoint, each appearing as discernible features above the skyline in views to the north-east (Doraville), east (Beltonanean) and south-east (Crockdun) of the viewpoint. Despite the presence of these developments in views from the viewpoint, views towards the Central

Viewpoint 9 – Mullaghcarn	
	Sperrin Mountains to the north, north-east will be largely unaffected by these developments. Overall the potential <i>additional</i> or <i>total/combined</i> cumulative visual effects from this viewpoint will be negligible (not significant).

Effects on Views from Settlements

- 9.5 The settlements in the study area from which potential views of the proposed project may be experienced are assessed below.

Table 9.10 Greencastle

Greencastle			
Representative Viewpoints	VP3. Crockanboy Road (B46)	Distance from nearest Project Components	1.2km
Location and Existing View	Greencastle is a hamlet in County Tyrone broadly centred at the crossroads between Crockanboy Road and Greencastle Road in the foothills of the Sperrin Mountains north of the Owenreagh River. The settlement comprises a core of largely modern one and two storey, detached and semi-detached residences south of Crockanboy Road. Other outlying more scattered detached residences and farmsteads of varying age are located out with this core development. Residential properties are situated at varying orientation. Views to the north are largely contained by rising landform. Longer distance views are possible to the east, south and along the Owenreagh River valley to the west.		
Sensitivity (Nature of receptor)	Residential receptors are considered to be of high susceptibility to changes in their views and visual amenity. Although the settlement lies within the Sperrin AONB, views out with the settlement are relatively limited including those towards the core area of the Central Sperrin Mountains to the north, north-west, therefore the value of the view is therefore judged to be medium. Overall sensitivity is judged to be high.		
Magnitude of change (Nature of effect)	Theoretical visibility of the Curraghinalt Project from the settlement is shown by the ZTVs shown on Figures 6.3a-d, which indicates that relatively limited extents of the proposed development will be visible from the settlement. Despite the close proximity of the project site to the settlement, visibility will be limited to the latter years of the operational phase generally experienced from outlying more scattered properties west of Greencastle Road, and from some properties within the clustered development south of Crockanboy Road in views to the north-west. The project site is largely imperceptible from the settlement as the site is largely screened by intervening undulating landform, and coniferous shelter belts located across the northern slopes of the Owenreagh Valley between the project site and the settlement.		
Significance of visual effects during each Assessment Phase			
Construction Phase	During the construction phase the main source of effect will be visibility of construction traffic heading to and from the site. The introduction of project components will be largely screened by intervening landform resulting in a barely perceptible change. The majority of construction activities will be short-term, reversible, and some areas of disturbance only necessary to facilitate construction will be restored. The magnitude of visual change during construction will be barely perceptible, and taking account of the high sensitivity will result in a negligible (not significant) visual effect.		
Operational Phase	During the operational phase (approximately year 5 onwards) the DSF will become discernible in views to the north-west from some locations within the settlement. These will be limited to views from the western edge of the settlement, which are not screened by intervening vegetation, tree cover or buildings located along the north side of Crockanboy Road and the northern slopes of the Owenreagh Valley. The highest part of the DSF will appear above the intervening skyline east of Mullydoo Road. however the presence of coniferous woodland shelter belts will largely screen		

Greencastle	
	views of this new landform so that is almost undiscernible in most views, resulting in small scale change in the view. Other project components will be imperceptible from the settlement, screened by intervening landform and landscape features. The magnitude of visual change during the operational phase will be low, and taking account of the high sensitivity will result in a minor (not significant) visual effect from the settlement as a whole.
Closure and Restoration Phase	The only discernible changes which will be evident from the settlement during the closure and restoration phase will be the regrading and revegetation of the DSF which will reduce its perceptibility in views where it is discernible at the cease of operations. The magnitude of visual change following closure and restoration will be barely perceptible, and taking account of the high sensitivity will result in negligible (not significant) visual effect.
Potential Effects from Lighting	Direct views of artificial lighting of project components are considered unlikely from the settlement taking account of the screening by intervening landform, landscape features and built form. However, some illumination of the project site will be perceived as glow above the skyline, although this will be less perceptible as the DSF increases in size, gradually providing further screening of the artificially lit project components during the operational phase (approximately year 5 onwards). Overall the effects from lighting from Greencastle will be localised, seen in the context of other artificial lighting within the boundaries of the settlement and the sports ground to the north, resulting in a minor (not significant) visual effect during the construction and operational phases, reducing to negligible (not significant) following closure and restoration once any artificial on site lighting has been removed.
Potential for Future Cumulative Effects	Visibility of other developments considered in the cumulative assessment is limited to those developments located in close proximity of the settlement including three separate in-planning domestic scale 250Kw wind turbines (including an at appeal development south of Aughascribba Road, a development pending decision north-east of Mullydoo Road and a consented development north of Crockanboy Road.) situated close to agricultural buildings and farmsteads to the east of the settlement and the consented but as yet unbuilt telecommunications mast of 15m in height located on the summit of Crockanboy Hill in close proximity to the project site. Each of these developments will appear as a minor feature in views from the settlement, but other than the small scale telecommunications located on Crockanboy Hill, are unlikely to appear in combined views alongside the Curraghinalt Project. Despite the proximity and limited visibility of the Curraghinalt Project and these small scale developments from the settlement of Greencastle significant <i>additional or total/combined</i> cumulative effects on views will be negligible (not significant).

Effects on Views from Groups of Residential Properties

- 9.6 The potential effects on views from groups of residential properties within approximately 3km of the Curraghinalt Project are considered below. An assessment of potential changes in views and visual amenity from each individual property has not been undertaken, however, where appropriate specific properties are referenced, and considered as representative of views experienced from the different identified property groups.
- 9.7 The nature of the view from property groups, including the general direction of the view, the orientation of properties, the location of gardens or curtilage areas, access and the presence of intervening features such as vegetation are also considered, including seasonal changes in the view and potential changes to forestry.
- 9.8 An assessment of potential additional cumulative visual effects arising from the proposed development in conjunction with other developments has not been undertaken for each residential property group. The focus of the assessment of views from residential property groups is upon immediate views towards the proposed development within an approximate 3km radius, within which no other large scale proposed developments (as listed in **Table 6.6**) are located. Nevertheless, cumulative visual effects are considered from viewpoints located within the 3km as shown on **Figure 6.7**, from which no significant additional cumulative visual effects are identified.

- 9.9 All residential receptors are considered to be of high susceptibility to changes in views from their place of residence. An appreciation of the surrounding view is often material to the quality of life from residential properties, and are therefore judged to be of medium value. Overall, the sensitivity of all residential receptors is judged to be **high**.

Table 9.11 Residential Property Group A

Residential Property Group A			
Representative Viewpoints	n/a	Distance from nearest Project Components	Approx. 3.2km – 3.8km
Description of Properties and Existing Views	This group consists of three properties located on Gorticashel Road, at a distance of over 3.2km to the north-east of the site, east of the Owenkillew River. The nearest property, 252 Gorticashel Road is located approximately 3240m from the project site. The individual properties are each detached residences or farmsteads located on the south side of Gorticashel Road and orientated with principal views focused towards the south, whilst affording generally open views in other directions. An existing mineral extraction site is located on the north facing slopes of the Owenkillew Valley and forms a distinguishable feature in the middle distance of views towards the Curraghinalt Project site.		
Magnitude of change (Nature of effect)	The majority of the development components will be located beyond the broad ridge, and most specifically Crockanboy Hill, which will screen views throughout the construction and much of the operational phases of the project. During the latter part of the operational phase some visual effects will be experienced from these properties as the DSF increases in vertical height, and will remain visible above this skyline during the subsequent closure and restoration phase, seen in relatively long distance views to the south-west. Views will also be filtered by vegetation within property grounds and along field boundaries, including hedgerows and lines of coniferous trees. There are likely to be sequential views of the very latter stages of the DSF available from Gorticashel Road when travelling south-west away from these properties, however roadside vegetation will partially screen and filter views. Visibility of light glow from artificial lighting of the Curraghinalt Project may be possible during the construction and operational phases, but will be seen in the context of other lighting associated with residential properties and farmsteads within the Owenkillew Valley. Overall the magnitude of visual change from residential receptors within this property group is judged to be barely perceptible.		
Significance of visual effects during each Assessment Phase			
Construction Phase	Overall the visual effect during the construction phase of the project is considered to be negligible (not significant).		
Operational Phase	Overall the visual effect during the operational phase of the project is considered to be negligible (not significant).		
Closure and Restoration Phase	Following closure and restoration the overall visual effect from this property group will be negligible (not significant).		
Potential Effects from Lighting	Lighting glow will be evident during the construction and operational phases but will be barely perceptible and result in negligible (not significant) visual effects.		

Table 9.12 Residential Property Group B

Residential Property Group B			
Representative Viewpoints	n/a	Distance from nearest Project Components	Approx. 2.3km - 4.5km
Description of Properties and Existing Views	This group consists of forty three properties located on Crockanboy Road, Mullydoo Road, Leaghan Road and one property south of Blackbog Road, at a distance of over 2.4km south-east of the site. The nearest property 30 Mullydoo Road is located approximately 2.3km from the project site. Individual properties are each detached residences or farmsteads. The orientation of properties and therefore their principal views vary. The project site will feature in views looking north-west partially contained by elevated foreground landform and the settlement of Greencastle, and will be subject to localised screening by vegetation within property grounds and other intervening field boundary hedgerows and treelines. Properties orientated with largely unrestricted principal views towards the project site to the north-west, include 3 Blackbog Road. Views from 7 and 9 Mullydoo Road on the western slopes of Slievemenagh predicted to have the highest level of visibility and will experience oblique views towards the site. Taking account of the varying orientation of other properties in this group, it is considered unlikely that direct views towards the project site will be experienced, however oblique views will be possible foreshortened by undulating landform and filtered by intervening vegetation.		
Magnitude of change (Nature of effect)	Most project components will be screened from properties within this group, with the main source of visual effect being the DSF during the operational phase as it increases in horizontal size and vertical height, and will remain visible above the skyline formed by the Crockanboy Hill and Crocknamoghil during the subsequent closure and restoration phase, seen in views to the north-west. Visibility of the DSF from properties within the group will vary, from properties situated at higher elevation east of Crockanboy Road and Mullydoo Road, including from 7 and 9 Mullydoo Road, it is likely that the DSF will be visible during a larger part of the operational phase. Project components including the Covered Stock Pile and Process plant will also likely be visible during the operational phase. Conversely taking account of screening by intervening landform properties 30 and 32 Mullydoo Road in the north of the group will experience visual effects associated with the DSF during the latter part of the operational phase (years 12 to 26). Visibility of the DSF, and where visible other project components will vary in extent dependant on orientation, foreshortening by localised screening and filtered by vegetation within property grounds and by field boundary hedgerows and tree lines. There is likely to be some perceived increase in night time light generated by project components during the construction and operational phases. This will be seen in the context of lighting associate with the Greencastle playing fields and residential properties and farmsteads on Greencastle Road to the north-west. Given the largely oblique nature of views the overall magnitude of visual change is judged to be low.		
Significance of visual effects during each Assessment Phase			
Construction Phase	Overall the visual effect during the construction phase of the project is considered to be negligible (not significant).		
Operational Phase	Taking account of the low magnitude of change, the overall the visual effect during the operational phase of the project from properties which afford open views towards the proposed infrastructure site is considered to be minor (not significant).		
Closure and Restoration Phase	Following closure and restoration the overall visual effect from this property group will be negligible (not significant).		
Potential Effects from Lighting	Lighting glow will be evident during the construction and operational phases but will be barely perceptible and seen in the context of intervening lighting from the settlement of Greencastle and result in negligible (not significant) visual effects.		

Table 9.13 Residential Property Group C

Residential Property Group C			
Representative Viewpoints	n/a	Distance from nearest Project Components	Approx. 1.1km - 1.6km
Description of Properties and Existing Views	Property Group C consists of twelve properties in the north-eastern part of the small settlement of Greencastle at a distance of over 1.1km south-east of the site, mainly comprising detached residences and farmsteads located on the west side of Greencastle Road, and two properties located north of Crockanboy Road. The nearest property 276 Crockanboy Road is located approximately 1100m from the project site. Existing views looking north-west towards the project site are largely contained by the southern slopes of Crockanboy Hill, and vegetation/woodland screening to the rear of properties along Greencastle Road. With the exception of residence 146 Greencastle Road (with principal views orientated south-west) properties west of Greencastle Road have principal views orientated south-east, with secondary (rear) views focused north-west towards the project site. Properties 276 and 286 Crockanboy Road are orientated with principal views to the south-west and are unlikely to experience direct views of the project site, although oblique views are likely to be possible.		
Magnitude of change (Nature of effect)	The majority of project components will be screened by the lower slopes of Crockanboy Hill west of the property group throughout the construction and much of the operational phase. Visual effects will be experienced from these properties during the latter part of the operational phase as the DSF increases in vertical height and will remain visible above the skyline formed by Crockanboy Hill following the closure and restoration phase, seen in views to the north-west, predominantly from the rear of properties along Greencastle Road. Views towards the DSF in the latter stages of development will be foreshortened by built form, vegetation within property curtilage and filtered by intervening vegetation delineating field boundaries. Taking account of the proximity and limited existing lighting on Crockanboy Hill there is likely to be some perceived increase in indirect night time light glow generated by project components during the construction and operational phases, although this will be seen in the context of the nearby lighting at the . Given the close proximity and potential for direct secondary (rear) views the overall the magnitude of change is judged to be barely perceptible.		
Significance of visual effects during each Assessment Phase			
Construction Phase	Overall the visual effect during the construction phase of the project is considered to be negligible (not significant).		
Operational Phase	Taking account of the barely perceptible magnitude of change, overall the visual effect during the operational phase of the project from properties in this group is considered to be negligible (not significant).		
Closure and Restoration Phase	Following closure and restoration the overall visual effect from this property group will be negligible (not significant).		
Potential Effects from Lighting	Light glow will be evident during the construction and operational phases but will be barely perceptible and seen in the context of intervening lighting from the settlement and local sports ground north of Greencastle, resulting in negligible (not significant) visual effects.		

Table 9.14 Residential Property Group D

Residential Property Group D			
Representative Viewpoints	n/a	Distance from nearest	Approx. 800m – 1.8km

Residential Property Group D			
		Project Components	
Description of Properties and Existing Views	Property Group D consists of 81 properties within the southern part of Greencastle, south of Crockanboy Road and properties located within the cul-de-sac roads of Maryville and Sheskinshule View which are accessed from Greencastle Road to the south-east of the site. The group comprises a clustered development of largely modern detached and semi-detached residences on the west, south-west side of the settlement, and a number of more scattered outlying properties. The closet property 271 Crockanboy Road is located approximately 800m from the project site.		
	The orientation and principal views of properties vary, however generally properties afford open views southwards across, or westwards along the Owenreagh Valley. Views north-west towards the project site are largely contained by the foreground landform of Crockanboy Hill.		
	Properties likely to experience principal views orientated north-west towards the project site include 119 Green Castle Road. Properties likely to experience secondary (rear) views orientated north-west towards the project site include 14, and 16, Sheskinshule View, and 1, 2, 3, 4, 5, and 6 Maryville.		
	Other properties within the group are unlikely to experience direct views looking towards the project site but are likely to experience some oblique views subject to localised screening by vegetation within property grounds and filtered by intervening built form, hedgerows and treelines.		
Magnitude of change (Nature of effect)	Intervening landform north-west of this property group will screen the majority of project components throughout the construction phase and much of the operational phase. During the latter part of the operational phase some visual effects will be experienced as the DSF increases in vertical height and will remain visible above the skyline formed by the southern slopes of the broad ridge and Crockanboy Hill following the closure and restoration phase. Visibility of the DSF will vary in extent dependant on the orientation and foreshortening by localised screening. It is expected that higher levels of visibility of the DSF will be experienced from properties where principal and secondary views are orientated to the west and north-west and at the western, north-western edge of the property group. Views will also be further filtered by intervening field boundary vegetation, conifer treelines and small blocks of conifer plantation north of Crockanboy Road. Some visibility of indirect night time light glow from artificial lighting of project components is likely during the construction and operational phases, but will be seen in the context of other lighting associated with residential properties and farmsteads north-west of Greencastle. Given the likely limited visibility and small scale change in views from residential properties and based on the maximum case effect during the operational phase, overall the magnitude of change is judged to be low.		
Significance of visual effects during each Assessment Phase			
Construction Phase	Overall the visual effect during the construction phase of the project is considered to be negligible (not significant).		
Operational Phase	Taking account of the barely perceptible magnitude of change, overall the visual effect during the operational phase of the project from properties in this group is considered to be minor (not significant).		
Closure and Restoration Phase	Following closure and restoration the overall visual effect from this property group will be negligible (not significant).		
Potential Effects from Lighting	Light glow will be evident during the construction and operational phases but will be seen in the context of intervening lighting from the wider settlement and the local sports ground to the north of Greencastle, resulting in minor (not significant) visual effects.		

Table 9.15 Residential Property Group E

Residential Property Group E			
Representative Viewpoints	VP1. Farmsteads off Crockanboy Road; VP3. Crockanboy Road (B46)	Distance from nearest Project Components	Approx. 300m – 600m
Description of Properties and Existing Views	This group consists of 14 properties comprising detached residences and farmsteads, located in very close proximity to the south and south-east of the site, and north of Crockanboy Road. The nearest property, 216 Crockanboy Road is located approximately 300m from the project site. Properties in this group are mainly orientated with principal views to the south-west. The majority of properties are orientated to afford views south across the Owenreagh Valley, and many properties also have gardens/curtilages which offer views northwards towards the broad ridge and Crockanboy Hill which form the elevated horizon in views across the project site. The project site, including the main site access road from Crockanboy Road, will feature in close proximity views to the north and north-east subject to screening by vegetation within property grounds and intervening field boundary hedgerows and tree lines. Properties predicted to have the highest level of visibility include 200, 204, 208, 212, 216, 216A, and 234 Crockanboy Road, and are likely to experience either direct to oblique secondary (rear) views. Conversely views from properties 240, 250, and 252 Crockanboy Road in the east of the group will be largely contained and foreshortened by intervening landform.		
Magnitude of change (Nature of effect)	Visibility of the project site and project components will vary from properties within the group. The properties noted above with the highest level of predicted visibility are likely to experience direct to oblique secondary (rear) views during the construction, operational and decommissioning phases. The main source of visual effect experienced from these properties is likely to be development of the DSF as it increases in horizontal size and vertical height throughout most of the operational phase, and during the subsequent closure and restoration phase seen in views looking to the north, and north-west above the skyline formed by the ridge. Visibility of other project components including the covered stockpile, process plant, water management ponds, WTP and ancillary components is expected from these properties during the earlier parts of the operational phase. Development of the DSF will increasingly screen project components during the operational phase, although the water management ponds and WTP is likely to remain visible partially screened by proposed mitigation planting. Taking account of screening by intervening foreground landform, visual effects experienced from other properties within the group is likely to be limited to activities associated with the DSF as it increases in vertical height in the latter part of the operational phase. The latter extent of the DSF is likely to be seen from these properties in secondary (rear) direct and oblique views above the skyline formed by the ridge. Construction activities associated with the introduction and subsequent removal of project components will be experienced during the construction and decommissioning phases. During these phases an increase in localised traffic will also be seen. Views will also be subject to localised screening, filtered by vegetation within property grounds and along field boundaries, including hedgerows and lines of coniferous trees. There are likely to be sequential views of the DSF and other project components available from Crockanboy Road and driveways experienced by receptors accessing these properties. Visibility from these routes will vary in extent with landform foreshortening visibility and roadside vegetation filtering and screening some views. The introduction of the project components will result in a large scale change to the view from several properties within this property group, although very rarely affecting the principal views. Taking account of the proximity and limited existing lighting on the ridge there is likely to be a perceived increase in night time light generated by project components during the construction and operational phases. Based on the maximum case effect during the operational phase, overall the magnitude of change is judged to be high.		
Significance of visual effects during each Assessment Phase			

Residential Property Group E	
Construction Phase	Overall the visual effect during the construction phase of the project is considered to be moderate (significant).
Operational Phase	Taking account of the high magnitude of change, overall the visual effect during the operational phase of the project from properties in this group is considered to be major (significant).
Closure and Restoration Phase	Following closure and restoration the overall visual effect from this property group will be moderate (significant) as components area removed and the DSF is integrated into the surrounding landscape.
Potential Effects from Lighting	Light glow will be evident during the construction and operational phases extending the influence of artificial lighting across the otherwise unlit moorland of the broad ridge, resulting in moderate (significant) visual effects.

Table 9.16 Residential Property Group F

Residential Property Group F			
Representative Viewpoints	VP3. Crockanboy Road (B46)	Distance from nearest Project Components	Approx. 50m – 800m
Description of Properties and Existing Views	This group consists of 17 detached residences and farmsteads south, south-east of the site and located on Crockanboy Road and Pollanroe Road at distances o. The nearest property, 276 Crockanboy Road is located adjacent to the main entrance to the project site on the south side of Crockanboy. The orientation of the properties and therefore their principal views varies, however, generally properties are orientated to afford views southwards across the Owenreagh Valley there are often views possible northwards towards the site from driveways, gardens and curtilages. The project site will be visible in views to the north and north-east. Some views will be partially contained by undulating foreground landform and screened by intervening built form and vegetation. Properties predicted to experience the highest levels of visibility orientated with principal views to the north-east include 207, 225 and 235 Crockanboy Road, with potential for direct to oblique views of the project site partially screened by intervening vegetation. Views from properties with lower predicted visibility including 197, 217, and 255 Crockanboy Road will be partially contained by foreground landform.		
Magnitude of change (Nature of effect)	The properties noted above with the highest level of predicted visibility are likely to experience direct to oblique views during the construction, operational and closure/restoration phases. Construction and operation of the main site access road situated on Crockanboy Road will form a key feature in views when accessing properties, and in views from the property of 276 Crockanboy Road. As the DSF increases in vertical height and horizontal extent this feature will become the main source of visual effect, visible through most of the operational phase and will remain visible above the skyline formed by the broad ridge of Mullydoo, Crocknamoghil and Crockanboy Hill in views to the north and north-east. Other project components of the process plant will be visible during the early part of the operational phase, although development of the DSF will increasingly screen views during the latter part of the operational phase. Other properties within the group are likely to experience visual effects associated with the DSF as it develops and increases in vertical size in the latter part of the operational phase, seen where views to the north and north-east are available above the skyline formed by the broad ridge. Construction and decommissioning activities associated with the introduction and subsequent removal of project components, and an increase in localised traffic are likely to be experienced from some properties situated close to Crockanboy Road with high levels of predicted visibility. Views from some properties will also be subject to localised screening, filtered by vegetation within property grounds and by intervening hedgerows and treelines.		

Residential Property Group F	
	Taking account of proximity to the project site and limited existing lighting on the ridge there is likely to be a perceived increase in night time light generated by project components during the construction and operational phases. Based on the maximum case effect during the operational phase, overall the magnitude of change is judged to be high.
Significance of visual effects during each Assessment Phase	
Construction Phase	Overall the visual effect during the construction phase of the project is considered to be moderate (significant).
Operational Phase	Taking account of the high magnitude of change, overall the visual effect during the operational phase of the project from properties in this group is considered to be major (significant).
Closure and Restoration Phase	Following closure and restoration the overall visual effect from this property group will be moderate (significant) as components area removed and the DSF is integrated into the surrounding landscape.
Potential Effects from Lighting	Light glow will be evident during the construction and operational phases extending the influence of artificial lighting across the otherwise unlit moorland of the ridge, resulting in moderate (significant) visual effects.

Table 9.17 Residential Property Group G

Residential Property Group G			
Representative Viewpoints	n/a	Distance from nearest Project Components	Approx. 1.5km – 1.8km
Description of Properties and Existing Views	This group consists seven detached residences and farmsteads on Cashel Road, south of the project site and south-east of Cashel Bridge. The closest properties, 46, 50 and 56 Cashel Road are situated approximately 1.5m from the project site. The orientation of properties vary, however principal views are generally orientated north and north-west across and along the Owenreagh Valley, with the nearest properties affording open views towards the project site although often partially screened intervening landform and broadleaf tree lines along field boundaries. Other properties in this group are considered unlikely to experience direct views of the project site taking account of varying orientation, although oblique views are considered likely. Contrastingly views from 50 and 56 Cashel Road will be partially contained by undulating foreground landform and filtered by vegetation within property curtilage and by intervening hedgerows and treelines delineating field boundaries. An existing quarry is also situated to the west of the property group but lies largely out of view at a lower elevation within the valley.		
Magnitude of change (Nature of effect)	The main source of visual effect with the highest levels of predicted visibility will be the DSF as it increases in horizontal size and vertical height throughout the operational phase, and during the subsequent closure and restoration phase. This new landform feature seen in views looking to the north-east above the skyline formed by the ridge. Visibility of other project components is expected from these properties during the earlier parts of the operational phase, although development of the DSF will increasingly screen project components during the operational phase. Proposed mitigation tree planting will also filter views of project components during the operational phase. Visual effects experienced from the closest properties at 50 and 56 Cashel Road are likely to be limited to the development of the DSF in the latter stages of development as it increases in vertical height, with the majority of project components be screened by intervening undulating landform. Construction and decommissioning activities associated with the introduction and subsequent removal of project components, and an increase in localised traffic are likely		

Residential Property Group G	
	to be perceptible from some properties with a high level of predicted visibility including 39, 41, 41A, and 46 Cashel Road. Sequential views of the DSF are likely to be experienced from Cashel Road when accessing properties, with potential screening by roadside and field boundary vegetation filtering some views. Light glow from night time lighting of project components will be possible during the construction and operational phases, although this will be seen in the context of lighting from other residential properties and the settlement of Greencastle. Given the largely oblique nature of views and the small scale change in views which will be evident from these properties overall the magnitude of change is judged to be low.
Significance of visual effects during each Assessment Phase	
Construction Phase	Overall the visual effect during the construction phase of the project is considered to be minor (not significant).
Operational Phase	Taking account of the low magnitude of change, overall the visual effect during the operational phase of the project from properties in this group is considered to be minor (not significant).
Closure and Restoration Phase	Following closure and restoration once the DSF is integrated into the surrounding landscape the overall visual effect from this property group will be negligible (not significant).
Potential Effects from Lighting	Lighting glow will be evident during the construction and operational phases seen across and east along the Owenreagh River Valley but in the context of existing lighting of residential properties within the valley, resulting in minor (not significant) visual effects.

Table 9.18 Residential Property Group H

Residential Property Group H			
Representative Viewpoints	VP4. Aghaboy Road – South of site	Distance from nearest Project Components	Approx. 1.5km – 2km
Description of Properties and Existing Views	This group consists of 24 individual detached residences and farmsteads accessed from Aghaboy Road and Aghnamirigan Road between Campbell's Bridge in the west and Cashel Bridge in the east at a distance of between 1.5km and 2km south-west of the site. The nearest property, 60 Aghaboy Road is located approximately 1.5km south, south-west from the project site. Aghaboy Road contours across the north facing slopes of the valley, with properties located to the north and south, of the road, often occupying elevated positions with open views. The orientation and principal views of properties within this group vary, however the majority of properties afford views orientated north, north-east across the Owenreagh Valley, and as such are likely to experience direct to oblique views towards the project site. Properties located along Aghnamirigan Road and Fallagh Road within the group will experience direct views of the project site, often with more oblique views towards the project site, and often screened or filtered by the presence of nearby agricultural buildings and/or vegetative screening provided by intervening woodland/coniferous shelterbelts. Where visible the project site will be seen in views to the north-east with potential screening by localised built form and vegetation. An existing quarry is also situated to the east of the Aghaboy Road, and is visible in the foreground of views from some properties at the eastern extent of the group.		
Magnitude of change (Nature of effect)	The properties within this group with the highest level of predicted visibility are located along Aghaboy Road directly south of the site with open views across the Owenreagh Valley. Approximately a dozen properties will experience direct to slightly oblique principal views, in some instances partially screened by foreground vegetation within the properties curtilage, during the construction, operation and decommissioning phases. The main source of visual effect experienced from the properties will be the development of		

Residential Property Group H	
	the DSF as it increases in horizontal extent and vertical height throughout the operational phase, and during the subsequent closure and restoration phase where it will be seen in views to the north, north-east as a large scale feature, affecting a relatively large proportion of the available and eventually extending above the existing skylined ridge formed by the Mullydoo and Crocknamoghil, west of Crockanboy Hill. Visibility of other project components including the process plant, water management ponds and ancillary components is expected from these properties during the earlier stages of the operational phase, however development of the DSF will increasingly screen project components during the operational phase, although the WTP and ponds will be discernible through much of the operational phase partially screened by mitigation planting. Other properties within the group are likely to experience more oblique views subject to localised screening by built form and vegetation within property grounds. Views of the project site will be available from Aghaboy Road and Aughnamirigan Road when accessing properties within this group, however visibility will vary in extent due to the presence of roadside and field boundary vegetation which filter and screen some views. Visibility of night time lighting generated by project components during the construction and operational phases will be evident across the valley to the north, extending the influence of artificial lighting across the slopes of the ridge which are currently uninhabited. It is noted however that additional lighting will be seen in the context of existing lighting at residential properties within the valley to the north and the settlement of Greencastle to the north-east. Given the potential for direct principal views from properties located directly south of the site on Aghaboy Road, and based on the maximum case effect during the operational phase, overall the magnitude of change is judged to be medium.
Significance of visual effects during each Assessment Phase	
Construction Phase	Overall the visual effect during the construction phase of the project is considered to be moderate (significant).
Operational Phase	Taking account of the medium magnitude of change, overall the visual effect during the operational phase of the project from properties in this group is considered to be moderate (significant).
Closure and Restoration Phase	Following closure and restoration once the DSF is integrated into the surrounding landscape the overall visual effect from this property group will be minor (not significant).
Potential Effects from Lighting	Lighting glow will be evident during the construction and operational phases seen across the Owenreagh River Valley and extending in influence of artificial lighting across the open moorland slopes of the broad ridge within the valley, resulting in moderate (significant) visual effects.

Table 9.19 Residential Property Group I

Residential Property Group I			
Representative Viewpoints	n/a	Distance from nearest Project Components	Approx. 1.5km – 3km
Description of Properties and Existing Views	This group consists of 14 detached residential properties and farmsteads, located south of the Owenreagh River mainly accessed by Fallagh Road and Lenagh Road, at a distance of over 1.8km to the west, south-west of the site. The closest property 23 Aughnamirigan Road is located approximately 1.5km from the project site with principal views north-east across the valley, however the property is situated in the foot of the Owenreagh Valley from where the project site is largely screened by intervening landform to the north-east. Properties orientated with principal views to the west including 92 and 94 Lenagh Road, and properties orientated to the north-west including 36, 38, 46, and 50 Fallagh Road,		

Residential Property Group I	
	are likely to experience direct to slightly oblique views of the project site partially contained by landform and filtered by intervening vegetation. It is considered unlikely that other properties within the group will experience direct or open views of the project site, although oblique views partially contained by landform and filtered by intervening vegetation are likely to be possible from the curtilages and minor road network when accessing these properties.
Magnitude of change (Nature of effect)	The main source of visual effect will be visibility of the DSF as it increases in vertical height in the latter part of the operational phase, and during the subsequent closure and restoration phase, and will remain visible above the skyline formed by the ridge seen in views looking to the north-east. The closest properties, including 23 Aughnamirigan Road will experienced very limited visibility of the project site due to intervening landform and screening provided by vegetation on the northern slopes of the valley. Properties at higher elevation including 86 and 94 Lenagh road are likely to experience oblique views of the project site, partially obscured by landform and filtered by intervening vegetation resulting in a small scale change in the view, reducing in scale for the most westerly properties There are likely to be sequential views of the DSF available from Fallagh Road travelling east, and from Lenagh Road when travelling north. Visibility from these routes will vary in extent with intervening vegetation filtering and screening some views. Intervening landform will largely screen views of artificial lighting of the project site although visibility of light glow from the site is likely possible during the construction and operational phases, but will be seen in the context of other lighting associated with residential properties and farmsteads to the north-east. Considering the limited nature of views, and the distance of residential properties with views of the project site the overall magnitude of visual change is judged to be low.
Significance of visual effects during each Assessment Phase	
Construction Phase	Overall the visual effect during the construction phase of the project is considered to be negligible (not significant).
Operational Phase	Taking account of the low magnitude of change, overall the visual effect during the operational phase of the project from properties in this group is considered to be minor (not significant).
Closure and Restoration Phase	Following closure and restoration once the DSF is integrated into the surrounding landscape the overall visual effect from this property group will be negligible (not significant).
Potential Effects from Lighting	Lighting glow will be evident during the construction and operational phases seen across and east along the Owenreagh River Valley but in the context of existing lighting of residential properties within the valley, resulting in minor (not significant) visual effects.

Table 9.20 Residential Property Group J

Residential Property Group J			
Representative Viewpoints	VP5. Greencastle Road	Distance from nearest Project Components	Approx. 1.9km – 2.9km
Description of Properties and Existing Views	This property group consists of 21 detached residences and farmsteads on Cashel Road and Greencastle Road, south-west of the site. The nearest property of 83 Greencastle Road is situated approximately 1.9km from the project site. The orientation of properties and therefore their principal views vary, although properties to the north of the group and situated along Greencastle Road are generally orientated to afford views north, north-east across the Owenreagh Valley. One property, 10 Cashel Road, orientated with secondary (rear views) to the north-east is likely experience direct to oblique views looking towards the project site filtered by intervening vegetation within the properties grounds. It is considered unlikely that other properties in the group will experience direct views of the project site, although oblique views subject to localised		

Residential Property Group J	
	screening by built form and vegetation are considered likely. Properties situated along Cashel Road at the southern extent of the group are generally orientated to afford views southwards, with views north towards the project site largely screened by intervening landform and/or vegetative screening. An existing quarry/mineral extraction site is located to the east and north-east of the most northerly properties in this group and is a visible feature in the foreground of views from some properties.
Magnitude of change (Nature of effect)	The main source of visual effect experienced from properties in this group is likely to be visibility of the DSF throughout most of the operational phase, and during the subsequent closure and restoration phase seen in views looking to the north-west largely below the skyline formed by the broad ridge of Mullydoo, Crocknamoghil and Crockanboy. Visibility of other project components is expected during the earlier parts of the operational phase. Development of the DSF will increasingly screen project components during the operational phase, although the water management ponds and WTP are likely to remain visible, although partially screened by proposed native broadleaf tree mitigation planting. Visibility of the DSF and project components will vary in extent dependant on orientation and foreshortening by localised screening. Effects associated with construction activities, the introduction and subsequent removal of project components, and an increase in localised traffic are also likely to be experienced during the construction and decommissioning phases. There are likely to be sequential views of the DSF available from Cashel Road and Greencastle Road and from driveways experienced by receptors accessing these properties. Visibility from these routes will vary in extent with roadside vegetation filtering and screening some views. Overall the magnitude of change, based on the maximum case effect during the operational phase is judged to be medium.
Significance of visual effects during each Assessment Phase	
Construction Phase	Overall the visual effect during the construction phase of the project is considered to be minor (not significant).
Operational Phase	Taking account of the low magnitude of change, overall the visual effect during the operational phase of the project from properties in this group is considered to be moderate (not significant).
Closure and Restoration Phase	Following closure and restoration once the DSF is integrated into the surrounding landscape the overall visual effect from this property group will be minor (not significant).
Potential Effects from Lighting	Lighting glow will be evident during the construction and operational phases seen the Owenreagh River Valley to the north but in the context of existing lighting of residential properties within the valley and the settlement of Greencastle, resulting in minor (not significant) visual effects.

Table 9.21 Residential Property Group K

Residential Property Group K			
Representative Viewpoints	VP.8. Barony Road	Distance from nearest Project Components	Approx. 3.2km – 4.2km
Description of Properties and Existing Views	Property Group K is located near Brackagh South at distances of over 3km south of the site. The group consists of 12 well-spaced detached residences and farmsteads mainly accessed from Barony Road. The nearest property, 116 Barony Road is situated approximately 3.9km from the project site. Properties 100, 114, 114A, and 110 Barony Road with either principal or secondary (rear) views orientated north, north-east and 116 Barony Road with views orientated north-west are likely to experience direct to oblique views of the project site in the north, partially screened by vegetation within property grounds. Other properties within the		

Residential Property Group K	
	group are unlikely to experience principal views of the project site but oblique views potentially screened by localised built form and vegetation are considered likely. An existing quarry south of Cashel Bridge is likely to be out of view at low elevation in views to the north.
Magnitude of change (Nature of effect)	Properties in this group are likely to experience visual effects associated with the development of the DSF as it increases in vertical height and horizontal extent throughout much of the operational phase, and will remain visible above the skyline during the subsequent closure phase, seen in relatively long distance views to the north. Visibility of other project components during the operational stage is considered likely although these will become increasingly screened during the development of the DSF and proposed mitigation planting will also filter views. Construction activities associated with the introduction and subsequent removal of project components are likely to be perceptible during the construction and decommissioning phases. There are likely to be sequential views of the DSF available from Barony Road and driveways experienced by receptors accessing these properties. Views from these routes will be subject to screening by intervening vegetation which will vary the extent of visibility. There is likely to be a perceived increase in night time light generated by project components during the construction and operational phases, visible in views across the Owenreagh valley to the north. Overall the magnitude of visual change is judged to be low.
Significance of visual effects during each Assessment Phase	
Construction Phase	Overall the visual effect during the construction phase of the project is considered to be negligible (not significant).
Operational Phase	Taking account of the low magnitude of change, overall the visual effect during the operational phase of the project from properties in this group is considered to be minor (not significant).
Closure and Restoration Phase	Following closure and restoration the overall visual effect from this property group will be negligible (not significant).
Potential Effects from Lighting	Light glow will be evident during the construction and operational phases seen across the Owenreagh Valley but in the context of other nearby lighting sources including residential properties and the settlement of Greencastle, resulting in minor (not significant) visual effects.

Table 9.22 Residential Property Group L

Residential Property Group L			
Representative Viewpoints	n/a	Distance from nearest Project Components	Approx. 3.3km – 4.5km
Description of Properties and Existing Views	This group consists of 11 detached residences and farmstead mainly located on Inisclan Road near Cornagillach Bridge, at a distance of over 4.1km to the south-west of the site. The nearest property 36 Greencastle Road is located approximately 3.3km from the project site. Properties with high levels of predicted visibility, namely 70 Inisclan Road and 32 Greencastle Road, are orientated with principal views to the north-east with potential for direct to oblique views of the project site. However, views will be largely screened by mature vegetation within property grounds and by a block of coniferous woodland located between Aghaboy Road and Greencastle Road. Taking account of the varying orientation of other properties within the group direct views from other properties looking north-east towards the project site are considered unlikely, although oblique views subject to		

Residential Property Group L	
	localised screening are considered likely.
Magnitude of change (Nature of effect)	The main source of visual effect experienced from properties in this group, is likely to be visibility of the DSF throughout most of the operational phase, and during the subsequent closure and restoration phase seen in views looking to the north-east largely below the skyline formed by the ridge. Visibility of other project components is expected during the earlier parts of the operational phase. Most project components will become increasingly screened during the development of the DSF as it increases in vertical height and horizontal extent. Proposed mitigation planting will also partially screen some project components Potential direct views are likely to be fully screened by vegetation, oblique views will also largely be filtered by vegetation within property grounds. There are likely to be sequential views of the DSF available from Inisclan Road when traveling north-east and from driveways experienced by receptors accessing these properties, however visibility will vary in extent with roadside vegetation and intervening blocks of coniferous woodland which filter and screen some views. Given the orientation of buildings with limited direct views and the screening effects of vegetation the overall magnitude of change is judged to be barely perceptible.
Significance of visual effects during each Assessment Phase	
Construction Phase	Overall the visual effect during the construction phase of the project is considered to be negligible (not significant).
Operational Phase	Taking account of the barely perceptible magnitude of change, overall the visual effect during the operational phase of the project from properties in this group is considered to be negligible (not significant).
Closure and Restoration Phase	Following closure and restoration the overall visual effect from this property group will be negligible (not significant).
Potential Effects from Lighting	Some limited light glow will be evident during the construction and operational phases seen across the Owenreagh River Valley, but in the context of nearby lighting sources around the settlement of Greencastle, and resulting in negligible (not significant) visual effects.

Table 9.23 Residential Property Group M

Residential Property Group M			
Representative Viewpoints	VP7. Aghaboy Road – South-west of site	Distance from nearest Project Components	Approx. 2.9km – 3.2km
Description of Properties and Existing Views	This group consists of 22 detached residences and farmsteads on Aghaboy Road and Fallagh Road at a distance of over 2.8km, south-east of the project site which generally afford views north, north-east across the Owenreagh Valley. The nearest property to the project site, 34 Fallagh Road is located approximately 2.9km to the south-east located at a lower elevation than the site on the lower slopes of the valley. A number of properties have potential for direct to slightly oblique principal views of the project site north-east across the Owenreagh Valley, including 11 and 27 Fallagh Road and a number of properties on Aghaboy Road. Views towards the project site are likely to be partially screened by built form and filtered by vegetation within property curtilages.		
Magnitude of change (Nature of effect)	The main source of visual effect will be visibility of the DSF throughout the operational phase, and during the subsequent closure and restoration phase seen views across the valley to the north-east, with components largely below the skyline until the latter stages of the operational phase when the DSF extend above the existing skyline formed by the broad ridge of Mullydoo, Crocknamoghil and Crockanboy Hill. Visibility of other project components is likely during the earlier parts of the operational phase although as the DSF increases in size the process plant and other ancillary components will become screened.		

Residential Property Group M	
	Some screening of project components will also be provided by proposed mitigation planting around the southern periphery of the site. Visibility of the DSF will vary in extent dependant on orientation of properties and foreshortening by localised screening located in property grounds and along field boundaries, including hedgerows and coniferous tree lines and lines of coniferous trees. There are likely to be sequential views of the DSF available from Fallagh Road, Aghaboy Road, and private driveways experienced by receptors accessing these properties, however visibility will vary in extent with roadside vegetation filtering and screening some views. There will be an increase in night time light glow generated by project components during the construction and operational phases, however this will be seen in the context of lighting associate with the settlement of Greencastle and residential properties located within the Owenreagh Valley south of the site. Overall the magnitude of change is judged to be low.
Significance of visual effects during each Assessment Phase	
Construction Phase	Overall the visual effect during the construction phase of the project is considered to be minor (not significant).
Operational Phase	Taking account of the low magnitude of change, overall the visual effect during the operational phase of the project from properties in this group is considered to be minor (not significant).
Closure and Restoration Phase	Following closure and restoration the overall visual effect from this property group will be negligible (not significant).
Potential Effects from Lighting	Lighting glow will be evident during the construction and operational phases seen across the Owenreagh River Valley but in the context of nearby lighting sources around the settlement of Greencastle, resulting in minor (not significant) visual effects.

Table 9.24 Residential Property Group N

Residential Property Group N			
Representative Viewpoints	n/a	Distance from nearest Project Components	Approx. 3.3km – 3.9km
Description of Properties and Existing Views	This group consists of eight detached residences and farmsteads over 4.3km to the south-west of the site, north of Lenagh Bridge. The nearest property 78 Lenagh Road is situated approximately 3.3km from the proposed infrastructure site. The orientation of properties and therefore their principal views vary. The project site is likely to be visible in views to the north-east across the Owenreagh Valley partially screened by vegetation within property grounds and by intervening riparian woodland. Properties 53 and 55 Lenagh Road are likely to experience principal views orientated north-east towards the project site. Although high levels of visibility are indicated from other properties in the group it is considered unlikely that direct views will be experienced, although oblique views are considered likely, and views from property curtilages/grounds and when approaching the properties via the minor road network will be possible.		
Magnitude of change (Nature of effect)	The main source of visual effects will be visibility of the DSF throughout most of the operational phase as it increases in size, and during the subsequent closure and restoration phase, seen as a new large landform structure in views looking to the north-east. Visibility of other project components is expected during the earlier parts of the operational phase although development of the DSF, as it increases in vertical height and horizontal extent, will increasingly screen other project components during the operational phase. The most southerly project components will also be partially screened by proposed mitigation planting around the periphery of the site.		

Residential Property Group N	
	Project components are likely to be less perceptible from 55 Lenagh Road situated at a lower elevation with foreground landform partially containing views. Views will also be filtered by vegetation within property grounds and by woodland across the banks of Glensawick Burn. There are likely to be sequential views of the DSF experienced when travelling north on Lenagh Road to access some of these properties, however visibility will vary in extent with roadside vegetation filtering and screening some views. There is likely to be a perceived increase in night time lighting generated by project components during the construction and operational phases, although seen within the context of other lighting associated with residential properties and farmsteads. Overall the magnitude of change is judged to be low.
Significance of visual effects during each Assessment Phase	
Construction Phase	Overall the visual effect during the construction phase of the project is considered to be negligible (not significant).
Operational Phase	Taking account of the low magnitude of change, overall the visual effect during the operational phase of the project from properties in this group is considered to be minor (not significant).
Closure and Restoration Phase	Following closure and restoration the overall visual effect from this property group will be negligible (not significant).
Potential Effects from Lighting	Lighting glow will be evident during the construction and operational phases seen across the Owenreagh River Valley but in the context of nearby lighting sources around the settlement of Greencastle, resulting in minor (not significant) visual effects.

Effects on views from Routes

- 9.10 The routes in the study area with potential visibility of the proposed project are assessed below.

Roads

Table 9.25 B46 – Crockanboy Road

B46 – Crockanboy Road			
Representative Viewpoints	VP3. Crockanboy Road (B46)	Distance from nearest Project Components	Adjacent to main site entrance.
Description of Route and Existing View	Crockanboy Road (B46) runs between Creggan in the south-east, Gortin in the north-west to the south of the project site. Travelling north-west to Gortin the road passes a large block of conifer forest north of Creggan, then runs north to north-west through undulating farmland to Greencastle offering occasional glimpsed panoramic views often filtered by roadside vegetation. Continuing west to Gortin the lower slopes of Mullydoo, Crocknamoghil and Crockanboy Hill, which form the broad ridge, largely contain views to the north towards the Sperrin Mountains, with receptors' (people) attention often focused on views along the Owenreagh Valley. Passing Rouskey, views become largely contained by the rising landform of Mullaghcarn and the Gortin Forest Park to the south, south-west with views to the north filtered by hedgerows and tree lines.		
Sensitivity (Nature of receptor)	Transient road users are considered to be of medium susceptibility. Whilst it is recognised that a section of this route (between Creggan and Greencastle) forms part of the Central Sperrins Scenic Route and some road users are likely to place value on views of the surrounding landscape, on balance due to the transient nature of views the sensitivity is judged to be medium.		
Magnitude of change	The main site access is located on Crockanboy Road (west of Pollanroe Bridge) and will be evident to receptors travelling in both directions along this section of the road. Sequential views within 5km are predicted along sections of the road, as indicated by the		

B46 – Crockanboy Road	
(Nature of effect)	ZTV, localised to a section of road west of Pollanroe Bridge and east of Altateel Bridge (approximate length 1.4km). This section of road provides close proximity although largely perpendicular views towards the project site. Roadside vegetation, and Intervening hedgerows and treelines in the middle distance will provide some further screening and filtering of views. Where visible, project components will be seen in transient views, and forming a small element in glimpsed transient views. Within approximately 5km travelling north from Creggan direct to perpendicular views towards the project area are predicted between Creggan Visitor Centre and east of Greencastle (approximate length 3.5km). There is likely to be some perceived increase in night time lighting during the construction and operational phases largely seen in the context of other lighting associated with residential properties, farmsteads and the settlement of Greencastle. The overall magnitude of change is judged to be low for the route as a whole, and medium for the short section of the route directly south of the project site.
Significance of visual effects during each Assessment Phase	
Construction Phase	Construction activities will be evident from this road, including the construction of the main site access point and road to the proposed infrastructure site, resulting in moderate (significant) sequential visual effects for a short section (approximately 1.4km long) of the route south of the site. Beyond this no significant sequential visual effects are predicted.
Operational Phase	During the operational phase the DSF will become a more discernible feature in views north from the short section of the road closest to the site, however the main site entrance and access road will continue to be the most evident element of the project to most receptors resulting in moderate (significant) sequential visual effects for a short section (approximately 1.4km long) of the route south of the site. Beyond this no significant sequential visual effects are predicted.
Closure and Restoration Phase	Following closure and restoration the main site access point and road will be removed and the roadside hedgerows and vegetation reinstated. The form of the DSF will remain evident to the north, however this feature will be less discernible. Overall, minor (not significant) sequential visual effects will occur for a short section of the route to the south of the site, and no significant sequential visual effects are predicted.
Potential Effects from Lighting	Lighting of the main site entrance and access road will result in moderate (significant) effects for a short section of this route during construction and operation. Beyond this no significant sequential visual effects are predicted.
Potential for Future Cumulative Effects	Although visibility of other developments is predicted to occur from some short sections of this road where it passes in close proximity to other developments located within 5km of the Curraghinalt Project, significant visual effects on views are likely to be limited to those arising from the introduction of the Cregganconroe and Crockdun wind farms from a short section of the route to the south-east of the project site, where views of turbines will be possible to the east (Cregganconroe) and west (Crockdun) of the route. Other individual developments visible from this route are unlikely to give rise to significant visual effects. Significant sequential visual effects arising from the introduction of the Curraghinalt Project are predicted from a very short section of this route directly south of the project site, however, when considered in conjunction with the above mentioned developments <i>additional or total/combined</i> cumulative visual effects on views from this route will be negligible (not significant).

Table 9.26 A505 – Barony Road

A505 – Barony Road			
Representative Viewpoints	VP8. Barony Road (A505)	Distance from nearest Project Components	4.7km

A505 – Barony Road	
Description of Route and Existing View	The A505 – Barony Road is the main route between Cookstown in the east and Omagh in the west, and within the study area runs between the intersection with Crancussy Road in the east and the intersection with Killins Road in the west. Travelling from Creggan in the east to Mountfield in the west the road passes through a relatively low lying area of farmland comprising rough grazing and moorland. Between Creggan and Leaghan Road views are largely filtered by immediate roadside hedgerows, tree lines, and deciduous shelterbelts, coniferous forest blocks and vegetation in the middle distance. The section of road between Leaghan Road in the east and Greencastle Road in west is relatively exposed, offering open views of the surrounding landscape, including long distance views northwards towards the Sperrin Mountains.
Sensitivity (Nature of receptor)	Road users on fast moving A roads are considered to be of medium susceptibility. While it is recognised that parts of this road form a section of the Central Sperrins Scenic Route, and some road users are likely to place value on views of the surrounding landscape, on balance the value of the view is judged to be medium. Overall sensitivity is therefore judged to be medium.
Magnitude of change (Nature of effect)	Sequential views are predicted along this route within 5km of the proposed project and at over 5km distance. Within 5km, theoretical visibility is indicated between the water bodies of Loughnatorboge in the east and Loughnamaddy in the west. This section of road also forms part of the Central Sperrins Scenic Route. At over 5km, theoretical visibility is indicated between east of Sultan Road and west of Creggan Post Office. Further visibility, at over 5km, is indicated between the waterbody of Lochnamaddy and north of the settlement of Mountfield. Views towards the project site will be largely perpendicular to the direction of travel, with some opportunity for brief direct views when travelling north-east out of Mountfield. Between Leaghan Road and the northern outskirts of Mountfield views will be largely open on the exposed section of road. Other views will be filtered by intervening features, including roadside vegetation, tree lines, and woodland in the middle distance. Predicted views west of Creggan will be predominantly screened by a large block of coniferous forest (between Crockanboy Road and Barony Road). Where visible, project components will be largely seen below the horizon formed by the low hill range of Mullydoo, Crocknamoghil and Crockanboy Hill. The distant skyline defined by the Sperrin Mountains will remain unaffected by the project. Visibility of artificial lighting will be possible during the construction and operational phases, but will be seen in the context of other lighting associated with residential properties and farmsteads within the Owenreagh Valley and the settlement of Greencastle. Taking account of the largely oblique nature of view and distance from the project site the magnitude of change is judged to be low.
Significance of visual effects during each Assessment Phase	
Construction Phase	Some construction activities will be evident from a short section of this road as it crosses higher ground north of The Murrins, resulting in a negligible (not significant) sequential visual effects.
Operational Phase	Minor (not significant) sequential visual effects are predicted during the operational phase of the project as the DSF increases in size and because a more discernible feature in views to the north, albeit appearing below the skyline defined by the Sperrin Mountains in the distance.
Closure and Restoration Phase	Following closure and restoration the perceptibility of the DSF will reduce as it revegetates and becomes integrated more closely into the surrounding landscape, resulting in negligible (not significant) sequential visual effects.
Potential Effects from Lighting	Overall the effects from lighting from this route will be seen for a short duration at an oblique angle of view, and will be minor (not significant) during the operational phase, reducing to negligible (not significant) following closure and restoration once any artificial lighting has been removed.
Potential for Future	A number of wind farm developments including Crockdun, Cregganconroe and the Barony Road Wind Energy Project, will be visible from the A505, and will represent prominent

A505 – Barony Road	
Cumulative Effects	and unavoidable features in views south when travelling east and west along this road. In contrast the Curraghinalt Project will form a relatively minor feature in longer distance views to the north. When considered in conjunction with the above mentioned developments additional or total/combined cumulative visual effects on views from this route will be negligible (not significant).

Table 9.27 Minor roads within 5km of site

Minor roads within 5km of site			
Representative Viewpoints	VP1. Farmsteads off Crockanboy Road; VP2. Mullydoo Road VP4. Aghaboy Road – South of site VP5. Greencastle Road VP7. Aghaboy Road – South-west of site	Distance from nearest Project Components	0.1km
Description of Route and Existing View	A number of minor roads cross the study area to the south of the ridge, and crossing the southern slopes of the Owenreagh Valley and the elevated plateau above to the south. These include Mullydoo Road, Crockanboy Road, Lenagh Road, Fallagh Road, Aghnamirigan Road, Greencastle Road, Pollanroe Road and Cashel Road, as well as a number of other unnamed/unclassified roads. Views from these narrow roads are often intermittent, contained by roadside verges and hedgerows, and further screened and filtered by roadside and field boundary trees, and blocks of coniferous and deciduous woodland. Direct views towards the project site are generally quite limited, and where open views exist the landscape of the Owenreagh Valley can often be appreciated, with more distant expansive views to the wider landscape of the Sperrins AONB are possible.		
Sensitivity (Nature of receptor)	Notwithstanding that many of the receptors using this network of minor roads will be residential receptors travelling to and from their homes, transient receptors are judged to be of medium susceptibility to changes in views from these roads. It is recognised that the value of the view from local roads will be recognised by some road users and is therefore judged to be medium. Taking this into account the overall sensitivity is judged to be medium.		
Magnitude of change (Nature of effect)	The ZTV indicates that a network of minor roads within approximately 5km of the project site will experience visibility of the project, with roads located within approximately 3km likely to experience large scale changes in the available view, albeit that sequential views experienced as people travel through the landscape will be intermittent, often limited by roadside screening by steep verges and steep verges. There are likely to be sequential views of the DSF available from Crockanboy Road, experienced by receptors accessing residential properties. Similar sequential views will be experienced along Mullydoo Road travelling north, travelling west along Black Bog Road, and travelling east and north along Leaghan Road. Visibility from these routes will vary in extent with roadside vegetation filtering and screening some views.		
Significance of visual effects during each Assessment Phase			
Construction Phase	Some construction activities will be evident from a short section of this road as it crosses higher ground north of The Murrins, resulting in a moderate (significant) sequential visual effects, when experienced from roads in close proximity (as represented by VPs 1 and 2). Beyond approximately 3km, significant visual effects from the minor road network are considered unlikely.		
Operational Phase	Moderate (significant) sequential visual effects from the minor road network will occur as the DSF increases in size and becomes a more discernible feature in the landscape. Beyond approximately 3km, significant visual effects from the minor road network are considered unlikely.		

Minor roads within 5km of site	
Closure and Restoration Phase	Following restoration and closure perceptibility of the DSF will reduce as it is revegetated and integrated into the surrounding landscape. Sequential visual effects will reduce to minor (not significant) when experienced from the minor road network within approximately 3km.
Potential Effects from Lighting	During construction and operation moderate (significant) sequential visual effects are likely to occur from the presence of additional artificial lighting of the project site and vehicle movements across the site, which will extend the influence of artificial lighting northwards within the Owenreagh Valley.
Potential for Future Cumulative Effects	No other large scale developments are proposed within 5km of the project site which are likely to result in significant visual effects from the minor road network. However, the presence of the proposed Barony Road Wind Energy Project at c.5.3km from the project site will likely result in intervisibility of turbines and the Curraghinalt Project in successive views from the minor road network. Significant sequential visual effects arising from the introduction of the Curraghinalt Project are predicted from the minor road network south of the project site, however, intervisibility of the proposed turbines of the Barony Road Wind Energy Project will rarely be seen in combined views or in views when the Curraghinalt Project is a discernible feature in views from the minor road network. When considered in conjunction with the above mentioned development <i>additional</i> or <i>total/combined</i> cumulative visual effects on views from the minor road network within 5km of the project site will be negligible (not significant).

Scenic Driving Routes

Table 9.28 Central Sperrins Scenic Driving Route

Central Sperrins Scenic Driving Route			
Representative Viewpoints	VP8. Barony Road (A505)	Distance from nearest Project Components	
Description of Route and Existing View	Within the 15km study area the route follows the B46 east out of Newtownstewart to Gortin, then crosses the Owenkillev River north on the B46 then east on Gorticashel Road. East of Golan Bridge the route diverts south crossing the Owenkillev River on Drumlee Road, crossing the Owenreagh River on Crockanboy Road then runs south-east on Lenagh Road, then south to Mountfield. The route follows a short but open section of the A505 north of The Murrins before heading south towards Carrickmore, and then back north along the B46 to Greencastle, and then returns to Gorticashel Road along the Owenkillev River at Glenhull. At Scotch Town it heads north to the Glenelly River valley, heading east to cross the river at Mount Hamilton, then back west along the B47 to Plumbridge. This section of the route passes through varied landscapes of settled undulating farmland and open exposed moorland. Views experienced from farmland areas are often directed and contained by landform, and screened or filtered by roadside vegetation and built form. When passing through moorland areas more open, sometimes panoramic, views of the surrounding landscape are possible.		
Sensitivity (Nature of receptor)	Road users (receptors) on this route are generally judged to be more focused on the surrounding landscape and are considered to be of medium susceptibility. As a scenic driving route the value of the view is considered to be high. Overall, sensitivity is therefore judged to be high.		
Magnitude of change (Nature of effect)	Visibility of the project, as indicated by the ZTV, is limited to sections of this route within approximately 7km of the site to the south-west through to south-east. Visibility of project components at a distance of over 3km will be possible when travelling north on Lenagh Road between the sand and gravel pit north of Mountfield and the crossroads at Lenagh Road, and from Glenmacoff Road in slightly oblique views for a distance of approximately 4km. Potential views, occasionally screened by intervening vegetation, will be experienced when travelling north-east on Inisclan Road, at a distance of over 4km between the quarry north-east of Mountfield and where the route diverts south-west on Greencastle Road (approximate length 2.8km).		

Central Sperrins Scenic Driving Route	
	Slightly oblique views of the project, regularly filtered by roadside vegetation, will be possible when travelling north-east on Greencastle Road (approximate length 1.7km) at a distance of over 4.2km. The majority of project components will feature in largely perpendicular views to the road, with some opportunity for brief direct views when travelling north-east out of Mountfield on the A505 between Greencastle Road and Coolaharan Road (approximate length 3.5km). Predominantly oblique, with some brief direct views, of the DSF in the latter part of the operational phase experienced from Crockanboy Road when travelling north-west between Creggan and Greencastle (approximate length 4.6km) at a distance of over 2.8km. The majority of this long distance driving route will be unaffected by visibility of the proposed project. Taking account of intervening screening, the limited opportunity for direct views and the distance from the project site, the overall magnitude of change is judged to be low.
Significance of visual effects during each Assessment Phase	
Construction Phase	Some construction activities will be evident from this route, resulting in a minor (not significant) sequential visual effects.
Operational Phase	Minor (not significant) sequential visual effects are predicted during the operational phase of the project as the DSF increases in size and because a more discernible feature in views to the north, albeit appearing below the skyline defined by the Sperrin Mountains in the distance from the A505, and in oblique views from sections of the route closest to the site within the Owenreagh Valley.
Closure and Restoration Phase	Following closure and restoration the perceptibility of the DSF will reduce as it revegetates and becomes integrated more closely into the surrounding landscape, resulting in negligible (not significant) sequential visual effects.
Potential Effects from Lighting	Overall the effects from lighting from this route will be seen for a short duration at an oblique angle of view, and will be minor (not significant) during the operational phase, reducing to negligible (not significant) following closure and restoration once any artificial lighting has been removed.
Potential for Future Cumulative Effects	A number of wind farm developments including Crockdun, Cregganconroe and the Barony Road Wind Energy Project, will be visible from this promoted tourist route as it follows the A505 and B46. The turbines of these developments will represent prominent and unavoidable features in views for receptors travelling along this tourist route. In contrast the Curraghinalt Project will form a relatively minor feature in longer distance views to the north. When considered in conjunction with the above mentioned developments additional or total/combined cumulative visual effects on views from this route will be negligible (not significant).

Cycle Routes

Table 9.29 White Hare Cycle Route

White Hare Cycle Route			
Representative Viewpoints	VP5. Greencastle Road VP8. Barony Road (A505)	Distance from nearest Project Components	1.5km
Description of Existing View	This is a circular route starting at Carrickmore, passing through the settlements of Loughmacrory, Mountfield, Greencastle, and Creggan, before returning to Carrickmore. The section of the route following Greencastle Road passes through settled undulating farmland. Some views are filtered and screened by vegetation and built form. However the route offers regular often elevated panoramic views of the surrounding landscape, including distant views towards the Central Sperrin Mountains.		
Sensitivity	Although users of this route will be transient, as recreational receptors they will have an appreciation of the available views experienced from this route, and are therefore		

White Hare Cycle Route	
(Nature of receptor)	considered to be of high susceptibility. As the route passes through the Sperrin AONB it is recognised that the value of the view will be appreciated by some users and is therefore judged to be medium. Overall, the sensitivity is judged to be high .
Magnitude of change (Nature of effect)	The ZTV indicates that visibility of the project site will be possible from a proportion of this route when travelling north along Inisclan Road and Greencastle Road between Mountfield and Greencastle (approximately 4km), and when travelling northwards along Crockanboy Road between Creggan and Greencastle (approximately 5km). Views will be experienced at a minimum of 1.5km and often at an oblique angle to the direction of travel.
Significance of visual effects during each Assessment Phase	
Construction Phase	Visibility of disturbance associated with preparatory groundworks and construction of project components will be largely imperceptible from this route whilst receptors are predominantly focused on the direction of travel. Small scale discernible changes to the project site will be evident in views within 3km of the project site, which will be limited to the section of the route between the junction with Cashel Road and Greencastle to the south. Visual effects on sequential views from this short section of the route will be minor (not significant), intermittently screened by roadside vegetation, and will be negligible (not significant) for the route as a whole.
Operational Phase	During the operational phase the DSF will become the most discernible feature in views towards the project site, however this feature will result in only a small scale change, and occupy only a small proportion of the available views from this route. Beyond 3km the project site will be largely imperceptible, even when the DSF is in the latter stages of the operational phase. Visual effects on sequential views from this short section of the route will be minor (not significant), intermittently screened by roadside vegetation, and will be negligible (not significant) for the route as a whole.
Closure and Restoration Phase	Following closure and restoration of the project site the visual effects experienced from the short sections of the route within 3km of the project will be reduced and the effects on sequential views will be negligible (not significant) for the route as a whole.
Potential Effects from Lighting	Visibility of night time light and indirect light glow generated from artificial lighting of the Curraghinalt Project may be possible during the construction and operational phases, but will be largely seen in the context of other lighting associated with residential properties, farmsteads and facilities at Greencastle within the Owenreagh Valley, and where present street lighting along the public road network. Potential visual effects from lighting of sequential views will be negligible (not significant) for the route as a whole.
Potential for Future Cumulative Effects	Although visibility of other developments is predicted to occur from some short sections of this recreational route, significant visual effects on views are likely to be limited to those arising from the introduction of the Cregganconroe and Crockdun wind farms from a short section of the route along Loughmallon Road to the south-east. Other individual developments visible from this route are unlikely to give rise to significant visual effects. Similarly, as no significant sequential visual effects arising from the introduction of the Curraghinalt Project are predicted from this route, <i>additional or total/combined</i> cumulative visual effects on views from this route will be negligible (not significant).

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10 Implications for Designated Landscapes

- 10.1 This section describes the implications of the Curraghinalt Project for designated landscapes in the study area. Landscapes designated nationally for their scenic value across the study area are set out in the landscape baseline, and are shown on **Figure 6.4** and **Figure 6.5**.

Sperrin Area of Outstanding Natural Beauty (AONB)

- 10.2 The only designated landscape located within the study area is the Sperrin AONB. Unlike most other AONBs located across Northern Ireland, and the wider UK, the Sperrins AONB has no documented special qualities.
- 10.3 In the absence of a citation or a description of the special qualities or key landscape characteristics of the AONB, the assessment of effects on the landscape character of the AONB is based on the assessment of LLCAs that cover the AONB.
- 10.4 Based on the detailed analysis of landscape effects on LLCAs set out in **Table 8.2** to **Table 8.6**, as well as the wider potential implications for RLCAs set out in **Table 8.7** and **Table 8.8**, potential implications for this designated landscape have been considered in the assessment and observations drawn from the assessment of landscape, visual and cumulative effects.

Potential for landscape effects within the Sperrin AONB

- 10.5 The Sperrin AONB designation covers much of the Sperrins (7) RLCA which is the principal mountain range of the north-west of Northern Ireland. As detailed in the NIRLCA *'the Sperrins comprise some of the wildest and most rugged terrain in Northern Ireland. The main ridges, divided by the scenic Glenelly valley, are surrounded by a series of outliers including Bessy Bell and Mullaghcarn above the River Strule, Slieve Gallion in the east, and Benbradagh across the Glenshane Pass. The boundaries follow the main east-west ridges of the Sperrins, separating them from the lower hills to north and south.'* The broad ridge formed by Mullydoo, Crocknamoghil and Crockanboy Hill is located at the southern periphery of the Sperrins marking the transition from the more dramatic and exposed hills and ridges of the Sperrin Mountains and the lower hills to the south.
- 10.6 The landscape of the Sperrin AONB is defined by a number of LLCAs, those located within 15km of the Curraghinalt Project are listed in **Table 6.1**. Only a small number of the LLCAs will be affected by the introduction of the Curraghinalt Project, as outlined in the assessment within **Table 8.2** to **Table 8.6**, and although significant localised effects on these LLCAs are predicted to arise during the construction and operational phases of the project, effects will be limited to the direct effects which will occur within the proposed project infrastructure site and indirect effects on landscape character when experienced from the immediate locality and neighbouring LLCAs. These significant landscape effects will be restricted locally to the South Sperrin (24), Beaghmore Moors and Marsh (25) Bessy Bell & Gortin (26) LLCAs within approximately 1km of the project site. In contrast, negligible effects are predicted for the landscape of the Sperrin Mountains (29) LLCA, which defines the core upland area of the AONB.

Potential for effects on views to and from the Sperrin AONB

- 10.7 **Table 9.1** to **Table 9.9** detail the assessment of effects from the selected assessment viewpoints, each of these nine viewpoints are located within the AONB.
- 10.8 Potential views of the Curraghinalt Project from the AONB will be relatively localised, as indicated by the ZTV shown on **Figure 6.4a** and **Figure 6.5a**. Visibility is generally concentrated to the south-east, south and south-west of the site from the north facing slopes of the Owenreagh Valley and more exposed elevated areas. The ZTV indicates that visibility of the Curraghinalt Project will

be very limited from the core upland area of the Sperrin AONB, defined by the Sperrin Mountains to the north. The elevated upland areas from where visibility is indicated (by the blue areas of the ZTV) will experience only long distance visibility of the process plant buildings (indicated by the ZTV on **Figure 6.3a**) and the DSF once cell one reaches its maximum vertical extent (year 5 onwards). However, at distances of 5-15km's views of these feature will be largely undiscernible, appearing as a minor change to part of the distant skyline formed by the broad ridge of Mullydoo, Crocknamoghil and Crockanboy Hill.

- 10.9 Notwithstanding the above, significant effects on views and visual amenity from some locations within the AONB will occur, however these visual effects are associated with views from the immediate vicinity of the site (located within 5km) and associated with local views, transient receptors in close proximity to the site and residential receptors, rather than views which are promoted or documented as being representative of the intrinsic scenic qualities of the AONB.

Potential for Cumulative Effects on the Sperrin AONB

- 10.10 The potential for significant future cumulative effects on the Sperrin AONB is considered to be limited in relation to other mineral extraction proposals of the type and scale of the Curraghinalt Project. However, a number of large scale commercial wind farm developments (Crockdun, Doraville and Beltonanean wind farms), are consented or proposed within, or in close proximity to the Sperrin AONB as shown on **Figure 6.9**. Due to their large vertical scale, their location in elevated and exposed situations and the rotating movement of turbines, it often leads to an extensive visual influence over large areas, especially across elevated areas and hill summits. In comparison, static developments which do not alter distinguishable skylines or which may appear consistent with the existing pattern of landuse and landcover are often less discernible, with views often experienced over a much smaller area.
- 10.11 The opportunity for intervisibility between the Curraghinalt Project and large scale wind farms is generally very limited due to the comparative scale of the Curraghinalt Project and its location on the mid-slopes of the Owenreagh River valley which limits visibility of the proposal from the Central Sperrin Mountains and more elevated areas of the AONB to the north. However, from areas at the southern periphery of the AONB, including the notable summit of Mullaghcarn and local hill of Cashel Rock in close proximity to the Curraghinalt Project, it will be possible to experience combined and successive visibility of the Curraghinalt Project alongside a number of wind farm developments, however it is considered that these commercial scale wind farms will exert a far greater influence over views from within and towards the AONB.

Relevant Policy Tests

- 10.12 Notwithstanding the fact that the occurrence of any mineral resources is finite and often defined by very specific geological conditions, the siting and design of the necessary above ground surface infrastructure of the Curraghinalt Project has taken account of its sensitive location within the Sperrin AONB throughout every stage of the projects development.
- 10.13 Current national and local planning policy makes reference to the conservation, protection and enhancement of natural heritage within AONBs, and the approach to the siting and design of the Curraghinalt Project has considered a number of key policy tests throughout this process.
- 10.14 **Table 10.1** below outlines the key policy tests in relation to proposed development, and more specifically mineral extraction developments where applicable.

Table 10.1 Relevant Policy Tests

Relevant Policy to AONB	Response to Policy
<i>Planning Policy Statement 2 Natural Heritage (PPS2) – July 2013</i>	The siting of the key proposed infrastructure site (Area A) was the subject of an extensive site selection process, informed by the initial identification of key environmental sensitivities, including those associated with potential landscape and visual effects, and technical constraints.

Relevant Policy to AONB	Response to Policy
Policy NH6 – Areas of Outstanding Natural Beauty – "Planning permission for new development within an Area of Outstanding Natural Beauty will only be granted where it is of an appropriate design, size and scale for the locality and all the following criteria are met: a) the siting and scale of the proposal is sympathetic to the special character of the Area of Outstanding Natural Beauty in general and of the particular locality; and b) it respects or conserves features (including buildings and other man-made features) of importance to the character, appearance or heritage of the landscape; and c) the proposal respects: local architectural styles and patterns; traditional boundary details, by retaining features such as hedges, walls, trees and gates; and local materials, design and colour."	A number of potential sites were considered for the proposed infrastructure site, and included locations to both the north and south of the broad ridge between Rouskey and Greencastle, overlooking the Owenkillev and Owenreagh River Valleys respectively. Potential sites on the north facing flanks of the ridge overlooking the Owenkillev River were judged to have greater potential for intervisibility with the core area of the Sperrin AONBs, including distant views from the Sperrin Mountains to the north. The selected site on the south facing slopes of the broad ridge formed by the flanks of Crocknamoghil and Crockanboy Hill, was judged to offer the greatest opportunity to accommodate the necessary infrastructure whilst containing the potential visual influence of the development across the wider extents of the AONB. The shallow valley landform of the site was judged to be of an appropriate scale to accommodate the DSF and other key project components without unduly altering the distinguishable undulating and generally undeveloped skyline of the broad ridge which often frames views towards the Sperrin Mountains. The siting and design of project components within the proposed infrastructure site has sought to retain existing landscape features (including man-made features of substantial cultural significance) wherever possible. The matrix of coniferous shelter belts found across the northern extents of the site have been utilised to contain the development, whilst the loss and disturbance to the existing landcover pattern of distinguishable 'ladder field' enclosure across the lower reaches of the site and the open moorland and rough grazing of the broad ridge has been minimised. The design of the project components has sought to draw influence from the surrounding landscape wherever possible, remaining sympathetic to vernacular architectural styles and materials. Traditional field boundaries are retained wherever possible and appropriate landscape mitigation has been incorporated to reduce and minimise (screening and filtering) visual effects. The finishes of project components (process plant buildings etc.) have sought to minimise the perceptible of these new features within the landscape, using muted colours which mimic the natural colours of the surrounding landscape and land cover.

Summary

- 10.15 In conclusion, it is considered that the Curraghinalt Project is appropriately sited and designed in order to minimise significant landscape and visual effects within the area defined by the Sperrin AONB.
- 10.16 The Curraghinalt Project will introduce a mineral extraction site to an area of the Sperrin AONB which has been subject to widespread past and current mineral extraction, which remains evident within the local landscape (predominantly the extraction of sand and gravel). The area of the AONB which will experience significant landscape change is predominantly defined as that of a settled farmland valley landscape with numerous other sources of man-made influence. A number of other existing and proposed developments, including large scale commercial wind farms, are located within or in very close proximity to the AONB, asserting a greater visual influence and characterising effect than the predicted effects of the Curraghinalt Project.
- 10.17 Despite the identification of localised landscape effects upon constituent LLCAs which define the Sperrin AONB, and significant effects on views experienced by receptors from within a relatively confined area of the AONB to the south-east, south and south-west of the proposed infrastructure site, it is not considered that the introduction of the Curraghinalt Project will compromise the designation of the Sperrin AONB.
- 10.18 Significant landscape and visual effects which arise will be concentrated within a very localised and relatively visually contained area of the Sperrin AONB, and the wider scenic qualities of the AONB will be largely unaffected by the presence of the development. The landscape and visual effects are therefore not judged to *'unduly compromise the integrity of the area as a whole or threaten to undermine the rationale for the designation'*.

11 Summary of Landscape & Visual Effects

- 11.1 This chapter summarises the residual landscape visual and cumulative effects predicted, after mitigation is complete (mitigation is largely through in-built design mitigation as outlined in **ES Chapter 4: Project Description**, **ES Chapter 5: Alternatives** and following successful implementation of mitigation outlined in **Chapter 7: Mitigation Measures** above.

Potential Effects during the Construction Phase

- 11.2 In terms of effects arising during the construction phase of the project, the assessment identifies significant adverse landscape effects on the project site, and the immediate surrounding landscapes defined by the South Sperrin and Beaghmore Moors & Marsh LLCAs within approximately a 1km radius of the site.
- 11.3 Significant adverse visual effects are predicted from locations in close proximity to the project site, including representative assessment viewpoint 1: Farmsteads off Crockanboy Road, and viewpoint 2: Mullydoo Road, viewpoint 4: Aghaboy Road – South of site, the most immediate residential receptors with available views towards the project site located within residential property groups E, F and H. Significant visual effects on sequential views experienced by transient receptors from a short section of Crockanboy Road (B46) directly south of the main site access and other minor roads located in close proximity (approximately 1km) to the project site and which afford views towards the project site. These effects will be short-term and temporary, associated with pre-construction disturbance to prepare the proposed infrastructure site and main site access, and the construction of the process plant and other onsite infrastructure.
- 11.4 Significant adverse visual effects are predicted for some residential properties located within close proximity, and where open views exist towards the project site. These are limited to a small number of properties located within three residential property groups within 2km of the project site where views of construction activities on site will be evident.

Potential Effects during the Operational Phase

- 11.5 In terms of effects arising during the operational phase, the magnitude of landscape change will generally increase in extent as the project progresses and the DSF increases in vertical and horizontal extent. The assessment identifies significant adverse landscape effects for the project site. Due to the nature of the development, the relatively contained nature of the project site and the proposed progressive restoration of the DSF to integrate this feature into the surrounding landscape, significant landscape effects will be contained within a radius of approximately 1km from the site, extending to local areas of the immediate surrounding landscapes defined by the South Sperrin and Beaghmore Moors & Marsh LLCAs.
- 11.6 Beyond these LLCAs, no significant adverse landscape effects have been identified for any surrounding LLCAs, which includes the Glenelly Valley and Sperrin Mountains LLCAs to the north of the broad ridge formed by Mullydoo, Crocknamoghil and Crockanboy Hill.
- 11.7 No designated landscapes, including the Sperrins AONB within which the proposal is located, will be compromised as a consequence of the introduction of the Curraghinalt Project. The very localised significant adverse landscape effects for the LLCAs which define the project site and its immediate setting will not unduly compromise the integrity of the AONB as a whole or threaten to undermine the rationale for the designation. Views towards and from the core area of the AONB, defined by the upland area of the Sperrin Mountains, would not be significantly affected by the presence of the proposed development, and would remain largely unaltered. As such the reasons for its designation would remain unaffected.
- 11.8 Significant adverse visual effects are predicted to arise during the operational phase from five of the nine assessment viewpoints. All significant visual effects are from viewpoints located within approximately 3.5km of the project site and representative of close proximity views likely to be experienced by residents, road users or recreational receptors where clear views exist towards the

proposed development. From the majority of these viewpoints the DSF represents the most discernible and largest feature in the view, with the magnitude of visual change generally increasing through the operational phase as the vertical and horizontal extent of the DSF increases. Through progressive restoration the DSF will gradually assimilate into the underlying and surrounding landscape, with operations continuing on the active cells of this component.

- 11.9 Beyond this distance, even viewers of the highest sensitivity, at highly valued viewpoints, will not experience significant adverse visual effects. Furthermore, the assessment has not identified any significant adverse visual effects from settlements. In practice, actual visibility from the majority of settlements within the study area will be very limited.
- 11.10 In terms of visibility from transient routes, localised significant adverse sequential effects have been identified from Crockanboy Road (B46) as it passes to the immediate south of the site and the main site access. Significant adverse visual effects are also predicted from short sections of the local minor road network including Crockanboy Road, experienced by receptors accessing residential properties, Mullydoo Road travelling north, when travelling west along Black Bog Road, and travelling east and north along Leaghan Road. However, these effects do not translate into significant sequential effects on either the B46 route as a whole, or from all minor roads within close proximity to the project site.
- 11.11 Furthermore, no significant adverse sequential visual effects have been identified from any other major roads or tourist routes within the wider study area, including the A505 (Barony Road) which forms part of the Central Sperrins Scenic Driving Route.
- 11.12 Significant adverse visual effects associated with the operational phase are predicted from residential properties located within close proximity, and where open views exist towards the project site. These are limited to a small number of properties located within four residential property groups within approximately 2.5km of the project site as the DSF gradually increases in scale and size and becomes a discernible feature in views.
- 11.13 Given the localised extent of the significant adverse landscape, visual and sequential effects predicted to arise from the introduction of the Curraghinalt Project, and the scale and location of other developments considered in the CLVIA, it is not considered likely that any *additional* significant landscape or visual effects will arise in the speculative scenario in which all other consented and proposed developments are present in the landscape. However, the potential for significant adverse *total* or *combined* cumulative effects is recognised.

Potential Effects following Closure and Restoration

- 11.14 Following closure and restoration of the project site, including the removal of all non-permanent componentry and implementation of the proposed closure and restoration activities, significant adverse landscape effects will be limited to the project site and will largely due to the introduction of the permanent large scale landform of the final DSF. The revegetation and implementation of proposed landscape restoration measures will reduce the landscape effects on the immediate surrounding landscapes defined by the South Sperrin and Beaghmore Moors & Marsh LLCAs to insignificant.
- 11.15 Significant adverse visual effects will still remain from two of the nine representative assessment viewpoints, located within 500m of the project site from where the DSF will still form the defining feature in the view following full restoration of the site and revegetation of the DSF.
- 11.16 Significant adverse visual effects are also expected to remain following closure and restoration from a small number of properties located in property group E and property group F, within 1km of the project site, with the DSF remaining a discernible and large scale feature in views northwards from some residential properties.

Potential Effects from lighting

- 11.17 Potential effects on landscape receptors from artificial lighting, during the construction and operational phases, are expected to be significant and adverse for the site, and the immediate surrounding landscapes defined by the South Sperrin and Beaghmore Moors & Marsh LLCAs within approximately a 1km radius of the site.

- 11.18 Significant adverse visual effects are predicted from four viewpoints located within 3km of the project site, where artificial lighting will be visible throughout the construction phase and throughout much of the operational phase, including lighting associated with the process plant buildings which will eventually become largely contained by the presence of the DSF directly to the south. Similar significant adverse effects associated with artificial lighting are also predicted from some residential properties within property group E, F and H, and from a short section of Crockanboy Road as it passes the main site access.
- 11.19 Perceptible light glow from the project site will be evident from within approximately 5km of the site, however, associated visual effects will often be in the context of other sources of artificial lighting and will not be significant. Perceptibility of lighting and light glow from beyond 5km may be possible in very clear night time conditions, however, the scale of the project site and the extent of lighting proposed is not considered likely to result in significant visual effects, including from the upland core area of the Sperrin Mountains to the north or other areas of notable dark sky resource.
- 11.20 All significant adverse effects from lighting will reduce to (not significant) following closure and restoration of the project site, which will include the removal of all sources of onsite artificial lighting.

Conclusion

- 11.21 Overall, the Curraghinalt Project will result in very localised significant adverse effects on the site and surrounding landscape (contained within 1km radius of the site) and localised significant adverse visual effects on views extending to approximately 3.5km from the project site, as indicated through examination of visual effects from representative viewpoints, transient routes, settlements and residential property groups.
- 11.22 All construction effects will be short-term and adverse, although reversible. All the landscape and visual effects identified during the operational phase will be long-term and adverse, though other than the permanent introduction of the DSF, most effects will be reversible. Furthermore, landscape restoration and habitat enhancement across the site, including new native woodland planting, which will be implemented during each phase of the project, and extensively during the closure and restoration phase, will provide a minor landscape and visual benefit that will continue beyond the operational life of the proposed project.

Table 11.1.1 Summary of Landscape Effects

Summary of Landscape Effects					
Landscape Receptor	Construction Period	Operational Period	Closure and Restoration Period	Potential Effects from Lighting	Potential for Future Cumulative Effects
The Project Site	Major (Significant)	Major (Significant)	Moderate (Significant)	Moderate (Significant) during construction and operational periods, reducing to Negligible (Not significant) following closure and restoration	n/a
LLCA 24 South Sperrin	Moderate locally (Significant) and Negligible for the LLCA as a whole (Not significant)	Moderate locally (Significant) and Negligible for the LLCA as a whole (Not significant)	Minor locally (Not significant) and Negligible for the LLCA as a whole (Not significant)	Moderate locally (Significant) and Negligible for the LLCA as a whole (Not significant)	Minor (Not significant)
LLCA 25 Beaghmore Moors & Marsh	Moderate locally (Significant) and Negligible for the LLCA as a whole (Not significant)	Moderate locally (Significant) and Negligible for the LLCA as a whole (Not significant)	Minor locally (Not significant) and Negligible for the LLCA as a whole (Not significant)	Moderate (Significant) locally, and Negligible (Not significant) for the LLCA as a whole during construction and operational periods, reducing to Negligible (Not significant) following closure and restoration	Minor (Not significant)
LLCA 26 Bessy Bell & Gortin	Minor locally (Not significant) and Negligible for the LLCA as a whole (Not significant)	Minor locally (Not significant) and Negligible for the LLCA as a whole (Not significant)	Minor locally (Not significant) and Negligible for the LLCA as a whole (Not significant)	Minor (Not significant) during construction and operational periods, reducing to Negligible (Not significant) following closure and restoration	Negligible (Not significant)
LLCA 29 Sperrin Mountains	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)
LLCA 43 Carrickmore Hills	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)

Table 11.2 Summary of Visual Effects

Summary of Visual Effects					
Landscape Receptor	Construction Phase	Operational Phase	Closure and Restoration Phase	Potential Effects from Lighting	Potential for Future Cumulative Effects
Viewpoints					
VP1: Farmsteads off Crockanboy Road	Major (Significant)	Major (Significant)	Moderate (Significant)	Moderate (Significant) during construction and operational periods, reducing to Negligible (Not significant) following closure and restoration	Negligible (Not significant)
VP2: Mullydoo Road	Major (Significant)	Major (Significant)	Moderate (Significant)	Major (Significant) during construction and operational periods, reducing to Negligible (Not significant) following closure and restoration	Negligible (Not significant)
VP3: Crockanboy Road (B46)	Minor (Not significant)	Moderate (Significant)	Minor (Not significant)	Moderate (significant) during construction and operational periods, reducing to Negligible (Not significant) following closure and restoration	Negligible (Not significant)
VP4: Aghaboy Road – South of site	Moderate (Significant)	Moderate (Significant)	Minor (Not significant)	Moderate (Significant) during construction and operational periods, reducing to Negligible (Not significant) following closure and restoration	Negligible (Not significant)
VP5: Greencastle Road	Minor (Not significant)	Moderate (Significant)	Minor (Not significant)	Minor (Not significant) during construction and operational periods, reducing to Negligible (Not significant) following closure and restoration	Negligible (Not significant)

Summary of Visual Effects					
VP6: Cashel Rock	Negligible (Not significant)	Minor (Not significant)	Negligible (Not significant)	Minor (Not significant) during construction and operational periods, reducing to Negligible (Not significant) following closure and restoration	Negligible (Not significant)
VP7: Aghaboy Road – South-west of site	Negligible (Not significant)	Minor (Not significant)	Negligible (Not significant)	Minor (Not significant) during construction and operational periods, reducing to Negligible (Not significant) following closure and restoration	Negligible (Not significant)
VP8: Barony Road (A505)	Negligible (Not significant)	Minor (Not significant)	Negligible (Not significant)	Minor (Not significant) during construction and operational periods, reducing to Negligible (Not significant) following closure and restoration	Negligible (Not significant)
VP9: Mullaghcarn	Negligible (Not significant)	Minor (Not significant)	Negligible (Not significant)	Minor (Not significant) during construction and operational periods, reducing to Negligible (Not significant) following closure and restoration	Negligible (Not significant)
Settlements					
Greencastle	Negligible (Not significant)	Minor (Not significant)	Negligible (Not significant)	Minor (Not significant) during construction and operational periods, reducing to Negligible (Not significant) following closure and restoration	Negligible (Not significant)
Residential Property					
Property Group A	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)	n/a
Property Group B	Negligible (Not significant)	Minor (Not significant)	Negligible (Not significant)	Negligible (Not significant)	n/a

Summary of Visual Effects						
Property Group C	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)	n/a
Property Group D	Negligible (Not significant)	Minor (Not significant)	Minor (Not significant)	Negligible (Not significant)	Minor (Not significant)	n/a
Property Group E	Moderate (Significant)	Major (Significant)	Moderate (Significant)	Moderate (Significant)	Moderate (Significant) during construction and operation and reducing to Negligible (Not significant) following closure and restoration.	n/a
Property Group F	Moderate (Significant)	Major (Significant)	Moderate (Significant)	Moderate (Significant)	Moderate (Significant) during construction and operation and reducing to Negligible (Not significant) following closure and restoration.	n/a
Property Group G	Minor (Not significant)	Minor (Not significant)	Minor (Not significant)	Negligible (Not significant)	Minor (Not significant)	n/a
Property Group H	Moderate (Significant)	Moderate (Significant)	Moderate (Significant)	Minor (Not significant)	Moderate (Significant) during construction and operation and reducing to Negligible (Not significant) following closure and restoration.	n/a
Property Group I	Negligible (Not significant)	Minor (Not significant)	Minor (Not significant)	Negligible (Not significant)	Minor (Not significant)	n/a
Property Group J	Minor (Not significant)	Moderate (Significant)	Moderate (Significant)	Minor (Not significant)	Minor (Not significant)	n/a
Property Group K	Negligible (Not significant)	Minor (Not significant)	Minor (Not significant)	Negligible (Not significant)	Minor (Not significant)	n/a
Property Group L	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)	n/a
Property Group M	Minor (Not significant)	Minor (Not significant)	Minor (Not significant)	Negligible (Not significant)	Minor (Not significant)	n/a
Property Group N	Minor (Not significant)	Minor (Not significant)	Minor (Not significant)	Negligible (Not significant)	Minor (Not significant)	n/a

Summary of Visual Effects						
Routes						
B46 – Crockanboy Road	Moderate locally (Significant) and Negligible for the route as a whole (Not significant)	Moderate locally (Significant) and Negligible for the route as a whole (Not significant)	Minor locally (Not significant) and Negligible for the route as a whole (Not significant)	Minor locally (Not significant)	Moderate locally (Significant) during construction and Negligible (Not significant) following closure and restoration.	Negligible (Not significant)
A505 – Barony Road	Negligible (Not significant)	Minor locally (Not significant) and Negligible for the route as a whole (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Minor locally (Not significant) during construction and Negligible (Not significant) following closure and restoration.	Negligible (Not significant)
Minor roads within 5km of site	Moderate locally (Significant) for sections of local road network within approximately 3km	Moderate locally (Significant) for sections of local road network within approximately 3km	Minor locally (Not significant) for sections of local road network within approximately 3km	Minor locally (Not significant) for sections of local road network within approximately 3km	Moderate locally (Significant) for sections of local road network within approximately 3km during construction and Negligible (Not significant) following closure and restoration.	Negligible (Not significant)
Central Sperrins Scenic Route	Minor locally (Not significant) and Negligible for the route as a whole (Not significant)	Minor locally (Not significant) and Negligible for the route as a whole (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Minor locally (Not significant) during construction and Negligible (Not significant) following closure and restoration.	Negligible (Not significant)
White Hare Cycle Route	Minor locally (Not significant) and Negligible for the route as a whole (Not significant)	Minor locally (Not significant) and Negligible for the route as a whole (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)	Negligible (Not significant)

Appendix 1
LVIA Methodology

LVIA Methodology

Assessing Landscape Effects

Significance of Landscape Effects

Judging the significance of landscape effects requires consideration of the sensitivity (nature of the landscape receptors) and the magnitude of effect on those receptors (nature of the effect). The third edition of the GLVIA states that sensitivity of landscape receptors should be assessed in terms of the susceptibility of the receptor to the type of change proposed, and the value attached to the receptor. The magnitude of effect on each landscape receptor should be assessed in terms of its size and scale, geographical extent, duration and reversibility.

These aspects are considered together, to come to a judgement regarding the overall significance of landscape effect (GLVIA3, Figure 5.1, Page 71). The following sections set out the methodology and explain the terms used.

Sensitivity (Nature) of Landscape Receptor

The sensitivity (nature) of a landscape receptor varies depending on the condition of the existing landscape and its capacity to accommodate change. Landscape sensitivity is assessed in terms of the susceptibility of a landscape receptor to the type of change proposed and the value attached to the receptor. Landscape sensitivity varies according to the type of development proposed and the individual elements, key characteristics, inherent quality or condition, capacity to accommodate change, and the specific qualities associated with any landscape designations that may apply.

In accordance with GLVIA3, sensitivity is judged by considering both susceptibility and value. Combining judgements regarding susceptibility and value is straightforward when both susceptibility and value are high, when both are low or when both are medium. In these cases the sensitivity of the receptor would be high or low or medium. Judgements are more complex when susceptibility is low but value is high or vice versa. It may be the case, for example, that key attributes of landscape character may be affected adversely by the development (suggesting high susceptibility) despite this same area of the landscape having a low value, such that that overall sensitivity is judged to be high.

It should be noted that whilst designated landscapes, at an international or national level, are likely to be accorded the highest value, it does not necessarily follow that all areas of such landscapes have a high susceptibility to all types of change (GLVIA3, Page 90). There may be a complex, and variably weighted relationship between the value attached to a landscape and susceptibility to change. Therefore, the rationale for judgements provided regarding the sensitivity of the landscape is clearly set out for each receptor.

The sensitivity (nature of receptor) of the landscape receptor to change is defined as high, medium or low and is based on weighing up professional judgements regarding susceptibility and value, and each of their component considerations. Further information on each criteria is provided below.

Susceptibility of Landscape Receptors

Susceptibility is defined as *"the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular type or area, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the proposed project without undue consequences for the maintenance of the baseline situation and/or the achievement of landscape planning policies and strategies"* (GLVIA3 Para 5.40).

Landscape Value

Landscape value is recognised as being a key contributing factor to the sensitivity of landscape receptors, and is determined with reference to the presence of relevant designations (AONBs) and their level of importance. In the absence of designation, reference is made to performance against

criteria which are indicative of value, such as condition, scenic quality, rarity, representativeness, conservation interests, recreation value, perceptual aspects, and associations. Value encompasses both that of individual components of the landscape, as well as its resulting overall character.

Judgements regarding the sensitivity of landscape receptors are recorded as **high**, **medium** or **low** as indicated in the table below.

Determining Sensitivity of Landscape Receptors

Determining Sensitivity of Landscape Receptors (susceptibility and value)	
High 	A landscape of particularly distinctive character, where its character, land use, pattern and scale may offer very limited opportunities for the accommodation of change, and/or development of successful mitigation, and which is therefore highly susceptible to change. May be internationally or nationally designated and valued landscapes. Landscapes or landscape features may display a strong degree of intactness and/or scenic quality, and/or particular rarity.
Medium	A landscape of notable character, which may offer some opportunities for the accommodation of change due to its nature, land use, pattern and scale, but which may demonstrate some susceptibility to the type of change proposed. May offer more opportunity for the development of successful mitigation. May be nationally, regionally or locally designated and valued landscapes. Landscapes or landscape features may display, to a lesser degree, relative intactness and/or scenic quality, and/or some rarity.
Low	A landscape which is of low scenic quality, and/or where its character, existing land use, pattern and scale are of low susceptibility to change and/or offer very good opportunities for successful mitigation, or enhancement. May be locally designated and valued landscapes. Landscapes or landscape features may display little landscape and/or scenic quality, and may be commonplace.
Note: there is a gradual and blurred transition between each grade and judgments about the sensitivity of landscape receptors may include individual features or areas.	

Magnitude (Nature) of Landscape Effect

The overall judgement of magnitude of landscape effect is based on combining professional judgements on size and scale; geographical extent; duration and reversibility. Further information on each criteria is provided below.

Size and/or Scale, and Geographical Extent

This is a measure of the extent of existing landscape elements that will be lost, the proportion of the resource that this represents, the contribution of such elements to the character of the landscape, and the size of the geographical area across which the impacts will be felt. In terms of landscape character, this reflects the degree to which the character of the landscape will change by removal or addition of landscape components, and how the changes will affect key characteristics. Size/scale is described as being **large**, **medium** or **small**, and the geographical extent over which the impact will be experienced is described as **widespread** or **localised**, i.e. at a regional level, or associated with the more immediate setting of the site.

Duration

GLVIA3 states that "*Duration can usually be simply judged on a scale such as short term, medium term or long term.*" (GLVIA3, Para. 5.51, Page 91). For the purposes of this assessment, duration has been determined in relation to the key phases of the Curraghinalt Project, as follows:

- **Short-term** effects are those that occur during construction phase, and may extend into the early part of the operational phase (e.g. construction activities), generally lasting less than two years;

- **Medium-term** effects are those that occur during the operational phase, where effects may gradually increase as the dry stack facility (DSF) increases in extent (both horizontally and vertically), and will generally last 2-25 years. Screen planting implemented for mitigation may gradually reduce effects as it matures during this phase; and
- **Long-term** effects which are effectively permanent, remaining after closure and restoration of the Curraghinalt Project (generally lasting longer than 20 years).

Effects which last for the life of the project but which will not extend beyond closure and restoration, or will be very much reduced at this stage are considered to be medium-term.

Reversibility

Reversibility is reported as **permanent** (i.e. irreversible), **partially reversible** or **reversible**, and is related to whether the landscape change can be reversed at the end of the phase of development under consideration (i.e. at the end of the construction or at the end of the operational lifespan of the development). Some of the operational landscape effects are considered to be reversible as the closure and restoration phase will remove most project infrastructure at the end of the operational phase. Landscape effects are therefore considered to be reversible except where specifically stated in the assessment.

Judgements regarding the magnitude of landscape effect are recorded as **high, medium, low** or **barely perceptible**, as indicated in the table below.

Magnitude of Landscape Effect

Magnitude of Landscape Effect (size and/or scale, geographical extent, duration, reversibility)		
High		A large change in landscape characteristics and/or over extensive geographical area and/or which may result in an irreversible landscape impact.
Medium		A moderate change in landscape characteristics and/or which may be over a large geographical area, and/or which may be reversible over a long duration of time.
Low		A small change in characteristics of the landscape and/or which may be over a relatively localised geographical area, and/or which may be reversible over a short duration of time.
Barely Perceptible		A virtually imperceptible change in characteristics of the landscape and/or which is focused on a small geographical area, and/or which is almost or completely reversible

Levels of Landscape Effect and Significance

Following evaluation of sensitivity (susceptibility, value), and magnitude (size and/or scale, geographical extent, duration and reversibility), the overall significance of the landscape effect is determined, by making an informed professional judgement, on the basis of weighing up all distribution of judgements for each of the aspects that have been considered. Although without a numerical or formal weighting system, appropriate weight is therefore given to the relative importance of each of the aspects that must be considered.

The levels of landscape effect are described as being **major, moderate, minor** or **negligible**, in line with table below.

Levels of Landscape Effect

Levels of Landscape Effect	
Major	Changes substantially affecting the character of the landscape or the elements therein. For example a major impact is likely when a receptor of high sensitivity is affected by a high magnitude of landscape impact.
Moderate	Change affecting, to a lesser degree, the character of the landscape or the elements therein. For example a moderate impact is likely when a receptor of medium sensitivity is affected by a moderate magnitude of landscape impact.
Minor	Slight change affecting the character of the landscape or specific elements therein. For example a minor impact is likely when a receptor of low sensitivity is affected by a low magnitude of landscape impact.
Negligible	No or minimal perceptible change, affecting the character of the landscape or specific elements therein. Note that this includes locations where there will be no landscape impacts.

Landscape effects are described as either **not significant** or **significant**, whereby **major** and **moderate** landscape effects are considered significant, as outlined in table below. Note that there is a gradual, blurred transition between levels.

Significance of Landscape Effects

Significance of Landscape Effects		
Not Significant		Significant
Landscape effects may be reversible and/or of short duration, and/or over a restricted area, affecting elements and/or characteristics (including aesthetic and perceptual aspects) that contribute to but are not key to the character of landscapes.		Landscape effects may be long-term and/or irreversible, and/or over an extensive area, affecting elements and/or characteristics (including aesthetic and perceptual aspects) that are key to the character of nationally valued landscapes.

Direction of Landscape Effects

As required by the EIA Regulations, the assessment must identify the direction of effect as either being adverse, beneficial or neutral (also referred to as negative or positive). With regard to mineral developments, the direction of effects on the landscape are described as **beneficial** ('positive'), **adverse** ('negative') or **neutral** is determined in relation to the degree to which the proposal fits with the existing landscape character. The Curraghinalt Project will comprise the introduction of a mineral extraction and processing facility into an area of open moorland, rough grazed agricultural land and coniferous plantations, and as such will differ to the existing landscape character.

On this basis, all effects on landscape are assumed to be **adverse** ('negative') unless otherwise stated. Some elements of the Curraghinalt Project may be considered beneficial ('positive') (e.g. the introduction of broadleaf native tree planting and the re-establishment of moorland habitat) and this has been indicated within the text where applicable.

Assessing Visual Effects

Significance of Visual Effects

As outlined in GLVIA3 "An assessment of visual effects deals with the effects of change and development on views available to people and their visual amenity" (GLVIA3, Para 6.1, Page 98). Changes in views may be experienced by people at different locations within the study area including from static locations (normally assessed using representative viewpoints) and whilst

moving through the landscape (normally referred to as sequential views from roads and other recreational routes (e.g. cycle and walking routes)).

Visual receptors are individuals or groups of people who may be affected by changes in views and visual amenity, and they are usually grouped by reference to their susceptibility to change in views and visual amenity as a function of the occupation activity of the person experiencing the change (for example residents, motorists, recreational users etc.) and the extent to which their attention is deliberately focused on the view and visual amenity (GLVIA3, Paras. 6.31 – 6.32, Page 113).

Sensitivity (Nature) of Visual Receptor

The sensitivity (nature) of visual receptors may involve a complex relationship between a visual receptors (people's) susceptibility to change and the value attached to a view. Therefore the rational for judgements of sensitivity is clearly set out for each receptor in relation to both susceptibility and value.

Sensitivity to change is defined as high, medium or low and is based on combining professional judgements on susceptibility and value. Further information on each criteria is provided below.

The visual impact assessment assesses the impact of the proposed project on views, and the visual amenity people who could experience views of the Curraghinalt Project. A particular person or group of people will be affected by a change in view or visual amenity in different ways.

Susceptibility of Visual Receptors

Susceptibility to changes in views and/or visual amenity is a function of the occupation or activity of people experiencing the view and the extent to which their attention is focused on views (GLVIA 3, para 6.32). This is recorded as **high, medium or low** informed by the table below.

Value Attached to Views

GLVIA3 also requires evaluation of the value attached to the view or visual amenity and relates this to planning designations and cultural associations (GLVIA3, Para. 6.37, Page 114).

Recognition of the value of a view is determined with reference to:

- planning designations specific to views or visual amenity;
- whether it is recorded as important in relation to designated landscapes (such as views specifically mentioned in the special qualities of an AONB);
- whether it is recorded as important in relation to heritage assets (such as designed views recorded in citations of Register of Parks, Gardens and Demesnes of Special Historic Interest (Northern Ireland) or views recorded as of importance in Conservation Area Appraisals); and
- the value attached to views by visitors, for example through appearances in guide books or on tourist maps, provision of facilities for their enjoyment and references to them in literature and art.

It is common practice in visual impact assessment to assign a sensitivity level to the person or group of people experiencing the likely change in view. Level of sensitivity is usually assigned ranging from high, to medium, to low and is generally influenced by the susceptibility of the viewer to change in view of visual amenity. This may be further calibrated by reference to planning designations of a view and cultural significance, as indicated below.

A designated viewpoint or scenic route advertised on OS maps and in tourist information, or which is a significant destination in its own right, such as a prominent or popular hill summit offering panoramic views, is likely to indicate a view of higher value. High value views may also be recognised in relation to the special qualities of a designated landscape or heritage asset, or it may be a view familiar from photographs or paintings.

Views experienced from viewpoints or routes not recognised formally or advertised in tourist information, or which are not provided with interpretation or, in some cases, formal access are likely to be of lower value.

Judgements on the value of views or visual amenity are recorded as of **high, medium** or **low** value guided by table below.

Determining Sensitivity of Visual Receptors

Determining Sensitivity of Visual Receptors (susceptibility and value)	
High 	Communities where views contribute to the landscape setting enjoyed by residents; people engaged in outdoor recreation (i.e. users of recreational footpaths whose interest is likely to be focused on the landscape); visitors to heritage assets or other attractions where views of surroundings are an important contributor to experience, and travellers on scenic routes where attention is focused on the surrounding landscape. These are receptors which are deemed to be of high susceptibility to change. Recognised views, perhaps referred to in literature, recorded in guide books or on maps.
Medium	Recreational or tourist travellers, perhaps moving more slowly through the landscape, on roads; people at their place of work whose attention is not on their surroundings, but where setting is important to the quality of their working life. These are receptors which are deemed to be of medium susceptibility to change. Views which are not formally recognised, but which may be valued locally.
Low	People engaged in longer distance travel on roads, outdoor sport or recreation which does not involve or depend upon appreciation of views of the landscape; people at their place of work whose attention is not on their surroundings, and where setting is of less important to the quality of working life. These are receptors which are of low susceptibility to change. Views which more ordinary, and which are not specifically valued.
Note: there is a gradual and blurred transition between each grade. The presence of a large number of viewers in a location that will otherwise be of low or medium sensitivity may increase the sensitivity.	

Magnitude (Nature) of Visual Effect

The overall judgement of magnitude (nature) of visual effect is based on weighing up professional judgements on size and scale; geographical extent; duration and reversibility. Further information on each criteria is provided below.

Size and/or Scale

The size and/or scale of the visual effect takes account of:

- The scale of the change in view with respect to the loss or addition of features and /or changes in composition, including the proportion of the view occupied by the proposed project;
- The degree of integration of new features or changes in the landscape into the existing view, in terms of aspects such as form, scale and mass, line, height, colour and texture; and
- The nature of the view of the proposed project, in terms of the relative amount of time over which it will be experienced and whether views will be full, partial or glimpses.

In this assessment of size/scale is described as being **large, medium, small** or **barely perceptible**.

Geographical Extent

The geographical extent of visual changes records the extent of the area over which the changes will be visible e.g. whether this is a unique viewpoint from where the proposed project can be glimpsed, or whether it represents a large area from which similar views are gained from large areas. In this assessment geographical extent is described as being **large** (widespread), **medium** (localised) or **small** (immediate). The geographical extent of the visual effect varies in relation to different viewpoints and reflects:

- The direction or bearing of view of the development in relation to the main activity or view experienced by the receptor;
- The distance of the viewpoint from the proposed project; and
- The extent of the area over which the changes will be visible.

Duration

The duration of visual effects is reported as **short-term**, **medium-term** or **long-term**, as defined above in relation to the duration of landscape effects.

Reversibility

Reversibility is reported as **permanent** (i.e. irreversible), **partially reversible** or **reversible**, and is related to whether the visual change can be reversed at the end of the phase of development under consideration (i.e. at the end of the construction or at the end of the operational lifespan of the development). Some operational visual effects are considered to be reversible as the closure and restoration phase will remove most project infrastructure at the end of the operational phase. Visual effects are considered to be reversible except where specifically stated in the assessment.

Judgements regarding the magnitude of visual impacts are recorded as **high**, **medium**, **low** or **barely perceptible**, as indicated in the table below.

Magnitude of Visual Effect

Magnitude of Visual Impact (Size and/or scale, geographical extent, duration, reversibility)	
High	Substantial changes, which may be seen for a long duration, and/or be clearly perceptible, and/or which may be in stark contrast with the existing view, and/or obstruction of a substantial part or important elements of views beyond the main project area, and/or which may result in an irreversible change.
Medium	Location affected by moderate changes in views, and/or visible for a shorter duration, perhaps at a slight angle from the main focus of the view, and/or where changes may be in contrast with the existing view, and/or obstruction of a noticeable part or elements of views beyond the main project area. The change may be reversible over a long duration of time.
Low	Location affected by slight changes in views, and/or visible for a short duration, perhaps at an oblique angle, and/or which may fit to an extent with the existing view. The change may be reversible over a shorter duration of time.
Barely Perceptible	Location affected by a change which is barely visible, and/or visible for a very short duration, perhaps at an oblique angle to the main focus of the view, and/or which may blend with the existing view, usually at some distance from the project, and/or where the change is almost or completely reversible.

Assessing the Significance of Visual Effects

As for landscape impacts, the evaluations against the considerations above are set out together to provide an overall profile of each resultant visual effect. An overview is then taken and an informed professional assessment made of the overall significance of each visual effect. This overview takes account of the judgements made in relation to each aspect considered. Therefore, although without a numerical or formal weighting system, appropriate attention is given to the balance and relative importance of each aspect in each case.

Levels of Visual Effect and Significance

Following evaluation of the various considerations (sensitivity: susceptibility, value; and magnitude: size and scale, geographical extent, duration and reversibility), the overall significance of the visual effect is determined, by making an informed professional judgement, taking account and weighing up all the aspects which have been considered.

Levels of visual effect are identified as being **major**, **moderate**, **minor** or **negligible**, as outlined in **Error! Reference source not found.**below. Note that there is a gradual, blurred transition between levels.

Levels of Visual Effect

Levels of Visual Effect	
Major	Changes substantially affecting views and visual amenity. For example a major impact is likely when a receptor of high sensitivity is affected by a high magnitude of visual impact.
Moderate	Change affecting, to a lesser degree, views and visual amenity. For example a moderate impact is likely when a receptor of medium sensitivity is affected by a moderate magnitude of visual impact.
Minor	Slight change affecting views and visual amenity. For example a minor impact is likely when a receptor of low sensitivity is affected by a small magnitude of visual impact.
Negligible	No or minimal perceptible change, affecting views and visual amenity. Note that this includes locations where there will be no impacts.

Visual effects are described as either not significant or significant, as outlined in the table below, where **moderate** and **major** visual effects are considered significant in the context of the EIA Regulations.

Significance of Visual Effects

Significance of Visual Effects		
Not Significant Visual effects on people who are generally less sensitive to changes in views/ visual amenity. Small changes and/or changes which are well integrated into the view, often involving features already present in the view. These may be reversible effects/ or of short duration.		Significant Visual effects on people who may be particularly sensitive to changes in views/ visual amenity, and/or at recognised viewpoints or recognised scenic routes. Large scale changes which introduce new, non-characteristic or discordant or intrusive elements into the view. These may be long-term/ irreversible effects.

This determination requires the application of professional judgement and experience to take on board the many different variables which need to be considered, and which are given different weight according to site-specific and location-specific considerations in every instance. Judgements are made on a case by case basis, guided by the same principles as set out in the diagram above.

Direction of Visual Effects

The direction of effect, described as **beneficial** ('negative'), **adverse** ('negative') or **neutral**) is determined in relation to the degree to which the proposed project fits within existing views, and the contribution that the Curraghinalt Project makes to these views, even if it is in contrast to the existing character of the view.

Potential visual effects are assumed to be **adverse** ('negative') unless otherwise specifically stated in the text. In some instances, changes in views as a consequence of the Curraghinalt Project and associated mitigation may be considered beneficial ('positive'), and where applicable this has been indicated within the text.

Assessing Cumulative Effects

The LVIA considers the potential landscape and visual effects arising from the addition of the Curraghinalt Project to the existing landscape, against a baseline that includes other existing built development. This may include, but is not limited to, mineral extraction sites, wind farms and single wind turbines and large scale agricultural or industrial developments, which are either existing or are currently under construction.

An assessment of cumulative effects is required by the EIA Directive and by the associated EIA Regulations.

As outlined in GLVIA3 Cumulative Landscape and Visual Impact Assessment (Cumulative LVIA) should consider *"additional effects caused by the proposed project when considered in conjunction with other proposed projects of the same or different types"* (Para. 3.22, GLVIA3).

The Cumulative LVIA therefore necessarily focuses primarily on the additional cumulative change which will result from the introduction of the Curraghinalt Project, and considers the potential effects which may occur from the addition of Curraghinalt Project to a less certain baseline than that of the LVIA. This includes built development that may or may not be present in the landscape in the future (e.g. developments with a viable planning consent or proposed projects, subject to a valid planning application).

As with the LVIA, the Cumulative LVIA deals with cumulative effects on landscape and visual receptors separately. Terminology and criteria used are similar to that already set out.

Types of Cumulative Effects

As specifically developed in relation to wind farms, Assessing the Cumulative Impact of Onshore Wind Energy Developments (SNH, 2012) provides a concise definition of cumulative landscape effects, and states that "cumulative landscape effects can impact on either the physical fabric or character of the landscape, or any special values attached to it" (Para. 48, SNH, 2012).

For cumulative visual effects, it is generally considered that three types of effect on views and visual amenity can arise; combined, successive and sequential visual effects, as outlined below:

- **Combined effects** occur where a static viewer is able to view two or more developments from a viewpoint within the viewers' arc of vision (assumed to be about 90 degrees for the purpose of this assessment) at the same time;
- **Successive effects** occur where a viewer is able to view two or more developments from a viewpoint, but needs to turn to see them; and
- **Sequential effects** occur when a viewer is moving through the landscape from one area to another, for instance when a person is travelling along a road or footpath, and is able to see two or more different developments at the same, or at different times as they pass along the route. Frequent sequential effects occur when a development appears intermittently with short time lapses between points of visibility, depending on the speed and distance. Occasional sequential effects occur where long phases of time lapse between views of the developments, due to a lower speed of travel and/or longer distances between the points of visibility.

Assessment Limitations

No information gaps have been identified which will affect the outcome of the assessment. However, the local landscape character assessments used as a source of baseline information were found to be variable in their age and detail, and no information was identified regarding the special qualities or key characteristics of the Sperrins AONB or its reason for designation. It is however considered that there is sufficient information to enable an informed decision to be taken in relation to the identification and assessment of likely significant landscape and visual effects.

Key Terminology

The key terminology used in the assessment of both landscape and visual effects is set out in the table below.

Key Considerations and Terms

Key Considerations and Terms			
Consideration	Terminology		
Sensitivity	Low	Medium	High
<i>Susceptibility</i>	Low	Medium	High
<i>Value</i>	Low	Medium	High
Magnitude	Low/Barely perceptible	Medium	High
<i>Size/scale</i>	Small	Medium	Large
<i>Geographical Extent</i>	Small (Immediate)	Medium (Localised)	Large (Widespread)
<i>Duration</i>	Short-term (0-3 yrs.)	Medium-term (3-20 yrs.)	Long-term (>20 yrs.)
<i>Reversibility</i>	Reversible	Partly reversible	Permanent
Direction	Positive	Mixed/Neutral	Adverse
Significance	Minor	Moderate	Major

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Appendix 2

Visualisation Methodology

Visualisation Methodology

Introduction

This appendix sets out the approach to the production of visualisations which accompany the Landscape and Visual Impact Assessment (LVIA) and Cumulative Landscape and Visual Impact Assessment (Cumulative LVIA).

The methodology for the production of visualisations was based on current good practice guidance from the Landscape Institute³⁵ and Scottish Natural Heritage (SNH)³⁶, and informed by the principles outlined in GLVIA3³⁷. Further information about the approach is provided below.

Data Used for Terrain Modelling

- OS Terrain® 5 mid-resolution height data (DTM) (5m grid spacing, 2.5metres RMSE)
- Ordnance Survey NI 1:25,000 raster data (to provide detailed maps for viewpoint locations)
- Ordnance Survey NI 1:50,000 raster data (to show surface details such as roads, forest and settlement detail)
- Ordnance Survey NI 1:250,000 raster data (to provide a more general location map)

Zone of Theoretical Visibility (ZTV) Modelling

Evaluation of the theoretical extent to which the main Curraghinalt Project components will be visible across the study area was undertaken by establishing a ZTV using specific computer software designed to calculate the theoretical visibility of the proposed project within its surroundings. ESRI's ArcMap 10.2.2 software was used to generate the ZTV. The tool used (Spatial Analyst/Viewshed) does not use mathematically approximate methods. This program calculates areas from which components are potentially visible. This is performed on a 'bare ground' computer generated terrain model, which does not take account of potential screening by buildings or vegetation. It should be noted that the software uses raster height data, but while it is defined as continuous data (with each grid square referred to as a 'cell'), it assumes a single height value from the centre of that cell for the whole cell. Therefore any height variations between centre points of cells will not be recognised.

The DTM used for the analysis is OS Terrain® 5 height data, obtained from Ordnance Survey in January 2016. The root-mean-square error (RMSE) of this data is 2.5m. The DTM data is represented by 5x5m grid. The DTM data has been down-sampled to a 10 x 10m grid to reduce processing time. This means that the software calculates the proportion of the specific component visible from the centre point of each cell, but the visibility is shown over the whole 10 x 10m cell.

The DTM data has been not been otherwise altered (i.e. by the addition of local surface screening features) for the production of the ZTV. We have not identified any significant discrepancies between the used DTM and the actual topography around the study area. The effect of earth curvature and light refraction has been included in the ZTV analysis and a viewer height of 2m above ground level has been used. As it uses a 'bare ground' model, it is considered to over emphasise the extent of visibility of the proposed project and therefore represents a 'maximum potential visibility' scenario.

Viewpoint Visualisations

The visualisations which accompany the assessment aim to illustrate representative views of the proposed project. Visualisations may be produced in many forms (hand drawn sketches, annotated photographs, photomontages), however they will never be exactly true to life.

³⁵ Landscape Institute (2011) Advice Note 01/11 Photography and photomontage in landscape and visual impact assessment, and Landscape Institute (2017) Technical Guidance Note 02/17 Visual representation of development proposals

³⁶ Scottish Natural Heritage (2017) Visual Representation of Wind Farms - Version 2.2

³⁷ Landscape Institute and the Institute of Environmental Management & Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3)

Visualisations are tools that inform an assessment of visual impacts, and their application therefore requires careful use. It is important to note that computer generated images, including ZTVs, 3D model views, wirelines and photomontages are used as tools to provide an illustration of the potential visual impacts. They are not a substitute for the actual review of likely visual changes in the field, which forms a key part of the assessment methodology.

The methodology for production of the visualisations was based on good practice guidelines contained within applicable guidance³⁸. Further information about the approach is provided below. The referenced documents also provide guidance for the correct use and viewing of visualisations and should be read prior to their use.

Viewpoint Photography

The camera used for viewpoint photography was a Nikon D750 digital SLR with a fixed at 35mm focal length lens (equivalent to a 52.5mm focal length lens on a 35mm film camera), except where otherwise stated. A tripod with vertical and horizontal spirit levels was used to provide stability and to ensure a level set of adjoining images. A panoramic head was used to ensure the camera rotated about the no-parallax point of the lens in order to eliminate parallax errors between the successive images and enable accurate stitching of the images. The camera was moved through increments of 24° and rotated through a full 360° at each viewpoint. Fifteen photographs were taken for each 360° view. This enabled a 90° angle, centred on the view towards the proposed project, to be cut from the overall 360° photography.

The location of each viewpoint was recorded in the field using a handheld GPS. Weather conditions and visibility were considered an important aspect of the field visits for the photography. Viewpoint photography was undertaken on clear days with good visibility during a field visit in July 2016. Viewpoint locations were visited at appropriate times of day to ensure, as far as possible, that the sun lit the scene from behind, or to one side of the photographer. Photographs facing into the sun were avoided where possible to prevent the proposed project site appearing in silhouette. Adjustments to the lighting of the site were made in the rendering software, to suit the particular lighting and atmospheric conditions present at that time, and ensure that the project components appeared realistic in the view.

Photograph Stitching, 3D Model Views and Photomontages

Photograph stitching software (Photoshop) was used to stitch together the adjoining images. Topos R2 (43D) software was used to view the development from selected viewpoints in model format. A default viewer height of 2m above ground level was used for each viewpoint. Wireline model views were overlaid onto the pre-prepared 90° stitched photography in order to accurately render the project components into each view.

All views from viewpoints were represented using baseline photography showing the existing views, and fully rendered photomontages, illustrating the proposed components integrated into the baseline photography, in accordance with good practice guidance. The key development phases of the operational phase of the project were also illustrated using 3D model views (equivalent of wireline images) from a selection of viewpoints.

The presentation of fully rendered photomontages involved a number of additional stages. The Topos R2 (43D) software was used to accurately reproduce the geometry of the site and also take account of the sunlight conditions and the position of the sun in the sky at the time the photograph was taken. Fixed features on the ground were used as markers to help line up the image extracted from the ground model with the baseline photography. The final stage required the rendered development to be blended into the actual view. This was carried out using Photoshop software and allowed the proposed components to be located within the context of the existing elements that appeared in the baseline photography.

Each viewpoint is illustrated by the following; the original baseline photography from the viewpoint and a photomontage at a 90° angle of view. Although this arrangement is less than the

³⁸ Landscape Institute (2011) Advice Note 01/11: Photography and photomontage in landscape and visual impact assessment

recommended image height and viewing distances³⁹ set out by good practice guidance, the additional horizontal view information is included to provide context of the surrounding landscape. Additional images are also provided illustrating a 53.5° included angle of view. These are at image heights and viewing distances above the minimum recommended by good practice guidance.

3D model views are also included from a number of viewpoints (VP2, VP4, VP5 and VP7) illustrating key stages in the operational phase as the DSF increases in size (both horizontal and vertical extent).

³⁹ Viewing distance is the distance at which the image should be viewed to provide a representation of the 'real life view'.

Appendix 3

Residential Property Groups

Residential Property Groups		
Property ID	Property Name	Number of Properties
Residential Property Group A		
384	256 GORTICASHEL ROAD	1
412	258 GORTICASHEL ROAD	2
421	252 GORTICASHEL ROAD	3
Residential Property Group B		
186	332 CROCKANBOY ROAD	1
192	352 CROCKANBOY ROAD	2
212	342 CROCKANBOY ROAD	3
219	336 CROCKANBOY ROAD	4
271	346 CROCKANBOY ROAD	5
644	1 MULLYDOO ROAD	6
645	5 MULLYDOO ROAD	7
649	11 MULLYDOO ROAD	8
650	25 MULLYDOO ROAD	9
653	21 MULLYDOO ROAD	10
654	19 MULLYDOO ROAD	11
655	23 MULLYDOO ROAD	12
656	32 MULLYDOO ROAD	13
657	7 MULLYDOO ROAD	14
658	15 MULLYDOO ROAD	15
659	9 MULLYDOO ROAD	16
660	30 MULLYDOO ROAD	17
661	20 MULLYDOO ROAD	18
91	3 BLACKBOG ROAD	19
173	357 CROCKANBOY ROAD	20
183	353 CROCKANBOY ROAD	21
190	347 CROCKANBOY ROAD	22
201	345 CROCKANBOY ROAD	23
217	349 CROCKANBOY ROAD	24
223	368 CROCKANBOY ROAD	25
255	370 CROCKANBOY ROAD	26
277	339 CROCKANBOY ROAD	27
287	347A CROCKANBOY ROAD	28
288	364 CROCKANBOY ROAD	29
290	351 CROCKANBOY ROAD	23
171	384 CROCKANBOY ROAD	31
195	390A CROCKANBOY ROAD	32
196	380 CROCKANBOY ROAD	33
229	381 CROCKANBOY ROAD	34
244	382 CROCKANBOY ROAD	35
249	386 CROCKANBOY ROAD	36

Residential Property Groups			
264	388	CROCKANBOY ROAD	37
270	390	CROCKANBOY ROAD	38
493	52	LEAGHAN ROAD	39
500	40A	LEAGHAN ROAD	40
508	36	LEAGHAN ROAD	41
509	45	LEAGHAN ROAD	42
510	44	LEAGHAN ROAD	43
Residential Property Group C			
172	276	CROCKANBOY ROAD	1
226	286	CROCKANBOY ROAD	2
430	156	GREENCASTLE ROAD	3
435	166	GREENCASTLE ROAD	4
442	146	GREENCASTLE ROAD	5
449	148	GREENCASTLE ROAD	6
451	162	GREENCASTLE ROAD	7
460	166B	GREENCASTLE ROAD	8
470	164	GREENCASTLE ROAD	9
474	158A	GREENCASTLE ROAD	10
476	158	GREENCASTLE ROAD	11
485	147	GREENCASTLE ROAD	12
Residential Property Group D			
485	147	GREENCASTLE ROAD	1
176	271	CROCKANBOY ROAD	2
235	285	CROCKANBOY ROAD	3
239	291	CROCKANBOY ROAD	4
286	299	CROCKANBOY ROAD	5
296	297	CROCKANBOY ROAD	6
427	134	GREENCASTLE ROAD	7
433	110	GREENCASTLE ROAD	8
439	115	GREENCASTLE ROAD	9
441	132	GREENCASTLE ROAD	10
448	125	GREENCASTLE ROAD	11
453	112	GREENCASTLE ROAD	12
457	119	GREENCASTLE ROAD	13
466	140	GREENCASTLE ROAD	14
472	133	GREENCASTLE ROAD	15
570	7	MARYVILLE	16
573	39	MARYVILLE	17
575	40	MARYVILLE	18
577	3	MARYVILLE	19

Residential Property Groups			
578	35	MARYVILLE	20
580	20	MARYVILLE	21
582	1	MARYVILLE	22
583	43	MARYVILLE	23
584	23	MARYVILLE	24
585	34	MARYVILLE	25
586	5	MARYVILLE	26
587	9	MARYVILLE	27
588	14	MARYVILLE	28
589	18	MARYVILLE	29
590	33	MARYVILLE	30
591	13	MARYVILLE	31
592	41	MARYVILLE	32
593	19	MARYVILLE	33
594	24	MARYVILLE	34
595	25	MARYVILLE	35
597	2	MARYVILLE	36
599	17	MARYVILLE	37
600	10	MARYVILLE	38
601	44	MARYVILLE	39
602	36	MARYVILLE	40
603	45	MARYVILLE	41
604	8	MARYVILLE	42
605	11	MARYVILLE	43
606	37	MARYVILLE	44
607	16	MARYVILLE	45
608	22	MARYVILLE	46
609	12	MARYVILLE	47
610	6	MARYVILLE	48
613	38	MARYVILLE	49
614	21	MARYVILLE	50
615	42	MARYVILLE	51
616	32	MARYVILLE	52
617	15	MARYVILLE	53
619	4	MARYVILLE	54
683	10	SHEKINSHULE VIEW	55
684	15	SHEKINSHULE VIEW	56
685	14	SHEKINSHULE VIEW	57
686	17	SHEKINSHULE VIEW	58

Residential Property Groups			
687	19	SHESKINSHULE VIEW	59
688	31	SHESKINSHULE VIEW	60
689	39	SHESKINSHULE VIEW	61
690	9	SHESKINSHULE VIEW	62
691	37	SHESKINSHULE VIEW	63
692	6B	SHESKINSHULE VIEW	64
693	16	SHESKINSHULE VIEW	65
694	5	SHESKINSHULE VIEW	66
695	23	SHESKINSHULE VIEW	67
696	11	SHESKINSHULE VIEW	68
697	6A	SHESKINSHULE VIEW	69
698	3	SHESKINSHULE VIEW	70
699	2	SHESKINSHULE VIEW	71
700	35	SHESKINSHULE VIEW	72
701	25	SHESKINSHULE VIEW	73
702	4	SHESKINSHULE VIEW	74
703	8	SHESKINSHULE VIEW	75
704	12	SHESKINSHULE VIEW	76
705	33	SHESKINSHULE VIEW	77
706	21	SHESKINSHULE VIEW	78
707	27	SHESKINSHULE VIEW	79
708	7	SHESKINSHULE VIEW	80
709	29	SHESKINSHULE VIEW	81
Residential Property Group E			
9	240	CROCKANBOY ROAD	1
163	250	CROCKANBOY ROAD	2
168	204	CROCKANBOY ROAD	3
178	208	CROCKANBOY ROAD	4
194	216A	CROCKANBOY ROAD	5
214	219	CROCKANBOY ROAD	6
222	210	CROCKANBOY ROAD	7
225	216	CROCKANBOY ROAD	8
240	240	CROCKANBOY ROAD	9
263	252	CROCKANBOY ROAD	10
266	200	CROCKANBOY ROAD	11
269	184	CROCKANBOY ROAD	12
282	212	CROCKANBOY ROAD	13
283	234	CROCKANBOY ROAD	14
Residential Property Group F			
1	217	CROCKANBOY ROAD	1

Residential Property Groups			
161	217	CROCKANBOY ROAD	2
162	235B	CROCKANBOY ROAD	3
203	197	CROCKANBOY ROAD	4
215	209	CROCKANBOY ROAD	5
224	231-233	CROCKANBOY ROAD	6
234	235A	CROCKANBOY ROAD	7
243	235	CROCKANBOY ROAD	8
246	255	CROCKANBOY ROAD	9
252	213	CROCKANBOY ROAD	10
260	207	CROCKANBOY ROAD	11
274	231	CROCKANBOY ROAD	12
276	225	CROCKANBOY ROAD	13
662	11	POLLANROE ROAD	14
665	9	POLLANROE ROAD	15
666	7	POLLANROE ROAD	16
670	21	POLLANROE ROAD	17
Residential Property Group G			
141	39	CASHEL ROAD	1
142	56	CASHEL ROAD	2
148	48	CASHEL ROAD	3
152	41	CASHEL ROAD	4
153	50	CASHEL ROAD	5
154	46	CASHEL ROAD	6
160	41A	CASHEL ROAD	7
Residential Property Group H			
11	44	AGHABOY ROAD	1
12	23	AGHABOY ROAD	2
13	54	AGHABOY ROAD	3
14	46	AGHABOY ROAD	4
15	58	AGHABOY ROAD	5
16	60	AGHABOY ROAD	6
17	53	AGHABOY ROAD	7
19	50	AGHABOY ROAD	8
20	63	AGHABOY ROAD	9
23	65	AGHABOY ROAD	10
25	69	AGHABOY ROAD	11
27	72	AGHABOY ROAD	12
29	67	AGHABOY ROAD	13
31	56	AGHABOY ROAD	14
35	48	AGHABOY ROAD	15

Residential Property Groups			
36	70	AGHABOY ROAD	16
39	55	AGHABOY ROAD	17
41	64	AGHABOY ROAD	18
42	52	AGHABOY ROAD	19
67	31	AGHNAMIRIGAN ROAD	20
69	44	AGHNAMIRIGAN ROAD	21
72	29	AGHNAMIRIGAN ROAD	22
73	30	AGHNAMIRIGAN ROAD	23
74	37	AGHNAMIRIGAN ROAD	24
Residential Property Group I			
68	23	AGHNAMIRIGAN ROAD	1
316	36	FALLAGH ROAD	2
317	46	FALLAGH ROAD	3
319	38	FALLAGH ROAD	4
323	31	FALLAGH ROAD	5
327	50	FALLAGH ROAD	6
328	43	FALLAGH ROAD	7
351	66	GLENMACOFFER ROAD	8
514	94	LENAGH ROAD	9
515	109	LENAGH ROAD	10
521	92	LENAGH ROAD	11
527	107	LENAGH ROAD	25
541	84	LENAGH ROAD	12
543	100	LENAGH ROAD	13
545	86	LENAGH ROAD	14
Residential Property Group J			
143	25	CASHEL ROAD	1
144	35	CASHEL ROAD	2
145	10	CASHEL ROAD	3
149	37	CASHEL ROAD	4
150	27	CASHEL ROAD	5
151	30	CASHEL ROAD	6
155	9	CASHEL ROAD	7
156	22	CASHEL ROAD	8
157	4	CASHEL ROAD	9
158	24	CASHEL ROAD	10
159	11	CASHEL ROAD	11
431	83	GREENCASTLE ROAD	12
432	66	GREENCASTLE ROAD	13
436	68	GREENCASTLE ROAD	14
446	75	GREENCASTLE ROAD	15
456	72	GREENCASTLE ROAD	16

Residential Property Groups			
464	55	GREENCASTLE ROAD	17
467	79	GREENCASTLE ROAD	18
468	81	GREENCASTLE ROAD	19
469	64	GREENCASTLE ROAD	20
483	75A	GREENCASTLE ROAD	21
Residential Property Group K			
75	132	BARONY ROAD	1
76	110	BARONY ROAD	2
77	100	BARONY ROAD	3
78	106	BARONY ROAD	4
79	116	BARONY ROAD	5
81	130	BARONY ROAD	6
82	112	BARONY ROAD	7
84	108	BARONY ROAD	8
85	114	BARONY ROAD	9
86	118	BARONY ROAD	10
87	114A	BARONY ROAD	11
503	14	LEAGHAN ROAD	12
Residential Property Group L			
455	12	GREENCASTLE ROAD	1
458	34	GREENCASTLE ROAD	2
462	32	GREENCASTLE ROAD	3
465	36	GREENCASTLE ROAD	4
477	30	GREENCASTLE ROAD	5
486	70	INISCLAN ROAD	6
487	69	INISCLAN ROAD	7
488	61	INISCLAN ROAD	8
489	55	INISCLAN ROAD	9
490	51	INISCLAN ROAD	10
491	59	INISCLAN ROAD	11
Residential Property Group M			
18	36	AGHABOY ROAD	1
21	18	AGHABOY ROAD	2
22	38	AGHABOY ROAD	3
24	26	AGHABOY ROAD	4
26	24	AGHABOY ROAD	5
28	20A	AGHABOY ROAD	6
30	22	AGHABOY ROAD	7
32	24A	AGHABOY ROAD	8
33	35	AGHABOY ROAD	9
34	20	AGHABOY ROAD	10
37	28	AGHABOY ROAD	11

Residential Property Groups			
38	22A	AGHABOY ROAD	12
40	18A	AGHABOY ROAD	13
314	11	FALLAGH ROAD	14
315	7	FALLAGH ROAD	15
318	34	FALLAGH ROAD	16
320	21	FALLAGH ROAD	17
321	26	FALLAGH ROAD	18
322	27	FALLAGH ROAD	19
324	30	FALLAGH ROAD	20
325	28	FALLAGH ROAD	21
326	24	FALLAGH ROAD	22
Residential Property Group N			
512	78	LENAGH ROAD	1
523	55	LENAGH ROAD	2
534	67	LENAGH ROAD	3
535	59	LENAGH ROAD	4
536	71	LENAGH ROAD	5
538	53	LENAGH ROAD	6
540	63	LENAGH ROAD	7
544	69	LENAGH ROAD	8

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Appendix 4

Other Developments for Potential Consideration in Cumulative LVIA

Other Developments for potential consideration in Cumulative LVIA⁴⁰

No.	Proposal description & Planning Application Reference	Development type	Status ⁴¹	Approx. distance from Curraghinalt Project	Review of cumulative landscape and/or visual effects
Developments within <5km radius of application site					
1	Proposed dwelling and detached domestic garage (LA10/2016/1092/F)	Residential	Consented	400m to south	Residential dwelling located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
2	Dwelling with detached domestic garage (LA10/2016/1247/O)	Residential	Consented	3.0km to north, north-east	Residential dwelling located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
3	Proposed New Dwelling (LA10/2016/1260/F)	Residential	Consented	1.5km to south-east	Residential dwelling located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
4	Proposed agricultural machinery store (LA10/2017/0066/F)	Agricultural	Application submitted / Pending consideration	4.8km to north-west	Agricultural building located adjacent to existing agricultural buildings, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
5	Proposed dwelling and detached domestic garage (LA10/2016/0982/F)	Residential	Consented	490m to south	Residential dwelling located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
6	Proposed dwelling and detached domestic garage	Residential	Consented	440m to south	Residential dwelling located within existing pattern of scattered residential

⁴⁰ Information obtained by Turley from Planning NI and Planning Online 30th June 2017.

⁴¹ Existing/operational, consented, pending consideration/valid planning application submitted or refused.

No.	Proposal description & Planning Application Reference	Development type	Status ⁴¹	Approx. distance from Curraghinalt Project	Review of cumulative landscape and/or visual effects
	(LA10/2016/0533/F)				development, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
7	Dwelling and domestic garage on a farm (LA10/2016/0357/RM)	Residential	Consented	2.4km to north-east	Residential dwelling located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
8	650m of new overhead line consisting of eight new wooden poles to supply a wind turbine (LA10/2016/0338/F)	Overhead powerline	Consented	1.35km to west, north-west	Intervisibility of proposed overhead line and Curraghinalt Project possible. Potential cumulative effects on the Sperrin AONB. Considered in CLVIA
9	Replacement dwelling and incorporated granny flat to rear of property (LA10/2016/0249/F)	Residential	Consented	2.25km to south-west	Residential dwelling located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
10	11kv overhead line to supply wind turbine (LA10/2015/0711/F)	Wind turbine	Consented	2.1km to north-west	Intervisibility of proposed overhead line and Curraghinalt Project possible. Potential cumulative effects on the Sperrin AONB. Considered in CLVIA
11	Derelict dwelling to be replaced with proposed new dwelling and garage (LA10/2015/0474/F)	Residential	Consented	3.1km to north-east	Residential dwelling located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
12	Proposed 2 no. dwellings, garages, private drive and associated site works (LA10/2015/0456/F)	Residential	Consented	1.3km to south-east	Residential dwelling located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects.

No.	Proposal description & Planning Application Reference	Development type	Status ⁴¹	Approx. distance from Curraghinalt Project	Review of cumulative landscape and/or visual effects
					Not considered further in CLVIA
13	Installation of a 15m high lattice tower with 6 antennas and 2 dishes. The development includes the installation of 6 equipment cabinets, ancillary development within 2.2m high fencing and new access lane. (LA10/2015/0449/F)	Antenna mast	Consented	315m to east	Intervisibility of proposed communication tower and Curraghinalt Project possible. Potential cumulative effects on the Sperrin AONB. Considered in CLVIA
14	Proposed dwelling and detached domestic garage (LA10/2015/0375/RM)	Residential	Consented	1km to east	Residential dwelling located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
15	Alteration of 3 no. existing wind turbines approved, from 225kw on 30m towers to 250kw turbines on 50m towers (from ground level to hub) (LA10/2015/0369/F)	Wind turbines	Consented	1.5km to north-west	Intervisibility of proposed wind turbines and Curraghinalt Project possible. Potential cumulative effects on the Sperrin AONB. Considered in CLVIA
16	6 no. new dwellings (LA10/2015/0085/O)	Residential	Consented	1.4km to south-east	Residential dwellings located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
17	A single 250kw wind turbine with a turbine tower of 30m and a blade length of 16.5m (additional information submitted) (LA10/2015/0048/F)	Wind turbine	Appeal pending consideration (2016/A0089)	1.5km to east, south-east	Intervisibility of proposed wind turbines and Curraghinalt Project possible. Potential cumulative effects on the Sperrin AONB. Considered in CLVIA
18	Proposed dwelling and detached domestic garage (K/2015/0149/F)	Residential	Consented	1.5km to south-west	Residential dwelling located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects.

No.	Proposal description & Planning Application Reference	Development type	Status ⁴¹	Approx. distance from Curraghinalt Project	Review of cumulative landscape and/or visual effects
					Not considered further in CLVIA
19	Proposed site for infill dwelling (K/2015/0121/RM)	Residential	Consented	1km to north-east	Residential dwelling located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
20	Dwelling and garage (K/2015/0047/O)	Residential	Consented	815m to south	Residential dwelling located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
21	Amendment to increase turbine output from 50Kw to 250Kw, with an overall height of 54.5m, to supply farm and associated enterprises with excess sold to the grid (K/2014/0526/F)	Wind turbine	Consented	2.8km to south-east	Intervisibility of proposed wind turbines and Curraghinalt Project possible. Potential cumulative effects on the Sperrin AONB. Considered in CLVIA
22	Proposed dwelling and detached domestic garage (K/2014/0521/F)	Residential	Consented	825m to north-east	Residential dwelling located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
23	Proposed dwelling max ridge height 6.0m with 2 no front returns also side and rear returns (K/2014/0427/F)	Residential	Consented	1.9km to south-east	Residential dwelling located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
24	Erection of 3 No Dwellings, garages, future access Road and Associated site works (K/2014/0155/F)	Residential	Consented	1.1km to south-east	Residential dwellings located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects.

No.	Proposal description & Planning Application Reference	Development type	Status ⁴¹	Approx. distance from Curraghinalt Project	Review of cumulative landscape and/or visual effects
					Not considered further in CLVIA
25	Proposed dwelling max ridge height 6.5m with front rear and side returns and detached domestic garage (K/2013/0182/F)	Residential	Consented	1.3km to north	Residential dwelling located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
26	Erection of a domestic wind turbine with 13m blades on a 20m hub (K/2013/0062/F)	Residential	Consented	60m to west, south-west	Intervisibility of proposed wind turbines and Curraghinalt Project possible. Potential cumulative effects on the Sperrin AONB. Considered in CLVIA
27	New dwelling (single storey at front, two storey at rear) and domestic garage, retention of access. (K/2012/0615/F)	Residential	Consented	980m to south	Residential dwelling located within existing pattern of scattered residential development, and unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
28	Proposed erection of a 31m hub height Vestas V27 225 kW wind turbine to serve farm and export surplus to the grid (K/2012/0170/F)	Wind turbine	Consented	1.5km to west, north-west	Intervisibility of proposed wind turbines and Curraghinalt Project possible. Potential cumulative effects on the Sperrin AONB. Considered in CLVIA
29	Extensions and internal alterations to Greencastle GAA club rooms/community centre (LA10/2017/0395/F)	Community development	Application submitted / Pending consideration	1.4km to east, south-east	New developments to include educational space, new changing rooms, new gym, performance rooms, viewing gallery and general redevelopment of existing rooms for community use. Unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
30	Renovation of dwelling and change of use to self-catering accommodation for holiday lets (LA10/2017/0291/F)	Residential	Application submitted / Pending consideration	2.2km to south-east	Will not result in additional significant landscape and/or visual effects. Not considered further in CLVIA

No.	Proposal description & Planning Application Reference	Development type	Status ⁴¹	Approx. distance from Curraghinalt Project	Review of cumulative landscape and/or visual effects
31	Retention of 2 no. farm storage sheds (LA10/2017/0608/F)	Residential	Application submitted / Pending consideration	2.1km to north-west	Unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
32	Proposed erection of 4no. two storey dwellings with associated treatment plant and access road (LA10/2017/0574/F)	Residential	Application submitted / Pending consideration	2.5km to west, north-west	Unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
33	Dwelling and garage (Farm dwelling) (LA10/2017/0210/O - <i>Renewal of K/2012/0431/O</i>)	Residential	Application submitted / Pending consideration		Unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
34	Proposed dwelling, max ridge height 6.5m, with detached domestic garage (K/2012/0141/RM)	Residential	Consented (Now expired)		Unlikely to result in additional significant landscape and/or visual effects. Not considered further in CLVIA
Developments within <15km radius of application site					
1	Crockdun (K/2006/0074/F)	Wind farm	Consented	6.4km to south-east	Intervisibility of proposed wind farm (5 turbines of 100m to blade tip height) and Curraghinalt Project possible. Potential cumulative landscape and/or visual effects on the Sperrin AONB. Considered in CLVIA
2	Doraville (LA10/2015/0292/F)	Wind farm	Application submitted / Pending consideration	11.7km to north-east	Intervisibility of proposed 33 turbine wind farm (turbines of 136m – 149m to blade tip height) and Curraghinalt Project possible. Potential cumulative landscape and/or visual effects on the Sperrin AONB. Considered in CLVIA
3	Cregganconroe (K/2006/0242/F)	Wind farm	Consented	11.8km to south-east	Intervisibility of proposed wind farm (5 turbines of 125m to blade tip height) and Curraghinalt Project possible. Potential cumulative landscape and/or visual effects on the Sperrin AONB. Considered in CLVIA

No.	Proposal description & Planning Application Reference	Development type	Status ⁴¹	Approx. distance from Curraghinalt Project	Review of cumulative landscape and/or visual effects
4	Beltonanean (5 turbines, 126.5m to blade tip height) (I/2014/0413/F)	Wind farm	Application submitted / Pending consideration	11.8km to east	Intervisibility of proposed wind farm and Curraghinalt Project possible. Potential cumulative landscape and/or visual effects on the Sperrin AONB. Considered in CLVIA
5	Beltonanean (1 turbine, 92.5m to blade tip height) (LA09/2017/0272/F)		Consented		
	Beltonanean (1 turbine, 92.5m to blade tip height) (I/2014/0399/F)		Appeal Pending consideration		
	Proposed 60m high temporary lattice anemometer mast, use of existing entrance and access track (I/2012/0414/F)		Consented		
6	Article 28 application to vary condition No.6 (external storage) and Condition No.20 (hours of operation) of planning approval K/2008/0997/F. Proposed amendment to allow for the production of RDF/SRF (Refuse Derived Fuel and Specified Recovered fuel) from suitable waste streams within the approved Integrated Waste Management Facility (K/2014/0106/F)	Mineral extraction	Consented	5.3km to south	Minor variations in existing consent and proposed operations of mineral extraction site unlikely to result in additional landscape and visual effects. Not considered further in CLVIA
	Proposed amendment to planning approval K/2008/0997/F to include retention of existing weighbridges, weighbridge office, storage areas, bunded fuel tank and quarantine area. Proposed relocation of wheel wash approved under reference K/2008/0997/F. Proposed external canopy for temporary storage of baled plastic and metal prior to dispatch. (K/2013/0247/F)	Mineral extraction	Consented	5.3km to south	Minor variations in existing consent and proposed operations of mineral extraction site unlikely to result in additional landscape and visual effects. Not considered further in CLVIA

No.	Proposal description & Planning Application Reference	Development type	Status ⁴¹	Approx. distance from Curraghinalt Project	Review of cumulative landscape and/or visual effects
7	Proposed shale mineral extraction associated storage phased restoration concrete batching plant and associated storage silos (I/2012/0446/F)	Mineral extraction	Consented	8.8km to south-east	Intervisibility of mineral extraction proposal and Curraghinalt Project possible. Cumulative landscape and visual effects likely. Considered in CLVIA
8	Extension of existing mineral extraction site (K/2015/0143/F)	Mineral extraction	Consented	11.2km to south	Intervisibility of mineral extraction proposal and Curraghinalt Project possible. Cumulative landscape and visual effects likely. Considered in CLVIA
9	Retrospective extraction of sand and gravel (1.2ha) and proposed restoration (4ha) by way of infilling with inert material, including inert waste to return the land to agricultural use. (K/2013/0507/F)	Mineral extraction	Consented	9.4km to south-east	Intervisibility of mineral extraction proposal and Curraghinalt Project possible. Cumulative landscape and visual effects likely. Considered in CLVIA
10	Proposed Barony Road Wind Energy Project comprising 4 turbines of 126.5m to blade tip height. (LA10/2015/0283/F)	Wind farm	Appeal pending consideration	5.3km to the south, south-west	Intervisibility of proposed Barony Road Wind Energy Project and Curraghinalt Project possible. Potential cumulative landscape and/or visual effects on the Sperrin AONB. Considered in CLVIA

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