

LANDSCAPE AND VISUAL IMPACT ASSESSMENT
CONSOLIDATING APPLICATION FOR CONTINUED QUARRYING OPERATIONS AT
DENBIGH QUARRY, DENBIGHSHIRE

FOR BREEDON SOUTHERN LTD
PREPARED BY PLEYDELL SMITHYMAN LIMITED

JANUARY 2021

**20a The Wharfage,
Ironbridge,
Telford,
Shropshire.
TF8 7NH**

T: 01952 433211 F: 01952 433323
psl@pleydellsmithyman.co.uk

**LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING
OPERATIONS AT DENBIGH QUARRY, DENBIGH**

**LANDSCAPE AND VISUAL IMPACT
ASSESSMENT
ON BEHALF OF BREEDON SOUTHERN
LTD**

By:
Pleydell Smithyman Limited

January 2021

Main Contributors
Neil Furber
Ritchie Sanderson-Brown
Chloe Barrett

Issued By
Neil Furber

Pleydell Smithyman Limited
20a The Wharfage
Ironbridge
Telford
Shropshire
TF8 7NH
Tel: 01952 433211
Fax: 01952 433323
E-mail: psl@pleydellsmithyman.co.uk



**LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING
OPERATIONS AT DENBIGH QUARRY, DENBIGH**

<u>Reference</u>	<u>Contents</u>	<u>Page Number</u>
1.0	Introduction	1
2.0	Methodology	2
3.0	Potential Landscape and Visual Impacts	6
4.0	Landscape and Visual Planning Policy	10
5.0	Landscape Baseline	13
6.0	Visual Baseline	23
7.0	Landscape and Visual Assessment	30
8.0	Summary and Conclusions	60

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

Drawings

Figure 4.1	Location Plan
Figure 4.2	Designations
Figure 4.3	Zone of Theoretical Visibility
Figure 4.4	Viewpoint Location Plan
Viewpoints 1-16	Photoviewpoints
Viewpoint 8	Photomontage from Denbigh Castle (Year 1, 5 and 15)

Appendices

Appendix 4.1	Methodology
Appendix 4.2	BS 5837 Arboricultural Survey

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

1.0 INTRODUCTION

Background

- 1.1 Pleydell Smithyman Limited has been instructed by Breedon Southern Limited (the 'client') to undertake a Landscape and Visual Impact Assessment (LVIA) of continued quarrying operations comprising a proposed lateral and depth extension to Denbigh Quarry. This report forms a technical appendix to an Environmental Statement prepared under the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017.
- 1.2 The purpose of the LVIA is to evaluate the landscape and visual impacts associated with the proposed development, to determine the likely effects to the landscape and visual character of the area and where necessary recommend mitigation measures which can be incorporated into the design of the scheme.
- 1.3 The LVIA was carried out by a Chartered Landscape Architect with more than 20 years' experience of landscape and visual impact assessment including numerous quarry schemes across the U.K.
- 1.4 In addition to the Figures and Appendices associated with this report the assessment should be read in conjunction with the following drawings submitted with the planning application:
- Current Situation (M18.155.D.004);
 - Phase 1 (M18.155.D.024);
 - Phase 2 (M18.155.D.025);
 - Phase 3 (M18.155.D.026);
 - Phase 4 (M18.155.D.027);
 - Phase 5 (M18.155.D.030);
 - Concept Restoration (M18.155.D.007); and
 - Cross sections (M18.155.D.039 and 041)

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

Technical Difficulties

- 1.5 There have been no overriding issues, difficulties or limitations which compromise the overall integrity of the assessment undertaken.

2.0 METHODOLOGY

Approach

- 2.1 The full Methodology is contained at **Appendix 4.1**.
- 2.2 In summary, the LVIA is comprised of two separate but inter-linked components:
- Landscape character - which is the physical make up and condition of the landscape itself. Landscape character arises from a distinct, recognisable and consistent pattern of physical and social elements, aesthetic factors and perceptual aspects; and
 - Visual amenity - which is the way in which the Site is seen and appreciated; views to and from the Site, their direction, character and sensitivity to change.
- 2.3 This LVIA considers the acceptability of the Proposed Development in landscape and visual terms. It is based on a desk study and a field visit to identify the most sensitive landscape and visual receptors, determining their ability to accommodate the change proposed.
- 2.4 The LVIA is conducted with regard to the principles set out in:
- 'Guidelines for Landscape and Visual Impact Assessment' (GLVIA, 3rd edition) 2013; and
 - Photography and photomontage in Landscape and Visual Impact Assessment. Technical Guidance Note 06/19 (The Landscape Institute, 2019).
- 2.5 A number of documents were used to inform the baseline character and sensitivity of the local area. These include:

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- LANDMAP - Online resource - Natural Resource Wales;
 - Supplementary Planning Guidance Note: Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (AONB); and
 - Cultural Heritage ES Chapter prepared by Andrew Joseph Associates with reference to the Historic Landscapes Register: Registered Historic Landscape of The Vale of Clwyd.
- 2.6 The GLVIA document sets out a range of techniques and approaches which practitioners are advised to use when conducting Landscape and Visual Impact Assessments (LVIAs), especially when carried out as part of an Environmental Impact Assessment (EIA) (paragraph 1.4).
- 2.7 The intent of the GLVIA is to present a general overview of a ‘non-prescriptive’ methodology for undertaking assessments or appraisals of developments: *“It is always the primary responsibility of any landscape professional carrying out an assessment to ensure that the approach and methodology adopted are appropriate to the particular circumstances”* (GLVIA, paragraph 1.20).
- 2.8 This LVIA focuses on the potentially Significant effects in accordance with paragraph 1.17 of the GLVIA which states that *“judgement needs to be exercised at all stages in terms of the scale of the investigation that is appropriate and proportional”*.
- 2.9 The nature of landscape and visual appraisal requires both objective analysis and subjective professional judgement. Accordingly, the LVIA is prepared in accordance with the principles of the best practice guidance listed above, information and data analysis techniques and subjective professional judgement where necessary and is based on clearly defined terms in line with best practice guidelines.
- 2.10 The key stages in the assessment process are summarised below.
- Identification of the aspects of the Proposed Development likely to give rise to potentially significant effects during the different stages in the life of the project (construction, operation, decommissioning and restoration phases);

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- Identification of components/receptors that have the potential to be significantly affected by the development at different stages in the life of the Proposed Development;
- Description of the interaction of the receptors with aspects of the development (this will vary during the different stages in the life of the project);
- Assessment of the Sensitivity of the Landscape and Visual Receptors in relation to the identified aspects of the development;
- Assessment of the Magnitude of Effects upon the Landscape and Visual Receptors, in light of the mitigation measures adopted; and
- Assessment of the Significance of Landscape and Visual Effects following restoration (residual effects).

Desk Study

- 2.11 The study area extends to 3km in all directions from the edge of the Site, as beyond this distance it is predicted that there would be no potential for the Proposed Development to result in any potentially Significant landscape and visual effects (see Figure 1). In addition, more distant views outside the main study area were covered from the Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (AONB).
- 2.12 A broad area of search for potential viewpoint locations was carried out using specialist digital terrain modelling and analysis software which was used to calculate a Zone of Theoretical Visibility (ZTV) of the Development, based on the current landform of the Site and surrounding area, including the main blocks of woodland and settlements as visual barriers.
- 2.13 The ZTV illustrated at **Figure 4.3** should be interpreted as indicative of a maximum effect situation, since it covers parts of the surrounding landscape where views towards the Site would in reality be filtered or screened by other intervening elements (e.g. hedgerows, individual trees and scattered buildings. The density and thickness of the hedgerows and trees in the surrounding

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

landscape would also prevent or filter views over the winter months to varying degrees, i.e. the degree of screening afforded would be dependent on season.

3.0 POTENTIAL LANDSCAPE AND VISUAL IMPACTS

Sources of Impacts

- 3.1 The Proposed Development is described in Chapter 2 of the ES. The permitted site comprises approximately 28.3 hectares of land and the proposed extension area is approximately 4.5 hectares in extent. The proposed extension area consists of parts of three agricultural fields comprising improved grassland. The Site lies to the north of Denbigh, approximately 250m from the edge of the town at the closest point. Removal of mineral from the site would take place via the existing access point onto Plas Chambres Road.
- 3.2 A Section 73 Planning Application for the variation of condition 1 of planning permission 01/2009/1424/PS to vary and extend the life of the existing quarry was submitted to Denbighshire County Council in August 2019. The quarry has remaining consented reserves of approximately 1 million tonnes of limestone aggregate and the current extraction rate is in the region of 200,000 tonnes per annum. The extant planning permission expires on 14th March 2020 which will mean that the remaining consented reserves will be sterilised. Breedon are applying for the variation/replacement of condition 1 to allow the remaining permitted reserves to be extracted over a longer period.
- 3.3 The extension area would involve the phased extraction of approximately 5 million saleable tonnes of limestone maintaining the annual production of ~200,000 saleable tonnes per annum, allowing extraction to continue for an additional ~25 year period and the importation of up to 100,000 tonnes per annum of inert waste.
- 3.4 The potential landscape effects at the operational phase of the Proposed Development include the extension of time for current operations. The potential for the greatest adverse effects upon landscape character would occur within the Extension Area with external effects upon landscape character and visual amenity restricted due to the creation of a perimeter planted earth bund that would be constructed before mineral is extracted from the extension area.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

Mitigation Measures

- 3.5 Mitigation measures associated with the Proposed Development have evolved during the design resulting in a number of 'inbuilt' mitigation and landscape enhancement measures, as discussed below.
- 3.6 The development scheme has been designed with a number of basic design parameters in order to minimise landscape and visual effects in both the short and longer terms covering both the operational aspects, as well as the configuration of the final restoration scheme.
- 3.7 In relation to the operational aspects of the development, the main design parameters include:
- Designing a time-based working scheme that incorporates phased restoration to minimise the impact of the development upon surrounding landscape character and nearby visual receptors including users of public rights of way and more distant views from higher ground in Denbigh, including views from the Castle;
 - Designing a working scheme that concentrates on developing the existing quarry to extract permitted reserves at the northern end of the Site which will be restored with imported inert material and waste material generated from the quarrying, in order to assist the early establishment of new landscape features;
 - By producing a scheme of working and utilisation of waste material to ensure that appropriate areas are progressively restored in an efficient way including early establishment of a perimeter low level earth bund around the western extension area and planting with native woodland; and
 - Designing a restoration scheme that enhances the fabric of the immediate landscape and integrates the Site physically and visually into the character of the local landscape by replication of key characteristics.
- 3.8 Once active quarrying has been fully completed the remainder of the Site would be fully restored with all plant, buildings and ancillary machinery removed. Access roads, where not required for maintenance, would also be

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

broken up and the resulting material either transported off site or used as an infill material to create smoother restoration profiles in areas of more engineered and severe level changes. The cleared plant site and quarry floor will then be regraded, using a dozer and excavator, to create more flowing contours.

- 3.9 Overburden from the remaining temporary stores would then be transported and placed across the quarry floor, focusing material against the bottom quarry face. Using a dozer, local undulations will be created to enhance the variety of the landform and provide the means for long term establishment of more variety in water availability and retention. Where available, the limited soil resources will be concentrated in small pockets away from the lowest levels of quarry floor where ephemeral water bodies may develop and limit the long-term benefits of these soils. Some limited restoration blasting will take place, to break up the most visually prominent faces, creating more variety of restoration landform. Where available some areas of scree and larger boulders will also be retained to promote diversity
- 3.10 Once the final landform and varied overburden and soils profiles have been created then selected areas of hydroseeding will be undertaken. This will be necessary due to the limited nutrient availability and poor water retention of the available overburden and soil. The hydroseeding will allow restoration habitats to develop more quickly, attempt to limit the potential for invasive species to establish and help to bind the surface material and prevent erosion.
- 3.11 The seeding mix will include pioneer tree species and grass mixes, for example trees may include Birch *Betula pendula*, Field Maple *Acer campestre*, Alder *Alnus glutinosa*, and Oak *Quercus petraea*, and grasses would comprise a range of calcareous species. Pit planting of native species in the pockets of the soil resource will create a more established look to the restoration at the earliest opportunity. It is envisaged that after the initial 5 years of aftercare that the site will be allowed to naturally regenerate to create a robust variety of habitats developing within the confines of the in-built diversity of nutrient and water availability, topographic level, exposure and orientation.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

4.0 LANDSCAPE AND VISUAL PLANNING POLICY

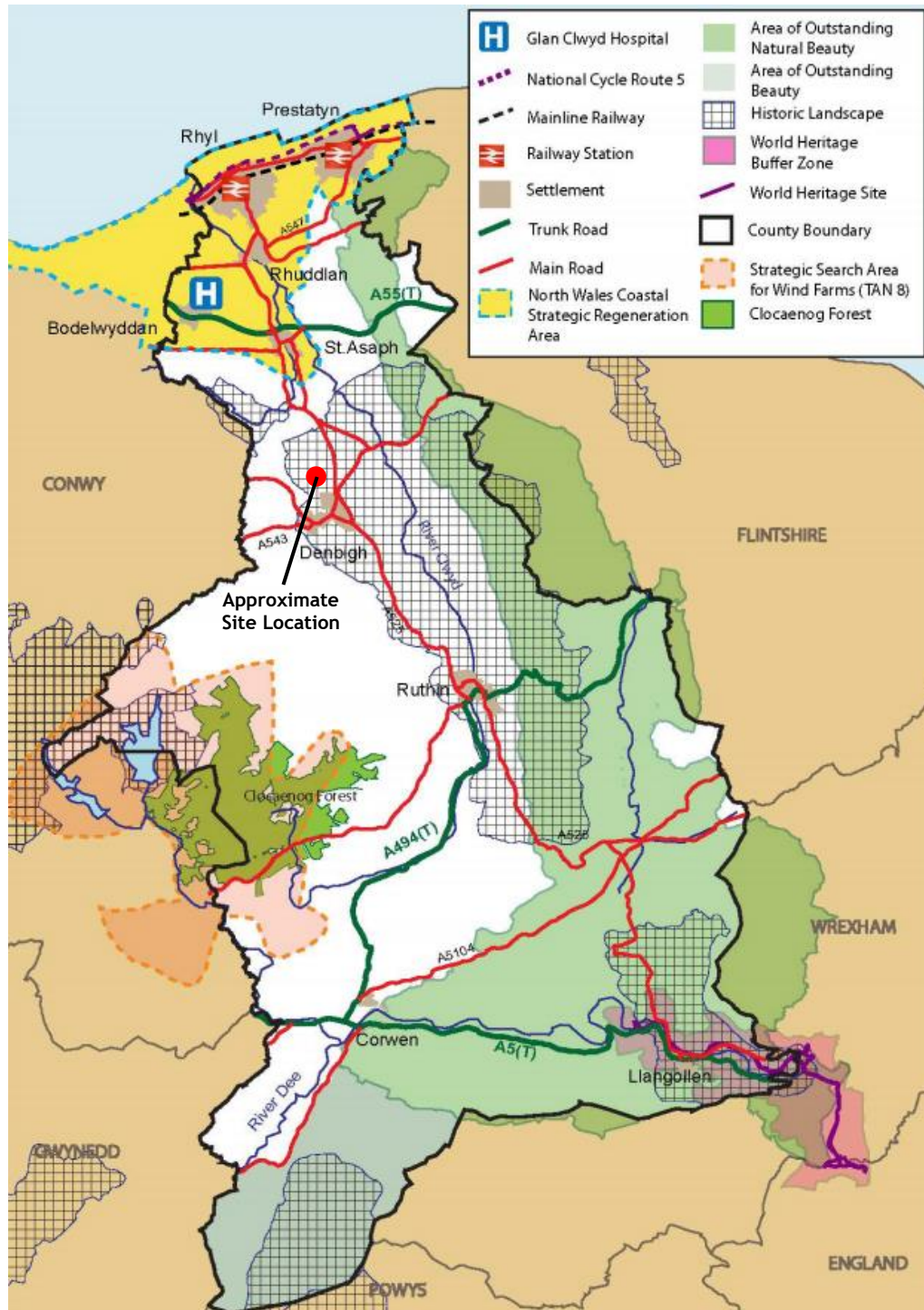
- 4.1 Full details are provided in the Planning Statement that accompanies the planning application, with the Development Plan Policies that are relevant to landscape and visual matters summarised below.

Denbighshire County Council Local Development Plan (Adopted June 2013)

- 4.2 The Denbighshire County Council Local Development Plan (LDP) contains planning policies which sit within the framework of national planning policies set out by the Welsh Government. These policies are designed to meet the objectives, spatial strategy and vision for the County. The key policies of the LDP of relevance to landscape and visual matters have been reproduced below.
- 4.3 **Policy PSE 16** covers mineral buffer zones and states that “*Sensitive development within buffer zones, as defined on the proposals map, will not be permitted unless it can be demonstrated that working has ceased and will not be resumed.*” And “*Extensions to quarries will only be permitted where a suitable buffer can be retained...*”
- 4.4 **Policy PSE 17** covers future mineral extraction and covers the requirements which need to be met in order for minerals to be extracted where they are found. “*The need for the extraction of the mineral should be demonstrated and found to outweigh the environmental impacts of such development.*”

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

Plate 1: Extract of County Character Map, Denbighshire County Council LDP



LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

5.0 LANDSCAPE BASELINE

- 5.1 The range of designations that has the potential to influence the landscape baseline are illustrated on **Figure 2**.

Statutory Landscape Designations

- 5.2 No part of the Site or Study Area lies within a statutorily designated landscape. The Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (AONB) is located approximately 5km broadly east of the Site.

Non-Statutory Landscape Designations

- 5.3 The Site lies within a Registered Historic Landscape: The Vale of Clwyd, specifically within the historic character area of Denbigh (HLCA 1041) which makes particular reference to the town and castle. The Registered Historic Landscape washes over a large tract of rural and urban land including the existing quarry and the industrial estates to the east as well as the built up area of Denbigh which comprises modern post-war residential development beyond the historic core.
- 5.4 Detailed analysis of the impact that the proposed development would have upon the setting of the historic assets including Scheduled Monuments, listed buildings and conservation area is contained in the separate Cultural Heritage Chapter of the ES, prepared by others including an ASHIDOL analysis.

Green Belt

- 5.5 The Site does not lie within the Green Belt.

Tree Preservation Orders

- 5.6 The proposed extension area and adjoining land is not subject to any Tree Preservation Orders (TPO). A woodland TPO (ref W9) is located ~100m to the south of the proposed extension at the closest point (See Appendix 4 of **Appendix 4.2**).

Other Designations

- 5.7 The desktop survey comprising review of the Local Development Plan and other database sources has identified a range of ecological and cultural heritage

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

designations within the wider study area that contribute to an assessment of landscape value (see **Figure 2**). The Ecology and Cultural Heritage chapters of the Environmental ES have also been referenced.

- 5.8 There are a number of listed buildings at Plas Chambres approximately 950m north of the Site which are not predicted to have intervisibility with the Proposed Development due to the surrounding landform as shown in the ZTV.
- 5.9 There are many listed buildings within the Denbigh Conservation Area between 600m and 1.1km southeast of the Site. The Cultural Heritage Chapter contains a plan of the receptors overlaid with a ZTV of the extension site which indicates typically limited intervisibility between the listed buildings and the extension site.
- 5.10 Within the Study Area there are a number of Scheduled Monuments (SMs). The Cultural Heritage Assessment contains a plan of the receptors overlaid with a ZTV of the extension site illustrating that the majority are predicted to have no intervisibility with the proposed extension site, although intervisibility with the Grade 1 listed Denbigh Castle would be available.
- 5.11 There are four Grade II Registered Park and Gardens (RPG) within the 3km Study Area. Denbigh: Pierce Memorial Garden (~840m southeast), Gwaynygog (~1.4km south west), Foxhall Newydd (~1.5km north west) and Plas Heaton (~1.9km north west). None of the RPG are predicted to have intervisibility with the Site as indicated by the ZTV and are consequently scoped out of the detailed assessment stage.
- 5.12 The majority of the Ancient Woodland to the north western side of the Site is designated as the Crest Mawr Woodland Site of Special Scientific Interest (SSSI). Graig Quarry is a SSSI located circa 100m to the southeast of the Site at its closest point along the southern boundary of the existing Denbigh Quarry. Further details are provided in the ecological chapter of the ES.

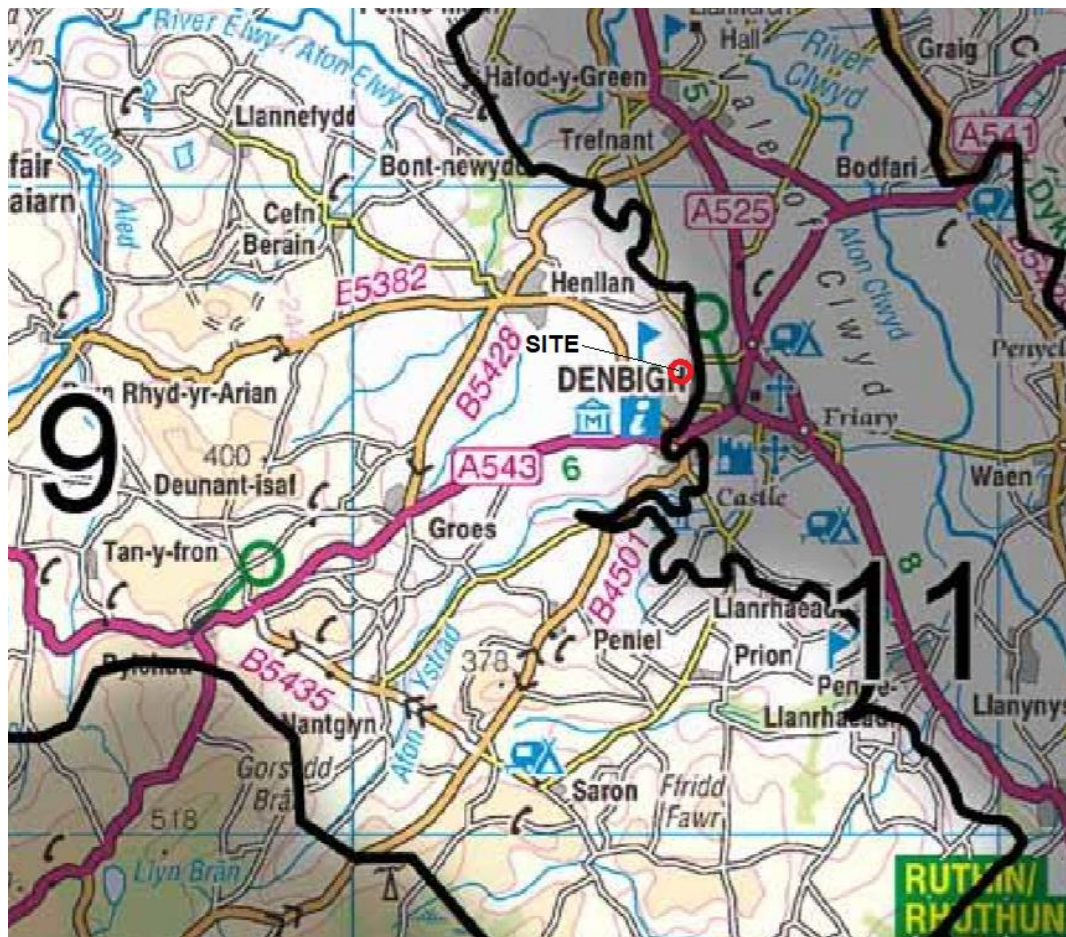
Landscape Character

National Landscape Character Assessment

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- 5.13 In 2007 the Countryside Council for Wales (now Natural Resources Wales, 'NRW') at a national level produced a Landscape Character Map for Wales. This document locates the Site at the eastern edge of NLCA 09 'Rhos' which abuts NCLA 11 'Vale of Clwyd' that covers the majority of the built-up area of Denbigh and land in the eastern part of the study area.

Plate 2: NCLA in relation to the Site (Not to scale)



- 5.14 The key characteristics of NLCA 09 Rhos are reproduced below with those most relevant to the Site and study area underlined:

Rural inland foothills and valleys - that rise to the adjacent Denbigh Moors to the south.

Bedrock geology - is composed primarily of Silurian sandstone and argillaceous rock of the Ludlow and Wenlock Series, in addition to small areas of Carboniferous limestone and areas of slaty mudstone and siltstone.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

Extensive drift deposits - glacial till overlays the solid geology giving rise to the undulating land form of the area.

River valleys and flood plains - river alluvium and fluvio-glacial river terrace deposits are present. An undulating land form - comprising a series of ridges and valleys associated with the river catchment, including the Cledwen and the Aled. A range in grades of slope.

Soils - well drained fine loamy/silty typical brown earth soils, with seasonally wet silty soils over shale in the river valleys.

Sheep grazed pasture - predominant land cover.

Occasional woodlands - often occurring on the river valley slopes, for example on the Clywedog and the Ystrad, and running up riverside slopes.

Mixed field patterns - often geometric but varies widely in scale, from small to large size fields. A denser network of mixed hedgerows with more trees in sheltered valleys, running up to sparse, windswept hedges and fences occupying areas of former moorland.

Archaeology - a number of sites occupy the more elevated parts of the area, including Neolithic burial chambers, Bronze Age round barrows and cairns, and Iron Age hillforts such as Mynydd Y Gaer. The Pontnewydd Cave is internationally renowned for evidence of the earliest known humans in Wales.

Sparsely settled - affording rural peace and tranquillity, with wide views from the higher points and a sense of intimacy and enclosure in the valleys close by.

Local Landscape Character Assessment

- 5.15 LANDMAP, the Welsh approach to landscape assessment, is a Geographical Information System (GIS) based landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated into a nationally consistent data set. Some local authorities have utilised this database to produce a Landscape Character Map for their administrative area, although Denbighshire County Council have not done so. Therefore, this assessment utilises the Areas identified within the LANDMAP

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

national information system, which consists of differing 'Aspects' covering the five physical and sensory features which can be said to constitute the main characteristics of any landscape. These are; Visual and Sensory, Landscape Habitats, Historic Landscape, Cultural Landscape and Geological.

5.16 The LANDMAP resource defines overall values for the five Aspect areas in which the proposed extension area is located:

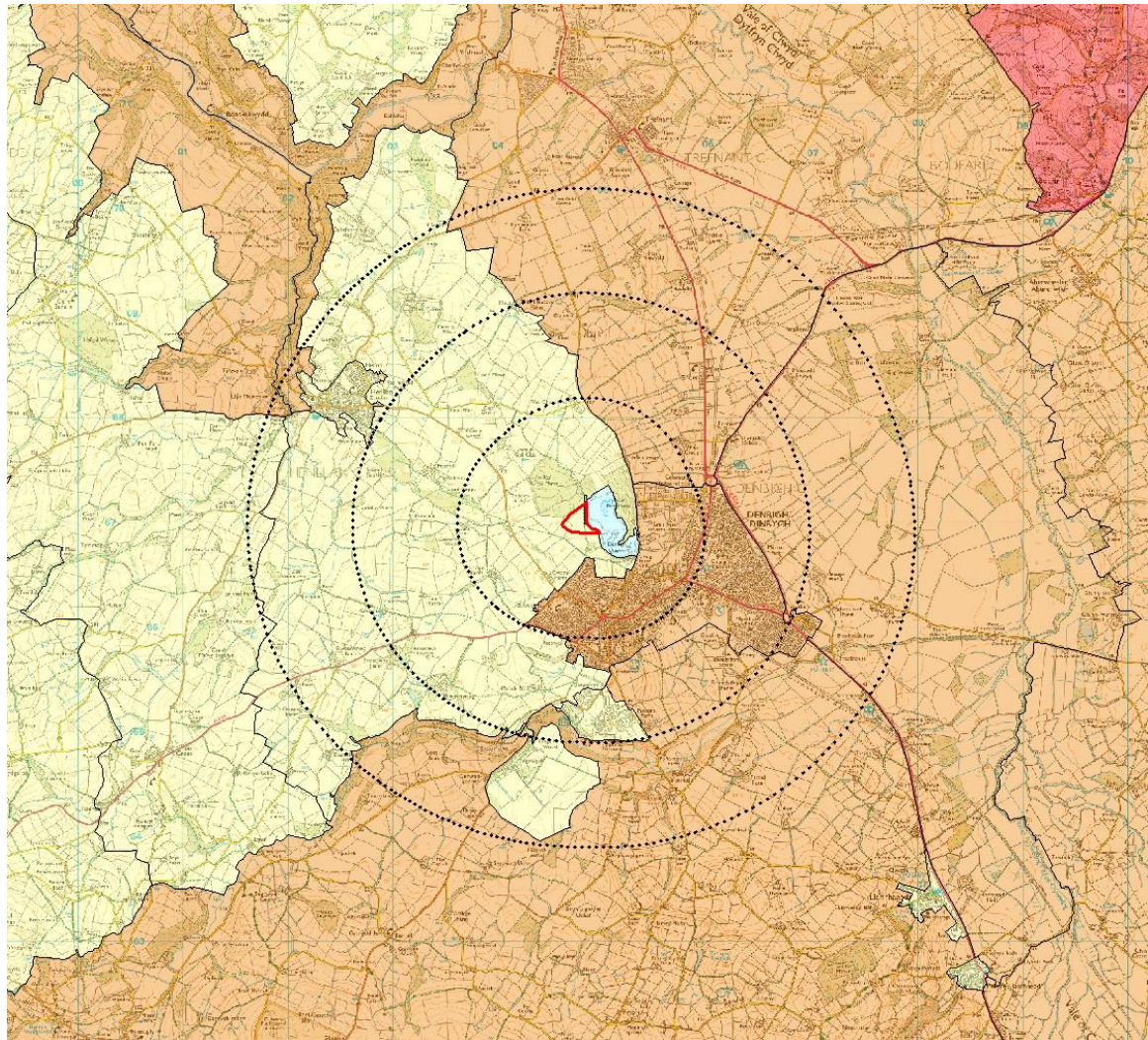
- Visual and Sensory: **Moderate**
- Landscape Habitats: **Moderate**
- Cultural Landscape: **High**
- Historic Landscape: **High**
- Geological: **Outstanding**

5.17 The overall characteristics of the landscape are, therefore, made up of a combination of physical, environmental, cultural and sensory factors. However, in the case of landscape and visual impact assessment it is the visual and sensory layer that is of primary importance and consequently this study focuses on this Aspect with a proportionate review of the other LANDMAP layers. **Plate 3** below illustrates the LANDMAP Visual and Sensory Aspects Plan in relation to the development within the Study Area.

5.18 The other visual and sensory aspect areas relevant to consideration of the proposed development include the existing quarry which has a low evaluation and the urban area of Denbigh which has a high evaluation with a photomontage from the Castle representing the maximum effect scenario from the town. More distant visibility from other aspect areas where there is no potential for significant effects has been scoped out of consideration.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

Plate 3: LANDMAP: Overall Evaluation of the Visual and Sensory Aspects within the Study Area (not to scale)



- 5.19 In terms of the five aspects, relevant extracts to the Site, Study Area and proposed development, obtained from the online LANDMAP resource are reproduced below, with descriptions most relevant to the Site and Study Area underlined.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

5.20 Visual and Sensory:

The proposed extension area and rural land to the west and south within the study area : Limestone Plateau - Denbigh/Henllan (DNBGHVS039)

‘Rolling countryside dominated by wooded estate - gently undulating pastoral farmland with a patchwork of medium sized mostly improved grassland fields enclosed by managed hedgerows with scattered trees & woodland... Attractive traditional farming landscape centre around the small market town of Henllan, other settlement comprise scattered rural farmsteads and residential dwellings with the historic market town of Denbigh lying to the south east...’

Denbigh quarry (DNBGHVS040):

‘Relatively small to medium scale limestone quarry on the outskirts of Denbigh to the west of the northerly industrial area. The area is partially enclosed by mature woodland on its northern and eastern sides which act as the main visual filter. Excavation has been limited and concentrates on sands, gravels and crushed rock the area is partially concealed by the rising topography and existing vegetation cover.’

Denbigh (DNBGHVS041)

Historic market town with vernacular buildings and prominent castle, the principal settlement in the county in terms of administrative management. Town centre and original development adjacent to the castle still retains much of its original character, although care needs to be taken to ensure that shop front development is in keeping with the architectural style and age of the buildings. The town has expanded on the outskirts with cul-de-sac infill development up to the route of the bypass and would benefit from greater integration with the surrounding rural landscape especially on the northern extents where large scale light industrial units are now encroaching on the adjacent farmland

5.21 Landscape Habitat: Denbigh Plateau Improved Grassland (DNBGHLH033)

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

'An intensively farmed improved grassland landscape with a proportion of arable, and a good network of hedges containing scattered mature trees, small pockets of semi-natural broadleaved and planted mixed woodland, some parkland, occasional linear water features and localised areas of calcareous grassland.'

5.22 Cultural Landscape: Uplands to west of Vale of Clwyd (DNBGHCL018)

'A rural area, one of the more Welsh-speaking areas of DCC, with strong cultural traditions.'

5.23 Historic Landscape: Northern Vale of Clwyd (DNBGHHL154)

'Irregular organic enclosure over large area of Vale of Clwyd west into Nantglyn, possible area representing Welsh inheritance system of gavelkind, fossilised in the predominantly small and irregular field pattern. Probably hold remnant strip fields.'

5.24 Geological: Henllan (DNBGHGL035)

'Northwest-southeast trending limestone ridge, in places draped with till. Drumlins are present in the north of this Aspect Area.'

Landscape Character Assessment verification in the Field

5.25 Site visits and assessment of the wider study area was undertaken in July and August 2019 in clear and largely dry weather conditions.

5.26 The individual characteristics and condition of the Site were noted in relation to the published assessments. Differences in the composition and the character of the Site's physical components were recorded as well as their sensitivity to, and ability to accommodate, change (see Methodology at **Appendix 1**).

5.27 The proposed extension area consists of parts of three agricultural fields of improved grassland to the west of the existing quarry and to the south of the Crest Mawr woodland - as detailed in the Ecology chapter of this ES.

5.28 The existing quarry lies to the east of the extension area, including current working area at the northern end of the Site, centrally located extraction and

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

stocking areas, and a Plant Site, Office and Weighbridge at the southeastern end of the Site (see Current Situation Plan M18.155.D.004).

- 5.29 The characteristics of the landform of the Site and immediate surroundings are illustrated on the Current Situation Plan and the cross sections (M18.155.D.039 and 041) submitted with the planning application. The Office and Weighbridge and Concrete Plant lie on gently rising land between 82m AOD and 94m AOD. The plant site, extraction and stocking areas lie at around ~106m AOD with the faces of the quarry typically between 15m and 20m in height. The current working area bench is currently at ~144m AOD with the top face of the quarry varying between ~136m and ~144m AOD to the east and ~154m AOD along the western boundary.
- 5.30 The closest residential properties lie within the town of Denbigh circa 250m to the south of the proposed extraction limit at the northern end of Bryn Seion and are described in the visual baseline section below.
- 5.31 Public Footpath 508/6 crosses through the proposed extension area, running north to south and to the west of the existing quarry.
- 5.32 The field survey confirmed that the characteristics of the Site and adjacent landscape broadly comply with the published Landscape Character Assessment.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

6.0 VISUAL BASELINE

Introduction

- 6.1 This section describes the views available to and from the Site, their distribution, character and sensitivity to change. The author of the report has conducted an assessment of the views available to and from the Site by the public, by walking and driving (as appropriate) local roads and rights of way.
- 6.2 An examination of the Zone of Theoretical Visibility (ZTV) of the Proposals and verification in the field enabled 15 No. representative viewpoints to be identified within the Study Area (see **Figure 4.4**).
- 6.3 The Clywdian AONB is located more than 5km northeast of the Site. Potential visibility of the Site at the closest point to the Site from the designation along the B5429 is only moderately elevated at ~80m AOD and views are frequently restricted by intervening planting. A further viewpoint (Viewpoint 16) was selected from elevated land at Penycloddiau Fort along the Offa's Dyke path at over 430m AOD in elevation. This view represents the typical level of intervisibility of the Site from the most publicly accessible parts of the AONB designation.
- 6.4 The likely extent of visibility of the Proposed Development from the wider landscape can only be determined from the field assessment. Photography was undertaken in July and August when trees were in leaf and noting that views would be less restricted in winter when deciduous planting is not in full leaf, however professional judgement based on extensive past experience has been used to estimate increased visibility in winter. It is noted that screening from mature woodland planting in excess of 30m width would typically provide a high level of screening, even in winter and mature clipped hedgerows typically provide good screening over the winter months. By contrast a single line of mature trees can often restrict visibility in summer but would typically provide a poor level of screening over winter months.

Visual Receptor Field Analysis

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- 6.5 The Zone of Theoretical Visibility (ZTV) of the extension area illustrated at **Figure 4.3** is based on a 'bare earth' model with built development and woodland blocks added as visual barriers. The ZTV is representative of a 'worst-case' situation, since it covers areas where the Proposed Development would, in reality, be filtered or screened by additional intervening elements not included in the ZTV model e.g. tree belts, hedgerows or individual trees. In addition many of the areas covered by the ZTV comprise farmland where no public access is available.
- 6.6 The parts of the Study Area from where it is predicted that the Proposed Development would be potentially visible are very localised due to the landform characteristics and the visual barriers of surrounding woodland and in summary restricted to the following principal areas:
- At close range from public footpaths 508/5 and 508/6;
 - At medium range from the southern edge of Denbigh on higher ground including Denbigh Castle;
 - Long range intermittent views from the A543 and public rights of way to the southwest of the Site; and
 - Beyond the Study Area distant views are available from elevated land within the Clwydian Hills and Dee Valley AONB.
- 6.7 A detailed residential assessment is not possible without owner consent in advance; however, assessment from nearby public vantage points, and from the Site itself, provides an indication of the views of the Proposed Development that would be available. These are assessed separately below.
- 6.8 In summary, as a result of field analysis and with reference to the ZTV, it is concluded there are a limited number of visual receptors that are publicly accessible, where the Proposed Development has any potential to have a Significant effect upon visual amenity.

Viewpoints

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- 6.9 The locations of a representative range of viewpoints are illustrated on **Figure 4.4**. The photo viewpoints have been selected to best represent a range of views available from easily accessible public vantage points towards the Proposed Development. It is recognised that there is always the potential to include more views, however in line with best practice guidance (GLVIA3) the number and distribution has been selected to be representative of the range of views available where potentially significant effects may be experienced.
- 6.10 The selected views are presented as **Photoviewpoints 1 to 16** with annotated photography and computer generated visualisations of the proposed development from the Castle (i.e. the most elevated and sensitive publicly accessible location where views of the proposed extension would be available - see Photoviewpoint 8).
- 6.11 All photography and photomontages are presented in accordance with TGN 06/19 published by the Landscape Institute.
- 6.12 The viewpoints are summarised in Table 1 below with all locations illustrated on **Figure 4.4** and the close range views (Nos. 1-5) on **Plate 3** below.

S:\M18.155 DENBIGH QUARRY\DOCUMENT_REPORT\M18.155.R.003 LVIA\M18.155.R.003 DENBIGH QUARRY LVIA V2.DOC 23

**LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING
OPERATIONS AT DENBIGH QUARRY, DENBIGH**

Table 1: Representative Viewpoints

VP No.	Location	Approximate distance / direction to Site	Reason for selection.
CLOSE RANGE (<500m from Site)			
1	View south-westwards from public footpath close to northern boundary of Site	15m north	Close range view experienced by footpath users; this footpath will be redirected
2	View north-westwards from public footpath close to southern boundary of Site	Within the Site	Close range view experienced by footpath users; this footpath will be redirected
3	View north-eastwards from public footpath to the south-west of the Site	100m northeast	Close range view experienced by footpath users
4	View northwards from public footpath to the south of the Site	150m northeast	Close range view experienced by footpath users
5	View northwards from public footpath to rear of dwellings on Bryn Seion, Denbigh	290m north	Close range view experienced by footpath users
MEDIUM RANGE (500m to 1.5km from Site)			
6	View northwards from Burgess Gate at Leicester Terrace	970m north	Medium range view experienced near Burgess Gate and the Castle Battlements, similar to private at Leicester Terrace
7	View northwards from Ffordd Newydd at junction with Castle Hill	990m northwest	Medium range view experienced by road users and similar to some private views
8	View northwards from battlements on Denbigh Castle	1.1km northwest	Medium range view experienced by visitors to Denbigh Castle
9	View northwards from southwestern edge of Denbigh Castle	1.15km northwest	Medium range view experienced by visitors to Denbigh Castle
10	View northwards from A543 on edge of Denbigh	980m north	Medium range view experienced by road users and similar to some private views
11	View northwards from B4501 near Council Offices	1.16km north	Medium range view experienced by road users
12	View northwards from public footpath at junction with B4501	1.17km north	Medium range views experienced by road users and footpath users
13	View north-eastwards from layby on A543 near junction with public footpath	1.19km northeast	Medium range views experienced by road users

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

VP No.	Location	Approximate distance / direction to Site	Reason for selection.
LONG RANGE (>1.5km from Site)			
14	View north-eastwards from public footpath on Balch Hill	1.67km north northeast	Long range views experienced by footpath users
15	View north-eastwards from public footpath north of A543 and Broadleys Covert	1.67km northeast	Long range views experienced by footpath users
16	View westwards from Offa's Dyke National Trail on Penycloddiau	8km east	Elevated view from Offa's Dyke crossing the summit of Penycloddiau Scheduled Monument in the Clwydian Range AONB

Visual Receptors

Public Rights of Way

6.13 The following key routes are located within the ZTV and study area and, therefore, required review in the field to establish actual intervisibility with the Proposed Development.

- Footpath 508/6 (see **Viewpoints 1 and 2**);
- Footpath 508/5 (see **Viewpoints 3 and 4**);
- Footpath 508/3 (see **Viewpoints 5 and 13**);
- Footpath 508/47 (see **Viewpoint 12**);
- Footpath 508/51 (see **Viewpoint 14**); and
- Footpath 508/65 & 508/71 (see **Viewpoint 15**)

6.14 There are sections of rights of way located within the ZTV which do not have a corresponding viewpoint. In these cases the views are similar (and no more extensive) to those taken from nearby locations.

6.15 In addition to the above routes, the visibility of the Site from Offa's Dyke Path, a National Trail located outside the Study Area within the AONB has been assessed (see Viewpoint 16).

Public Highways

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

6.16 The following key routes are located within the ZTV and therefore required review in the field to establish actual intervisibility with the Proposed Development.

- A543 (see **Viewpoints 10 and 13**); and
- B4501 (see **Viewpoints 11 and 12**)

Settlements and Scattered Dwellings

6.17 Denbigh is the closest settlement to the quarry with the north western edge of the town located circa 250m from the extraction limit of the Proposed Site Extension at the closest point.

6.18 The views from the town (see **Viewpoints 5, 6, 7, 8, 9, 10, 11 & 12**) are often restricted due to localised landform and intervening planting and buildings, however the upper faces of southern parts of the existing quarry are frequently visible and there is the potential for some receptors to experience views of the upper face of the quarry extension in early years before the planted bund along the southern limit of the extension becomes established.

6.19 The ZTV at **Figure 4.3** indicates that there would typically be no theoretical visibility of the proposed extension area from the majority of scattered dwellings and farm houses beyond the settlement of Denbigh, with the exception of a small number of scattered dwellings near the A543 corridor, between ~1.4km and 3km southwest of the Site. The presence of intervening planting and the distance involved means that there is no potential for significant effects from these receptors and they have, consequently, been scoped out of detailed assessment.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

7.0 LANDSCAPE AND VISUAL ASSESSMENT

- 7.1 The methodology outlining the assessment process in detail is set out at **Appendix 4.1**.
- 7.2 The planning application proposals represent a continuation of existing and long established operations. In the absence of the current proposals, the future baseline planning position is assumed to involve the ceasing of all quarry operations when the current consent expires and cessation of associated vehicle movements. All plant, buildings and associated infrastructure would be removed from the Site in accordance with the currently approved restoration scheme. It is assumed that the partly worked void would then be restored as closely as possible to the permitted restoration plan.
- 7.3 The assessment of the Operational Phase includes the continuation of quarrying operations including extraction of permitted reserves and including for the maintenance of all plant on the Site and continued vehicle movements at a lesser volume than is currently consented. The restoration scheme would follow the principles established as part of the permitted scheme and set out in Section 5 of this report.
- 7.4 The assessment set out below takes into account the maximum visibility of the proposals based on professional experience i.e. assessment accounts for winter periods when broadleaf trees and shrubs would not be in leaf. The assessment also assumes a potential loss of all existing ash trees to disease, noting that the tree survey at **Appendix 4.2** records that ash is absent from some areas within the retained woodland south of the quarry and overall comprises approximately 1/3rd of the tree cover in this area. Regardless of the proposed quarry extension and the likely loss of ash trees from disease, the removal of some ash would be required in any event to thin out the stands of semi-mature trees and allow remaining trees of other species to develop to their full potential. The likely reduction in the density of tree cover from loss of ash as well as visibility without leaf cover in winter months has been taken into account throughout this assessment.

Effects on Landscape Elements within the Site

- 7.1 The landscape features within the proposed extension area predominantly consist of agricultural fields of improved grassland to the west of the existing active quarrying area. The development would require the removal of the following landcover to accommodate the quarry extension.
- 4.42ha of improved grassland (best and most versatile agricultural land);
 - 0.9ha of low quality semi-mature tree groups/woodland (Ref G3, G4, G5 and G6) with the majority planted on an existing overburden mound);
 - 380m combined length of existing hedgerows of medium to low quality (Ref parts of H2, H3 and H4 - see **Appendix 4.2**); and
 - 25 No. scattered trees (predominantly of low quality - See **Appendix 4.2** for full details).
- 7.2 The Proposed Development has been designed to ensure the retention of all the ancient woodland at Crest Mawr and Coed Parc Pierce, adjacent to the Site. Landscape features within the existing quarry predominantly comprise already disturbed land as part of the extracted void.
- 7.3 The assessment of the various component vegetation removal is set out at **Appendix 4.2**. The loss of just over 4 hectares of improved grassland within the context of the surrounding agricultural landscape would clearly not be significant. The removal of ~380m of hedgerows, less than 1 hectare of woodland and 25 No scattered trees, which are all typically of Low to Medium value and Medium susceptibility, would represent a Small magnitude in the context of the surrounding landscape which includes substantial tracts of woodland and field boundary hedgerows. The overall effect of this loss during the operational phase would be Moderate/Minor adverse and Not Significant.
- 7.4 Approximately 1.6 hectares of native broadleaf tree and shrub planting would be established on the peripheral mound during Phase 1 following the partial strip of the extension area and this beneficial effect is described as part of the assessment of the restoration scheme below.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- 7.5 It is proposed to restore parts of the extraction area to priority habitat (i.e. broadleaved woodland and calcareous/neutral grassland) along the restored quarry floor and some of the reprofiled slopes. The steeper retained quarry benches and faces may be hydroseeded in order to encourage vegetation growth and reduce the contrast of the rocks with surrounding vegetation. In comparison with the permitted restoration scheme for the main quarry area, a greater area of woodland overall would be established, noting that the key principles for the overall restoration of the quarry remains unchanged from the permitted scheme.
- 7.6 It is proposed to restore the extension area and main site as follows:
- 13.7 ha of grassland overall;
 - 5.0 ha of broadleaf woodland planting;
 - At least 50 No. scattered trees; and
 - An ephemeral water feature at the low point in the quarry that would vary in size over the seasons.
- 7.7 In addition, further vegetation would be encouraged to establish on quarry benches/faces, although this naturally regenerating scrub/woodland has not been included in the above calculations. Overall, once the planting has established there would be a net gain in broadleaf tree cover relative to the current baseline and a substantial increase in priority habitat grassland, representing a medium magnitude. Consequently, the residual effect on landscape features of the Site would represent a Moderate beneficial effect that is Not Significant.

Effects on Landscape Character of the Site and Locality

- 7.8 The landscape baseline determined that the Site does not lie within any statutory landscape designation although it is covered by a non-statutory Historic Landscape designation which together with the setting of Denbigh Conservation Area, listed buildings and Scheduled Monuments including Denbigh are covered in the Cultural Heritage Chapter of the ES.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- 7.9 In accordance with the methodology at **Appendix 4.1**, the landscape character of the Site is assessed as having a Medium Susceptibility to change to the expanded quarrying activity and when combined with a Medium Landscape Value, resulting in an overall Medium Landscape Sensitivity. This assessment takes into account the key characteristics present, as recorded in the published assessment and confirmed and augmented by the field appraisal (see Tables 2 and 3 below).

Table 2: Summary of the Landscape Value of the Site and Immediate Locality

VALUE LEVEL	LANDSCAPE CONDITION	SCENIC QUALITY	PERCEPTUAL ASPECTS	RARITY AND REPRESENTATIV E-NESS	CONSERVATION INTERESTS	ASSOCIATIONS	RECREATIONAL VALUE
HIGH							
MEDIUM	✓	✓	✓	✓	✓	✓	✓
LOW							
VERY LOW							

**LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING
OPERATIONS AT DENBIGH QUARRY, DENBIGH**

Table 3: Summary of the Landscape Susceptibility of the Site and Immediate Locality

VALUE LEVEL	SCALE AND OPENNESS	LANDFORM	LANDCOVER	COMPLEXITY AND PATTERNS	BUILT ENVIRONMENT	BACKDROP/SKY LINE/FOCAL POINTS	WILDNESS AND TRANQUILITY
HIGH							
MEDIUM	✓	✓	✓		✓		✓
LOW				✓		✓	
VERY LOW							

- 7.10 The magnitude of change at a site level arising from proposed extension would be Medium to High. This assessment takes into account the context of the adjoining quarry that incorporates visual change as well as activity associated with the extraction including vehicle movements and periodic impacts on tranquillity from blasting. The overall effect on landscape character would be Moderate adverse during the operational phase that is Not Significant. Following restoration, the magnitude of effect upon the Site would be of a Medium magnitude, although the change would be Neutral given that both positive and adverse elements would be present i.e. beneficial effects from the establishment of semi-natural native vegetation in the re-profiled void and adverse landform effects from a permanent and partially restored quarry void landform (but at a Site level only).
- 7.11 The landscape character receptors are the visual and sensory aspect areas, identified in the baseline section of this chapter and set out below. Review of the aspect areas compared with the ZTV of the Proposed Development (see **Plate 3** and **Figure 4.3**) indicates where indirect effects upon landscape character may be experienced.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- 7.12 The landscape sensitivity of the wider **Limestone Plateau - Denbigh/Henllan** area beyond the Site and immediate context is assessed as Medium (comprising Medium Value and Medium susceptibility). There is no appreciable change in value or susceptibility of the area where the scheme may be perceived (see ZTV at **Figure 4.3**), compared with the Site and immediate landscape context assessed above.
- 7.13 In terms of indirect effects on landscape character, there would be extremely limited intervisibility of the quarry operations from publicly accessible locations in the surrounding landscape due to the presence of existing mature woodland blocks and the undulating topography (see ZTV at Figure 4.4). The adoption of a perimeter screen bund around the extension would further restrict potential views into the extraction area. The reduction in tranquillity from blasting operations and vehicle movements would be localised and would be similar to that experienced as part of the existing quarry operation, noting the proposed development, as an extension of current operations, would represent an adverse impact, however this would not be Significant and mitigation measures are detailed in the Noise Chapter of this ES on how short term impacts from the drilling rig on the upper benches would be mitigated.
- 7.14 The indirect effects of the proposed development upon landscape character of the wider **Limestone Plateau - Denbigh/Henllan** Aspect Area have been assessed. There would be very limited visibility of the operations and reduction in tranquillity from blasting and vehicle movements would be very localised within the landscape. The magnitude of change experienced within the Aspect Area in the Study Area, beyond the Site and immediate vicinity, during the operational phase would be Very Low and the overall effect Minor adverse and Not Significant. Following restoration, including the growth of the proposed native planting around the periphery of the extension, the residual effect would be Neutral and not Significant.
- 7.15 The assessment of indirect effects upon the **Denbigh** Aspect Area recognise the historic character of the elevated conservation area and Denbigh Castle, however any changes to the townscape context would be perceived in the context of the built development on the northern edge of the town that

**LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING
OPERATIONS AT DENBIGH QUARRY, DENBIGH**

includes post war cul-de-sac development and large scale industrial units. An assessment of the value and susceptibility of the aspect area is set out in tables 4 and 5 below. The assessment has focussed on the historic core of the aspect area as the ZTV indicates that it is from these elevated areas that the greatest theoretical intervisibility with the Site would occur. The Value is assessed as High and the Susceptibility Medium, resulting in an overall Medium-High Sensitivity.

Table 4: Summary of the Landscape Value of the Denbigh Aspect area

VALUE LEVEL	LANDSCAPE CONDITION	SCENIC QUALITY	PERCEPTUAL ASPECTS	RARITY AND REPRESENTATIVE- NESS	CONSERVATION INTERESTS	ASSOCIATIONS	RECREATIONAL VALUE
HIGH	✓	✓		✓	✓	✓	✓
MEDIUM		✓	✓				
LOW			✓				
VERY LOW							

**LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING
OPERATIONS AT DENBIGH QUARRY, DENBIGH**

Table 5: Summary of the Landscape Susceptibility of the Denbigh Aspect Area

VALUE LEVEL	SCALE AND OPENNESS	LANDFORM	LANDCOVER	COMPLEXITY AND PATTERNS	BUILT ENVIRONMENT	BACKDROP/SKY LINE/FOCAL POINTS	WILDNESS AND TRANQUILITY
HIGH	✓				✓		
MEDIUM	✓	✓	✓				✓
LOW				✓		✓	✓
VERY LOW							

- 7.16 The indirect effects of the proposed development upon landscape character of the **Denbigh** aspect area have been assessed. There would be very limited intervisibility of the operations with the quarry faces of the existing quarry being much more visible than the uppermost face of the proposed extension. The magnitude of change experienced within the aspect area in the Study Area, beyond the Site and immediate vicinity, during the operational phase would be Very Low and the overall effect Minor adverse and Not Significant. Following restoration, including the growth of the proposed native planting around the periphery of the extension, the residual effect would be Neutral and not Significant.

Effects on Close Range Views

- 7.17 Close range views are defined as those being located within 500m of the Site, Medium range views between 500m and 1.5km and long-range views over 1.5km from the boundary of the Site
- 7.18 Public footpath 508/6 currently passes through the extension area and would be redirected around the perimeter of the extension area. Views of the

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

extraction area would be largely restricted by a perimeter earth bund up to 3m high, with new tree and shrub planting.

- 7.19 The ZTV at **Figure 4.3** indicates the greatest theoretical magnitude of views of the proposed extension area, which would be limited to a maximum distance of a few hundred metres from the extension site boundary. This zone covers the existing quarry to the east (no public access) and farmland to the south and west of the extension area (public footpath routes 508/6 and 508/5). It should be noted that the ZTV does not include the landform of the perimeter bund that would restrict views into the extension area.
- 7.20 The publicly accessible visual receptors at close range within approximately 500m of the Site where views of the Proposed Development would be theoretically available, assuming no mitigation, have been confirmed in the field.

Footpath 508/6 connecting Denbigh with Plas Chambres (Viewpoint 1)

- 7.21 This footpath connects the woodland at Crest Mawr and Plas Chambres to the north western edge of Denbigh at Bryn Seion. The existing quarry is screened by a mature hedgerow in the far left of the view. The middle-ground of the view comprises improved grassland of the extension site with the edge of the Crest Mawr Ancient woodland in the far right of the view. The group of trees in the middle-ground of the view would be removed, being located above the base of the proposed quarry extension. The extraction limit would extend some 25m further to the south of the aforementioned tree group. There are distant views to elevated land more than 5km to the south including the summit of Foel Gasyth (outside the AONB).
- 7.22 Prior to the site preparation works on the extension area, Footpath 508/6 would be diverted from its current position in a south-westerly direction, adjacent to the Crest Mawr woodland, to meet Footpath 508/5 (See drawing Phase 1: M18.155.D.024). At this location, the low level perimeter earth bund

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

would be grass seeded only, which would screen potential views down into the extraction area, but would maintain views to the distant landscape (outside the AONB) on the horizon. The diverted section of the public right of way along the perimeter of Crest Mawr woodland would be set back some distance from the perimeter bund and planted with lower growing native shrubs, thereby screening any views of the quarry but potentially allowing some views to the wider landscape in places.

- 7.23 The value of the views is assessed as High and the susceptibility High, resulting in an overall High sensitivity.
- 7.24 The magnitude of effect during the operational phase would be Low to Medium. The addition of the earth bund, up to 3m high, from the initial soil strip would have an adverse effect; however this is partly mitigated by the gentle 1:3 outer slopes and new planting. The bund is designed to screen views into the extraction area and the subsequent establishment of native planting would, to a large degree, help to disguise the artificial landform, noting that in places the planting would extend onto adjacent land where the landform is not being modified. Some views to the wider landscape (outside the AONB) would be maintained. Views to the built up area of Denbigh and further east would be opened up as the screening hedgerow along the eastern boundary of the extension would be removed. The overall visual effect is assessed to be Moderate adverse at most during winter of the early years prior to the growth of the mitigation planting and is Not Significant. Prior to restoration of the quarry void, which would not be visible from this location, the planting around the perimeter of the extension site would have matured into a permanent landscape feature. It is assessed that the residual effect from the footpath at this location is considered to be Minor adverse, relative to the current baseline, and Not Significant.

Footpath 508/6 connecting Denbigh with Plas Chambres (Viewpoint 2)

- 7.25 This footpath connects the north western edge of Denbigh at Bryn Seion with Crest Mawr woodland and Plas Chambres. The view is taken near the southern boundary of the proposed extension and the foreground improved grassland

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

comprises the land of the extension site with Crest Mawr ancient woodland visible on the horizon (see Photoviewpoints 2b and 2c). The northern edge of Denbigh is clearly visible in Photoviewpoint 2a and whilst the approximate Site extent (application boundary) is indicated extending across the view, the extraction limit and perimeter bund would not be present in this part of the view. Consequently views to the wider countryside beyond Denbigh would be unaffected when footpath users are walking in a southerly direction towards the town. In Photoviewpoints 2b and 2c for footpath users travelling north the existing clump of trees in the right side of Viewpoint 2b and the left side of Viewpoint 2c would be removed to accommodate the extension. A low level bund would be established following the Phase 1 soil strip. The bund would be up to 3m in height, which would sit well below the skyline in the view and would be planted with native woodland thereby screening views of the extension area from the route, even in winter.

- 7.26 The footpath from this location would be diverted prior to any works associated with Phase 1 of the extension, following a route around the southern edge of the application Site, before linking to footpath 508/5 and shortly after connecting to a new section of footpath that would follow the edge of the Crest Mawr woodland. The diverted path would re-join the original route of footpath 508/6 to the north of the Proposed Development (See drawing Phase 1: M18.155.D.024).
- 7.27 The value of the view is assessed as High and the susceptibility of footpath users is assessed as High, resulting in an overall High sensitivity.
- 7.28 The magnitude of effect during the operational phase would be Low to Medium (seasonal variation) as whilst the addition of the earth bund from the initial soil strip would have an adverse effect, it is mitigated by the gentle 1:3 outer slopes and modest height. The bund is designed to screen views into the extraction area and the subsequent establishment of native planting would to a large degree help to disguise the artificial landform, noting that in places the planting would extend onto adjacent land where the landform is not being modified. All views southwards to the wider landscape (outside the AONB) would be maintained. The overall visual effect is assessed to be Moderate

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

adverse at most in the early years prior to the growth of the mitigation planting and is Not Significant. Prior to restoration of the quarry void, which would not be visible from this location, the planting around the perimeter of the extension site would have matured into a permanent landscape feature. It is assessed that the residual effect from the footpath at this location is considered to be Minor adverse and Not Significant.

Public Footpath 508/5 to the southwest (Viewpoint 3)

- 7.29 The location was selected along the footpath at the closest point to the site boundary. The views for footpath users are oblique in nature and partially screened by the scattered mature trees located to the south of the proposed extraction area. The landscape is predominantly improved grassland with fields divided by hedgerows and post and wire fencing. Where clear views are available (see Photoview 3a) the Crest Mawr woodland dominates the background with glimpses of the stone wall boundary visible over intervening hedgerows.
- 7.30 The value of the view is assessed as Medium to High and the susceptibility of footpath users assessed as High with an overall High sensitivity.
- 7.31 The magnitude of effect during the operational phase would be Low as whilst visibility of the low level perimeter earth bund from the initial soil strip would have an adverse effect, it is mitigated by the gentle 1:3 outer slopes and modest height. The bund is designed to screen views into the extraction area and the subsequent establishment of native planting would to a large degree help to disguise the artificial landform, noting that in places the planting would extend onto adjacent land where the landform is not being modified including woodland planting extending towards the viewer, within the group of existing trees that would be retained. The overall visual effect is assessed to be Moderate/Minor adverse at most in the early years prior to the growth of the mitigation planting and is Not Significant. Prior to restoration of the quarry void, which would not be visible from this location, the planting around the perimeter of the extension site would have matured into a permanent

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

landscape feature. It is assessed that the residual effect from the footpath at this location would be Neutral and Not Significant.

Footpath 508/5 to the southwest (Viewpoint 4)

- 7.32 The location was selected approximately mid-way along the footpath route section within the field to the south of the Site. The views towards the Site for footpath users are oblique and with reference to Photoview 4a, the mature trees in the far left of the view would be retained and the more distant group of trees to the right of centre would be removed to accommodate the extension. The Crest Mawr woodland is visible on the skyline and in the far right of the view (see Photoview 4b) the semi-mature woodland on the historic overburden mound is visible (which would be partly removed) and in the far right of the view mature woodland located to the south of the extension area, that would retained, is visible.
- 7.33 The value of the view is assessed as Medium to High and the susceptibility of footpath users is assessed as High with an overall High sensitivity.
- 7.34 The magnitude of effect during the operational phase would be Low to Very Low (seasonal variation) as, whilst visibility of the low level perimeter earth bund from the initial soil strip would have an adverse effect, it is mitigated by the gentle 1:3 outer slopes and modest height. The bund is designed to screen views into the extraction area and the subsequent establishment of native planting would, to a large degree, help to disguise the artificial landform, noting that in places the planting would extend onto adjacent land where the landform is not being modified including woodland planting extending within the group of existing trees that would be retained. The overall visual effect is assessed to be Moderate/Minor adverse at most at Year 1 prior to the growth of the mitigation planting and is Not Significant. Prior to restoration of the quarry void, which would not be visible from this location, the planting around the perimeter of the extension site would have matured into a permanent landscape feature. It is assessed that the residual effect at Year 15 upon the visual amenity of footpath users at this location would be Neutral and Not Significant.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

Footpath 508/3 to the south (Viewpoint 5)

- 7.35 The location was selected from a section of footpath to the rear of the dwellings on Bryn Seion. Oblique views from the majority of the footpath route towards the Site are screened by nearby native hedge and tree planting, noting intervisibility would be increased during the winter months when the leaf coverage is reduced. Predicted views from the nearby private dwellings are assessed separately below.
- 7.36 The views are dominated in the foreground and mid-ground by agricultural grassland, with fields typically divided by clipped hedgerows. The Crest Mawr woodland is visible on the horizon near the centre of Photoviewpoint 5a. Woodland planting on the historic overburden mound is visible to the right of centre in the view and Photoview 5b illustrates the relationship between the footpath route, tree cover and the rear of dwellings on Bryn Sein, with c.1.8m high closeboard fencing typically defining rear garden boundaries.
- 7.37 The value of the view is assessed as Medium and the susceptibility of footpath users is assessed as Medium to High with an overall Medium sensitivity.
- 7.38 The magnitude of effect at Year 1 of the operational phase would be Very Low as whilst the visibility of the low level perimeter earth bund from the initial soil strip would have an adverse effect, it is mitigated by the gentle 1:3 outer slopes and modest height, set below the skyline and backclothed by mature woodland. The bund is designed to screen views of the extraction area and the subsequent establishment of native planting would, to a large degree, help to disguise the artificial landform, noting that in places the planting would extend onto adjacent land where the landform is not being modified including woodland planting extending towards the viewer, within the group of existing trees that would be retained. The overall visual effect is assessed to be Minor adverse at most in the early years prior to the growth of the mitigation planting and is Not Significant. Prior to restoration of the quarry void, which would not be visible from this location, the planting around the perimeter of the extension site would have matured into a permanent landscape feature. It is

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

assessed that the residual effect upon the visual amenity of footpath users at this location would be Neutral.

Effects on Medium Range Views

- 7.39 At distances between 500m and 1.5km from the Site, the ZTV plan (see **Figure 4.3**) indicates there is a limited potential for medium range views of the Proposed Development from the surrounding landscape. Theoretical views include glimpses of the Site from higher ground within Denbigh, including parts of the Denbigh Castle. Views are also available from sections of the A543 and B4501 within and beyond the built up area of Denbigh. Finally, there are opportunities for views towards the Site from several public rights of way to the south and southwest of the Site, although these opportunities are limited in extent and typically restricted by intervening planting.

Burgess Gate (Viewpoint 6)

- 7.40 The view is located on Broomhill Lane adjacent to Burgess Gate approximately 970m south of the Site. The view is oblique for road users and partially restricted by intervening vegetation and buildings. The view is limited to glimpses between buildings and over sections of the battlement remnants. The townscape in the foreground predominantly consists of Burgess Gate and its walls, with houses located further beyond. The horizon is largely wooded, however the existing quarry faces are visible, with the extension site extent largely screened by intervening tree cover.
- 7.41 The value of the view is assessed as High and the susceptibility of road users/pedestrians is assessed as Medium to Low with an overall Medium sensitivity. An assessment of the proposed development from a heritage assessment perspective at this location is included in the cultural heritage chapter of the ES.
- 7.42 The magnitude of effect would be Very Low during the operational phase with an overall Minor adverse effect. The overall effect following restoration would be Neutral.

Castle Hill/Ffordd Newydd (Viewpoint 7)

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- 7.43 The view is located at the junction between Castle Hill and Ffordd Newydd. The view is very localised and fleeting for road users, with buildings typically preventing views towards the Site apart from the road junction. The foreground Denbigh townscape, dominates the foreground and middle-ground of the view with the distant rural landscape largely composed of woodland. The existing quarry faces are partly visible and the extension site is largely screened by intervening woodland cover with the fields of the western edge visible as a small element with the Crest Mawr woodland set above on the horizon.
- 7.44 The value of views is Medium to High and susceptibility of road users is assessed as Medium to Low with an overall Medium sensitivity.
- 7.45 The magnitude of effect would be Very Low at Year 1 of the operational phase with a Minor adverse effect. The overall effect at Year 15 and residual effect following restoration would be Neutral.

Battlements of Denbigh Castle (Viewpoint 8)

- 7.46 The view is located on the highest point on the publicly accessible battlements of Denbigh Castle, approximately 1.1km to the southeast of the Site. Views towards the Site from the Castle itself are frequently limited by the built form of the castle and external viewpoints at a lower level are often restricted by built development within the town. In addition, similar but less elevated views are also available from the southwestern edge of the Castle (see Photoviewpoint 9 below). Beyond the open grassland that surrounds the Castle, the middle ground in Photoviewpoint 8 is dominated by the built up extent of Denbigh with the Conservation Area and several Listed buildings in the view (refer to Cultural Heritage chapter for a full description). Farmland beyond the town is visible with woodland along the majority of the horizon. The upper faces of the existing quarry are visible and improved grassland on the western part of the proposed extension area is visible, being set between areas of mature woodland.
- 7.47 The value and susceptibility of visitors to the Castle is assessed as High with an overall High sensitivity.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- 7.48 With reference to the computer generated photomontage images of the proposed development, at the start of Phase 1 (Year 1), the soil would be stripped and used to form the perimeter bund around the extension area. The bund would be grass seeded and planted with woodland along the southern edge, although the woodland would be planted as small sized stock so wouldn't be readily perceptible at Year 1. During Phase 2, a triangular shaped area of historic overburden material (topped by semi-mature woodland) would be removed. The Year 5 photomontage illustrates that removal of this woodland would allow limited glimpses of the back face of the existing quarry that would be slightly extended compared with the current situation. At Year 5, the growth of woodland planting on the perimeter bund to the extension, would largely restrict visibility of the quarry face to the extension and by Year 15 the growth of planting would blend into the established Crest Mawr woodland. The gradual infill of the northernmost part of the permitted quarry would not be visible, even in winter due to intervening woodland planting that is already present on higher ground to the south of the main quarry. The existing rock faces within the permitted quarry would remain visible, noting the growth of scrub planting on benches would slightly reduce the exposed rock faces visible.
- 7.49 The magnitude of effect would be Very Low at Year 1 during the operational phase with a Moderate/Minor adverse effect. The overall effect at Year 15 following the growth of woodland along the perimeter of the Site (and the residual effect) would be Neutral.
- 7.50 In terms of the view descriptions for remaining locations at medium range, it is noted that this view from the Castle Battlements is at the most elevated location. Consequently the visibility of the proposed extension would typically be slightly less from all other medium range viewpoints (i.e. 6, 7, 9, 10, 11 & 12).

Edge of Denbigh Castle (Viewpoint 9)

- 7.51 The view is located on the southwestern edge of Denbigh Castle approximately 1.15km to the southeast of the Site.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- 7.52 Beyond the Castle walls, the middle ground in Photoviewpoint 9 is dominated by the built up extent of Denbigh with the Conservation Area and several listed buildings in the view (refer to Cultural Heritage chapter for a full description). Farmland beyond the town is visible with woodland along the majority of the horizon. The upper faces of the existing quarry are visible and improved grassland on the western part of the proposed extension area is visible to the right of centre, being set between areas of mature woodland.
- 7.53 The value and susceptibility of visitors to the Castle is assessed as High with an overall High sensitivity.
- 7.54 The quarry extension would be screened by a perimeter earth bund with tree planting. The magnitude of effect would be Very Low at Year 1 during the operational phase with a Moderate/Minor adverse effect. The overall effect at Year 15 following the growth of woodland along the perimeter of the Site (and the residual effect) would be Neutral.

A543 south of Denbigh (Viewpoint 10)

- 7.55 This section of the A543 passes along the southern edge of Denbigh and is located approximately 980m south of the Site. The view is oblique in nature and fleetingly glimpsed between the dwellings located alongside the road. The Site is partially screened by intervening buildings in the middle ground and woodland that is located to the southeast of the extension area. The landscape beyond the town comprises agricultural land including the extension area which is located below woodland on the horizon.
- 7.56 The value and susceptibility of road users is assessed as Low with an overall Low sensitivity.
- 7.57 The quarry extension would be screened by a perimeter earth bund with tree planting. The magnitude of effect would be Very Low at Year 1 of the operational phase with a Minor adverse effect. The overall effect at Year 15 (residual effect) would be Neutral.

B4501 (Viewpoint 11)

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- 7.58 The view is located near the council offices next to the B4501 approximately 1.16km to the south of the Site. The view is oblique for road users and dominated in the foreground by parking for the Council Offices and the built up area of Denbigh extending into the middle ground of the view. Limited views of the agricultural fields beyond the town are available with the horizon dominated by woodland. There is a glimpse of a small part of the existing quarry face near the horizon, with the majority of the quarry being screened by intervening planting. The extension site is partly screened by intervening woodland to the southeast of the extension area.
- 7.59 The value and susceptibility of road users is assessed as Low with an overall Low sensitivity.
- 7.60 The quarry extension would be screened by a perimeter earth bund with tree planting. The magnitude of effect would be Low at Year 1 of the operational phase with a Minor/Negligible adverse effect. The overall effect following restoration would be Neutral.

B4501 and Public Footpath 508/47 (Viewpoint 12)

- 7.61 The view is located at a junction between the B4501 and Public Footpath 508/47 approximately 1.17km south of the Site. The foreground landscape is dominated by allotments and the built up area of Denbigh forms the middle-ground of the view. Agricultural land below a well wooded horizon extends beyond the built-up area of Denbigh. The extension site is set below woodland and partially screened by woodland.
- 7.62 The value of the view is assessed as Low and the susceptibility of footpath and road users is assessed as Low-Medium with an overall Low sensitivity.
- 7.63 The quarry extension would be screened by a perimeter earth bund with tree planting. The magnitude of effect would be Very Low during the operational phase with a Minor/Negligible adverse effect. The overall effect following restoration would be Neutral.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

Footpath 508/3 (Viewpoint 13)

- 7.64 The view was taken from the layby on the A543, close to the junction with Public Footpath 508/3 and is assessed for footpath users, partly influenced by the nearby context of the A543. The foreground landscape predominantly consists of agricultural fields with scattered farmsteads in the middle ground and glimpses of the roofscape of Denbigh in the right side of the view.
- 7.65 The value of the view is assessed as Medium to High and the susceptibility of footpath users is assessed as Medium with an overall Medium sensitivity.
- 7.66 The quarry extension would be screened by a perimeter earth bund with tree planting. The magnitude of effect would be Very Low during the operational phase at Year 1 with a Minor adverse effect. The overall effect following restoration would be Neutral.

Effects on Long Range Views

- 7.67 At distances beyond 1.5km from the Site, the ZTV indicates limited potential for long range views from the surrounding landscape. Theoretical views are predominantly located along isolated parts of public rights of way on higher ground to the southwest of the Site. In addition, a very long range view was taken from the Clywdian Hills AONB, approximately 8km east of the Site.

Footpath 508/51 (Viewpoint 14)

- 7.68 The oblique view is located on Footpath 508/51 near Balch Hill. As illustrated on the ZTV, views towards the site are prevented by intervening landform from the majority of the route and near the summit would be predominantly screened by hedgerow planting, with the viewpoint located near a slightly lower section of hedgerow allowing views in the direction of the Site. The landscape in the foreground is dominated by agricultural fields with hedgerow boundaries and frequent hedgerow trees and woodland. Glimpses of built development in Denbigh are available in the far right of the view. The Crest Mawr woodland beyond the Site is visible on the horizon with the western part of the extension site sitting below and barely perceptible, being set beyond woodland to the south of the existing quarry.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- 7.69 The value of the view is assessed as High and the susceptibility of footpath users is assessed as High resulting in an overall High sensitivity.
- 7.70 The quarry extension would be screened by a perimeter earth bund with tree planting. The magnitude of effect would be Very Low to None during the operational phase at Year 1 with a Minor adverse effect. The overall effect following restoration would be Neutral.

Public Footpath 508/65 & 508/71 (Viewpoint 15)

- 7.71 The view is located on Footpath 508/65 adjacent to the junction with Footpath 508/71, north of Broadleys Covert and approximately 1.67km southwest of the Site. Pastoral fields are the main component of the landscape in the foreground and middle ground, with boundaries defined by a combination of hedgerows and wire fencing. Tan Y Marian farm is visible on the left hand side of the view and utility poles with overhead lines cross the skyline. On the distant horizon, the Moel y Parc mast (235m tall) is a distinctive skyline feature located on the summit of Moel y Parc. The view towards the Site is partially screened by intervening vegetation although visibility would be slightly greater in winter, noting that sections of the footpath, particularly Footpath 508/71, have no predicted intervisibility with the Proposed Development due to intervening landform/woodland.
- 7.72 The value of the view is assessed as Medium and the susceptibility of footpath users is assessed as High resulting in an overall High sensitivity.
- 7.73 The quarry extension would be barely discernible and where visible between intervening trees would be screened by a perimeter earth bund with tree planting. The magnitude of effect would be Very Low to None during the operational phase at Year 1 with a Minor adverse effect. The overall effect following restoration would be Neutral.

Offa's Dyke National Trail (Viewpoint 16)

- 7.74 The view is located where Offa's Dyke, a national trail spanning the Clwydian Hills AONB, crosses the summit of Penycloddiau Hillfort, a Scheduled Monument, approximately 8km east of the Site. Some areas of the AONB are in closer proximity to the Site, however Penycloddiau was judged as the most

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

sensitive location where elevated views of the Proposed Development would be available (in clear weather conditions).

- 7.75 The landscape is predominantly rural in nature, dominated by agricultural fields and scattered settlements. The town of Denbigh, situated around the existing quarry, is the largest urban area in the view. It is predicted there will be minimal changes from the current view as the existing western quarry faces are barely perceptible at this range and would extend slightly further from the viewer as part of the proposed extension.
- 7.76 The value of the view is assessed as High and the susceptibility of footpath users is assessed as High resulting in an overall High sensitivity.
- 7.77 The quarry extension would be barely perceptible. The magnitude of effect would be Very Low to None during the operational phase at Year 1 with a Minor adverse effect. The overall effect following restoration would be Neutral.

Summary of Assessment

- 7.78 All effects from the viewpoints are summarised in Table 6 below.

**LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING
OPERATIONS AT DENBIGH QUARRY, DENBIGH**

Table 6: Summary of Viewpoint Assessment

VP No.	Location	Distance / direction to the Site	Sensitivity (Value/ Susceptibility)	Magnitude (maximum)	Effect at Yr 1 Operational Phase	Effect at Yr 15 Operational Phase (residual effect)
CLOSE RANGE						
1	View from public footpath close to northern boundary of Site	15m north	High (High/High)	Medium to Low	Moderate adverse	Minor adverse
2	View from public footpath close to southern boundary of Site	Within the Site	High (High/High)	Medium to Low	Moderate adverse	Minor adverse
3	View from public footpath to the south-west of the Site	100m northeast	High (Medium to High/High)	Low to Very Low	Moderate/ Minor adverse	Neutral
4	View from public footpath to the south of the Site	150m northeast	High (Medium to High/High)	Low to Very Low	Moderate/ Minor adverse	Neutral
5	View from public footpath to rear of dwellings on Bryn Seion, Denbigh	290m north	Medium (Medium to Medium/High)	Very Low	Minor adverse	Neutral
MEDIUM RANGE						
6	View from Burgess Gate at Leicester Terrace	970m north	Medium (High/Medium to Low)	Very Low	Minor adverse	Neutral
7	View from Ffordd Newydd at junction with Castle Hill	990m northwest	Medium (Medium-High/Medium-Low)	Very Low	Minor adverse	Neutral
8	Views from battlements on Denbigh Castle	1.1km northwest	High (High/High)	Very Low	Moderate/ Minor adverse	Neutral
9	View from southwestern edge of Denbigh Castle	1.15km northwest	High (High/High)	Very Low	Moderate/ Minor adverse	Neutral
10	View from A543 on edge of Denbigh	980m north	Low (Low/Low)	Very Low	Minor/ Negligible adverse	Neutral

**LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING
OPERATIONS AT DENBIGH QUARRY, DENBIGH**

VP No.	Location	Distance / direction to the Site	Sensitivity (Value/ Susceptibility)	Magnitude (maximum)	Effect at Yr 1 Operational Phase	Effect at Yr 15 Operational Phase (residual effect)
11	View from B4501 near Council Offices	1.16km north	Low (Low/Low)	Very Low	Minor/ Negligible adverse	Neutral
12	View from public footpath at junction with B4501	1.17km north	Low (Low/Low-Medium)	Very Low	Minor/ Negligible adverse	Neutral
13	View from layby on A543 near junction with public footpath	1.19km northeast	Medium (Medium-High/Medium-Low)	Very Low	Minor adverse	Neutral
LONG RANGE						
14	View from public footpath on Balch Hill	1.67km north northeast	High (High/High)	Very Low to None	Minor adverse	Neutral
15	View from public footpath north of A543 and Broadleys Covert	1.67km northeast	High (Medium/High)	Very Low to None	Minor adverse	Neutral
16	View from Offa's Dyke National Trail on Penycloddiau	8km west	High (High/High)	Very Low to None	Minor adverse	Neutral

Other receptors

7.79 No other publicly accessible visual receptors within the ZTV, where there is potential for significant intervisibility of the proposed development, were identified. Potentially significant effects from private dwellings are assessed separately below.

Effects on Views from Private Receptors

7.80 This assessment, undertaken from nearby public vantage points and from the Site itself, provides an indication of the views of the Proposed Development that would be available.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- 7.81 It is an established planning principle that there is ‘no right to a private view’; however, the impact upon private visual amenity where new development has the potential to result in overbearing and/or unacceptable effects on living conditions is a material planning consideration.
- 7.82 As part of the visual baseline, photography was taken at public locations close to a range of dwellings within Denbigh. Representative views from public locations include the following:
- The nearest dwellings to the Site off Bryn Seion (see Viewpoint 5);
 - Elevated dwellings within the Conservation Area of Denbigh (see Viewpoints 6 and 7); and
 - Dwellings on higher ground within the western suburbs of the town dominated by post-war development (see Viewpoints 11, 12 & 13).
- 7.83 Views of the proposed development from the aforementioned dwellings, even at upper floor level, would be no greater than the very low magnitude recorded from Viewpoint 8 and, consequently, it is predicted that there is no potential for any Significant effects. This conclusion is based on a high sensitivity for receptors resulting in an overall Moderate/Minor effect at Year 1 (i.e. Not Significant) and a Neutral effect by Year 15.

Cumulative Landscape and Visual Effects

- 7.84 The cumulative landscape and visual methodology is set out at Appendix 4.1.
- 7.85 There are no existing quarries within the Study Area or wider landscape. The Proposed Development would therefore have no potential for any Significant cumulative landscape or visual effects with other quarry developments.
- 7.86 The list of other development schemes advised by the Council where there may be potential for cumulative effects with the Proposed Development are set out in Table 7 below. The predicted combined visibility of the assessed scheme and the Proposed Development has been undertaken with reference to the ZTV plan at Figure 4.3.

**LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING
OPERATIONS AT DENBIGH QUARRY, DENBIGH**

Table 7: Cumulative Assessment

Scheme	Status	Predicted combined Visibility of Proposed Quarry Extension	Potential cumulative effects
Plots 1-5 North of Denbigh Industrial Estate	In Planning	None	Neutral
75 Dwellings at Cae Topyn	Under construction	None	Neutral
60 dwellings at Brookhouse	Allocation	None	Neutral
300 dwellings at former North Wales Hospital Site	Screening	Predominantly none: theoretical low magnitude visibility from very localised areas.	Negligible to Neutral

7.87 Given the location of route receptors to the cumulative schemes and the degree of separation from the quarry extension, no sequential cumulative effects are predicted.

8.0 SUMMARY AND ASSESSMENT CONCLUSIONS

Introduction and Methodology

8.1 A Landscape and Visual Impact Assessment was undertaken in accordance with best practice guidance by a Chartered Landscape Architect, with the principal sources of guidance being:

- ‘Guidelines for Landscape and Visual Impact Assessment’ (GLVIA, 3rd edition) 2013; and
- Photography and photomontage in Landscape and Visual Impact Assessment. Technical Guidance Note 06/19 (The Landscape Institute, 2019).

8.2 A full methodology is included at Appendix 4.1. The study area extends to 3km in all directions from the edge of the Site, as beyond this distance it is predicted that there would no potential for any potentially Significant landscape and visual effects.

8.3 A number of documents were used to inform the baseline character and sensitivity of the local area. These include:

- LANDMAP - Online resource - Natural Resource Wales;
- Supplementary Planning Guidance Note: Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (AONB); and
- Cultural Heritage ES Chapter prepared by Andrew Joseph Associates with reference to the Historic Landscapes Register: Registered Historic Landscape of The Vale of Clwyd.

8.4 A broad area of search for potential viewpoint locations was carried out using specialist digital terrain modelling and analysis software which was used to calculate a Zone of Theoretical Visibility (ZTV) of the Proposed Development. The ZTV is based on the current landform of the Site and surrounding area, including the main blocks of woodland and settlements as visual barriers (see **Figure 4.3**). The ZTV should be interpreted as indicative of a maximum effect situation, since it covers large tracts of the surrounding landscape where the

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

Proposed Development would in reality be filtered or screened by other intervening elements (e.g. hedgerows, individual trees and scattered buildings).

Proposed Development

- 8.5 The permitted site comprises approximately 28.3 hectares of land and the proposed extension area is approximately 4.5 hectares in extent. The proposed extension area consists of parts of three agricultural fields comprising improved grassland. The Site lies to the north of Denbigh, approximately 250m from the edge of the town at the closest point. Removal of mineral from the site would take place via the existing access point onto Plas Chambres Road.
- 8.6 The potential for the greatest adverse effects upon landscape character would occur within the Extraction Area with external effects upon landscape character and visual amenity restricted due to the landform characteristic, presence of nearby woodland blocks and formation of a screening earth bund around the perimeter of the extension area prior to extraction of the mineral, designed to minimise landscape and visual effects.
- 8.7 The Development Plan policies that are relevant to landscape and visual matters were reviewed within the Planning Statement accompanying the application and, in summary, need for extraction of the mineral should be found to outweigh the environmental impacts of the development.

Landscape Baseline

- 8.8 No part of the Site or Study Area lies within a statutorily designated landscape. The Clwydian Range and Dee Valley Area of Outstanding Natural Beauty (AONB) is located approximately 5km broadly east of the Site. The Site does lie within the non-statutorily Registered Historic Landscape: The Vale of Clwyd. The designation washes over a large tract of rural and urban land including the existing quarry and the industrial estates to the east as well as the built up area of Denbigh which comprises modern post-war residential development beyond the historic core.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- 8.9 There are a number of ecological and cultural heritage designations within the wider study area that contribute to an assessment of landscape value, most notably the Scheduled Monument and Listed status of Denbigh Castle and the wider Denbigh conservation area that includes a number of listed buildings. The immediate landscape/townscape context of these designations would, however, remain unaffected by the Proposed Development and setting is assessed in detail within the Cultural Heritage Chapter of the ES.
- 8.10 The proposed extension area and adjoining land is not subject to any Tree Preservation Orders (TPO). A woodland TPO (ref W9) is located ~100m to the south of the proposed extension at the closest point.
- 8.11 In 2007 the Countryside Council for Wales (now Natural Resources Wales NRW) at a national level produced a Landscape Character Map for Wales. This document locates the Site at the eastern edge of NLCA 09 'Rhos' which abuts NCLA 11 'Vale of Clwyd' that covers the majority of the built-up area of Denbigh and land in the eastern part of the study area. The published assessment highlights a number of key characteristics including the limestone outcrop, an undulating landform and mixed field patterns.
- 8.12 LANDMAP, the Welsh approach to landscape assessment, is a Geographical Information System (GIS) based landscape resource where landscape characteristics, qualities and influences on the landscape are recorded and evaluated into a nationally consistent data set.
- 8.13 The LANDMAP resource defines overall values for the five Aspect Areas (AA) in which the proposed extension area is located:
- Visual and Sensory: **Moderate**
 - Landscape Habitats: **Moderate**
 - Cultural Landscape: **High**
 - Historic Landscape: **High**
 - Geological: **Outstanding**

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- 8.14 The overall characteristics of the landscape are therefore made up of a combination of physical, environmental, cultural and sensory factors. However, in the case of landscape and visual impact assessment it is the visual and sensory layer that is of primary importance.
- 8.15 The proposed extension area and rural land to the west and south within the study area are located within the Limestone Plateau - Denbigh/Henllan aspect area, described as:
- ‘Rolling countryside dominated by wooded estate - gently undulating pastoral farmland with a patchwork of medium sized mostly improved grassland fields enclosed by managed hedgerows with scattered trees & woodland’*
- 8.16 The proposed extension area consists of parts of three agricultural fields of improved grassland to the west of the existing quarry and to the south of the Crest Mawr woodland. The existing quarry lies to the east of the extension area, including current working area at the northern end of the Site, centrally located extraction and stocking areas, and a Plant Site, Office and Weighbridge at the southeastern end of the Site.
- 8.17 The closest residential properties lie within the town of Denbigh circa 250m to the south of the proposed extraction limit at the northern end of Bryn Seion.
- 8.18 Public Footpath 508/6 crosses through the proposed extension area, running north to south and to the west of the existing quarry.
- 8.19 The field survey confirmed that the characteristics of the Site and adjacent landscape broadly comply with the published Landscape Character Assessments.

Visual Baseline

- 8.20 Photography was obtained from 15 publicly accessible viewpoints located at a range of distances and directions from the Site (see **Figure 4.4**). An additional viewpoint outside the main study area from the Clwydian Hills and Dee Valley AONB was selected. Viewpoint selection was guided by a Zone of Theoretical Visibility (see **Figure 4.3**) and micro-sited in the field. All viewpoint photography and computer generated visualisations were presented in

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

accordance with current best practice guidance - TGN 06/19 published by the Landscape Institute (see **Photoviews 1-16** and **Viewpoint 8 Photomontages**).

- 8.21 In summary, as a result of field analysis and with reference to the ZTV at **Figure 4.3**, it is concluded that there are a limited number of viewpoints from publicly accessible areas where the Proposed Development has the potential to have a Significant effect upon visual amenity.
- 8.22 Public footpaths 508/6, 508/5 and 508/3 would afford users close range views towards the Proposed Extension Area. Representative views from the closest paths to the Site where views of the site would be screened by a perimeter earth bund that would be planted, have been selected.
- 8.23 Views from transport corridors include fleeting glimpses from the A543, B4501 and minor roads surrounding the Site. Views from other public rights of way throughout the Study Area at varying distances are predicted to be limited with the highest magnitude of effect impacting footpaths within close range of the Site.
- 8.24 Denbigh is the closest settlement to the quarry and there are limited views of the upper faces of the existing quarry workings from parts of the town. Views of the proposed extension would be typically limited due to intervening buildings and planting.

Landscape and Visual Impact Assessment

- 8.25 The methodology outlining the assessment process in detail is set out at **Appendix 4.1**. The planning application represents a continuation of existing and long established operations. In the absence of the current proposals, the future baseline planning position is assumed to involve the ceasing of all quarry operations when the current consent expires and cessation of associated vehicle movements. All plant and associated infrastructure would be removed from the Site. It is assumed that the partly worked void would be restored as closely as possible to the permitted restoration plan.
- 8.26 The assessment of the Operational Phase includes the continuation of quarrying operations including extraction of permitted reserves and including for the maintenance of all plant on the Site and continued vehicle movements. The

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

restoration scheme would follow some of the principles established as part of the permitted scheme.

8.27 The development would require the removal of the following landcover to accommodate the quarry extension.

- 4.42ha of improved grassland (best and most versatile agricultural land);
- 0.9ha of low quality semi-mature tree groups/woodland (Ref G3, G4, G5 and G6) with the majority planted on an existing overburden mound);
- 380m combined length of existing hedgerows of medium to low quality (Ref parts of H2, H3 and H4 - see **Appendix 4.2**); and
- 25 No. scattered trees (predominantly of low quality - See **Appendix 4.2** for full details).

8.28 The loss of just over 4 hectares of improved grassland within the context of the surrounding agricultural landscape would clearly not be significant. The removal of ~380m of hedgerows, less than 1 hectare of woodland and 25 No scattered trees, which are all typically of Low to Medium value and Medium susceptibility, would represent a Small magnitude in the context of the surrounding landscape which includes substantial tracts of woodland and field boundary hedgerows. The overall effect of this loss during the operational phase would be Moderate/Minor adverse and Not Significant.

8.29 Approximately 1.6 hectares of native broadleaf tree and shrub planting would be established on the peripheral mound during Phase 1 following the partial strip of the extension area and this beneficial effect is described as part of the assessment of the restoration scheme below.

8.30 It is proposed to restore parts of the extraction area to priority habitat (i.e. broadleaved woodland, marsh grassland and calcareous/neutral grassland) along the restored quarry floor and some of the reprofiled slopes. The steeper retained quarry benches and faces may be hydroseeded in order to encourage vegetation growth and reduce the contrast of the rocks with surrounding vegetation.

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- 8.31 It is proposed to restore the extension area and main site as follows:
- 13.7 ha of grassland overall;
 - 5.0 ha of broadleaf woodland planting;
 - At least 50 No. scattered trees; and
 - An ephemeral water feature at the low point in the quarry that would vary in size over the seasons.
- 8.32 Overall, once the planting has established there would be a net gain in broadleaf tree cover relative to the current baseline and a substantial increase in priority habitat grassland, representing a medium magnitude. Consequently, the residual effect on landscape features of the Site would represent a Moderate beneficial effect that is Not Significant.
- 8.33 In accordance with the methodology at **Appendix 4.1**, the landscape character of the Site is assessed as having a Medium Susceptibility to change to the expanded quarrying activity and when combined with a Medium Landscape Value, resulting in an overall Medium Landscape Sensitivity.
- 8.34 The magnitude of change at a site level arising from proposed extension would be Medium to High. This assessment takes into account the context of the adjoining quarry that incorporates visual change as well as activity associated with the extraction including vehicle movements and periodic impacts on tranquillity from blasting. The overall effect on landscape character would be Moderate adverse during the operational phase that is Not Significant. Following restoration, the magnitude of effect upon the Site would be of a Medium magnitude, although the change would be Neutral given that both positive and adverse elements would be present i.e. beneficial effects from the establishment of semi-natural native vegetation in the re-profiled void and adverse landform effects from a permanent and quarry void landform (but at a Site level only).
- 8.35 The landscape sensitivity of the wider **Limestone Plateau - Denbigh/Henllan** area beyond the Site and immediate context is assessed as Medium (comprising Medium Value and Medium susceptibility). There is no appreciable change in

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

value or susceptibility of the area where the scheme may be perceived (see ZTV at **Figure 4.3**), compared with the Site and immediate landscape context assessed above. There would be very limited visibility of the operations and reduction in tranquillity from blasting and vehicle movements would be very localised within the landscape and experienced for short periods. The magnitude of change experienced within the Aspect Area in the Study Area, beyond the Site and immediate vicinity, during the operational phase would be Very Low and the overall effect Minor adverse and Not Significant. Following restoration, including the growth of the proposed native planting around the periphery of the extension, the residual effect would be Neutral and not Significant.

- 8.36 The assessment of indirect effects upon the **Denbigh** Aspect Area recognises the historic character of the elevated conservation area and Denbigh Castle, however any changes to the townscape context would be perceived in the context of the built development on the northern edge of the town that includes post war cul-de-sac development and large scale industrial units. The assessment has focussed on the historic core of the aspect area as the ZTV indicates that it is from these elevated areas that the greatest theoretical intervisibility with the Site would occur. The Value is assessed as High and the Susceptibility Medium, resulting in an overall Medium-High Sensitivity.
- 8.37 There would be very limited intervisibility of the operations with the quarry faces of the existing quarry being much more visible than the uppermost face of the proposed extension. The magnitude of change experienced within the aspect area in the Study Area, beyond the Site and immediate vicinity, during the operational phase would be Very Low and the overall effect Minor adverse and Not Significant. Following restoration, including the growth of the proposed native planting around the periphery of the extension, the residual effect would be Neutral and not Significant.
- 8.38 Close range views are defined as those being located within 500m of the Site, Medium range views between 500m and 1.5km and long-range views over 1.5km from the boundary of the Site.

**LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING
OPERATIONS AT DENBIGH QUARRY, DENBIGH**

8.39 Public footpath 508/6 currently passes through the extension area and would be redirected around the perimeter of the extension area. Views of the extraction area would be largely restricted by a perimeter earth bund up to 3m high, with new tree and shrub planting.

8.40 All assessed effects upon visual amenity are summarised in the table below.

VP No.	Location	Distance / direction to the Site	Sensitivity (Value/ Susceptibility)	Magnitude (maximum)	Effect at Yr 1 Operational Phase	Effect at Yr 15 Operational Phase (residual effect)
CLOSE RANGE						
1	View from public footpath close to northern boundary of Site	15m north	High (High/High)	Medium to Low	Moderate adverse	Minor adverse
2	View from public footpath close to southern boundary of Site	Within the Site	High (High/High)	Medium to Low	Moderate adverse	Minor adverse
3	View from public footpath to the south-west of the Site	100m northeast	High (Medium to High/High)	Low to Very Low	Moderate/ Minor adverse	Neutral
4	View from public footpath to the south of the Site	150m northeast	High (Medium to High/High)	Low to Very Low	Moderate/ Minor adverse	Neutral
5	View from public footpath to rear of dwellings on Bryn Seion, Denbigh	290m north	Medium (Medium to Medium/High)	Very Low	Minor adverse	Neutral
MEDIUM RANGE						
6	View from Burgess Gate at Leicester Terrace	970m north	Medium (High/Medium to Low)	Very Low	Minor adverse	Neutral
7	View from Ffordd Newydd at junction with Castle Hill	990m northwest	Medium (Medium-High/Medium-Low)	Very Low	Minor adverse	Neutral
8	View s from battlements on Denbigh Castle	1.1km northwest	High (High/ High)	Very Low	Moderate/ Minor adverse	Neutral
9	View from southwestern edge of Denbigh	1.15km northwest	High (High/ High)	Very Low	Moderate/ Minor adverse	Neutral

**LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING
OPERATIONS AT DENBIGH QUARRY, DENBIGH**

VP No.	Location	Distance / direction to the Site	Sensitivity (Value/ Susceptibility)	Magnitude (maximum)	Effect at Yr 1 Operational Phase	Effect at Yr 15 Operational Phase (residual effect)
	Castle					
10	View from A543 on edge of Denbigh	980m north	Low (Low/Low)	Very Low	Minor/ Negligible adverse	Neutral
11	View from B4501 near Council Offices	1.16km north	Low (Low/Low)	Very Low	Minor/ Negligible adverse	Neutral
12	View from public footpath at junction with B4501	1.17km north	Low (Low/Low-Medium)	Very Low	Minor/ Negligible adverse	Neutral
13	View from layby on A543 near junction with public footpath	1.19km northeast	Medium (Medium-High/Medium-Low)	Very Low	Minor adverse	Neutral
LONG RANGE						
14	View from public footpath on Balch Hill	1.67km north northeast	High (High/High)	Very Low to None	Minor adverse	Neutral
15	View from public footpath north of A543 and Broadleys Covert	1.67km northeast	High (Medium/High)	Very Low to None	Minor adverse	Neutral
16	View from Offa's Dyke National Trail on Penycloddiau	8km west	High (High/High)	Very Low to None	Minor adverse	Neutral

8.41 It is an established planning principle that there is 'no right to a private view'; however, the impact upon private visual amenity where new development has the potential to result in overbearing and/or unacceptable effects on living conditions is a material planning consideration.

8.42 As part of the visual baseline, photography was taken at public locations close to a range of dwellings within Denbigh. Representative views from public locations include the following:

- The nearest dwellings to the Site off Bryn Seion (see Viewpoint 5);

LANDSCAPE AND VISUAL IMPACT ASSESSMENT FOR CONTINUED QUARRYING OPERATIONS AT DENBIGH QUARRY, DENBIGH

- Elevated dwellings within the Conservation Area of Denbigh (see Viewpoints 6 and 7); and
- Dwellings on higher ground within the western suburbs of the town dominated by post-war development (see Viewpoints 11, 12 & 13).

8.43 Views of the proposed development from the aforementioned dwellings, even at upper floor level, would be no greater than the very low magnitude recorded from Viewpoint 8 and consequently it is predicted that there is no potential for any Significant effects. This conclusion is based on a high sensitivity for receptors resulting in an overall Moderate/Minor effect at Year 1 (i.e. Not Significant) and a Neutral effect by Year 15.

Cumulative Landscape and Visual Assessment

8.44 The Proposed Development has no potential for any Significant cumulative landscape or visual effects with any other developments located within the study area. Schemes were identified by the Council, including developments under construction, consented, in planning or at scoping stage.

Overall conclusions

8.45 In conclusion, due to the mitigation design the impact of the operational phase of the Proposed Development upon landscape and visual receptors would be minimised and no Significant effects are predicted.

8.46 Upon full restoration of the Site, the residual landscape and visual impact upon the identified receptor groups have been assessed to range from Moderate beneficial in terms of landcover elements (native planting) to Minor adverse in terms of close range visual effects from very localised parts of the public right of way network, which in all cases are Not Significant.

Figures 4.1 to 4.4
and
Photoviewpoints 1-16
Photomontage (Years 1, 5 and 15): Viewpoint 8

Appendix 4.1: Landscape and Visual Impact Methodology

Appendix 4.2: BS 5837 Arboricultural Survey