

Landscape and Visual Appraisal

Llwyn Onn Water Treatment Works

Project Number: 60513647

24th November 2016

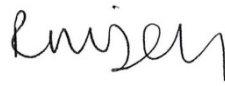
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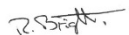
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Approved by



RB

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AECOM Limited

1 Tanfield

Edinburgh

EH3 5DA

UK

T: +44 131 301 8600

aecom.com

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TABLE OF CONTENTS

1.	INTRODUCTION	1
2.	LEGISLATIVE AND PLANNING POLICY CONTEXT	2
3.	ASSESSMENT METHODOLOGY	5
4.	BASELINE CONDITIONS.....	15
5.	THE DEVELOPMENT	25
6.	MITIGATION	26
7.	ASSESSMENT OF EFFECTS	27
8.	SUMMARY AND CONCLUSION	34
9.	REFERENCES	35
10.	FIGURES	
11.	APPENDIX A	

1. INTRODUCTION

- 1.1.1 This Landscape and Visual Appraisal (LVA) identifies and assesses the potential effects that the demolition of the existing reservoir at Llwyn Onn Water Treatment Works (WTW) and the proposed construction of the reservoirs and associated modifications at Llwyn Onn WTW (hereafter referred to as the 'Development') may have on the local landscape and visual resource.
- 1.1.2 A study of the landscape and visual components of the Development site and the local area was undertaken through desktop research and fieldwork. This identified the main landscape and visual receptors and resulted in a baseline appraisal against which landscape and visual effects have been appraised.
- 1.1.3 This appraisal considers how the Development may have an effect upon landscape character and visual amenity. It considers:
- Landscape effects associated with the Development which relate to changes to the fabric, character and quality of the landscape resource and how it is experienced; and
- Visual effects concern changes in views and people's perception to changes in visual amenity.

2. LEGISLATIVE AND PLANNING POLICY CONTEXT

2.1 Review of Landscape Policy and Designations

- 2.1.1 A review of relevant planning policy and landscape designations has been conducted. This review focussed on local policy, since such policy is more specific to the site and reflects Welsh Government advice regarding landscape issues.

2.2 Planning Policy Wales

- 2.2.1 Planning Policy Wales, Edition 8- January 2016 (PPW)¹, sets out the land use planning policies of the Welsh Government. The following policies are relevant to this Development with regard to landscape and visual matters.
- 2.2.2 Paragraph 4.2.2 - Planning for Sustainability, explains that "The planning system provides for a presumption in favour of sustainable development".
- 2.2.3 Paragraph 4.6.3 states that: "Priorities for rural areas are to secure... an attractive, ecologically rich and accessible countryside in which the environment and biodiversity are conserved and enhanced."
- 2.2.4 Paragraph 4.11.9 states that: "The visual appearance of proposed development, its scale and its relationship to its surroundings and context are material planning considerations."
- 2.2.5 Chapter 5 is concerned with Conserving and Improving Natural Heritage and the Coast and sets out the Welsh Government's objectives in paragraph 5.1.2 including to "promote the conservation of landscape".
- 2.2.6 Paragraph 5.2.9 states that: "Local planning authorities should seek to protect trees, groups of trees and areas of woodland where they ... contribute to the character or amenity of a particular locality".
- 2.2.7 Paragraph 5.3.11 states that "Non-statutory designations, such as Special Landscape Areas... should be soundly based on a formal scientific assessment of the nature conservation, landscape or geological value of the site... Such designations should not unduly restrict acceptable development."
- 2.2.8 Paragraph 5.3.13 states that: "LANDMAP describes and evaluates aspects of the landscape and provides the basis of a consistent Wales-wide approach to landscape assessment".

¹ <http://gov.wales/topics/planning/policy/ppw/?lang=en> (Accessed 03/10/16)

2.2.9 Technical Advice Notes (TANs) supplement Planning Policy Wales and contribute to national planning policy. TANs relevant to the Development with regard to landscape and visual matters are as follows:

- TAN 5- Nature Conservation and Planning (2009)², chapter 3, states:
 - o "Safeguard nationally and locally designated sites whilst making clear the relative weight to be attached to the different designations;" and
 - o "Protect ancient woodlands, veteran trees and other trees of nature conservation value;"
- TAN 12- Design (2014)³, speaks of sustaining or enhancing local character as a key objective of good design.
 - o Paragraph 4.5 states that "In many cases an appraisal of the local context will highlight distinctive patterns of development or landscape where the intention will be to sustain character."

2.3 Local Development Plan

2.3.1 Wrexham County Borough Council is preparing a Local Development Plan (LDP)⁴ which is due for adoption in March 2018. Until the LDP is adopted, Wrexham's Unitary Development Plan- 1996-2011 (UDP), forms the framework and policies against which decisions regarding development are made.

2.3.2 The UDP is divided into two parts. Part 1 is concerned with the overall strategy for Wrexham and Part 2 records specific policies. The following policies are relevant to this Development with regard to landscape and visual matters.

2.3.3 Strategic Policy PS2 states that: "Development must not materially detrimentally affect countryside, landscape/townscape character, open space, or the quality of the natural environment."

2.3.4 Specific policy GDP1 states that: All new development should "Ensure that built development in its scale, design and layout, and in its use of materials and landscaping, accords with the character of the site and makes a positive contribution to the appearance of the nearby locality."

2.3.5 Specific policy EC4 states that: "Development proposals should provide for the conservation and management of hedgerows, trees, orchards, woodland, wildlife and

² <http://gov.wales/topics/planning/policy/tans/tan5/?skip=1&lang=en> (accessed 03/10/16)

³ <http://gov.wales/topics/planning/policy/tans/tan12/?lang=en> (accessed 03/010/16)

⁴ http://www.wrexham.gov.uk/english/planning_portal/plan_policy/local_development_plan_new.htm (accessed 03/010/16)

other natural landscape and water features, and include new planting in order to enhance the character of the landscape and townscape."

- 2.3.6 Specific Policy EC5 states that "Within Special Landscape Areas, priority will be given to the conservation and enhancement of the landscape. Development, other than for agriculture, small-scale farm-based and other rural enterprises, and essential operational development by utility service providers, will be strictly controlled. Development will be required to conform to a high standard of design and landscaping, and special attention will be paid to minimising its visual impact both from nearby and distant viewpoints."

2.4 Local Planning Guidance Notes⁵

- 2.4.1 Wrexham County Borough Council published 33 Local Planning Guidance Notes "which amplify Development Plan policy" and aim to better the standards of design. The following Notes are considered applicable to landscape and visual matters:
- 07. Landscaping and Development
 - 17. Trees and Development
 - 26. Landscape and Industrial Developments

⁵ http://www.wrexham.gov.uk/english/planning_portal/lpg_notes/lpg07.htm (accessed 03/010/16)

3. ASSESSMENT METHODOLOGY

3.1 Guidance

- 3.1.1 The following describes the methodology used to carry out the landscape and visual appraisal.
- 3.1.2 The landscape and visual appraisal has been undertaken in accordance with the principles set out in the Guidelines for Landscape and Visual Impact Assessment (GLVIA), Third Edition, 2013, published by the Landscape Institute and the Institute of Environmental Management and Assessment and with reference to other current best practice guidance, including the following:
- Tudor C., (2014). 'An Approach to Landscape Character Assessment', produced on behalf of Natural England; and
 - The Landscape Institute, (2011). Photography and photomontage in landscape and visual impact assessment. Advice note 01/11.

3.2 Assessment Process

- 3.2.1 The assessments are undertaken based on the following key tasks and structure:
- Establishment of the baseline;
 - Appreciation of the proposed development; and
 - Assessment of effects.

Establishment of the Baseline

- 3.2.2 A baseline study has been undertaken through a combination of desk based research and site appraisal in order to establish the existing conditions of the landscape and visual resources of the study area. Desk based research has involved a review of mapping and aerial photography, relevant planning and policy documents and Landscape Character Assessments.
- 3.2.3 Zone of Theoretical Visibility (ZTV) diagrams have been generated and reviewed on site to establish the extent of potential visibility of the proposed development. The ZTVs indicate those parts of the study area potentially affected by the proposed development and aid in the identification of viewpoint locations for the visual assessment. The baseline study provides a description of the identified landscape and visual receptors, indicating their key characteristics and apparent value. Further details on the use and limitations of ZTVs are provided in section 4.2.

Appreciation of the Proposed Development

- 3.2.4 In order to be able to accurately appraise the full extent of likely effects on landscape character and visual amenity, it is essential to develop a thorough and detailed knowledge of the proposed development. This includes a comprehensive understanding of its location, nature and scale and is achieved through a review of proposals drawings, ZTVs and on site appraisal.

3.2.5 The landscape and visual appraisal has considered all elements of the proposed development, as shown on the 'Landscape Layout' drawing DVLO-ACM-SW-XX-DR-LA-00001 in Appendix A, including:

- Proposed Stage 1 reservoir of 12MI Volume;
- Proposed Stage 2 reservoir of 12MI Volume;
- Proposed Pump Station;
- Proposed relocated orthophosphate dosing point;
- Laying of internal access roads;
- Soft landscape works;
- Demolition of existing reservoir; and
- Associated construction works.

Assessment of Effects

3.2.6 The landscape and visual appraisal seeks to identify, predict and evaluate the potential effects to landscape characteristics and established views. The assessments are based on an evaluation of the sensitivity to change and the magnitude of change for each landscape or visual receptor. For clarity and in accordance with best practice, the assessment of potential effects on landscape character and visual amenity, although closely related, are undertaken separately.

3.2.7 The appraisals acknowledge that landscape and visual effects change over time as the existing landscape external to the proposed development evolves and proposed planting establishes and matures. The appraisals therefore report on potential effects during both construction and operation of the proposed development.

3.2.8 The prominence of the development in the landscape or view will vary according to the prevailing weather conditions. The assessments have been carried out, as is best practice, by assuming the 'worst case' scenario i.e. on a clear, bright day in winter, when neither foreground deciduous foliage nor haze can interfere with the clarity of the view obtained.

Defining Time Horizons

3.2.9 GLVIA3 advises that in assessing the effects on views, allowance should be made for the proposed mitigation measures to take effect (GLVIA, para 6.45). Landscape practitioners commonly adopt a time reference point of 15 years after the completion of development as a suitable time frame in which to assess the 'completed' effects of development.

3.2.10 Year 15 onwards represents the early medium term (in the lifespan of the maturing landscape framework). Years 1-15 allow sufficient time for the landscape planting to have become established and genuinely effective in its design role and for the development to have weathered and matured. It is considered a reasonable compromise between assessing the scheme upon completion and judging effects on the basis of mitigation which in some cases may take a considerable time to become established.

3.2.11 AECOM therefore defines the Construction phase of the Development from the point of work commencing on site to Year 0 (i.e. completion.) 'Operation' is defined as the year of opening other than where there is mitigation planting in view and Year 15 following completion is used in order to reflect the maturing planting in the residual operational effect.

3.3 Scope

Study Area

3.3.1 A study area of 1.5km from the site boundary has been identified for the appraisal. The extent of the study area has been informed by initial desk and field based appraisal and is considered to be the area within which effects would be potentially significant.

Limitations

3.3.2 Within reasonable limits, the appraisal is undertaken in consideration of the 'worst case' scenario for the development i.e. those potential outcomes, situations or locations which would result in the most profound effect on landscape and visual receptors. It therefore identifies the greatest degree of change likely to accrue, and may be subject to mitigating factors or alternative conditions which might reduce those effects. For example, visual effects are considered in both summer and winter context; although the magnitude of effect is expressed for winter landscape conditions when trees are bare of leaf cover and the visibility of development is at its greatest. Where this is the case, the appraisal identifies alternative conditions or further mitigation which might result in impacts being less pronounced.

3.4 Landscape Character

3.4.1 Effects on landscape character can arise as a result of the introduction of new elements that are not in keeping with the existing landscape patterns and features. The scale and form of new development can prove inappropriate and intrusive in the context of existing landform, settlement and planting structure. Introduced elements may also result in the loss or fragmentation of important and distinctive landscape components.

3.5 Landscape Sensitivity to Change

3.5.1 The evaluation of landscape sensitivity to change involves consideration of the nature of the landscape and its ability to accommodate change without compromising its key elements or characteristics. Sensitivity to change is defined through appraisal of landscape value, undertaken as part of the baseline study, and the susceptibility of the landscape to change.

Landscape Value

3.5.2 Landscape value is frequently addressed by reference to international, national, regional and local designations, determined by statutory and planning agencies. However, absence of such a designation does not necessarily imply a lack of quality or value.

Factors such as accessibility and local scarcity can render areas of nationally unremarkable quality, highly valuable as a local resource. The quality and condition is also considered in the determination of the value of a landscape. The evaluation of landscape value is undertaken with reference to a three point scale, as outlined in Table 1, below.

Table 1: Landscape Value	
Class	Description
High	Nationally designated or iconic, unspoilt landscape with few, if any, degrading elements.
Medium	Regionally or locally designated landscape, or an undesignated landscape with locally important landmark features and some degrading elements.
Low	Undesignated landscape with few if any distinct features or with several degrading elements.

Landscape Susceptibility

3.5.3 Landscape susceptibility relates to the ability of a particular landscape to accommodate the proposed development. Landscape susceptibility is appraised through consideration of the baseline characteristics of the landscape, and in particular, the scale or complexity of a given landscape.

3.5.4 The evaluation of landscape susceptibility is undertaken with reference to a three point scale, as outlined in Table 2, below.

Table 2: Landscape Susceptibility	
Class	Description
High	High quality attributes that contribute to a landscape which is considered to be intolerant of even minor change without fundamentally altering key characteristics.
Medium	Attributes that contribute to a landscape which offers some opportunities to accommodate change without fundamentally altering the key characteristics.
Low	Low quality attributes that contribute to a landscape which is considered to be tolerant of a large degree of change without fundamentally altering the key characteristics.

Landscape Sensitivity Criteria

3.5.5 Landscape sensitivity to change is determined by employing professional judgment to combine and analyse the identified value and susceptibility and is defined with reference to the three point scale outlined in Table 3, below.

Table 3: Landscape Sensitivity Criteria	
Class	Description
High	Landscape of particularly highly valued character and scenic quality, considered very susceptible to relatively small change without fundamentally altering the key characteristics.
Medium	Landscape of regional or local value, quality or rarity, exhibiting some distinct features, considered tolerant of some degree of change without fundamentally altering the key characteristics.
Low	Landscape of lower scenic quality, with few distinctive elements or valued characteristics and considered tolerant of a large degree of change without fundamentally altering the key characteristics.

3.6 Magnitude of Effect

3.6.1 Magnitude of landscape effect refers to the extent to which the proposed development would alter the existing characteristics of the landscape. It is an expression of the size or scale of change to the landscape, the geographical extent of the area influenced and its duration and reversibility. The variables involved are described below:

- The extent of existing landscape elements that will be lost, the proportion of the total extent that this represents and the contribution of that element to the character of the landscape;
- The extent to which aesthetic or perceptual aspects of the landscape are altered either by removal of existing components of the landscape or by addition of new ones;
- Whether the effect changes the key characteristics of the landscape, which are integral to its distinctive character;
- The geographic area over which the landscape effects will be felt (within the Development application boundary itself; the immediate setting of the site; at the scale of the landscape type or character area; on a larger scale influencing several landscape types or character areas); and
- The duration of the effects (short term, medium term or long term) and the reversibility of the effect (whether it is permanent, temporary or partially reversible).

Magnitude of landscape effect has been evaluated with reference to the four point scale and criteria outlined in Table 4, below.

Table 4: Landscape Magnitude of Effect	
Class	Description
High	The proposed development would result in considerable change over an extensive area, affecting key characteristics and the overall experience of the landscape.
Medium	The proposed development would result in noticeable change over a large area, or more intensive change over a limited area, affecting some key characteristics and the experience of the landscape.
Low	The proposed development would result in a small change over a limited area affecting few characteristics.
Negligible	Introduction of development which would result in barely perceptible or not discernible change to the landscape characteristics.

3.7 Level of Landscape Effects

3.7.1 Determination of the level and significance of landscape effects has been undertaken by employing professional judgment to combine and analyse the magnitude of effect, anticipated to be experienced by a designated site or Landscape Character Type, against the identified sensitivity of the receptor. The assessment takes account of direct and indirect change on existing landscape elements, features and key characteristics and evaluates the extent to which these would be lost or modified, in the context of their importance in determining the existing baseline character. The assessment identifies the residual effects likely to arise from the finalised design taking into account mitigation measures and change over time.

3.7.2 The levels of landscape effects are described with reference to the four point scale outlined in Table 5, below.

Table 5: Level of Landscape Effect	
Class	Description
Major	Considerable change over an extensive area of a highly sensitive landscape, fundamentally affecting the key characteristics and the overall impression of its character.
Moderate	Small or noticeable change to a highly sensitive landscape or more intensive change to a landscape of medium or low sensitivity, affecting some key characteristics and the overall impression of its character.
Minor	Small change to a limited area of landscape of high or medium sensitivity or a more widespread area of a less sensitive landscape, affecting few characteristics without altering the overall impression of its character.
Negligible	No discernible improvement or deterioration to the existing landscape character.

3.8 Visual Amenity

- 3.8.1 Visual amenity relates to the way in which people visually experience the surrounding landscape. Negative visual effects may occur through the intrusion of new elements into established views, which are out of keeping with the existing structure, scale and composition of the view. Visual effects may also be beneficial, where an attractive focus is created in a previously unremarkable view or the influence of previously detracting features is reduced. The level of effects will vary, depending on the nature and degree of change experienced and the perceived value and composition of the existing view.
- 3.8.2 With respect to the proposed development, key considerations relate to the introduction of the elements of the development described in 3.2.5 into established views.

Receptors

- 3.8.3 For there to be a visual impact there is the need for a viewer. Views experienced from locations such as settlements, recognised routes and popular vantage points used by the public have been included in the assessment. Receptors are the viewers at these locations. Potential receptors have been identified through analysis of the ZTV in combination with targeted field survey.

3.9 Sensitivity of Visual Receptors

- 3.9.1 Sensitivity of the receptor is defined through appraisal of the viewing expectation, or value placed on the view as identified in the baseline study, and its susceptibility to change.

Value of the View

- 3.9.2 Value of the view is an appraisal of the value attached to views and is often informed by the appearance on Ordnance Survey or tourist maps and in guidebooks, literature or art. Value can also be indicated by the provision of parking or services and signage and interpretation. The nature and composition of the view is also an indicator. Value of the view is determined with reference to the three point scale and criteria outlined in Table 6, below.

Table 6: Value of the View	
Class	Description
High	Nationally recognised or iconic view of the landscape, with no detracting elements.
Medium	Regionally or locally recognised view or unrecognised but pleasing and well composed view, with few detracting elements.
Low	Typical or poorly composed view, often with numerous detracting elements.

Visual Susceptibility

- 3.9.3 Visual susceptibility relates to the importance of views to receptors at a certain location and is informed by the type of receptor and the activity with which they are engaged. This

considers the extent to which receptors' attention or interest is focused on the view or visual amenity. For example residents in their home, walkers whose interest is likely to be focused on the landscape or a particular view, or visitors at an attraction where views are an important part of the experience often indicate a higher level of susceptibility. Whereas receptors occupied in outdoor sport where views are not important or at their place of work are often considered less susceptible to change. Visual susceptibility is determined with reference to the three point scale and criteria outlined in Table 7, below.

Table 7: Visual Susceptibility	
Class	Description
High	Locations where the view is of primary importance and receptors are likely to notice even minor change.
Medium	Locations where the view is important but not necessarily the primary focus and receptors are tolerant of some change.
Low	Locations where the view is incidental or unimportant to receptors and tolerant of a high degree of change.

Visual Sensitivity Criteria

3.9.4 Visual sensitivity to change is determined by employing professional judgment to combine and analyse the identified value and susceptibility and is defined with reference to the three point scale outlined in Table 8, below.

Table 8: Visual Sensitivity Criteria	
Class	Description
High	Locations where receptors experience a highly valued, impressive or well composed view, with no detracting features and where even minor change is likely to be noticed.
Medium	Locations where receptors experience a valued view which generally represents a pleasing composition but may include some detracting features and is tolerant of a degree of change.
Low	Locations where the view is incidental but not important to the receptors and the nature of the view is of limited value or poorly composed with numerous detracting features and is tolerant of a large degree of change.

3.10 Magnitude of Visual Effect

3.10.1 Magnitude of visual effect relates to the extent to which the proposed development would alter the existing view and is an expression of the size or scale of change in the view, the geographical extent of the area influenced and its duration and reversibility. The variables involved are described below:

- The scale of the change in the view with respect to the loss or addition of features in the view and changes in its composition, including the proportion of the view occupied by the Proposed Development;
- The degree of contrast or integration of any new features or changes in the landscape form, scale, mass, line, height, sky-lining, back-grounding, visual clues, focal points, colour and texture;
- The nature of the view of the Proposed Development in relation to the amount of time over which it will be experienced and whether views will be full, partial or glimpsed;
- The angle of view in relation to the main activity of the receptor, distance of the viewpoint from the Proposed Development and the extent of the area over which the changes would be visible; and
- The duration of the effects (short term, medium term or long term) and the reversibility of the effect (whether it is permanent, temporary or partially reversible).

3.10.2 The magnitude of visual effect and has been evaluated with reference to the four point scale and criteria outlined in Table 9, below.

Table 9: Visual Magnitude of Change	
Class	Description
High	The proposed development would result in very noticeable change, occupying a wide extent of the view and becoming a prominent feature.
Medium	The proposed development would result in noticeable change, occupying a more limited but important parts of the view, distracting from the existing focus.
Low	The proposed development would result in a small change, occupying a limited or unimportant part of the view, unlikely to distract from the existing focus.
Negligible or None	The proposed development would result in barely perceptible or no discernible change to the view.

3.11 Level of Visual Effects

3.11.1 Determination of the level of landscape and visual effects has been undertaken by employing professional judgment to combine and analyse the magnitude of effect against the sensitivity of the receptor. The assessment takes into account likely changes to the visual composition, including the extent to which new features would distract or screen existing elements in the view or disrupt the scale, structure or focus of the existing view.

3.11.2 The levels of visual effects are described with reference to the four point scale outlined in Table 10, below.

Table 10: Level of Visual Effect	
Class	Description
Major	The proposed development would become a prominent feature and would result in a very noticeable change to an existing highly sensitive and well composed view.
Moderate	The proposed development would introduce some detracting features to an existing highly sensitive and well composed view, or would be prominent within a less well composed and less sensitivity view, resulting in a noticeable deterioration of the existing view.
Minor	The proposed development would form a perceptible but not detracting feature within a view of high or medium sensitivity or would be a more noticeable feature within a poorly composed view of low sensitivity, resulting in a small deterioration of the existing view.
Negligible	No discernible improvement or deterioration in the existing view.

4. BASELINE CONDITIONS

4.1 Landscape Baseline Conditions

- 4.1.1 This section presents an overview of the landscape context of the study area and provides information about landscape designations and character including their current condition. It also sets out the landscape receptors included within the appraisal.

Landscape Designations

- 4.1.2 Landscape designations relevant to this assessment are outlined below and are illustrated on Figure 1.

Special Landscape Areas

- 4.1.3 There are two Special Landscape Areas (SLAs) identified within the study area; one to the east and one to the south of Wrexham.
- 4.1.4 SLAs are “a non-statutory designation applied by the local planning authority to define areas of high landscape importance within their administrative boundary. Areas of high landscape importance may be designated for their intrinsic physical, environmental, visual, cultural and historical value in the contemporary landscape.”⁶
- 4.1.5 Consultation with Wrexham County Borough Council confirmed that the reason for designation of the SLAs is unavailable and that published Landscape Character Assessments were the best source of information regarding the local landscape resource. On that basis, the SLAs shall not be considered further in this appraisal as component receptors, but rather the designation shall help inform the value of landscape character areas. The subsequent assessment of effects on landscape character areas shall also apply to the SLAs.

Physical Character of the Site

- 4.1.6 The site is located south of Wrexham, approximately 120m west of Cefn Road. Elevated to approximately 70m AOD, and therefore some 20m above the surrounding land, the site is occupied by a Water Treatment Works comprising a reservoir (approximately 4m tall), pumping station, water treatment plant and other ancillary buildings. A drying bed, two lagoons, areas of hardstanding and grass banks are also present on site. Enabling works comprising the demolition of former water treatment work buildings have been undertaken by Dee Valley Water prior to the proposed Development. These enabling

⁶ <https://naturalresources.wales/media/677854/landmap-guidance-note-1-landmap-slas-2016.pdf>
(04/10/16)

(accessed

works include the presence of demolition vehicles and machinery, sound proof fencing, site offices and stockpiles of material.

- 4.1.7 The northern boundary of the site is marked by a mature hedgerow and a number of hedgerow trees. An open field and substantial woodland belt occupy the northern most third of the site. The eastern boundary incorporates the site access and comprises a deciduous hedgerow interspersed with occasional hedgerow trees. The southern boundary is defined by a narrow belt of woodland trees. The western boundary of the site abuts an area of dense woodland that covers the off-site western facing slope.
- 4.1.8 Although the site as a whole is not subject to any landscape designations, one of the SLAs that wraps around the western and southern boundary generally incorporates the outermost 5 -10m of the site. However, this boundary is not apparent 'on the ground' and the site has numerous detracting elements. On balance, the value of the site is considered to be **Low**.

Published Landscape Character Assessments

- 4.1.9 Wrexham's LANDMAP Supplementary Planning Guidance (SPG) is the principal source of information regarding landscape character within the borough of Wrexham. The study, which was adopted in 2007, identified 4 Landscape Character Types (LCTs) and 27 Landscape Character Areas (LCAs). LCTs are recorded as being "areas with broadly similar features such as settlement or landform"⁷. LCAs subdivide LCTs into detailed areas with concise information about the area. Given the greater level of detail expressed within LCAs, they will form the foundation of the landscape appraisal and LCTs will therefore not be considered further within this appraisal.
- 4.1.10 The following LCAs are located within the study area and recorded on Figure 1.
- LCA 8. Gwersyllt, Llay, Gresford, Borras
 - LCA 10. Wrexham Town
 - LCA 11. Wrexham Industrial Estate
 - LCA 13a. Welsh Maelor
- 4.1.11 GLVIA3 states that the scope of the landscape appraisal may "be based on the extent of the area from which the development is potentially visible"⁸. Figure 2, Zone of Theoretical Visibility, illustrates that the potential visibility of the Development from LCA 10 and 11 would be very limited. AECOM's subsequent field survey revealed the actual visibility of the Development from LCA 10 and LCA 11 to be further reduced, limited to only very occasional locations on the fringe of these LCAs. On the basis that these LCAs are

⁷ Wrexham LANDMAP Supplementary Planning Guidance Summary Document (accessed 04/10/16)

⁸ GLVIA3 page 70

unlikely to experience significant effects, LCA 10 and 11 shall not be considered further in this appraisal.

4.1.12 The following provides a description of LCAs 8 and 13a using information from Wrexham's LANDMAP SPG and from AECOM's site survey. A full description of the LCAs can be found online.⁹

LCA 8 Gwersyllt, Llay, Gresford, Borras

4.1.13 Located within the 'Rural Urban Villages' LCT, this LCA is situated in the north of the study area. Key characteristics of the area include:

- A gently undulating lowland plateau of agricultural land, commuter villages and sand/gravel extraction that is affected by its proximity to urban areas.

4.1.14 Under the heading of 'Visual Character':

- Large visible sand quarry at Ballswood. Other quarries are extensive but less widely visible;
- Very distinctive kettle hold landscape to the east of Wrexham, including open farmland dimpled with hollows and attractive landscapes with open water, mosses and woodland;
- Mixed industrial development and locally prominent coal tips; and
- Villages are semi-rural with extensive suburban development.

4.1.15 Under the heading of 'Cultural Character':

- Major transport routes make the area very accessible to commuters

4.1.16 Management guidance for the LCA includes the following aims:

- Aim to conserve special features and visual qualities; and
- Aim to preserve historic landscape features.

4.1.17 Under the heading of 'Landscape Sensitivity',

- The LCA is recorded as being under very high pressure. It is highly vulnerable to further sand and gravel quarrying which threatens an irreversible loss of character. Other forms of development, including residential, highway and commercial, threaten existing high quality arable land.

4.1.18 This largely coherent landscape which contains some detracting and unsympathetic development, in the main exhibits a positive landscape character. This in combination with the presence of the Special Landscape Area located within this LCA, reflects a value which is considered to be **Medium**.

⁹ http://www.wrexham.gov.uk/english/planning_portal/landmap/index.htm (accessed 04/10/16)

LCA 13a Welsh Maelor

4.1.19 Located within the 'Rural Lowlands' LCT, this LCA is situated in the south of the study area. Key characteristics of the area include:

- A landscape of attractive undulating lowland farmland to the south of Wrexham town containing a number of large estates.
- Pastoral lowland farmland is divided by well managed hedges with hedgerow trees and small woodlands.

4.1.20 Under the heading of 'Visual Character':

- Good views from higher ground are afforded to the hills and over the Dee Valley; however the tranquillity and landscape quality is adversely affected by the pylons located in the west of the LCA.

4.1.21 Under the heading of 'Ecological Character':

- Semi-natural upland mixed ash woodlands and other broadleaved woodlands and plantations are considered characteristic of the LCA. Although most of the grassland in the area is improved, some remnants of high value neutral grassland remain.

4.1.22 Under the heading of 'Landscape Sensitivity':

- This traditional Welsh Maelor landscape is very vulnerable to continuing development and recreational pressures, to economic changes which threaten traditional farming, and from land use practices and development which don't take into account historical landscape features.

4.1.23 Management guidance for the LCA includes:

- Aim to conserve the rural character through, amongst other things, replacement planting of hedgerow trees, particularly oaks and ash.
- Aim to protect and enhance historic landscape through preserving surviving features in designed landscapes and avoid subdivision or development of parklands.

4.1.24 Despite the presence of some detracting features and erosion of some characteristic elements, the area exhibits a positive and relatively coherent landscape character. The Special Landscape Area located within this LCA, further contributes to a value which is considered to be **Medium**.

4.2 Visual Baseline Conditions

Zone of Theoretical Visibility

4.2.1 A computer generated Zone of Theoretical Visibility (ZTV) map has been prepared for the Development, to assist the appraisal process. This has been used in viewpoint selection and to illustrate the potential influence of the proposed development in the wider landscape. The ZTV is shown on Figure 2.

4.2.2 The ZTV map indicates areas from where it may be possible to view either part of or the entire development. However, the use of the map needs to be qualified by the following considerations:

- The ZTV is based on a Digital Surface Model (DSM) derived from LIDAR data at a 2 metre resolution. LIDAR data is gathered via an airborne mapping technique that uses a laser to measure the height of surface features and has an absolute height error of 15cm or less. Although this is a high level of accuracy, it should be acknowledged that the height of surface features will change over time.
- The ZTV does not take account of the visual permeability of surface features. For example a tree in full leaf may screen views where as a deciduous tree in winter may only filter views.
- The ZTV does not take account of the likely orientation of a viewer, such as the direction of travel and there is no allowance for reduction of visibility with distance, weather or light.

4.2.3 These limitations mean that the ZTV map can overestimate or underestimate the extent of the visibility in terms of the area from which the Development is visible. It should be considered as a tool to assist in assessing the theoretical visibility of the Development and not a measure of the visual effect.

4.2.4 The ZTV includes an 'area without LIDAR coverage'. An initial ZTV run using OS terrain 5 data, showed that this area would largely not experience visibility of the Development.

Analysis of the ZTV

4.2.5 Although the Llwyn Onn WTW is elevated above the immediate landscape, it is enclosed by vegetation, to varying degrees on all sides; and therefore despite the ZTV taking account of surface features, the actual visibility of the Development would be substantially reduced.

4.2.6 Cefn Road is shown to have large sections of intervisibility with the Development. In reality, roadside vegetation screens views from the majority of the road. Other than very limited glimpses, intervisibility would be limited to the stretch of road between the outer built extent of Wrexham and Old Llwyn Onn Farm. Visibility in the north of the study area is restricted by topographical variations, field boundary hedgerows and mature specimen trees. Viewpoint 2 approximately marks the northern extent from which the Development would be discernible. Redwither Lane is shown to have substantial coverage of intervisibility with the Development. In reality, AECOM's site visit revealed that only occasional glimpses would be experienced from the road, on account of the local network of mature structure planting and road side planting. Industrial and commercial units located on the western edge of Wrexham Industrial Estate screen views to the west, as broadly shown on the ZTV. Frordd Sesswick/ Sesswick Wy, in the east of the study area, is recorded on the ZTV as having indivisibility with the Development. This visibility was confirmed by the site visit, although views are oblique to the direction of travel and seen in the context of a varied industrial and agricultural landscape.

- 4.2.7 Bangor Road, located south and west of the site, is shown as having visibility other than when screened by the built form of Marchwiell. In reality, tall roadside vegetation flanking the road and intervening woodland would result in no intervisibility.
- 4.2.8 Overall, the actual visual envelope of the Development would be expected to include the section of Cefn Road immediately north and east of the site, the lower section of ARB Footpath 15, occasional glimpses along Redwither Lane, the section of Ffordd Sesswick road within the study area, the northern facing properties on the edge of Marchwiell and properties south of Abenbury Road. Much of this visibility would be filtered by mature onsite vegetation, resulting in only glimpses of the Development being perceptible within the landscape.

Identification of Receptors

Residential Receptors

- 4.2.9 Located approximately 70m north west of the site, the town of **Wrexham** is the largest settlement within the study area. Views from within the town are largely very contained due to the surrounding buildings. Views from the edge of the settlement are mostly contained or heavily filtered by surrounding vegetation or local elevations in topography.
- 4.2.10 Where views are available, they are typical of edge of settlement views and regularly contain some detracting features including industrial works, pylons and transport corridors.
- 4.2.11 The village of **Marchwiell** is located approximately 650m south west of the Development site at the closest point. The village is elevated on the southern side of the River Clywedog Valley. The majority of views are screened or heavily filtered by the surrounding properties; however dwellings located on the edge of the settlement afford longer distance views, albeit frequently filtered by field boundary vegetation. Properties on the east of Marchwiell typically look across the agricultural landscape between Wrexham and the industrial estate; whilst properties on the western edge afford views across level agricultural land.
- 4.2.12 Views are considered to be typical of edge of settlement views and regularly contain detracting features including industry, pylons and transport corridors.
- 4.2.13 Further settlements in the study area are limited to individual dwellings and farmsteads which generally are well enclosed by curtilage boundary vegetation.
- 4.2.14 The residential dwellings at Holly Corner and Old Llwyn Onn Farm are both located in close proximity to the site, approximately 220m east and 130m south east respectively. AECOM's site visit revealed both properties have planting along the curtilage boundary which will offer a degree of screening of the site.

Recreational Routes

4.2.15 The study area contains a number of footpaths, as shown on Figure 3. These footpaths are well distributed across the study area.

Road Network

4.2.16 **The A525**, a major route covering approximately 117km between Rhyl and Newcastle, stretches from the north west to the south east of the study area linking Wrexham with Marchwiell. Views from the A525 within the study area are mostly curtailed by roadside vegetation comprising mature hedgerows and woodland belts. Residential properties of Marchwiell also limit views from the road. Occasional long distance views are available from the western side of the road in the absence of roadside vegetation, extending to Minera Mountain in the north.

4.2.17 **Queensway**, a road within the built extent of Wrexham, is flanked by residential properties to the north and Gwenfro Community Primary School and commercial/industrial use buildings to the south which restrict any views from the carriage way. An area of open amenity space located south of the road does provide slightly more open views but only as far as the surrounding residential areas.

4.2.18 **Abenbury Road** is a minor road that services the residential area on the southern edge of Wrexham. Views from the road are mostly restricted by the surrounding built form. Glimpsed distant views are available of the woodland that flanks the River Clywedog and the hill of Llwyn Onn through gaps in the buildings.

4.2.19 **Cefn Road** flanks the eastern side of Wrexham, providing a connection between the town and Wrexham Industrial Estate. Other than a long distance view looking south from the junction with the private entrance to Cefn Park at the northern extent of the study area, views are restricted by mature vegetation and residential properties that flank the roadway to the east and west respectively. Outside of the built extent of Wrexham, views are limited to glimpses of agricultural land over and through field gates or gaps in hedgerows.

4.2.20 **Redwither Lane**, a single lane road, connects Cefn Road with Clwedog Road North which skirts the western edge of Wrexham Industrial Estate. The road follows field boundaries and is therefore flanked by well-established hedgerows and post and rail fences, interspersed with mature hedgerow trees. This results in views across the surrounding lowland agricultural landscape being filtered, particularly during the summer months. Slight local variations in topography further limit views from the road. Telegraph lines and buildings associated with the industrial estate are regular detracting features.

Representative Viewpoints

4.2.21 The visual receptors identified above have been appraised using representative viewpoints from publically accessible land. The viewpoints have been selected to represent the cross section of visual receptor types identified within the study area and

located where effects have the greatest potential to be significant. Figures 4.1 - 4.5 provide baseline photographs from each location, for reference. Table 11 records details of each viewpoint.

Table 11. Viewpoint Details			
Viewpoint Number and Name	Approximate Grid Reference	Distance from site boundary and direction of view	Visual receptor of which view is representative
1. Rhodfa Taunton	335629 349080	100m. South	Residential and recreational
2. Abenbury Footpath 13	335669 349514	550m. South	Recreational
3. Redwither Lane	336113 348941	250m. West	Recreational and road
4. Cefn Road	336779 348478	925m. North west	Recreational and road
5. Marchwiel	335642 347896	835m. North	Residential

Viewpoint Baseline

Viewpoint 1

4.2.22 This viewpoint, located in amenity space at the rear of residential properties on Taunton Way and in the vicinity of 'Abenbury Footpath 15', is representative of residential and recreational views. The viewpoint affords a short range 180 degree view orientated south. The view is not considered to have a particular focus.

4.2.23 The foreground of the view comprises open amenity grassland, located on the periphery of the residential area, and a belt of semi-mature deciduous woodland. This vegetation screens an open pastoral field occupying the mid ground of the view, other than limited glimpses through and above the trees. The majority of the background of the view is formed by a belt of dense deciduous woodland providing screening of buildings associated with the Llwyn Onn Water Treatment Works. The view's few detracting features, namely wooden utility poles and railings and rooflines associated with the Llwyn Onn water treatment works are limited to the eastern portion of the view.

4.2.24 Overall, this is a pleasing view with few detracting elements and therefore, the value of the view is considered to be **Medium**.

Viewpoint 2

4.2.25 Viewpoint 2 is located on elevated ground on 'Abenbury Footpath 13' and is representative of recreational views. It is a wide and southern facing view and although there is not considered to be a particular focus, the long distance views available to distant hills tend to attract the most attention.

4.2.26 The foreground of the view comprises a rolling agricultural field containing a limited number of mature specimen trees. Easterly views are curtailed by local topography and vegetation. Although the majority of the Llwyn Onn Water Treatment Works site is completely screened by well-established mature woodland, a glimpse of the existing onsite reservoir and ancillary buildings associated with the site can be seen in the centre of the view. Construction/demolition vehicles associated with the site are also apparent. This gap in the woodland also affords glimpsed long distance views to the distant wooded horizon. The western mid-ground is occupied by residential estates located in a minor valley, marking the southern edge of Wrexham. The long distance views available to the west comprise a mosaic of residential properties of Marchwiel, woodland belts and agricultural fields. Further in the distance the view consists of deciduous woodland. Distant radio masts, pylons and closer industrial buildings nestled within woodland are all detracting features within the view.

4.2.27 On balance, this is a pleasing and well composed view, and therefore the value of the view is considered to be **Medium**.

Viewpoint 3

4.2.28 Located on the footpath/cycle way at the junction of Cefn Road and Redwither Lane, this short range view is representative of recreational receptors. The viewpoint is also located adjacent to Holley Cottage, a 1.5 storey residential property, however the combination of evergreen vegetation on the curtilage boundary and the lack of upper storey windows curtails outward views towards the Development site. Although no individual feature forms a focal point within the view, views tend to be focussed along the road corridor relative to the direction of travel. The selected viewpoint affords a rare view of the surrounding landscape which is usually screened from the road corridor by roadside vegetation.

4.2.29 The foreground of the view comprises the carriage way of Cefn Road and an area of hardstanding associated with the entrance of the Llwyn Onn WTW and a dairy farm. The entrance to Llwyn Onn is highlighted by a post and rail fence and safety signage. Deciduous trees and hedgerows that flank the carriage way are present across the extent of the view. The view's mid-ground is occupied by an open field that rises to the eastern boundary of the Llwyn Onn Water Treatment Works as defined by an irregular hedge. This thin belt of vegetation gives rise to direct views of the onsite centrifuge and Heras fencing. Further detracting features include wooded utility poles and associated wires. This viewpoint also affords views further south containing largescale agricultural buildings and infrastructure including silos and milking sheds at Old Llwyn Onn Farm.

4.2.30 Overall, this is a typical and poorly composed view from a busy road and therefore the value of the view is considered to be **Low**.

Viewpoint 4

4.2.31 This northern looking view is taken from the footpath flanking the eastern edge of Cefn Road. As such, the view is representative of recreational receptors (pedestrian and cyclists). The view is not considered to have a focus.

4.2.32 The western half of the view is occupied by Cefn Road, with associated roadside vegetation, as well as a wide tarmac bell mouth providing an entrance to Five Fords Sewerage Treatment Works. Further into the distance is located a single residential property and clump of deciduous woodland. The hill of Llwyn Onn Water Treatment Works, some 900m from the viewpoint, can be seen toward the centre of the view. With the exception of the centrifuge building which can be identified from the viewpoint, the onsite buildings cannot be seen. The eastern half of the view is restricted by a roadside hedge and large deciduous trees; although glimpses of open agricultural land with associated mature specimen trees are visible through a field access.

4.2.33 On account of being a typical view, largely comprising a busy road corridor, the value of the view is considered to be **Low**.

Viewpoint 5

4.2.34 Viewpoint 5 is located on the northern side of 'The Grove', a residential road in Marchwiell, and representative of residential receptors. The view is contained on either side by two storey residential properties and front gardens. The view is therefore focused toward the end of the road which is occupied by a single bungalow.

4.2.35 The crowns of deciduous trees can be seen in the mid ground of the view, behind the residential properties. More distant land and woodland can be glimpsed through gaps between properties, however such glimpses are considered incidental to the view. The site of Llwyn Onn Water Treatment Works can be seen in one such glimpse, however no detail of the site can be discerned. Lamp posts, wooden utility poles with associated wires and a silage store at Old Llwyn Onn Farm are detracting features within the view.

4.2.36 This is a typical view of a residential area with some detracting elements and therefore the value of the view is considered to be **Low**.

5. THE DEVELOPMENT

- 5.1.1 In order to understand and accurately report on the likely landscape and visual impacts, it is important to have a detailed knowledge of the Development. This is achieved through review of technical drawings and information, including plans, sections, elevations and discussions with other members of the project team.
- 5.1.2 The following section outlines the main elements and components of the scheme with the potential to affect landscape character and visual amenity.

Construction

- 5.1.3 The key elements of the Development likely to result in landscape and visual impacts in relation to construction would comprise:
- Vehicular movements within the construction area and along local roads;
 - The disturbance of areas of land and removal of existing surface vegetation;
 - Stockpiling of materials;
 - The introduction of fencing, signage, lighting and other temporary vertical elements;
 - Physical demolition and construction;
 - The presence of construction compounds; and
 - The physical construction of proposed buildings.

Operation

- 5.1.4 The key elements of the Development likely to result in landscape and visual impacts in relation to operation would comprise:
- Proposed Stage 1 reservoir of 12MI Volume and measuring 74x32m;
 - Proposed Stage 2 reservoir of 12MI Volume measuring 48x50m;
 - Proposed pump station;
 - Proposed internal access roads; and
 - Mitigation measures including a proposed hedgerow along the eastern boundary and the proposed Hedera helix green screen on the southern facing wall of the eastern reservoir.

6. MITIGATION

- 6.1.1 Mitigation measures are undertaken as a response to anticipated adverse effects and can be described as primary or secondary. Primary mitigation measures are steps taken during the design phase of the proposed Development to help minimise potential impacts, based on key sensitivities, constraints and opportunities identified through baseline study and appraisal. These measures are 'inherent / embedded' in the scheme design.
- 6.1.2 Primary mitigation measures associated with the proposed Development include site selection and design (in terms of appearance, position, height, scale, massing and use of materials, finishes and colours) as well as making use of existing topographical and landscape features to minimise the potential landscape and visual impact.
- 6.1.3 Secondary mitigation measures are those that seek to further reduce potential impacts that could not be designed out and have been informed by the detailed landscape and visual impact assessment.
- 6.1.4 As illustrated on the 'Landscape Layout' drawing DVLO-ACM-SW-XX-DR-LA-00001 in Appendix A, the Development incorporates landscape enhancements, including:
- A native hedgerow and hedgerow trees on the eastern boundary of the site;
 - A *Hedera helix* green screen on the southern facing façade of the eastern reservoir; and
 - An area of native wildflower meadow and reseeded grass areas with a low maintenance grass seed mix.
- 6.1.5 The tree and hedgerow planting along the eastern boundary combined with the *Hedera helix* screen would assist in reducing the visual effect of the development in views from properties and the wider landscape to the south and east including Old Llwyn Onn Farm.

7. ASSESSMENT OF EFFECTS

- 7.1.1 The following section outlines the potential landscape and visual effects which may occur as a result of the Development. A key principle of landscape assessment is that the appraisal should take account of the effect of any proposed mitigation (GLVIA3, para 6.45). This appraisal therefore acknowledges that effects would change over time as mitigation planting matures and reports on potential effects during the construction and operation phases of the Development.

Landscape Character

LCA 8 Gwersyllt, Llay, Gresford, Borras

- 7.1.2 This LCA is identified in the baseline as being of medium value.
- 7.1.3 Although the LCA has a number of elements that make positive contributions to a distinctive character, such as mature specimen trees, the overarching visual character of the LCA is influenced by mixed industrial development, thereby increasing the LCAs tolerance of the Development. The susceptibility of the LCA is therefore considered to be **Low**.
- 7.1.4 This LCA is of local value and tolerant of a degree of change and therefore sensitivity is considered to be **Medium**.

Construction

- 7.1.5 Filtered views of temporary construction activities including vehicular movement and plant operation may be visible from this character area. However, such activity is not considered uncharacteristic of this landscape character area. The scale of change would have little tangible effect upon the aesthetic and perceptual aspects of the landscape with the key characteristics remaining intact with no perceptible change to the overall landscape character. The effects would influence the immediate setting of the site only and would be temporary in nature. It is therefore considered that the magnitude of effect resulting from the Development would be **Negligible**.
- 7.1.6 During construction, the level of effect would be anticipated to be **Negligible**.

Operation

- 7.1.7 Any change that may occur would affect only a very limited part of the LCA, namely the small parcel of land south of the SLA shown on Figure 1. The Development would be located in the footprint of the existing industrial works of a similar nature and therefore would represent a reconfiguration rather than introduction of new features. It is therefore considered that no aesthetic or perceptual aspects of the landscape would be altered. The key characteristics of the landscape would remain intact with the overall landscape would remain unchanged. The effects would influence the development site only, would be long term in duration and permanent. As a result the magnitude of effect is considered to be **Negligible**.

7.1.8 The Development would result in no discernible improvement or deterioration to the existing landscape character and therefore the level of effect is considered to be **Negligible**.

LCA 13a Welsh Maelor

7.1.9 This LCA is identified in the baseline as being of medium value.

7.1.10 Good views from higher ground are characteristic of this LCA; however such views within the study area regularly include industrial, agricultural or utility infrastructure. As well as the existing industrial buildings on site, there are further industrial features present in the sites locality including the Five Fords sewerage treatment works, large scale agricultural buildings and pylons. The presence of such features increases the areas tolerance to the Development and therefore the susceptibility is considered to be **Low**.

7.1.11 This LCA is of local value and tolerant of a degree of change and therefore sensitivity is considered to be **Medium**.

Construction

7.1.12 On account of existing on site demolition and the presence of industrial/agricultural processes within the LCA, the introduction of construction activities would not be considered to represent a perceptible change within the LCA or cause a discernible change to the existing character. The effects would be temporary and of localised geographical extent. The magnitude of change is therefore considered to be **Negligible**.

7.1.13 The Development would cause no discernible change to the landscape character and therefore the level of effect is considered to be **Negligible**.

Operation

7.1.14 Although the proposal would physically affect the development site which lies within this LCA, the Development would not introduce any new features into this area but would rather comprise the replacement and reconfiguration of existing features within the existing site boundary. The landscape mitigation would further assist in integrating the Development into the immediate landscape setting. Despite the effects being long term and permanent, the Development would be barely perceptible within the LCA and not cause a discernible change to the existing character. The magnitude of effect is therefore considered to be **Negligible**.

7.1.15 The Development would cause a barely discernible change to the landscape character and therefore the level of effect is considered to be **Negligible**.

Viewpoint Assessment

Viewpoint 1

7.1.16 This view has been identified in the baseline as being of medium value.

7.1.17 The view is representative of residential receptors and as such is considered to be of greater susceptibility however, it is considered to be tolerant of some change and therefore the susceptibility is considered to be **Medium**.

7.1.18 Overall this is a valued view which contains some detracting features and is tolerant of a degree of change. The sensitivity of the view is therefore considered to be **Medium**.

Construction

7.1.19 The belt of woodland in the background of the view would limit visibility to the main body of the site where the majority of construction activity would occur. Construction effects would therefore be greatly limited.

7.1.20 It is likely that stockpiles of earth and occasional vehicular movement would be visible in the northern extent of the site, seen in the mid-ground of the view. However, such activity is ongoing within the baseline view and any visibility would be filtered by intervening woodland. Construction of the northern façade of the 'Stage 1' reservoir would likely be glimpsed through the gap in the onsite woodland. This façade would likely be visible in conjunction with vehicular movement associated with 'Stage 2' construction; however this would be confined to a limited portion and peripheral part of the view which is already subject to detracting features including ancillary buildings at Llwyn Onn and vehicular movement. All change resulting from construction would be temporary. Overall, any change as a consequence of construction would be barely perceptible within the view and unlikely to result in any discernible change. The magnitude of change is therefore considered to be **Negligible**.

7.1.21 It is anticipated that no discernible deterioration to the existing view would occur as a result of construction and therefore the level of effect is considered to be **Negligible**.

Operation

7.1.22 During operation, any change would be confined to a very limited and peripheral part of the view that already contains detracting features. Existing intervening vegetation would continue to filter direct views of onsite features. The northern concrete façade and steel hand rail of the Stage 1 reservoir would likely be apparent in the gap in woodland; however, the extent of the new built features would be similar in size and extent to the existing site features, albeit forming a more consistent block across the gap in vegetation. This change in the view would be small and would occupy a peripheral part of the view. It would be permanent and of long-term duration, however, barely perceptible and akin to glimpses of the existing site. The magnitude of effect is therefore considered to be **Negligible**.

7.1.23 The Development would not result in any deterioration to the view and therefore the level of effect is considered to be **Negligible**.

Viewpoint 2

7.1.24 This view has been identified in the baseline as being of medium value.

7.1.25 The view is representative of views from 'Abenbury Footpath 13'. This is a recreational route and therefore the view is important, however receptors would be tolerant of some change in the view on account of being located on the edge of Wrexham and the development not forming the focus of the view. The susceptibility of the view is considered to be **Medium**.

7.1.26 Overall, this is a valued view that represents a generally pleasing composition and is considered tolerant of a degree of change. The sensitivity of the view is therefore considered to be **Medium**.

Construction

7.1.27 Construction vehicles and plant may be glimpsed through an existing gap in onsite vegetation and in the field occupying the northernmost section of the site. Accepting that such activity may be temporarily increased during construction, such vehicular movement would occupy only a very limited part of the overall view and would not be considered uncharacteristic. Any glimpses would be over a distance of at least 600m, would be temporary and of short duration and would be located within a very narrow area of the view. The magnitude of effect is therefore considered to be **Low**.

7.1.28 Overall, construction of the Development may be perceptible but would not affect the underlying character and composition of the baseline view and therefore the level of effect is considered to be **Minor Adverse**.

Operation

7.1.29 The Development would result in a barely perceptible change in the view. It would be entirely screened from view, other than a glimpse of the Stage 1 reservoir seen through an existing gap in woodland. Development through this gap would be expected to be perceived as similar in size, and cover the same extent, as the existing water treatment works. Effects would be long-term and permanent; however, the composition of the view would remain unchanged. The very limited glimpsed view of the Development would be barely discernible and akin to that available of the existing site and therefore result in a **Negligible** magnitude of effect.

7.1.30 The Development would cause no discernible deterioration to the existing view and therefore the level of effect is considered to be **Negligible**.

Viewpoint 3

7.1.31 This view has been identified in the baseline as being of low value.

7.1.32 Viewpoint 3 is representative of recreational views from the walkway and cycle way flanking the eastern side of Cefn Road; however, on the basis that the path flanks a busy road and affords very limited opportunity for views across the surrounding landscape it is considered that the view is unimportant to the receptor. The susceptibility of the view is therefore considered to be **Low**.

7.1.33 Overall, this view is considered to be incidental to receptors, is of limited value and contains some detracting features. The sensitivity of the view is therefore considered to be **Low**.

Construction

7.1.34 The Development site occupies a plateau of land elevated some 20m above this viewpoint and therefore the main body of the site is not visible. However, construction of the Stage 1 reservoir, particularly the eastern façade, would be visible and has potential to occupy approximately a quarter of the horizontal extent of the view. Although construction activity would be visible, views would be short term, temporary and partially filtered by boundary vegetation. Construction activity would not be wholly uncharacteristic of the view, however the presence of such features would likely increase and would be seen in conjunction with the newly constructed Stage 1 reservoir. This would result in a noticeable change and therefore the magnitude of effect is considered to be **Medium**.

7.1.35 During construction there is potential for the Development to become visually prominent, resulting in a noticeable deterioration in the view and therefore the level of effect is considered to be **Moderate Adverse**.

Operation

7.1.36 During operation, the eastern façade of the Stage 1 reservoir would be visible across approximately a quarter of the horizontal extent of the view. The reservoir would appear as a consistent block of built form rising approximately 6m above the landform at the site boundary, including the guard rail. Although existing boundary vegetation would provide some filtering of views, the Development would result in a noticeable change to the periphery of the main focus of the view. The Development would not result in a change to the composition of the view with the underlying character, composition and attributes of the baseline condition remaining apparent. Magnitude of effect is considered to be **Low**.

7.1.37 The Development would be noticeable within this view, resulting in a small deterioration and therefore the level of effect is considered to be **Minor Adverse**.

Operation, Year 15

7.1.38 Assuming a growth rate of 1m/4years and a management regime that encourages growth, the hedgerow trees have potential to be approximately 4.5m tall and the hedgerow up to 4m by year 15. The screening effect of the new hedgerow and effect of the local topography would result in approximately the top 2m Stage 1 reservoir being visible, including the 1m tall guard rail. Accepting that there would be variation in the level

of filtering along the extent of the boundary, the change resulting from the development would be barely perceptible within the view. Glimpses of the Development through and above mitigation planting would be confined to an unimportant part of the view at a largely oblique angle to the direction of travel along the road. Overall, the mitigation planting would be fitting with the overarching character of the area and would be expected to result in the Development becoming well settled within the view. The magnitude of effect is therefore considered to be **Negligible**.

7.1.39 Overall, the Development would appear in keeping with the baseline view and therefore there would be no discernible deterioration in the view. The level of effect is therefore considered to be **Negligible**.

Viewpoint 4

7.1.40 This view is identified in the baseline as being of low value.

7.1.41 The view is considered to be incidental to receptors on this route and therefore the susceptibility of the view is considered to be **Low**.

7.1.42 This view is of limited value, and is considered to be tolerant of a large degree of change and therefore the sensitivity is considered to be **Low**.

Construction

7.1.43 It is possible that construction machinery may appear in the view; however such visibility would be limited to glimpses over a distance of over 900m and heavily filtered by vegetation. In the later part of the Stage 1 construction process, there is potential for construction activity to be seen in conjunction with the southern façade of the Stage 1 reservoir. However, any visibility would occupy a very small and insignificant portion of the view. The magnitude of effect is considered to be **Negligible**.

7.1.44 It is anticipated that no discernible deterioration to the existing view would occur as a result of construction and therefore the level of effect is considered to be **Negligible**.

Operation

7.1.45 During operation there is potential for distant glimpsed views of the Stage 1 reservoir seen within a small gap in the foreground hedgerow. However, such glimpses would be confined to a very small and insignificant part of the view, and as such the magnitude of effect is considered to be **Negligible** despite the permanent and long-term duration of the effect.

7.1.46 The Development would not result in any deterioration to the view and therefore the level of effect is considered to be **Negligible**.

Viewpoint 5

7.1.47 This view is identified in the baseline as being of low value.

7.1.48 The view is representative of views from a residential area. As such the view is important; however it is tolerant of some change and therefore susceptibility is considered to be **Medium**.

7.1.49 The view includes some detracting features and is tolerant of a degree of change and therefore the sensitivity is considered to be **Medium**.

Construction

7.1.50 Construction operations and machinery would be glimpsed through gaps between foreground buildings and intervening vegetation however, such operations would be confined to a very small portion of the view and would not result in a change to the composition of the view.. Any change would be barely perceptible and temporary and the magnitude of effect is therefore considered to be **Negligible**.

7.1.51 Construction of the development would cause no discernible improvement or deterioration in the existing view and therefore the level of effect is considered to be **Negligible**.

Operation

7.1.52 Although the western façade of the proposed pump station and the western façade of the Stage 1 reservoir may be located within the view, the structures would be filtered by intervening vegetation and built fabric and would be barely perceptible. The change whilst being permanent and long term would not be legible and the composition of the view would remain intact. The magnitude of effect is considered to be **Negligible**.

7.1.53 During operation, the Development would be barely discernible and not cause any deterioration to the existing view. The level of effect is therefore considered to be **Negligible**.

8. SUMMARY AND CONCLUSION

Table 12. Landscape and Visual Effects Summary Table				
Receptor	Sensitivity	Magnitude		Level of Effect
Landscape Character Areas				
LCA 8 Gwersyllt, Llay, Gresford, Borras	Medium	Construction	Negligible	Negligible
		Operation	Negligible	Negligible
LCA 13a Welsh Maelor	Medium	Construction	Negligible	Negligible
		Operation	Negligible	Negligible
Viewpoints				
Viewpoint 1	Low	Construction	Negligible	Negligible
		Operation	Negligible	Negligible
Viewpoint 2	Medium	Construction	Low	Minor Adverse
		Operation	Negligible	Negligible
Viewpoint 3	Low	Construction	Medium	Moderate Adverse
		Operation	Low	Minor Adverse
		Year 15	Negligible	Negligible
Viewpoint 4	Low	Construction	Negligible	Negligible
		Operation	Negligible	Negligible
Viewpoint 5	Medium	Construction	Negligible	Negligible
		Operation	Negligible	Negligible

Landscape and Visual Conclusions

- 8.1.1 The landscape appraisal has found that the Development would result in negligible effects both during construction and in operation on the local landscape resource.
- 8.1.2 The visual appraisal has found that in the long term there would be no discernible improvement or deterioration in the existing view experienced by the receptors represented by the 5 viewpoints. During construction, all viewpoints would experience negligible effects other than viewpoints 2 and 3 where minor and moderate adverse effects would be experienced for a temporary period of time.

9. REFERENCES

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