ENVIRONMENTAL STATEMENT – VOLUME 1 – CHAPTER 9 LANDSCAPE AND VISUAL AMENITY

Drax Bioenergy with Carbon Capture and Storage

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, 5(2)(a)

Document Reference Number: 6.1.9

Applicant: Drax Power Limited

PINS Reference: EN010120

REVISION: 01

DATE: May 2022

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PUBLIC

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9. LANDSCAPE AND VISUAL IMPACT

9.1. INTRODUCTION

9.1.1. This chapter reports the outcome of the assessment of likely significant environmental effects arising from the Proposed Scheme on Landscape Character and Visual Amenity.

9.1.2. Impacts during the construction, operation and decommissioning phases of the Proposed Scheme are assessed. A full description of the Proposed Scheme is described in **Chapter 2 (Site and Project Description)** of this ES (document reference: 6.1.2). The maximum parameters considered within this assessment are set out within **Table 2.3** of **Chapter 2 (Site and Project Description)** of this ES.

9.1.3. This chapter (and its associated figures (**Volume 2**) and appendices (**Volume 3**)) is intended to be read as part of the wider ES with particular reference to **Chapter 10 (Heritage)** (document reference 6.1.10) and **Chapter 8 (Ecology)** (document reference 6.1.8), the **Outline Landscape and Biodiversity Strategy (OLBS)** (document reference 6.6) and **Design Framework Document** (document reference 6.9).

9.1.4. This chapter:

- **a.** Summarises the legislative and policy framework;
- **b.** Describes consultation undertaken to date;
- **c.** Describes the methodology followed for the assessment;
- **d.** Establishes the baseline situation,
- **e.** Describes the iterative design process,
- **f.** Identifies the potential impacts as a result of the Proposed Scheme;
- **g.** Details the design, mitigation and enhancement measures that have been identified;
- **h.** Reports the assessment of the significant effects of the Proposed Scheme; and
- **i.** Details the monitoring that should be carried out for the Proposed Scheme.

9.1.5. The Proposed Scheme has the potential to affect Landscape Character and Visual Receptors:

- **a.** During construction / decommissioning:
  - i. The construction / decommissioning of the Proposed Scheme which would also include temporary works such as vegetation removal, soil stripping, plant movements, temporary lighting and machine activity to build / decommission structures;
  - ii. Temporary construction compounds and laydown areas; and
  - iii. Temporary movement of traffic including its management along local roads.
- **b.** During operation:

i. Permanent alteration to the scale and massing of Drax Power Station;

ii. Permanent alteration to field boundaries and vegetated areas in the Habitat Provision Area; and

iii. Increase in skyglow from Drax Power Station.

OPTIONALITY

9.1.6. For the purposes of this assessment the options, as described in **Chapter 2 (Site and Project Description)**, have been assessed in the LVIA as follows:

a. Construction Option 1: The Carbon Capture Plant associated with Unit 2 is programmed to be constructed first along with the Common Plant and the Carbon Capture Plant associated with Unit 1 to follow sequentially (**para 2.3.4 of Chapter 2**). Option 1 has been considered for the assessment of the LVIA as it represents the 'worst case scenario' given its extended construction programme causing receptors to experience the anticipated impacts over a longer duration.

b. Location of the new Carbon Dioxide Delivery Terminal Compound within the Order Limits (**para 2.2.44** of **Chapter 2**). The option for including the Carbon Dioxide Delivery Terminal Compound within the Order Limits has been assessed as it represents an integral part of the Proposed Scheme.

c. AIL Route Option 1 (**para 2.3.27 of Chapter 2**) - travel along the westbound carriageway of the M62 and cross the vehicle over the central reserve to change to the eastbound carriageway of the M62 and travel up the eastbound exit slip to the M62 Junction 36. Clearance of vegetation and pruning would be required on the slip road. This option has been assessed as it is required in order to construct the Proposed Scheme.

9.2. LEGISLATIVE AND POLICY FRAMEWORK

LEGISLATIVE FRAMEWORK

9.2.1. A list of the international, national and local legislation, planning policy, strategies and guidance relevant to the LVIA for the Proposed Scheme are set out below with further details provided in **Appendix 9.1 (National and Local Policy)** (document reference 6.3.9.1).

LEGISLATION

International

a. European Landscape Convention, 2000.

National

a. Planning Act 2008

b. The Environment Act, 2021;

c. Countryside and Rights of Way Act (CROW), 2000; and

d. Hedgerow Regulations, 1997.

POLICY FRAMEWORK

National Policy

a. Overarching National Planning Policy Statement (EN-1) (Department of Energy and Climate Change, 2011); and

b. National Planning Policy Framework, 2018 and updated in 2021 (Ministry of Housing, Communities and Local Goverment, 2018).

Emerging National Planning Policy

c. Draft Overarching National Policy Statement for Energy (EN-1) (Department for Business, Energy and Industrial Strategy, 2021); and

Local Policy / Strategies / Partnership

a. Selby District Core Strategy Local Plan, October 2013 (Selby District Council, 2013);

b. 'Saved' policies of the Selby District Local Plan, 2008 (Selby District Council, 2005);

c. East Riding Local Plan Strategy Document, 2016 (East Ridiing of Yorkshire Council, 2016);

d. Doncaster's Local Plan 2015-2035, adopted September 2021 (Doncaster Metropolitan Borough Council, 2012);

e. Leeds City Region Green Infrastructure Strategy (Leeds City Region Enterprise Partnership, 2018); and

f. Dales to Vale River Network Partnership (Dales to Vales River Network Catchment Partnership, 2021).

9.3. CONSULTATION

9.3.1. **Table 9.1** provides a summary of the consultation undertaken in support of the preparation of this assessment.

Table 9.1 - Consultation Summary Table

Date and Method of Consultation	Consultee	Summary of Key Topics discussed and Key Outcomes
22 March 2021 and C&RT's response 22 March 2021 (email)	Canal & Rivers Trust (C&RT)	The Applicant issued an email to C&RT asking for comments on the study area, preliminary viewpoints, baseline data and cumulative study area noting that additional viewpoint options to the north and along the river would be considered following receipt of the **Scoping Opinion** (document reference 6.3.1.2)**.** **Response and Outcomes** C&RT confirmed that they were content with the viewpoints suggested since they provide a good indication of visual impact from a good range of "navigations outward views".
16 March 2021 and DMBC's response 17 March 2021 (email)	Doncaster Metropolitan Borough Council (DMBC)	The Applicant issued an email to DMBC asking for comments on the study area, preliminary viewpoints, baseline data and cumulative study area. **Response and Outcomes** DMBC confirmed that the ZTV did extend into the Doncaster area and that viewpoints selected are in more sensitive locations closer to the Site. DMBC referred to the presence of a Scheduled Monument and a small number of Listed Buildings (farmhouses) adding that it is unlikely long-distance views towards Drax are a significant part of their setting or that their setting will be affected so the methodology employed in **paragraph 11.7** of the **EIA Scoping Report** (document reference 6.3.1.1) is sufficient from a heritage standpoint. (It should be noted that the response was of relevance to heritage rather than the LVIA).
14 June 2021 and DMBC's response 14 June 2021 (email)	DMBC	The Applicant sought to confirm, following agreement with NYCC / SDC the revised viewpoints selected, the proposed visualisations, the methodology and approach to the design framework / principles. **Response and Outcomes** DMBC confirmed that the methodology and viewpoints were acceptable. The 10 chosen viewpoints are, as would be expected, all within 3 km of Drax Power Station and at some distance from the heritage assets in the Borough. Long distance views to the north are not a significant component of the setting of these heritage assets.
16 March 2021 and East Riding of Yorkshire (ERoY) response 19 March 2021 (email)	(ERoY	The Applicant issued an email to ERoY asking for comments on the study area, preliminary viewpoints, baseline data and cumulative study area. **Response and Outcomes** ERoY confirmed that the proposed locations were acceptable and advised to seek the views of SDC.
16 March 2021 and Natural England's (NE) response 18 March 2021 (email)	NE	The Applicant issued an email to NE asking for comments on the study area, preliminary viewpoints, baseline data and cumulative study area. **Response and Outcomes** NE response was that discretionary advice cannot be provided at this stage as there are limited resources and the location is not a high priority for designated landscape.
16 March 2021 and North Yorkshire County Council (NYCC) and Selby District Council (SDC)response 16 March (email)	NYCC/SDC	The Applicant issued an email to NYCC / SDC asking for comments on the study area, preliminary viewpoints, baseline data and cumulative study area.

Date and Method of Consultation	Consultee	Summary of Key Topics discussed and Key Outcomes
		Response and Outcomes A meeting was set up on 23 March 2021 with NYCC / SDC to run through comments.
14 June 2021 and ERoY's response 14 June 2021 (email)	ERoY	The Applicant sought to confirm, following agreement with NYCC / SDC the revised viewpoints selected, the proposed visualisations, the methodology and approach to the design framework / principles. **Response and Outcomes** ERoY confirmed that they agreed with the viewpoints chosen as well as the proposed methodology, framework, and principles regarding landscape and visual issues.
23 March meeting with NYCC / SDC and NYCC / SDC response on 23 April 2021 (email)	NYCC / SDC	The Applicant explained the background of the Proposed Scheme and the nature and proposed height of the Absorber Columns and Cooling Tower which, whilst originally proposed, is now no longer part of the Proposed Scheme. **Winter viewpoints:** Informed by the preliminary ZTV, representative viewpoints with options were selected to demonstrate a worst case and these would be tested in the field. Viewpoints associated with existing Drax Jetty were included (subsequently discounted since the Existing Drax Jetty has been removed from the scope of works). The Applicant confirmed that when viewpoints are taken, they would avoid obstructions, consider contextual views showing both Drax Power Station and the Proposed Scheme and be 360 degree views. **Night-time photography:** The Applicant sought NYCC / SDC view on PINS comments regarding night-time surveys. The Applicant explained that the biomass domes were well lit for health and safety reasons and lighting is required for plant checks and maintenance. Future lighting would be better than existing and if lighting was introduced it would be downlit LED lights. **Photomontages:** The Applicant suggested that a further discussion should take place to explore the need for photomontages once the representative viewpoints have been taken. NYCC / SC suggested three to four photomontages might be sufficient. It was agreed that identification of the photomontage locations would be actioned at the PEIR stage. A further meeting would be held to run through other points made in the **EIA Scoping Opinion.** **Response and Outcomes** NYCC / SDC confirmed that they were satisfied with the minutes presented. **Winter viewpoints:** NYCC / SDC suggested two further viewpoints to be included within the photographic survey, made general observations over the taking of photographs - avoiding obstructions / vegetation in the foreground as well as taking images of Drax Power Station and the Proposed Scheme. They agreed that summer views were unnecessary. The LVIA needs to consider all receptors within the geographical location and should not be an assessment from a single viewpoint. **Night-time photography:** NYCC confirmed that a night-time assessment and accompanying survey might be required - subject to the nature of the Proposed Scheme. They would like to see a dark colour scheme which can absorb reflective light.
23 March 2021 email and NYCC / SDC response on 23 March 2021 and on 24 March 2021 (email).	NYCC / SDC	The Applicant confirmed that NYCC / SDC were content with the preliminary location of representative viewpoints and that two further viewpoint locations would be added to the list covering views to the east of the Drax Power Station (now viewpoint 7 and 8).

Date and Method of Consultation	Consultee	Summary of Key Topics discussed and Key Outcomes
		The email also recommended the selection of five night-time views which were either close to settlements or could be used by walkers during early evening / morning. These would be taken at ½ hour before dusk / dawn to maximise on visibility. **Response and Outcomes** 23 March 2021 email: NYCC / SDC responded stating that it would be beneficial to get night-time photos as it would be helpful to understand the effect of lighting and how visibility is to be considered and assessed once further design details are available. There is the potential for increased visibility from lights placed on structures / direct illumination of structures and indirect lighting of structures from reflected light on the wider site such as horizontal surfaces, car parking, work areas etc around the Site. Steam plumes also have potential to be highly visible from increased light levels on Site. 24 March 2021: NYCC / SDC agreed with the night-time views suggested and that the night-time photos would be taken from the same location and direction as the daytime to provide a useful comparison. Their comment was caveated by stating that the benefit of the night-time photographs is uncertain since they are taken in advance of an actual lighting strategy or scheme and the photograph location and coverage should be reviewed once a lighting strategy becomes available and is subject to whether the existing Drax Jetty is utilised. Post meeting note - the Drax Jetty has subsequently been scoped out of the works. The night-time photos are to be for the (potential) purpose of a night-time visual effect's assessment, as part of the LVIA and not to be confused with specific requirements of an environmental lighting impact assessment and other lighting comments made in the Scoping response by Environmental Health.
23 April 2021 meeting with NYCC / SDC	NYCC / SDC	The Applicant held a meeting with NYCC / SDC to discuss their comments over the issues stated in bold below. NYCC / SDC comments, based on the **EIA Scoping Opinion** are as follows: **Topographic survey:** "The Applicant should undertake a detailed topographical survey to understand / explain the key features / characteristics including levels / landform buildings / structures existing vegetation / screening / hard and soft surfaces". NYCC / SDC expanded on the comment explaining that the survey would demonstrate what is where. **Cumulative effects:** "There should be consideration of cumulative effects should the construction programme overlap with other recently approved schemes including the Drax Repower NSIP". **Existing trees and vegetation:** "This should be reviewed, protected and retained where appropriate. Tree survey and arboricultural impact assessment should be to BS5837. This is important if vegetation is needed for ongoing screening of the Site and to protect restored areas of the Site." NYCC / SDC added that the ES needs to demonstrate the appropriate level of detail and that no trees are affected. **Study area:** NYCC "For the LVIA I would support the proposal for a maximum study area of 10 km from the Order Limits with a focused 3 km study area on built and natural environmental features. I would also support the proposal that this should be extended to a 15 km radius for the purposes identifying 'other development' for the assessment of cumulative effects". **Site Design:** "I would support consideration of the original design intent as set out by AE Weddle's 1966 Landscape and Mitigation Report (para. 10.2.3). Given the scale of the existing Drax Power Station and the significant changes that have taken place since the original report, I would like to see a clear revised design strategy for the Site. This strategy should explain how the current application achieves principles of 'good design' in context of the Site as a whole, for the overall composition of site structures, massing, layout, colour and materials, aiming to reduce overall massing, visual coalescence and site clutter. Clear revised design strategy – how the current applications achieves principles of

Date and Method of Consultation	Consultee	Summary of Key Topics discussed and Key Outcomes
		"good design" in the context of the Site as a whole – composition, massing, layout, colour and materials – avoiding reducing overall massing, visual coalescence and site clutter." **Alternative design options:** "The potential for additional cooling towers is outlined at para. 2.2.12. I would also like to see consideration of other low-profile cooling solutions and plume eliminators, being less visually obtrusive, to demonstrate good design and in consideration of alternatives." NYCC / SDC added that the cooling tower would be a prominent skyline feature – the design strategy needs to explain why and how such systems have been located and that the design needs to minimise impacts and conflict. **Landscape proposal, mitigation, maintenance and aftercare:** "I would like to see a landscape strategy for the Proposed Scheme, which should consider the wider Drax Power Station Site and future maintenance responsibilities. The Proposed Scheme should avoid removing or double-counting landscape mitigation previously committed as part of other planning approvals and NSIPs. I would like to see consideration of both Landscape and Biodiversity objectives for the Site as a clear joined-up approach. Landscape proposals and mitigation should be proportionate to the scale of the development and should have regard for and contribute to the wider landscape character and setting, local amenity with clear aims and objectives." NYCC / SDC added that they would like to see some principles and how these fit within a design guide covering not just planting but architectural design and massing. **Green Infrastructure (GI):** "Landscape proposals should support the Government's commitment to improving green infrastructure, health and wellbeing, as set out in the 25 Year Environment Plan. The Leeds City Region Green and Blue Infrastructure Strategy, NPPF and other local policy, also recognise GI." NYCC / SDC adding that it was Government's aspiration to improve GI adjacent to communities. **Response and Outcomes** The Applicants response was as follows: **Topographic survey:** The Applicant explained that a topographical survey would not be undertaken, instead information would be drawn from LiDAR data and details of key features taken from site surveys including Phase 1 ecology surveys. **Cumulative effects:** The Applicant confirmed that consideration would be given to cumulative effects arising should the construction programme overlap with other recently approved schemes noting that the Drax Repower Project will no longer proceed. **Existing trees and vegetation:** The Applicant explained that a tree survey and agricultural impact assessment were unnecessary at this stage since the Existing Drax Jetty and upgraded Drax Jetty have been scoped out. All existing vegetation to remain undisturbed would be protected through a Construction Environmental Management Plan (CEMP) which will be secured through a requirement in the Development Consent Order (DCO). References to the protection of trees under BS 5837 Trees in relation to design, demolition and construction will also be made in a proposed **OLBS** which is submitted as part of the ES as well as details of setbacks ensuring root protection zones would be protected as well as the trees themselves. **Study area:** The Applicant agreed. **Landscape proposal, mitigation, maintenance and aftercare:** The Applicant explained that an **OLBS** would be prepared and this would give careful consideration to how landscape and visual impacts could be reduced whilst being mindful that adverse significant visual effects are likely to remain. The Applicant recommended that the delivery of the design framework mitigation plans and the **OLBS** are deferred post PEIR until after the footprint of the Proposed Scheme has been agreed

Date and Method of Consultation	Consultee	Summary of Key Topics discussed and Key Outcomes
		and ecological surveys completed. There also needs to be discussions over the need and siting of mitigation. The proposed structure of the **OLBS** was referred to in the PEIR and agreed with NYCC / SDC. **Green Infrastructure:** The Applicant confirmed that consideration would be given to GI and reference would be made to the documents referred to in the **OLBS.** Consideration will be given during the Proposed Scheme development to community opportunities and mention will be made of Drax Power Limited's work with adjacent communities as referred to in Drax Repower Examination. The Applicant agreed that communication regarding representative viewpoints and potential visualisations would be agreed by email and that a draft methodology would be circulated.
23 April 2021 email and NYCC / SDC response 27 April 2021 (email)	NYCC / SDC	The Applicant issued recommendations regarding 10 representative viewpoints (covering both day and night) and potential visualisations. **Response and Outcomes** 27 April 2021: NYCC / SDC agreed with the omission of specific viewpoints and the 10 agreed viewpoint locations and requested three night-time visualisations, three-day time wirelines and six day time photomontages. NYCC / SDC also caveated that their agreement was based on initial information regarding the Proposed Scheme location and reserved the right to review the viewpoints and photomontages again once more detailed design and layout information becomes available. NYCC / SDC also made more specific comments as follows: **Topographic survey:** The Proposed Scheme should be based on an accurate site survey plan. The level of detail should be sufficient to explain key features of the existing site, layout and context of the proposals and to explain effects and mitigation of the Proposed Scheme. **Viewpoints / ZTVs / photomontages:** NYCC / SDC requested an additional night-time photo from viewpoint 1. The Applicant should consider a night-time visual assessment if external lighting is likely to be proposed. Reflected light on large vertical structures and lighting on the recent biomass storage containers are clearly visible in the night-time photographs. Future on-site lighting should be minimised to prevent the incremental build-up of lighting and reduce adverse visual effects. **Cross sections / elevations:** Long elevations and cross sections should be used to explain the height, layout and design of the existing site and Proposed Scheme, in context with its surroundings. **Site Design / Alternative Design Options:** Whilst NYCC / SDC acknowledged that there may be limitations on choices and technology options, the Applicant should consider both functionality and aesthetics as far as possible. The design and sensitive use of materials in any associated development will assist in ensuring that development contributes to the quality of the area. All National Policy Statements include criteria for good design - EN1 para 4.5.1. The Design Council provide design guidance and design principles for NSIPs, including consideration and use of Site Masterplan, LVIA, landscape design, architectural concept, materials and detailing. A landscape strategy, design and access statement (or similar) should be considered which explains the approach to design and development of the Site. The NPPF also acknowledges the need for good design to achieve sustainable development and to make development acceptable to communities.
17 May 2021 (email) and NYCC / SDC response 3 June 2021 (email)	NYCC / SDC	The Applicant responded to NYCC / SDC comments and included minutes from 24 April 2021, and the proposed methodology:

Date and Method of Consultation	Consultee	Summary of Key Topics discussed and Key Outcomes
		Viewpoints and photomontages: The Applicant recommended eight visualisations explaining why two were unnecessary and proposed three wirelines and three photomontages. **Night-time viewpoints:** The Applicant explained that they disagreed with the need for a night-time view from viewpoint 1. Night-time views had already been agreed and viewpoint 2 was from a similar direction and angle (albeit slightly closer). **Night-time visual assessment:** The Applicant has agreed to undertake a night-time assessment and prepare two night-time photomontages from viewpoint 2 and 7. The Applicant maintains that Drax Power Station is already well lit and the future baseline is likely to reduce the extent of lighting as a consequence of the demolition of the Flue Gas Desulphurisation (FGD) equipment. **Topographic survey:** The Applicant does not agree that a topography plan needs to be prepared at this stage but could offer to prepare an existing site plan with ground levels to inform the Proposed Scheme. **Cross sections / elevations:** The Applicant proposes to produce indicative elevation drawings and whilst these do not show the context of the Drax Power Station, they will assist in the understanding of the Proposed Scheme. Alongside this information the outputs of a 3D model can be presented. **Design:** The Applicant proposes to reflect a clear design strategy in a **Design Framework Document** and accompanying design principles and objectives. This will consider the current functions of Drax Power Station, proposed functions associated with the Proposed Scheme, the reasons for the siting, layout and massing, design principles / objectives and how the design principles / objectives comply with legislative policy / guidance. The **Design Framework Document** would be supported by images, plans and photos. **Response and Outcomes** 3 June 2021: NYCC / SDC confirmed that they were in general agreement with the draft LVIA methodology - the study area distances should be as per the Scoping Response. **Viewpoints and Photomontages:** NYCC / SDC agree with the points raised, adding that there should be a night-time photomontage from viewpoint 7b (now 7) to provide a daytime and night-time comparison and that viewpoint 10 (now 9) should still be maintained. Night-time Visual Assessment: NYCC / SDC agreed. Topographic Survey: NYCC / SDC agreed. **Cross Sections and Elevations:** NYCC / SDC wish to maintain the request and use of context elevations / cross sections. These are useful to explain relative height of the Proposed Scheme. The landscape team agree that the use of a 3D model has added value, but this should not replace context cross sections / elevations. **Soil Survey:** NYCC / SDC wish to maintain a question over use of Best and Most Versatile Agricultural Land, including land within the mitigation area. It is unclear at this stage how agricultural use and ALC grade 3b+ may be affected. **Design:** NYCC / SDC are generally in agreement with the proposed approach and welcome further engagement as might be helpful.
The Applicant's response to NYCC / SDC comments received on 3 June 2021 to email issued on 14 June 2021	NYCC / SDC	The Applicant replied to the outstanding points as follows: **Viewpoints / Photomontages:** The Applicant confirmed that viewpoint 7b (now 7) would be included as a night-time photomontage.

Date and Method of Consultation	Consultee	Summary of Key Topics discussed and Key Outcomes
		Cross sections / elevations: The Applicant notes this comment and will consider how to incorporate cross sections / elevations into the Design Framework / Principles. **Soil survey:** The Applicant notes this comment however it is beyond the remit of the LVIA. As explained, agricultural land will not be affected by the Proposed Scheme apart from the temporary Laydown Area to the east of Drax Power Station (as per the Drax Repower Project) and this will be reinstated to the same quality and condition as existing. **Response and Outcomes** No comments from NYCC / SDC as actions mostly agreed.
13 August 2021 (email) and NYCC / SDC (email)	NYCC / SDC	The Applicant issued the meeting minutes from the 6 August meeting, which included the list of documents used to inform the LVIA. **Response and Outcomes** No comments and the minutes and the list of documents for the LVIA are agreed.
3 December 2021 meeting with NYCC, 23 December 2021 (email), NYCC response 23 December 2021 (email)	NYCC	The Applicant outlined progress of the **Design Principles, OLBS** and **Draft Lighting Strategy** (document reference 6.7), with a discussion of the PEIR submission. The Applicant issued the meeting minutes from the 3 December meeting, which included a proposed modification of the methodology. **Response and Outcomes** **PEIR feedback**: NYCC were content with the content of the PEIR in relation to Landscape and Visual, although the planning response will address items still to be prepared for the ES and acknowledged as not present within the PEIR. **Viewpoint and photomontages:** NYCC observed that Viewpoint 3 may be better positioned to avoid the boundary fence, which presents a partial obstruction to the view; also that the viewpoint photomontage would be better as a fully rendered image as opposed to a wireframe. The Applicant confirmed this as an action but noted that the change of viewpoint position may be dependent on achievability at the location. **Lighting Strategy:** NYCC noted that wording within the PEIR was misleading, and that their preference is for a “dark setting” rather than dark buildings. The Applicant noted this comment. 23 December 2021: NYCC confirmed that they were satisfied with the minutes presented. 23 December 2021: NYCC responded that they agreed with the modification of methodology proposed.
28 January 2022 meeting with NYCC / SDC, 3 February 2022 (email) and 15 February 2022 (email)	NYCC / SDC	The Applicant presented current progress in relation to the **Design Framework Document**. 3 February 2022: The Applicant issued a working draft of the document for comment from NYCC / SDC. 15 February 2022: The Applicant issued the meeting minutes from the 3 December meeting, which included a proposed modification of the methodology. **Response and Outcomes** 28 January 2022: NYCC / SDC welcomed the document format and its inclusion, requesting that the work in progress draft document be circulated for comment.

Date and Method of Consultation	Consultee	Summary of Key Topics discussed and Key Outcomes
		NYCC stressed the importance of Green Infrastructure (Natural England guidance)[1] and the multi-functional benefits that could be accrued in terms of for example biodiversity, flood risk management, landscape and community benefits. The Applicant acknowledged this and that the Framework would include a GI approach in defining design principles. NYCC raised concern over cumulative effects from other major applications and how design principles adopted for the Proposed Scheme could relate to wider projects. The Applicant responded that the design of developments unrelated to Drax Power Station could not be directly influenced in respect of the **Design Framework Document**. The Cumulative Impact Assessment will be presented in the ES alongside the **Design Framework Document** being submitted.
27 April 2022 meeting with NYCC / SDC	NYCC / SDC	The Applicant presented progress in relation to the **OLBS.** The Applicant provided a summary of the Ecological (including Biodiversity Net Gain) and Landscape and Visual assessment. The outlined ecology and landscape mitigation measures were outlined. The Applicant emphasised that the emphasis is that the ecology and landscape mitigation are symbiotic, and any mitigation measures will benefit both aspects. Questions/discussion Confirmation that the pond in the Habitat Provision Area is to be seasonally wet, and not an attenuation pond NYCC confirmed that it is agreed that the Ecology and Landscape mitigation should be combined, and that the design guide carries this strategy through, and the links are clear, including flood risk. The Applicant confirmed that there would potentially be some requirement for replacement planting within the site, and the design principles should be adopted at the detailed design stage to uphold the original strategy aspirations. NYCC commented on a reduction in the area for Ecology mitigation. It was explained that this had been narrowed down to what was strictly necessary. NYCC identified cumulative impacts are an area of interest, and that they are looking at a strategy that would consider energy projects within a wider area as there are numerous local power projects likely to come forward. The BECCS application offers an opportunity to start the thinking on this process. The Applicant pointed out that any strategy should be mindful that technologies may change in the future. It was confirmed that the NYCC Ecologist has been involved in discussions regarding Ecology mitigation measures.

[1] [redacted]

9.3.2. An **EIA Scoping Opinion** was received by the Applicant from the Planning Inspectorate (PINS) on behalf of the Secretary of State (SoS) on 26 February 2021, including formal responses from Statutory Consultees. The responses from PINS in relation to landscape and visual and how these requirements are addressed by the Applicant are set out in **Appendix 4.2 (EIA Scoping Opinion Responses)** (document reference 6.3.4.2).

9.4. SCOPE OF THE ASSESSMENT

9.4.1. The scope of this assessment has been established through an ongoing scoping process. Further information can be found in **Chapter 4 (EIA Methodology)** (document reference 6.1.4).

9.4.2. This section provides an update to the scope of the assessment and updates the evidence base for scoping out elements following further iterative assessment.

ELEMENTS SCOPED OUT OF THE ASSESSMENT

9.4.3. The elements shown in **Table 9.2** below are not considered to give rise to likely significant effects as a result of the Proposed Scheme and have therefore not been considered within this assessment.

Table 9.2 - Elements Scoped Out of the Assessment

Element Scoped Out	Justification
Landscape Character Areas	
National Character Areas: ~ National Character Area (NCA) 39: Humberhead Levels ~ NCA 28: Vale of York ~ NCA 30: Southern Magnesium Limestone ~ NCA 45: Northern Lincolnshire Edge and Coversands ~ NCA 27: Yorkshire Wolds ~ NCA 41: The Humber Estuary	The NCAs have not been considered further in this assessment because they are beyond the 10 km study area, agreed with NYCC / SDC for the assessment of the Proposed Scheme, as such, the scale of the landscape change arising from it in relation to the extent of the NCAs is such that the Proposed Scheme would not have a significant effect on the character of these areas considered as a whole.
County and Local Landscape Character Areas (LCA) Landscape Character Types (LCT): **North Yorkshire and York:** ~ LCT 23: Levels Farmland ~ LCT 24: River Floodplain ~ LCT 28: Vale Farmlands with Plantation Woodlands and Heathland ~ Urban Landscape **Selby District:** ~ LCA 3: Skipwith Lowlands ~ LCA 11: Sherburn Farmland ~ LCA 13: Haddlesey Farmland ~ LCA 14: Hambleton Sandstone Ridge ~ LCA 16: Eggborough ~ LCA 17: Southern Farmland **East Riding of Yorkshire:** ~ LCT 5: Open Farmland ~ LCT 7: Foulness Open Farmland ~ LCT 8: M62 Corridor Farmland ~ LCT 9: Drained Open Farmland **Doncaster Metropolitan Borough Council:** ~ LCA F2 – Owston to Sykehouse Settled Clay Farmlands ~ LCA G2 – Thorne and Hatfield Peat Moorlands	These county and local LCAs / LCTs have not been considered further in the assessment because they are located beyond the 3km detailed study area agreed with NYCC / SDC (LCT 28, Urban Landscape, LCA3, LCA11, LCA13, LCA14, LCA16, LCA17, LCT7, LCT8, LCT9, LCA F2, and LCA G2), or based on professional judgement, they would not experience significant effects, due to the scale of the landscape change associated with the Proposed Scheme (LCT23, LCT24, LCT5), limitations of intervisibility created by intervening vegetation, topography and interrelationship with the existing context of the power station. LCT23 and LCT24 have been assessed at a more detailed level against Landscape Character Areas within the Selby Landscape Character Assessment (LUC on behalf of Selby District Council, 2019).

Element Scoped Out	Justification
Individual properties off Rusholme Lane	Due to the position within the study area and limited inter-visibility, determined through desk study and site work, these receptors are not considered further because they are judged not to experience significant effect.
Individual properties off Redhouse Lane	Due to the position within the study area and limited inter-visibility, determined through desk study and site work, these receptors are not considered further because they are judged not to experience significant effect.
Individual properties off Brier Lane	Due to the position within the study area and limited inter-visibility, determined through desk study and site work, these receptors are not considered further because they are judged not to experience significant effect.
Properties with north-west facing views from the settlement of Newland	These residential receptors are located approximately 3 km from the Proposed Scheme, which would be visible in the far-distant background of views. The receptors are judged as unlikely to experience significant effects due to the distance of view and the majority of views being obscured by intervening built form and vegetation. These receptors have not been considered further in this assessment.
Properties with south-west facing views from the settlement of Hemingbrough	These residential receptors are located over 1 km from the Proposed Scheme, which would be visible in the background of views. The receptors are judged as unlikely to experience significant effects due to the majority of the views towards the Proposed Scheme being obscured by intervening built form and vegetation surrounding Hemingbrough and along the River Aire, determined through desk study and site work. These receptors have not been considered further in this assessment.
People visiting and working at P3P / APS Growers	These are visual receptors of low sensitivity, although situated in proximity of the Proposed Scheme. These receptors are not considered further because they are judged not to experience significant effect.
PRoW Ref: 35.26/2/1	These recreational receptors are located to the south-east of the study area beyond the settlement area of Drax. These receptors are judged as unlikely to experience significant effects due to built form, intervening vegetation and Drax Power Station largely obscuring views towards the Proposed Scheme, determined through desk study and site work.
PRoW Ref: 35.26/1/1	
PRoW Ref: 35.26/12/1	
PRoW Ref: 35.47/5/1, 35.47/5/2, 35.47/9/1, 35.26/7/1, 35.26/13/1, 35.49/3/1 and 35.49/1/1	
PRoW Ref: 35.49/8/1	
PRoW Ref: 35.49/7/1	These recreational receptors are located to the south-east of the study area beyond the settlement area of Drax. These receptors are judged as unlikely to experience significant effects due to built form, intervening vegetation and Drax Power Station largely obscuring views towards the Proposed Scheme, determined through desk study and site work.
PRoW Ref: 35.26/9/1 and 35.49/5/1	These recreational receptors are located to the south-west of the study area beyond the settlement area of Drax and the A645. These receptors are judged as unlikely to experience significant effects due to built form, intervening vegetation and Drax Power Station largely obscuring views towards the Proposed Scheme, determined through desk study and site work.

Element Scoped Out	Justification
PRoW Ref: 35.26/10/1, 35.17/6/1, 35.17/7/1, 35.17/5/1, 35.17/5/2 and 35.17/6/2	These recreational receptors are located to the south of the study area beyond the settlement area of Camblesforth. These receptors are judged as unlikely to experience significant effects due to the built form and vegetation around Camblesforth which would largely obscure views towards the Proposed Scheme, determined through desk study and site work.
PRoW Ref: 35.18/7/1, 35.18/6/1, 35.18/5/1 and 35.18/4/1	These recreational receptors are located to the south of the study area near settlement of Carlton. These receptors are not considered further because they are judged not to experience significant effect as the built form and vegetation and Carlton largely obscures views towards the Proposed Scheme, determined through desk study and site work.
PRoW Ref: 35.17/8/1	These recreational receptors are located within the settlement of Camblesforth. These receptors are not considered further because they are judged not to experience significant effect due to the built form associated with the settlement of Camblesforth obscuring views towards the Proposed Scheme in the far distance, determined through desk study and site work.
PRoW Ref: 35.17/11/1, 35.17/3/1 and 35.17/2/1	These recreational receptors are located to south-west of the study area near the settlement of Camblesforth. these receptors are not considered further because they are judged not to experience significant effect due to views being largely obscured by the built form and intervening vegetation along Clay Lane, determined through desk study and site work.
PRoW Ref: 35.6/5/2 and 35.6/6/1	These recreational receptors of medium sensitivity are located to north-west of the study area near the settlement of Barlow, north-west of Barlow Mound. They are not considered further because they are judged not to experience significant effect due to views being largely obscured by the intervening topography and vegetation associated with Barlow Mound, determined through desk study and site work.
PRoW Ref: 35.6/3/1 and 35.6/9/1	
People visiting and working at Barlow Common Nature Reserve	
People visiting and working at Skylark Centre	
People attending and working at The Read School in Drax Village	School users of medium sensitivity are anticipated to be focussed on inward facing educational and playground activities rather than wider views. They are not considered further because they are judged not to experience significant effect due to views from outdoor recreational areas being largely obscured by adjacent built form and/or intervening vegetation. These receptors have not been considered further in this assessment.
People attending and working at The Holy Family Catholic High School in Carlton	School users of medium sensitivity are anticipated to be focussed on inward facing educational and playground activities rather than wider views. They are not considered further because they are judged not to experience significant effect, due to the distance of view and from outdoor recreational areas being partially obscured by adjacent built form and/or intervening vegetation. These receptors have not been considered further in this assessment.
People attending and working at The Parish Church of Saint Peter and Saint Paul in Drax Village	Church users of medium sensitivity are anticipated to be focused on inward facing activities within the church and churchyard rather than wider views. They are not considered further because they are judged not to experience significant effect due to views from the churchyard being largely obscured by adjacent built form and/or intervening vegetation, determined through desk study and site work. These receptors have not been considered further in this assessment.
People attending and working at Camblesforth Methodist Church	Church users of medium sensitivity are anticipated to be focused on inward facing activities within the church and church grounds rather than wider views. They are not considered further because they are judged not to experience

Element Scoped Out	Justification
	significant effect due to views from the churchyard being largely obscured by adjacent built form, determined through desk study and site work, and have not been considered further in this assessment.
Road users travelling along the A1014 (between Selby and Camblesforth south bound and between Camblesforth and Carlton north bound)	Road users travelling along these routes are of low sensitivity and would experience glimpsed and fleeting views of the Proposed Scheme, determined through desk study and site work. As a result, effects are not judged to be significant, and these receptors have not been considered further in this assessment.

Elements Scoped into the Assessment

9.4.4. The following sensitive receptors are considered to have the potential to be subject to likely significant effects during construction, decommissioning and operation of the Proposed Scheme and have therefore been considered within this assessment. The receptors are illustrated on **Figure 9.1 (Landscape Character)** (document reference 6.2.9.1) and **Figure 9.2 (Visual Receptor Plan)** (document reference 6.2.9.1).

Landscape

a. Site Fabric (including topography, drainage, vegetation, aesthetic / experiential and perceptual);

b. LCA 5: Ouse Valley;

c. LCA 6: Derwent Valley (SDC);

d. LCA 7: Aire Valley;

e. LCA 10: East Selby Farmland (SDC);

f. LCA 15: Camblesforth Farmland (SDC);

g. LCT 4 River Corridors (ERoY) (4A, 4B and 4D); and

h. The Lower Derwent Valley Important Landscape Area (ILA).

Visual

a. Residents living in properties with western facing views (Pear Tree Avenue, Carr Lane / Redhouse Lane and Main Road);

b. Residents living in properties with eastern facing views (Camela / Clay Lane);

c. Residents in properties with south-eastern facing views (Thief Lane);

d. Residents in properties with west and north – west facing views from the settlement of Drax);

e. Residents in properties with north-east facing views from the settlement of Camblesforth;

f. Residents in properties with north facing views from the settlement of Carlton;

g. Residents in properties with south-west facing views from the settlements of Barmby on the Marsh and Long Drax;

h. People visiting and working within Drax;

i. People travelling along the PRoW along the River Ouse with south-western facing views (TPT / NCN);

j. People travelling along PRoW with eastern facing views;

k. People travelling along PRoW with south – western facing views;

l. People travelling along PRoW with long distance south-western facing views;

m. People travelling along PRoW with western facing views;

n. People travelling along the PRoW along the River Ouse with south-eastern facing views;

o. People visiting and working at Drax Golf Club;

p. Recreational users of the River Ouse;

q. Road users travelling along the A645; and

r. Road users travelling along local roads in close proximity to Drax.

9.5. ASSESSMENT METHODOLOGY

OVERVIEW

9.5.1. The assessment has been completed in accordance with the 'Guidelines for Landscape and Visual Impact Assessment' 3rd Edition (2013), (GLVIA3) (Landscape Institute and IEMA, 2013). The visualisations have been prepared in accordance with guidance set out within "Visual Representation of development proposals", Technical Guidance Note 06/19 (The Landscape Institute, 2019).

9.5.2. The assessment of landscape and visual effects is both a subjective and objective process. Whilst subjectivity cannot be removed from the assessment process, by following a systematic and structured framework of assessment, a more robust assessment can be performed, and more transparent conclusions drawn.

9.5.3. The assessment process includes the consideration of both tangible and intangible aspects of the environment. Direct and indirect effects of the development upon landscape character and visual amenity are also identified where they occur.

9.5.4. Following the assessment of baseline landscape and visual context the LVIA assesses:

a. The sensitivity of the landscape resource and visual receptors;

b. The magnitude of change; and

c. The significance of effect based on a comparison of the sensitivity of the resource / receptor against the magnitude of change.

9.5.5. The assessment involves four stages:

a. Establishment of the baseline conditions: the landscape character and visual context of the receiving environment and the sensitivity to change of these resources;

b. Contributions to the iterative process of design and mitigation based on understanding the nature, form and features of the Proposed Scheme;

c. An evaluation of the magnitude of change likely to result from the Proposed Scheme during construction, at completion (operation year 0), year 10 and 20 thereafter and on decommissioning, upon visual amenity and the landscape resource; and

d. An assessment of the significance of landscape and visual effects considering the sensitivity of resources and the magnitude of change.

9.5.6. For both the landscape and visual assessment, the significance of effect derives from the combination of the magnitude of change and the sensitivity of the landscape or

visual receptor detailed below. The full methodology is set out in **Appendix 9.2 (LVIA Methodology)** (document reference 6.3.9.2).

ASSESSMENT OF SIGNIFICANCE

9.5.7. In accordance with GLVIA3, the predicted landscape and visual effects (and whether they are significant) are determined through a consideration of the 'sensitivity' of (a) the landscape element or (b) the visual receptor; in combination with the 'magnitude of change' posed by the Proposed Scheme in each instance.

9.5.8. The sensitivity of a particular landscape or visual receptor is ranked as high, medium, low or negligible; magnitude of change is ranked as large, medium, small or negligible, with further explanation of these rankings provided in **Appendix 9.2 (LVIA Methodology)**.

9.5.9. The type of effect is also considered and can be described in a variety of ways:

- **a.** Adverse (negative) or beneficial (positive);
- **b.** Direct (e.g., actual physical change and close perceptual changes) or indirect / secondary effects (e.g., the consequential change on the landscape or visual amenity further afield);
- **c.** Permanent or temporary (short, medium or long term); and
- **d.** Whether the change is reversible or irreversible.

9.5.10. The LVIA necessarily involves a combination of both quantitative and qualitative assessment and is based on professional judgment. The matrix illustrated in **Table 9.3** below is used to help inform the judgment of effects and their significance, for the purpose of the assessment.

9.5.11. Matrix entries with more than one outcome (for example, **moderate or minor**) allow the flexibility for the assessor to make an informed professional judgement on the level of effect, given the combination of receptor sensitivity and the magnitude of change anticipated.

Table 9.3 - Matrix for determining Significance of Effect

	Sensitivity				
Magnitude of Change		High	Medium	Low	Negligible
	Large	Major	Major or moderate	Moderate or minor	Minor or negligible
	Medium	Major or moderate	Moderate	Minor	Negligible
	Small	Moderate or minor	Minor	Minor or negligible	Negligible
	Negligible	Minor or negligible	Negligible	Negligible	Negligible

9.5.12. The assessments made within this chapter consider effects of a moderate or greater level of effect to be significant (as shown in **bold** in **Table 9.3**) while those less than moderate considered to be not significant.

9.5.13. Any receptors assigned an overall negligible level of effect at year 0 will not be further considered or assessed in year 15, on the basis that effects will not increase to a level of significance at year 15 as the establishment of mitigation planting will contribute to the screening and integration of the Proposed Scheme.

9.5.14. For this assessment the following stages were considered:

a. Construction period (Option 1): This covers an approximate duration of 6 years;

b. Operational period: Commencement in Year 0 and Year 15; and

c. Decommissioning period: After a duration of 25 years[2].

[2] As set out within **Chapter 2 (Site and Project Description), Section 2.5** the Proposed Scheme is anticipated to operate for at least 25 years. At the end of the 25-year period, the facility may have some residual life remaining and an investment decision would be made as to whether the operational life of the Proposed Scheme would be extended. If it is not appropriate to continue operation, the plant would be decommissioned

METHOD OF BASELINE DATA COLLECTION

9.5.15. The purpose of the baseline review was to provide an understanding of the landscape in terms of its constituent elements / features and character, its condition, how it is experienced, and the value attached to it. This stage also determines the area over which the Proposed Scheme may be visible and those groups of people (visual receptors) who may experience views of the Proposed Scheme. The following tasks were undertaken as part of the baseline appraisal:

- **a.** An overview of statutory plans and other data regarding relevant designations and planning policies for the study area;
- **b.** A consideration of the landscape character of the Site and study area with reference to published landscape character assessments, verified through fieldwork and drawing on previous studies undertaken as part of the Drax Repower ES (WSP, 2018) and Weddle Reporting (Weddle, 1966);
- **a.** Agreement with the LPAs over the extent of the study area for the assessment;
- **b.** Visual mapping of the Site through the preparation of a Zone of Theoretical Visibility (ZTV), subsequent identification of representative viewpoints and agreement over representative viewpoints; and
- **c.** Field survey of the Site and its surroundings carried out in May 2021, and March 2022.

9.5.16. The following paragraphs provide further detail on some of these tasks and how they have informed the study area and viewpoint selection.

Desk Study

9.5.17. Information on the existing baseline of the study area was collected through desk-based study incorporating reference to Local Plans, Ordnance Survey maps (OS), Zones of Theoretical Visibility Mapping and 3D model of the Proposed Scheme as well as relevant literature published by the LPAs and the LVIA Chapter of the Drax Repower Environmental Statement (WSP, 2018).

Zone of Theoretical Visibility

9.5.18. An initial ZTV was produced by computer modelling to establish the study area at the PEIR Stage. A combination of EA LiDAR at 2 m resolution digital surface modelling (DSM) and OS terrain 5 where LiDAR was unavailable (to the north and west of the Proposed Scheme) was used to prepare the model. An observer height of 1.6 m and the earth's curvature was taken into consideration. The highest points of the Proposed Scheme identified during the preliminary environmental assessment and reported in the Preliminary Environmental Information Report (WSP, October 2021) illustrated that the visibility for the Absorber Columns and Regenerators was widespread and covered a 10 km radius. Visibility was less apparent to the east, the Drax Power Station partially screening the Proposed Scheme.

9.5.19. For this Environmental Statement the ZTV has been updated using the same methodology and the revised parameters of the Proposed Scheme design as

described in **Chapter 2 (Site and Project Description)** of this ES. The highest points of the Proposed Scheme were taken, based on a maximum parameter height of 95 m for the Absorber Columns and a maximum parameter height of 70 m for the Regenerator. The model and computer generated 'lines of sight' to show what could be seen from these points and thus the places from which the Proposed Scheme may be visible.

9.5.20. The ZTV described above and shown on **Figure 9.3 (Zone of Theoretical Visibility)** (document reference 6.2.9.3) provided a starting point in the assessment process and gives a 'maximum visual impression' or over-estimate of the potential visibility of the Proposed Scheme, ensuring a robust assessment of the landscape and visual impacts.

9.5.21. As set out in the preliminary environmental assessment and reported in the Preliminary Environmental Information Report (WSP, October 2021) and agreed during consultation with relevant stakeholders (see **Table 9.1)**, significant effects on the landscape and visual amenity are unlikely to occur beyond 3 km. The study area is therefore the area identified by the ZTV but limited to 3 km from the Order Limits to ensure a focus on potentially significant effects, as shown on **Figure 9.4 (Study Area)** (document reference: 6.2.9.4).

Site Visit

9.5.22. An initial baseline field survey was undertaken by a Chartered Landscape Architect experienced in LVIA in May 2021 in clear conditions. The survey verified the extent of the study area, assessed local landscape character and the nearest visual receptors to help inform early analysis. The extents of the ZTV were reviewed to refine the proposed study area, considering features affecting visibility e.g. built form and vegetation, which would potentially filter / screen views.

9.5.23. A further field survey was undertaken by a Chartered Landscape Architect in March 2022, for the purpose of revised viewpoint verification and in relation to elements of the **OLBS**.

Viewpoint Selection

9.5.24. Representative viewpoints were selected from analysis of the ZTV, a field survey and through consultations with landscape representatives at NYCC / SDC, ERoY, DMBC and Statutory Consultees who responded to the **EIA Scoping Report**.

9.5.25. Following the methodology established in Guidelines Landscape and Visual Impact Assessment, Edition 3 (Landscape Institute, 2013) the representative viewpoints were chosen based on the following criteria:

a. Viewpoints should be representative of the likely impacts;

b. Viewpoints should show a range of different types of views;

c. Viewpoints should be representative of a range of different receptor groups;

d. Viewpoints should be representative of a range of directions; and

e. Viewpoints should be representative of the varying image of the Proposed Scheme in the landscape.

9.5.26. The representative viewpoints were selected to illustrate the landscape / Site context and views from local Public Rights of Way (PRoW) including the Trans Pennine Trail, River Ouse, the Lower Derwent Important Landscape Area (ILA), nearby residential groups of houses / settlements and views from the local road network. A summary of the representative viewpoints agreed through consultation is provided in **Table 9.4** below.

9.5.27. All viewpoints are located within the public realm and focused on the location of the Proposed Scheme. Site photography was undertaken during periods of fine weather and clear visibility and covered both day and night-time views (see **Figure 9.5 (Viewpoint Location Plan)** (document reference 6.2.9.5) and **Figure 9.6 (Viewpoint Photography)** (document reference 6.2.9.6)).

9.5.28. It was agreed with the LPAs that winter views (obtained in March 2021 and March 2022) represent the worst case and there is no need for summer views.

Table 9.3 - Representative Viewpoints

Viewpoint Number	Viewpoint Name
1	View north – east from Barlow Road
2	View north - east from Camela Lane
3	PRoW edging Barlow Mound
4	View from River Ouse PRoW
5	Trans Pennine Trail west of Barmby Barrage.
6	Pear Tree Avenue close to PRoW
7	Pear Tree Avenue close to PRoW and west of properties
8	Trans Pennine Trail on corner or near and looking across to the power station
9	PRoW close to Drax Village and Read School
10	PRoW along Long Hedge Lane, north of Carlton

Guidance and Data

9.5.29. The following guidance documents and data sources have been used during the preparation of this Chapter:

Guidance

a. Guidelines for Landscape and Visual Assessment" ('GLVIA3') published by the Landscape Institute ('LI') and the Institute of Environmental Management and Assessment ('IEMA'), 3rd Edition (2013) (Landscape Institute and IEMA, 2013);

b. An Approach to Landscape Character Assessment", Natural England (2014) (Natural England, 2014);

c. Visual Representation of development proposals, Technical Guidance Note 06/19, Landscape Institute, 2019 (Landscape Institute, 2019);

d. Environmental Impact Assessment Guide to: Climate Change resilience & Adaptation, IEMA, June 2020 (IEMA, 2020); and

e. Introduction to the Green Infrastructure Framework – Principles and Standards for England, Natural England, 2021 (Natural England, 2021).

Data Sources

a. Selby District Core Strategy Local Plan (Selby District Council, 2013);

b. Selby District Local Plan Direction regarding "Saved Policies" (Selby District Council, 2008);

c. The East Riding Local Plan was adopted in April 2016 (East Riding District Council, 2016);

d. Doncaster Metropolitan Borough Council's local plan 2015-2035 (Doncaster Local Plan 2015-2035, adopted September 2021);

e. Leeds City Region Green Infrastructure Strategy (Leeds City Region Enterprise Partnership, 2018);

f. The Dales to Vales River Network (DVRN) (Dales to Vales River Network Catchment Partnership, 2021);

g. Selby District Landscape Character Assessment (Land Use Consultants on behalf of Selby District Council, 2019);

h. East Riding of Yorkshire's Landscape Character Assessment (AECOM, 2018);

i. Doncaster Metropolitan Borough Council's Landscape Character Assessment (ECUS, 2006);

j. East Riding of Yorkshire Important Landscape Areas Boundary Refinement Document (Golder Associates (UK) Ltd, 2013); and

k. The Joint Report of the Executive Architects and Landscape Consultant, (A E Weddle).

Assessment Assumptions and Limitations

9.5.30. The following assumptions and limitations apply to this chapter:

Assumptions

a. As described in **Chapter 2 (Site and Project Description)**, the Applicant has full planning permission for the demolition of the redundant Flue Gas Desulphurisation (FGD) Plant and associated restoration works at Drax Power Station (2020/0994/FULM). The decommissioning and demolition works of Absorber Units 4, 5 and 6 are scheduled to take place prior to the start of the construction of the Proposed Scheme and their removal has therefore been assumed for the baseline. The demolition of Absorber Units 1, 2 and 3 are scheduled to take place following the completion of the Proposed Scheme and this has therefore been considered in **Chapter 18 (Cumulative Effects)** (document reference 6.1.18).

b. The assessment is based on the assumption that the construction of the Proposed Scheme would commence in 2024, with completion of all elements of the Proposed Scheme in 2029 (year 0) (refer to **Chapter 2 (Site and Project Description) para 2.3.6**). As a result, and as stated in **Appendix 9.3 (LVIA Methodology)** (document reference 6.3.9.3), the design year is 15 years following completion (2044);

c. Detailed construction information is not yet available for the Proposed Scheme and this assessment therefore draws on the professional experience of the assessor of other similar projects'

d. The baseline photography work was carried out in March 2021 (when the trees were not in leaf, giving maximum visibility and representing the 'worst-case' scenario for screening). The baseline situation does not include any additional (newly built) visual receptors or vegetation growth after these dates. The Site was revisited by a Charted Landscape Architect in May 2021 and March 2022 to confirm that this broadly remained the case;

e. The assessment assumes that the primary design mitigation measures described in **Chapter 2 (Site and Project Description)** and landscape mitigation measures as detailed within the **OLBS** would be implemented.

f. For the purpose of this assessment, it is assumed that by the design year (Year 15) all hedgerows would have reached a height of 2 m and be subject to ongoing management measures to maintain this height, with tree planting reaching a minimum height of 6 m;

g. For the purpose of this assessment, the extent of assumed retained vegetation within the Order Limits is in accordance with the content of the OLBS;

h. For the purpose of the assessment, night-time lighting requirements for the Proposed Scheme are considered to be in accordance with **Chapter 2 (Site and Project Description)** and with reference the **Draft Lighting Strategy**. The assessment assumes a reasonable "worst case" scenario, which assumes a continuous night-time illumination requirement for areas where safety or security

is a concern (vehicle routes, pedestrian routes and work task areas) and with directional LED lighting levels sufficient to ensure safe movement, safety and well-being. The assessment does not take account of additional lighting design measures which may be employed to achieve further efficiencies for the reduction of light levels (such as control systems in response to on-site activity). The lighting conditions outlined in Environmental Statement - Appendix 3.1 Baseline Lighting Survey Report (WSP, 2018) are assumed to form the baseline for the night-time assessment.

i. The assessment assumes that the screening benefit provided by existing and proposed vegetation is reduced in winter months, due to the absence of foliage. Typically, visual effects would therefore be greater during winter months and where planting depth is not sufficient to obscure views;

j. Cultural heritages assets are referenced in terms of their contribution to landscape character and in respect of any visitor experience as a visual receptor; effects on the assets themselves and / or their setting are addressed in **Chapter 10 (Heritage)** (document reference 6.1.10) of this ES;

k. Assumptions for visual sensitivity rely on professional judgement, in relation to the nature of the view and the associated receptor. This is based on information gathered as part of desk top studies, aerial photography and site surveys, using comparable receptors with similar orientation, distance and nature where appropriate;

l. As set out in **Chapter 2 (Site and Project Description)**, **Section 2.5**, the decommissioning impacts are anticipated to be no worse than those during the construction phase following the implementation of a Decommissioning Environmental Management Plan.

m. Upon completion, areas used as construction compounds and laydown areas would be returned to their original use;

n. Planning applications for the Flue Gas Desulphurisation (FGD) Demolition and Barlow Mound works are assessed as cumulative for the purpose of the ES. These assessments are included in **Chapter 18 (Cumulative Effects)**.

Limitations

a. The landscape and visual assessment was undertaken from publicly accessible locations. Professional judgment was used in determining the extent of views and magnitude of change anticipated where access was limited.

b. The ZTV has the following limitations:

i. It does not take into consideration the orientation of the viewer i.e. when travelling in a vehicle; and

ii. There are a number of areas within the ZTV which indicate potential views of the Proposed Scheme, but which comprise land where the general public do not have access.

9.6. STUDY AREA

9.6.1. The study areas applicable to the Proposed Scheme have been identified in accordance with GLVIA 3 guidance, which states that study areas should be determined on a project specific basis. Paragraph 5.2 of GLVIA 3 states that the study area extent should be "… based on the extent of Landscape Character Areas likely to be significantly affected either directly or indirectly" or "on the extent of the area from which the development is potentially visible, defined as the Zone of Theoretical Visibility, or a combination of the two." (Landscape Institute, 2019)

9.6.2. Whilst carrying out the LVIA assessment that was reported in the PEIR (WSP, October 2021), and in consultation with relevant stakeholders, the study area was refined from an initial radius of 10 km (from the Proposed Scheme extents) to a 3 km radius focussed study area. This was based on a combination of an analysis of the height and massing of the Proposed Scheme design, professional judgement and previous experience on the Drax Repower Project. It was considered a reasonable limit for the identification of landscape features and assets (field pattern, materials, vegetation) that contribute to overall landscape character, and which may be potentially affected by the Proposed Scheme.

9.6.3. The following study areas are applicable:

- **a.** A **3 km study area** radius from the Order Limits for the **visual assessment**; and
- **b.** A **3 km focussed study area** radius from the Order Limits for the **landscape assessment**, which extends to include the full extent of distinct areas of landscape character defined within relevant local landscape characterisation studies (Landscape Character Areas (LCA), Landscape Character Types (LCT)) and the full extent of any designated areas of landscape sensitivity and protection.

9.7. BASELINE CONDITIONS

EXISTING BASELINE

9.7.1. The baseline information focuses on those landscape and visual receptors most likely to be significantly affected by the Proposed Scheme and identified in **9.4.4** and **9.4.5**.

EXISTING LANDSCAPE CHARACTER BASELINE

9.7.2. The landscape character areas considered within this assessment are summarised below and illustrated in **Figure 9.1 (Landscape Character)**.

National, County and Local

9.7.3. The landscape character at a national, county and local level through the study area and more specifically in relation to the Site is summarised below with county and local character detailed in **Figure 9.5 (Viewpoint Location Plan)**.

National Landscape Character

9.7.4. The study area and the Proposed Scheme is located entirely within National Character Area (NCA) 39: Humberhead Levels (Natural England, 2014). The key characteristics of the area are described as *"a low lying, predominately flat landscape"* and *"views to distant horizons are often long and unbroken, with big expansive skies, and vertical elements like water towers, power stations and wind turbines are very prominent"*.

9.7.5. Other NCAs within the study area include NCA Profile 28 Vale of York to the north, NCA 30 Southern Magnesium Limestone to the west whilst to the east are a series of NCAs the closest being NCA 45 Northern Lincolnshire Edge and Coversands to the south of the Humber and NCA 27 Yorkshire Wolds to the north. NCA 41 the Humber Estuary wraps around the river edge.

9.7.6. The NCAs are at a large scale and cover a considerable area. It is considered that for this scale of assessment both the county and local landscape character assessments are a more appropriate tool by which to determine landscape character.

Local Landscape Character

9.7.7. At a local level the study area cuts across two administrative areas; Selby District, and East Riding of Yorkshire. The following Landscape Character Areas (LCAs) / LCTs are located within the 3 km study area see **Figure 9.4 (Study Area)** and **Appendix 9.2 (Landscape Baseline)** for further details:

a. Selby Landscape Character Assessment (LUC on behalf of Selby District Council, 2019):
   i. LCA 5: Ouse Valley;
   ii. LCA 6: Derwent Valley;
   iii. LCA 7: Aire Valley;
   iv. LCA 10: East Selby Farmland (SDC); and
   v. LCA 15: Camblesforth Farmlands

b. East Riding of Yorkshire's Landscape Character Assessment (AECOM, 2018) – LCT 4 River Corridors:
   i. LCA 4A: Derwent Valley, Barmby on the Marsh to Pocklington Canal Reach;
   ii. LCA 4B: River Ouse Corridor, Barmby on the Marsh to M62 Toll Bridge; and
   iii. LCA 4D: River Aire Corridor, Gowdall and Snaith to the Ouse Reach

9.7.8. The Drax Power Station itself lies within Selby District and falls within LCA 15 Camblesforth Farmlands as set out within Selby Landscape Character Assessment (LUC on behalf of Selby District Council, 2019).

LCA 15: Camblesforth Farmlands

9.7.9. Key characteristics of this LCA of relevance to the Site and its immediate surroundings:

- **a.** "*Flat arable farmland with a high concentration of small areas of broadleaved woodland and shelterbelts, creating a sense of enclosure;*
- **b.** *Medium-large scale rectilinear field pattern frequently lined by hedgerow trees;*
- **c.** *Sparse settlement with very few isolated properties and farmsteads;*
- **d.** *Strong human influence from the industrial Drax Power Station, highly visible from throughout the landscape; and*
- **e.** *Time depth from the juxtaposition of the power station with the historic village of Drax."*

9.7.1. The influence of Drax Power Station is noted throughout the key sensitivities of LCA 15 Camblesforth Farmlands including: "*Barlow Mound, the ash disposal site to the north-west of Drax Power Station creates a dramatic landform which is highly visible*." Additionally, it is noted that the "*New woodland on the Barlow Mound provides naturalistic features which contribute positively to the character of the landscape."* The guidance states that "*Sensitivity is reduced around the more built-up areas, particularly the power station, which decreases the sense of rurality and tranquillity, though this remains in pockets quite close by*." The "*Drax cooling towers are the key landmark features of the area, with Barlow Mound ash disposal providing foreground in some views. Skylines towards the power station are generally dominated by the cooling towers, pylons and powerlines*."

9.7.2. The northern extents of the Order Limits, which includes proposed mitigation measures relating to hedgerow planting, extend into LCA5: Ouse Valley.

LCA 5: Ouse Valley

9.7.3. The key characteristics of LCA 5: Ouse Valley are:

- **a.** "*Very flat, low-lying floodplains of the River Ouse used predominantly as arable farmland.*
- **b.** *Medium to large scale patchwork of heavily drained fields, commonly defined by ditches or grassed 'beetle banks.*
- **c.** *High grassy and vegetated flood embankments help disguise the river as it flows through the landscape.*
- **d.** *Localised areas of wetland and marsh provide valuable biodiversity habitats.*
- **e.** *Significant number of settlements including villages, hamlets and the town of Selby, located along the course of the River Ouse.*
- **f.** *Confluences of the Wharfe and Ouse to the north of Cawood, and the Ouse and Aire at Airmyn to the south-east.*
- **g.** *Strong influence of human elements including the prominent Drax Power Station, Rusholme Wind Farm, pylons running through the landscape, and river levees.*

h. *Distinct lack of woodland and tree cover creates a sense of vast openness."*

Locally Important Landscape Areas (ILAs)

9.7.4. Whilst there are no national statutory designations within the study area relating to landscape value; there is one landscape in the study area which is designated as an ILAs within the administrative boundary of East Riding of Yorkshire Council, refer to **Figure 9.7 (Landscape Designations)** (document reference 6.2.9.7).

9.7.5. The relevant landscape designation is the Lower Derwent Valley ILA within East Riding of Yorkshire, located approximately 0.75 km away from the Order Limits.

9.7.6. The designation of ILAs within the East Riding of Yorkshire has been directly influenced by the Landscape Character Assessment (Aecom, 2018) undertaken by the Local Planning Authority (LPA). Local Plan Policy ENV2 prescribes how proposals should protect and enhance existing landscape character in the designated areas. The boundaries of the ILAs were reviewed in July 2013 and the East Riding of Yorkshire Important Landscape Areas Boundary Refinement Document (Golder Associates (UK) Ltd, 2013) sets out the following key attributes of the Lower Derwent Valley ILA:

a. *"A low lying flat floodplain;*

b. *Combination of grassland pasture and meadow that are subject to seasonal flooding;*

c. *Manmade embankments formed as a result of dredging in the twentieth century;*

a. *Riparian woodland and trees in the corridor;*

b. *Areas of species rich alluvial flood meadow habitat;*

c. *Small areas of organic arrangement of medium sized fields combined with more regular boundaries of enclosed fields; and*

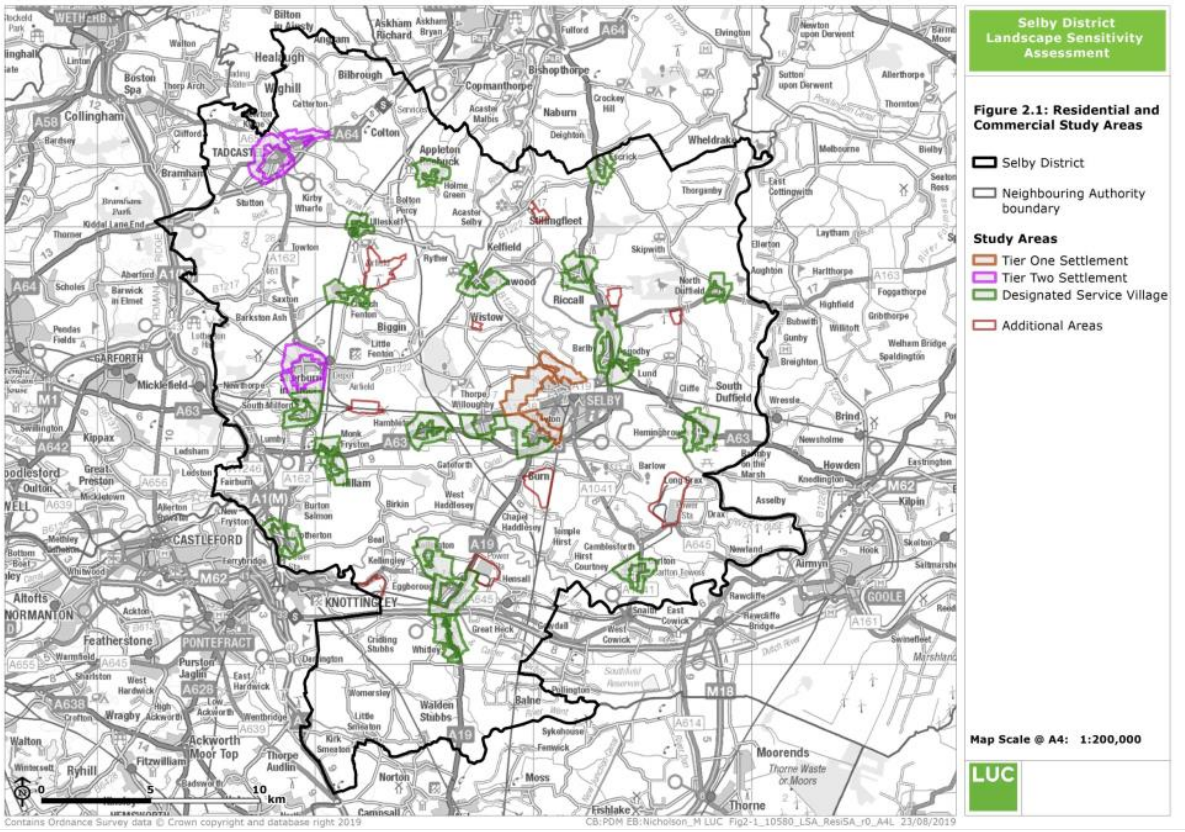
d. *Intimate isolated corridor landscape that is a marked contrast from surrounding intensively farmed land."*

Selby District Landscape Sensitivity Study

9.7.7. Selby District Landscape Sensitivity Study (LUC on behalf of Selby District Council, 2019) sought to assess sensitivity of certain forms of development types in certain locations. This included commercial developments around Tier 1 and 2 settlements as illustrated in **Plate 9.16** below, plus additional areas identified by the Council including Drax Power Station. Commercial development represents larger scale "shed" developments in classes B1 (business), B2 (general industrial) and B8 (storage and distribution).

9.7.8. The study found that the overall landscape sensitivity rating for commercial development within the landscape in the vicinity of Drax Power Station (see **Plate 9.1** below) was Low to Medium.

Plate 9.1 - Extract from the Selby District Landscape Sensitivity Assessment



SITE CONTEXT

Topography / Drainage

9.7.9. The topography within the study area is relatively flat, lying between 5 m and 15 m AOD. There are small, isolated pockets of high ground to the north-west, north-east and south-west including Hambleton Hough (approximately 40 m AOD and approximately 10 km from the Order Limits) and Brayton Barff (55 m AOD and approximately 7 km from the Order Limits) to the northwest, High Eggborough and Great Heck (approximately 9-10 km from the Order Limits) to the south-west.

9.7.10. Barlow Mound to the west of Drax Power Station is a distinct local landmark, formed in the 1970's using residual materials from Drax.

Plate 9.2 - View from Drax Power Station towards Barlow Mound

9.7.11. The River Ouse flows in a north-west / south-east direction between Selby and Goole, with the River Derwent converging at Barmby on the Marsh. The River Aire runs eastwards, south of the Order Limits before its confluence with the River Ouse near the village of Airmyn, located the east of the Order Limits. Flood defence levees flank the river margins along the majority of their length.

9.7.12. Other watercourses, including drainage channels (Swinefleet Warping Drain), ditches, dykes and smaller stream courses such as the River Went cut across the landscape, approximately 9 km to the south of the Order Limits. Such features often define field pattern and are noticeable within the landscape alongside bridges and pumping stations. Isolated ponds are noticeable throughout the study area.

9.7.13. The Aire and Calder Navigation and New Junction Canal cross the landscape approximately 6 km south of the Order Limits, the former running broadly in parallel with the River Aire.

Vegetation Cover

9.7.14. The study area is characterised by small woodland blocks with intermittent hedgerow and hedgerow trees along the majority of local road network and PRoWs. Vegetation is often found along the main roads. Larger areas of tree planting are also associated with historic estates such as Carlton Towers and Drax Augustinian Priory.

Plate 9.3 - View towards Drax Power Station with Mature Vegetation

9.7.15. Vegetation around the edge of the Order Limits includes mature belts of mixed woodland and areas where hedgerows have been strengthened, many of which have been implemented in connection with previous planning consents for development at Drax Power Station, including planting associated with the Skylark Centre approximately 1 km to the west of the Order Limits. The main blocks of woodland feature to the north-west between Barlow and Drax Power Station, along either side of the A645 to the south-west, south and south-east as well as smaller lanes to the east including Carr Lane and Wren Hall Lane. There is also a distinct belt of woodland running on either side of a disused railway line which runs to the east of the Order Limits and north of Drax village, some of which is covered under a Tree Preservation Order (TPO).

Settlements

9.7.16. The study area is characterised by small to medium settlements and isolated residential properties and farmsteads. Settlements close to Drax Power Station include:

- **a.** Drax Village (south-east of Drax Power Station);
- **b.** Camblesforth (south / south-west of Drax Power Station);
- **c.** Carlton (south / south-west of Drax Power Station);
- **d.** Newlands, Rawcliffe, Snaith, West Cowick, East Cowick and Moorends (south of Drax Power Station);
- **e.** Barlow (north-west of Drax Power Station);

f. Hemingbrough, Cliffe and Long Drax (north / north-east of Drax Power Station);

g. Barmby on the Marsh, Asselby and Knedlington (north-east of Drax Power Station);

h. Little Airmyn and Airmyn (east of Drax Power Station); and

i. Howden (east of Drax Power Station).

Plate 9.4 - View from Drax village towards Drax Power Station

Transport Network / Access and Recreation Infrastructure

9.7.17. A number of motorways and A roads connect the larger settlements within the study area.

9.7.18. The M62 motorway is situated approximately 3 km to the south of the Order Limits and runs in an east / west direction between Goole and Knottingley.

9.7.19. The A19 runs north / south to the west and connects Selby with Doncaster further south. The A645 runs to the north of the M62 and connects Snaith to Knottingley, linking with the A104 which runs from East Cowick to Selby in the north. To the east, the A63 links Selby to Howden. The A614 connects with Goole running through Howden and Holme on Spalding Moor (outside of the study area to the north-east).

9.7.20. Several local roads and tracks link smaller settlements, farmsteads and isolated properties within the study area.

9.7.21. Several railway lines bisect the study area connecting Selby with Leeds, York, Goole and Hull. The East Coast Main line (ECM3) / Selby Up Down Line (TCW2) runs north

/ south from Doncaster to Selby between Drax and the former Eggborough power station and a spur line veers west to Leeds.

9.7.22. A number of Public Rights of Way (PRoWs) are located within the study area linking settlements and connecting with watercourses and canals. Several PRoWs run in close proximity to the Drax Power Station linking Barlow, Camblesforth, Carlton, Drax and Long Drax. PRoWs which run in close proximity to the Order Limits and which may be affected by the Proposed Scheme are illustrated on **Figure 9.7 (Landscape Designations)** and listed below:

- **a.** PRoW 35.47/11/1 and 35.6/11/1 located immediately adjacent to the west of Order Limits;
- **b.** PRoW 35.6/10/1 and 35.6/12/1 located approximately 3 km to the north west of Order Limits;
- **c.** PRoW 35.47/6/1 located approximately 150 m to the north of Order Limits;
- **d.** PRoW 35.47/1/1 located approximately 270 m to the north east of Order Limits; and
- **e.** PRoW 35.47/4/1, 35.47/5/1, 35.47/9/1 and 35.49/2/1 which cross the centre of the study area.

9.7.23. The long - distance Trans Pennine Trail runs through the study area as shown on **Figure 9.7 (Landscape Designations)**. It forms two routes from Selby to the north of the study area and either follows the River Ouse to the east of the Drax Power Station, or south where it follows Burn Airfield before running along the banks of the River Aire and heading southwards across the study area and along New Junction Canal.

Plate 9.5 - View from the Trans Pennine Trail towards Drax Power Station

9.7.24. Two National Cycle Routes cut across the study area, following a similar course to the Trans Pennine Trail. Route 62 runs approximately 4 km to the west of the Order Limits in a general north south direction. Route 65 runs through Selby to Hull along the River Ouse in a general east west direction, approximately 1 km from the Order Limits at its closest point.

Aesthetic / Perceptual / Experiential Qualities

9.7.25. The landscape is predominantly rural with large scale infrastructure. Pylons and wind farms are prominent features within the landscape particularly to the south west and south east. Rusholme Wind Farm approximately 3 km to the east of the Order Limits and two further wind farms close to Goole Fields (approximately 9 km from Order Limits) and Balkholme Common (approximately 12 km from Order Limits). Eggborough Power Station, whilst prominent is has been demolished to accommodate a Combined Cycle Gas Turbine (CCGT) plant and some of its cooling towers are no longer visible.

SITE CHARACTERISTICS AND FEATURES

9.7.26. Drax Power Station is a functional, industrial site which has been active since the 1960s. The Site is not designated but its original design was heavily influenced by A Weddle's strategy to consider the symmetry scale and massing of the large-scale built form. Some of its key characteristics are described below.

Plate 9.6 - Aerial Photograph of Drax Power Station (looking south-east)

Infrastructure

9.7.27. The Power Station consists of large-scale structures, electricity infrastructure and extensive areas of hard standing in the form of service roads, car parks and permanent laydown / storage areas including the coal storage area to the west. A dedicated rail line runs in to the Order Limits from the south, running under the A645 and wrapping across the coal storage area.

9.7.28. Small one to two storey steel clad ancillary buildings form security reception areas, offices and storage facilities coloured in various greys, greens and creams to blend in with their surroundings. The buildings form a contrast to the large - scale structures

on the Order Limits including the cooling towers, biomass handling plant and boiler / turbine buildings.

9.7.29. Aside from the large structures and buildings, smaller vertical structures are prevalent throughout the Order Limits in the form of lighting, high black security fencing topped by barbed wire, CCTV cameras as well as high vehicular gateways often coloured blue with adjoining black pedestrian gates. Overhead lines and associated towers leading into Drax Power Station are a strong feature as well as the wirescape of smaller towers, cables and overhead gantries with signage.

Plate 9.7 - View from A645 across to the Biomass handling Facilities and Drax Rail Line

9.7.30. Tarmac, gravel, block paved or concrete footpaths edge internal service roads around the Order Limits which are largely tarmacked with low or flush kerbs to ease the movement of high load vehicles. Utilitarian galvanised grey steel railings form a barrier to pedestrians in key locations where vehicular movement dominates.

Plate 9.8 - Small Structures Contrast with Large Scale Cooling Towers

Plate 9.9 – Materials Handling Gatehouse with the North Cooling Towers and Gypsum Storage Yard and Conveyors

Topography and Drainage within the Order Limits

9.7.31. The topography of the area within the Order Limits is varied. Land close to the southern entranceway sits at a lower level than the A645 whilst land to the north of the northern entrance is raised; some areas were formerly a disused tip.

9.7.32. The area of land within the Order Limits is relatively flat and consistent throughout with minor changes (increase in height) to topography on the periphery - to the north-west near the cooling towers and to the south near the Main Stack.

9.7.33. The existing drainage system, including attenuation features, serving Drax Power Station are largely man-made and underground with a discharge into the River Ouse. It is considered that the impact on drainage would be negligible.

Vegetation on Site

9.7.34. Drax Power Station on site mitigation planting dating from Weddle's original design in the 1960's is still evident, largely in the form of broadleaved woodland planting, broadleaved parkland / scattered trees, ornamental planting, hedgerows and grass verges.

9.7.35. The 1960's mitigation planting aimed to provide a high-quality landscape, reduce visual clutter and create a neat and tidy impression as well as provide a transition between the original Drax Power Station and surrounding landscape. Extensive lengths of hedgerow planting provided visual screening at a low level and areas of amenity or wildflower grassland served a function in integrating Drax Power Station within the surrounding landscape.

9.7.36. Existing planting is largely concentrated around the southern and northern gateways to Drax Power Station, the car parks to the east of the main boiler / turbine buildings, east of the switch gear in front of the main boiler / turbine buildings and along Main Road, north of the cooling towers and south of the Gypsum storage building. In the existing Woodyard, north of the Gypsum storage building there are areas of naturally regenerated birch. Planting is limited to the boundaries and entrance gateways due to restrictions associated with Health and Safety guidelines in terms of proximity of vegetation to existing infrastructure and overhead lines.

9.7.37. Planting has become eroded because of progressive change to the footprint of Drax Power Station as development and technology changes. The condition of planting ranges from poor to moderate. Management appears to be variable across the Site and much of the existing woodland lacks diverse understorey planting and ground flora; trees are either semi mature or mature.

Plate 9.10 - View Across the Entranceway to one of the Northern Car Parks Showing a Range of Planting

Plate 9.11 - View East Across to the Gypsum Conveyor Belts and Northern Cooling Towers with Ornamental Planting in the Foreground

Plate 9.12 - View North Across the Woodyard

Plate 9.13 - View West Across the Woodyard with the Gypsum Storage Building to the Left and Barlow Mound to the Centre of the View

Plate 9.14 - View South Across the Woodyard and the Northern Cooling Towers

Plate 9.15 - View south of the eastern edge of Drax Power Station along Main Road

Plate 9.16 - View close to the Northern Gateway of the Eastern Edge of Drax Power Station along Main Road

Aesthetic / Perceptual / Experiential Qualities

9.7.38. Drax Power Station has a strong presence in the landscape. The deliberate symmetrical design is still a strong feature in views particularly from the east though less so to the west where additional infrastructure has been added over time. The colours used in the original design are still used to visually integrate Drax Power Station into the surrounding open landscape and aiming to improve visual coalescence and reduce site clutter.

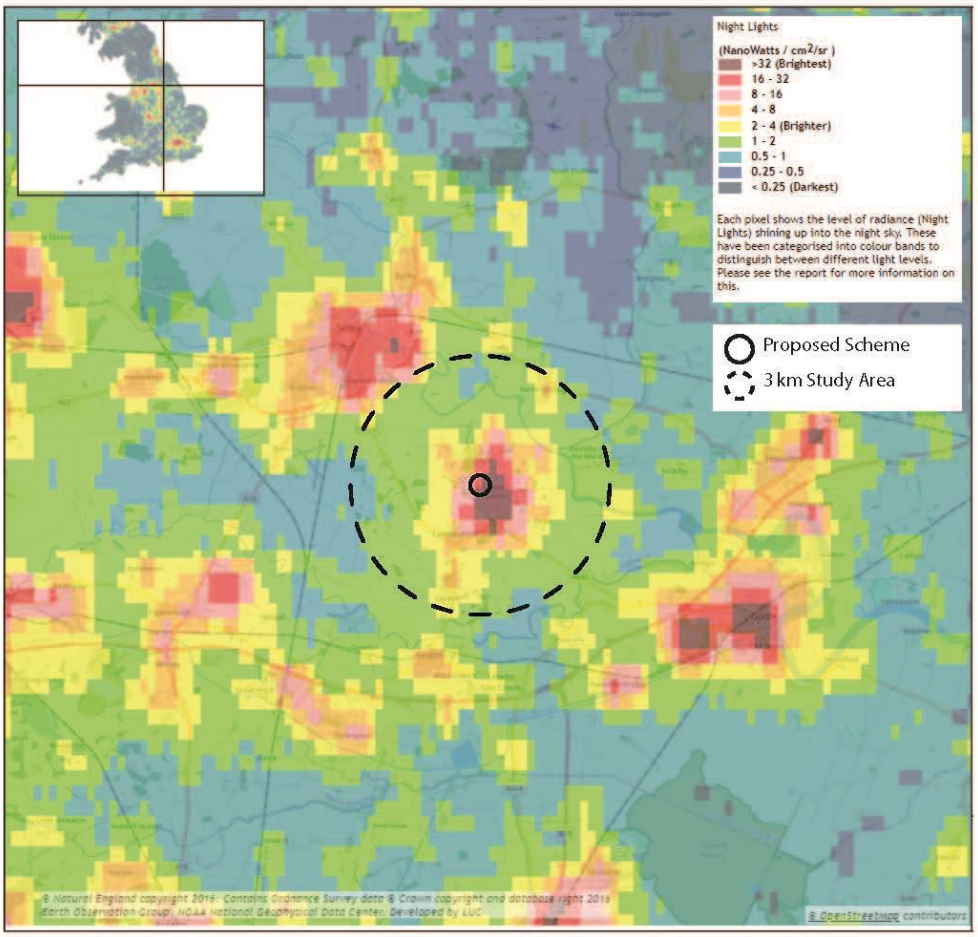
9.7.39. The original colours outlined in the Central Electricity Generating Board (CEGB) 1978 Clear Consent Matters Design Point 3 Materials (Central Electricty Generating Board, 1978) states that building materials include prefabricated units for cladding in a light colour for the upper part of the main buildings and towers. The turbine house and louvre areas in a dark blue / grey (BS 9.098), the upper part of the boiler house in a light grey (BS 9.093) and the base of the boiler and turbine house in a warm brickwork colour with vertical patent glazing and louvres as well as picture windows at a low level.

9.7.40. Other buildings are a mix of warm brickwork, concrete and vertical patent glazing with the chimney stack and cooling towers in a light-coloured concrete with a smooth shuttered finish.

NIGHT - TIME BASELINE

9.7.41. It is important to understand the existing light levels across the study area and where there would be the most potential for landscape and visual effects from lighting associated with the Proposed Scheme. Existing baseline lighting levels within the 3 km study area of the Proposed Scheme are illustrated on **Plate 9.17** below. This indicates that the study area is influenced by the lighting of Drax Power Station and the surrounding settlements of Selby, Goole, Howden, together with smaller villages situated within the 3 km study area.

Plate 9.17 - Light Pollution Data for the Study Area[3]



9.7.42. The **Draft Lighting Strategy** describes the criteria used to provide a baseline for the impact of lighting on the surrounding environment. Guidance Note 1 (Institution of Lighting Professionals (ILP), 2021) and CIE150:2017 (International Commission on Illumination, 2017) establish five Environmental Zones, where each zone has a different approach to the provision of external lighting. These zones establish

[3] https://www.nightblight.cpre.org.uk/maps

'Obtrusive Lighting Limitations for External Lighting Installations' and include the effects of 'Sky Glow' and light into windows.

9.7.43. The lighting conditions within the Survey Area outlined in *Environmental Statement - Appendix 3.1 Baseline Lighting Survey Report* (WSP, 2018) closest to the existing Drax Power Station along New Road / A645 were considered to be indicative of an E3 Environmental Zone ('medium district brightness'). To the west of the Existing Drax Power Station along the A645, the lighting conditions were more representative of an E2 Environmental Zone ('low district brightness'). Lighting conditions within Drax village were considered to be indicative of an area on the border of Environmental Zones E2 / E3 ('low / medium district brightness'). Within the landscape surrounding Drax village, the lighting environment was indicative of an E2 Environmental Zone ('low district brightness').

9.7.44. Baseline night-time photography, as shown in **Figure 9.6 (Viewpoint Photography) (Viewpoints 2 and 7)** demonstrates the visual appearance of Drax Power Station within the wider landscape during hours of darkness. Due to its elevation, aviation lighting is visible on the Main Stack from a far-distance, while other functional lighting requirements, in particular for the biomass storage domes and other aerial elements of site infrastructure such as conveyors, are noticeable. The point lighting associated with these buildings and structures tends to highlight their presence, when seen in the context of near and middle-distance night-time views in particular from the west and south-west.

9.7.45. Lower-level functional lighting of structures and street lighting, located within the core areas of Drax Power Station is largely contained by surrounding built form and screened from the middle and far-distance by surrounding belts of woodland vegetation and landform. Lighting levels within Drax Power Station do however generate a level of ambient glow on some of the larger buildings and structures due to reflected light, predominantly against the main turbine / boiler house, the Flue Gas Desulphurisation Plant and the cooling towers.

9.7.46. The rural nature of the landscape, in an area of predominantly low district brightness means that the Existing Drax Power Station and its associated lighting is visually perceived in isolation from surrounding light sources.

FUTURE BASELINE

9.7.47. The future baseline describes the baseline conditions that are expected to develop and evolve by 2044 (Design Year) if the Proposed Scheme were not to proceed. The future baseline could change due to the passage of time, including:

- **a.** Growth of any vegetation to assist with mitigating views (reducing effects) or form part of landscape considerations;
- **b.** Additional visual receptors (completed housing developments, new recreational routes etc), which would need to be considered and assessed; and
- **c.** Updates to local policy – relevant to landscape and visual issues.

9.7.48. It is not anticipated that the baseline conditions as described above in **Section 9.7** would be significantly different to those encountered today, or within the 15 year period assessed in this chapter.

9.7.49. As such, for the purpose of this assessment, the future baseline (2044) is considered as comparable to the present day.

9.8. SENSITIVE RECEPTORS

9.8.1. The sensitive landscape and visual receptors which have been identified and scoped into the assessment, are listed under **para. 9.4.4** of this document.

9.8.2. The sensitivity of the receptors identified for the Landscape and Visual Assessment are explained in **Appendix 9.4 (Sensitive Receptors)** (document reference 6.3.9.4)**.**

9.8.3. The landscape and visual receptors are illustrated on **Figure 9.1 (Landscape Character)** (document reference 6.2.9.1) and **Figure 9.2 (Visual Receptor Plan)** (document reference 6.2.9.2) respectively.

9.9. PRELIMINARY ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

9.9.1. This section details the preliminary assessment of significant effects taking account of primary mitigation measures as described in **Chapter 2 (Site and Project Description)** but in the absence of secondary mitigation. Secondary mitigation for the Proposed Scheme is described in **Section 9.10** below. Receptors identified as experiencing no change, negligible or minor effects (not significant) during the preliminary assessment of likely impacts and effects have been reported in **Appendix 9.5 (Effects that have been Determined to be Not Significant)** (document reference 6.3.9.5).

9.9.2. Primary mitigation measures of particular relevance to the landscape and visual assessment include the following measures:

Proposed Scheme Colour Palette:

9.9.3. A colour palette for the exterior of major buildings / structures has been selected based on a combination of historic design guidance, known colours used within the Drax Power Station Site and observations made during site visits.

9.9.4. The guidelines from the original Joint Design Report (Central Electricty Generating Board, 1978) advocate that:

a. Design parameters reference vertical differentiation of colour tone;

b. Colour tones consider the relationship of the overall power plant massing against the sky and of lower structural elements.

9.9.5. Design principles informing the colour palette for the Proposed Scheme (to be adopted as part of the detailed design) comprise:

a. To adhere where possible with this original guidance on massing and colour;

b. Recognition of horizontal and vertical scales and their importance to the overall massing of the power station;

c. Employing lighter colour tones for high buildings/structures in context with associated massing of existing buildings; emphasis on the wider perception of the power station, such as 'Goosewing Grey' BS10A05 for storage tanks and pipework, and 'Ash Grey' (BS9093) for buildings over 15m;

d. Employing darker colour tones for buildings up to 15m in height which will be 'Dark Camouflage Brown' (BS381C-436);

e. Relationship to human scale and visibility of buildings against a backdrop of other existing built form and/or vegetation; and

f. To restrict the use of colour tones to those already agreed / employed within the power station and indicative colour tones which fulfil the design principle objectives.

9.9.6. It is acknowledged that the form, the functional performance and/or maintenance requirements of particular scheme elements may dictate material selection and thereby restrict the scope for colour selection.

9.9.7. Further illustration of the colour palette and how this integrates with the overall context of Drax Power Station is provided within the **Design Framework**.

Vegetation Retention

9.9.1. Where practicable the Proposed Scheme has designed out or limited the removal of existing vegetation such as those in the north and north-eastern area of the Drax Power Station Site through changes in Order Limits.

9.9.2. In addition, specific areas of existing vegetation within the Drax Power Station Site and within the Order Limits have been identified for retention and protection, these being located and described on **Figure 3 (Existing Retained Vegetation)** (document reference 6.6.2.3) of the **OLBS**.

CONSTRUCTION AND DECOMMISSIONING PHASES

9.9.3. The likely significant effects (those that are typically of moderate adverse or greater) for landscape and visual associated with the construction and decommissioning phases are set out below.

Table 9.4 - Significant Landscape and Visual Effects – Construction and Decommissioning

Receptor	Construction and Decommissioning
Landscape	
There are no significant effects reported for landscape during construction and decommissioning.	
Visual	
Residents living in properties with western facing views (Pear Tree Avenue, Wren Hall Lane, Carr Lane and Main Road) Residential Receptors High sensitivity Reference A on Figure 9.2 Visual Receptor Plan Representative views provided by Viewpoints 6 and 7	Construction activities associated with the Proposed Scheme would be present in the middle ground of views within the East Construction Laydown Area, along with additional movement of construction traffic along New Road. There would be open views from Drax Abbey Farm and residential properties on Pear Tree Lane. Views from residential properties off Carr Lane and Main Road would be largely obscured by intervening woodland and field boundary vegetation. The presence of tall construction plant / cranes and the gradual emergence of the Proposed Scheme (Absorber Columns 95 m and Regenerators 70 m maximum height parameters) would be perceived west and north-west of the main turbine / boiler house and beyond the northern cooling towers, although much of this construction activity would be obscured by existing structures and intervening woodland vegetation. The magnitude of change would be **small**. The overall effect is temporary **Moderate Adverse (Significant)** for residential receptors off Pear Tree Avenue.
Residents living in properties with eastern facing views (Camela Lane / Clay Lane) Residential Receptors High sensitivity Reference B on Figure 9.2 Visual Receptor Plan Representative views provided by Viewpoint 2	Construction activities associated with the Proposed Scheme would be perceived in the far distance and within the context of Drax Power Station. Noticeable activities in front of the western elevation of the turbine / boiler house would include the movement of construction vehicles, cranes and plant and the gradual emergence of the Proposed Scheme (notably the Absorber Columns and Regenerators (95m and 70 m maximum height parameters respectively). Low level activities would be partially filtered by intervening tree planting. The magnitude of change would be **Medium**. The overall effect is temporary **Moderate Adverse (Significant)**.
Residents in properties with north-east facing views from the settlement of Camblesforth Residential Receptors High sensitivity Reference E on Figure 9.2 Visual Receptor Plan Representative views provided by Viewpoint 2	Construction activities associated with the Proposed Scheme would be visible to the west of the turbine hall / boiler house in the middle to far distance for properties situated on the northern edge of the village. Low level activity would be filtered by existing field boundaries and woodland vegetation to the north-east of the village. Construction elements would comprise the presence of tall plant / cranes and the gradual emergence of the tallest aspects of the Proposed Scheme, notably the Absorber Columns and Regenerators (95m and 70 m maximum height parameters respectively) which would be visible in front of the existing northern cooling towers and alongside the Main Stack. The magnitude of change would be **Small**. The overall effect is temporary **Moderate Adverse (Significant)**.
People travelling along PRoW with close proximity eastern facing views. Recreational Receptors Medium sensitivity Reference J on Figure 9.2 Visual Receptor Plan Representative views provided by Viewpoint 3	Construction activities associated with the Proposed Scheme would be visible sequentially to footpath users, immediately within the perimeter security fencing and beyond construction site hoardings in the near to middle distance. Visible construction activity would include the movement of materials and plant / cranes, site clearance, construction compounds and the emergence of the Proposed Scheme above site hoardings / fencing, notably Absorber Columns and Regenerators (95m and 70 m maximum height parameters respectively) and the Carbon Capture Wastewater Treatment Plant Area (40m maximum height parameters) Footpath users would experience extensive views of construction activity in the foreground of views where the footpath runs alongside the western boundary of Drax Power Station. To the north, existing vegetation and earthworks would heavily filter views towards construction works in this area. The magnitude of change would be **Large**. The overall effect is temporary **Moderate Adverse (Significant)**

Receptor	Construction and Decommissioning
People travelling along PRoW with south – western facing views Recreational Receptors Medium sensitivity Reference K on Figure 9.2 Visual Receptor Plan Representative views provided by Viewpoint 6	The presence of tall construction plant / cranes and the gradual emergence of the Proposed Scheme (Absorber Columns 95 m and Regenerators 70 m maximum height parameters) would be perceived west and north-west of the main turbine / boiler house and beyond the northern cooling towers, however much of this construction activity would be obscured by existing structures and intervening woodland vegetation. Footpath users would experience near distance and middle-distance sequential views of construction activities in relation to the East Construction Laydown Area and Habitat Creation Area, along with movement of construction traffic along New Road. The magnitude of change would be **Medium**. The overall effect is temporary **Moderate Adverse (Significant).**

9.9.4. Further details in relation to those receptors experiencing no change, negligible or minor effects (not significant) during the preliminary assessment of likely impacts and effects have been reported in **Appendix 9.5 (Effects that have been Determined to be Not Significant)**.

OPERATIONAL PHASE

9.9.5. There are no likely significant effects (those that are typically of moderate adverse or greater) for landscape and visual associated with the operation of the Proposed Scheme.

9.9.6. Further details in relation to those receptors experiencing no change, negligible or minor effects (not significant) during the preliminary assessment of likely impacts and effects have been reported in **Appendix 9.5 (Effects that have been Determined to be Not Significant)**.

9.10. DESIGN, MITIGATION AND ENHANCEMENT MEASURES

9.10.1. This Section sets out the design, mitigation and enhancement measures which are likely to be required to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment.

DESIGN

9.10.2. Primary mitigation measures are described in **Chapter 2 (Site and Project Description)** and their purpose in relation to the visual appearance of Drax Power Station is further discussed in **Section 9.9** above. These measures, which are integral with the Proposed Scheme design, contribute to either avoiding or reducing any identified significant adverse effects on the environment.

9.10.3. The **Design Framework** has been produced in consultation with NYCC / SDC, to provide a holistic vision of how Drax Power Station Site should evolve in terms of its relationship with the wider landscape. It provides an overview of the historic landscape vision for Drax Power Station and the evolving design context in terms of new and ancillary infrastructure on the Site as a whole. It also details strategic design parameters and outlines the approach to good design practice, and design principles relating to Drax Power Station as a whole. The **Design Framework** is intended to be used as a basis of reference for the detailed design phases of the Proposed Scheme, including any changes to Drax Power Station in the future.

9.10.4. In relation to the Proposed Scheme, the **Design Framework** provides details of how the design measures within it should be combined and contribute to the appearance of the Proposed Scheme in the context of the Drax Power Station Site. It also describes the decision-making process that has been followed for the Proposed Scheme in response to the strategic design parameters.

9.10.5. The **Design Framework** is intended to be applied to the whole of Drax Power Station now, and in the future; as such, it includes elements that do not apply to the Proposed Scheme. Those elements that have been relied upon in this LVIA assessment are

captured within this ES Chapter and its associated figures, and associated documents namely **Chapter 2 (Site and Project Description)** of this ES, the **Register of Environmental Actions and Commitments (REAC)** (document reference 6.5) and the **OLBS** and their supporting appendices and figures.

9.10.6. Design principles, considered to represent good practice for soft and hard landscaping within the Drax Power Station Site, are set out below. Further explanation of how these design measures relate to the wider Drax Power Station environment and are representative of good practice are described within the **Design Framework**:

a. The inclusion, wherever reasonably practicable, of landscape elements which reinforce the original intents of the Weddle Strategy for the Drax Power Station Site, notably:

i. To create an attractive and positive working environment for site users within the confines of the Power Station; and

ii. To provide a landscape structure capable of incorporating continuing development of ancillary industry.

b. Planting measures which seek to enhance any new or modified public realm:

i. clear definition of pedestrian/vehicular circulation; sub-division of larger spaces (such as new parking area provision);

ii. introducing a “human scale” as a benefit of planting measures; reducing the sense of imposition from adjacent large-scale infrastructure; and

iii. Landscape measures where practicable to screen and soften the effects of installed artificial light sources.

c. Improving the biodiversity value of amenity planted areas within the Power Station Site:

i. Increasing species-rich grassland areas, with reduced amenity grassed areas (subject to function);

ii. Incorporating species-rich amenity hedges where introduced; and

iii. Reducing the use of ornamental shrub species in favour of species selection for biodiversity and habitat creation, while maintaining an amenity function.

d. Enhancement opportunities resulting from any necessary replacement of aged, over-mature amenity planting, where its appearance and function is now heavily compromised.

Lighting

9.10.7. Guidance on lighting provision for the Proposed Scheme is provided within the **Draft Lighting Strategy**, and good-practice design objectives described within Section 4 Design Principles of the **Design Framework**.

9.10.8. Lighting provision during construction would comprise standard fixings and equipment and would perform directional and security tasks. Cranes, where required, may be lit

for safety and lighting may be provided within buildings during internal fit-out activities. Construction works would take place within the working hours as described within **Chapter 2 (Site and Project Description)** of this ES.

9.10.9. All proposed lighting associated with construction, compound areas and security would be detailed within the Construction Environmental Management Plan (CEMP) to be approved prior to the start of construction.

9.10.10. Night-time photomontages, as shown in **Figure 9.6 (Viewpoint Photography) (Viewpoints 2 and 7)** demonstrate the visual appearance of the Proposed Scheme in context with Drax Power Station during operation, in hours of darkness. These photomontages represent a reasonable "worse case" scenario which assumes a continuous night-time illumination requirement for those areas where safety or security is a concern (work task areas, vehicle routes, pedestrian routes) and with directional LED lighting levels sufficient to ensure safe movement, work safety and well-being. Additional lighting design measures, as described within the **Draft Lighting Strategy** and which may be incorporated to achieve further efficiencies for the reduction of light levels (such as control systems in response to on-site activity) are not represented in these photomontages.

Vegetation Retention

9.10.11. Measures for vegetation retention are set out within the **OLBS**. Areas of existing amenity planting located elsewhere within the Works Plans areas will be retained wherever practicable. There is however likely to be necessary loss of amenity planting in order to facilitate works, the extent and detail of which will require resolution at detailed design. Where the loss of such planting is unavoidable, the detailed design will seek to reinstate those landscape elements that are temporarily lost, or to incorporate new amenity planting measures in-keeping with the original aspirations as set out within the Weddle Strategy for Drax Power Station. These measures would be agreed in consultation with the Planning Authority and included as part of the Landscape and Biodiversity Strategy as it is progressed.

MITIGATION

Construction and Decommissioning

9.10.12. Landscape mitigation planting, for the purpose of visual screening is proposed along the eastern boundary of the East Construction Laydown Area. The existing hedgerow would remain in place and be enhanced along its length, to include the thickening and gapping up of the hedge and the planting of frequent broadleaved tree species. The intention is to provide additional filtering of views towards the East Construction Laydown for footpath users east of the Drax Power Station Site and for occupiers of nearby residential properties during construction. Measures to achieve this mitigation are provided within the **OLBS**.

9.10.13. A **Register of Environmental Actions and Commitments (REAC)** has been prepared as part of the DCO Application. The **REAC** identifies the following measures

to be included in the Construction Environmental Plan (CEMP) and Decommissioning Environmental Plan (DEMP) :

a. Measures for the retention of existing vegetation are detailed within the **OLBS** and illustrated on **Figure 3 (Existing Retained Vegetation)** of that document**.**

b. The root zones of retained vegetation within the construction areas would be protected in accordance with BS5837 Trees in relation to design, demolition and construction – Recommendations (British Standards Institution, 2012);

c. No works (including temporary) would be carried out within the canopy of the spread of existing retained trees;

d. Construction compounds and laydown and demolition areas would be surrounded by hoardings to reduce visual effects due to the presence of construction traffic, plant and equipment, as well as demolition of existing and construction of built form. The hoardings would create an orderly appearance to the edge of the Site and will be a minimum of 2.4 m high, maintained in good condition; and

e. Upon completion laydown areas and site compounds would be returned to their original use.

9.10.14. The construction programme would be no longer that is reasonably necessary to construct the Proposed Scheme, and as such, would limit the duration of any landscape and visual impacts. Areas would be cleared for construction as close as possible to works commencing and topsoiling, seeding and planting would be undertaken during the next available season after works are complete.

9.10.15. Construction compounds and working areas would be kept in a tidy condition (e.g. free of litter and debris).

9.10.16. To protect soil quality for the purposes of landscape planting, the following measures would be implemented:

a. Uncontaminated topsoil for re-use would be stored in un-compacted mounds no more than 2 m high and stored separately from subsoil material;

b. Stripped topsoil would be used in areas of similar proposed vegetation type to utilise the existing natural seed bank; and

c. Subsoil in planting areas would be replaced where appropriate following construction and appropriately treated, this may include being ripped to reduce compaction (depending on underlying soil type and conditions), before soiling and planting. It is assumed that a minimal topsoil depth of 300 mm would be achieved across all planting areas. Topsoil depth would be reduced to a minimum depth of 100 mm in areas of amenity grassland. Topsoil would not be used for species rich grassland areas.

9.10.17. All existing trees and shrubs not affected by the construction of the permanent works would be protected with a suitable fencing type in accordance with BS5837 Trees in relation to design, demolition and construction – Recommendations (British

Standards Institution, 2012). Fencing would be erected prior to construction activities and would remain in place for the entire construction period.

9.10.18. Surrounding roads (New Road) and pavements to be maintained free of excessive dust and mud via wheel washers and road sweepers.

Operation

9.10.19. Areas of proposed mitigation in relation to landscape and biodiversity are detailed within the **OLBS**, with measures illustrated in **Figure 1 (Landscape and Biodiversity Mitigation Plan)** (document reference 6.6.1) and **Figure 2 (Landscape and Biodiversity Mitigation Plan, Off-Site Habitat Provision Area)** (document reference 6.6.2) of that document.

9.10.20. There are no specific landscape mitigation measures identified for the operational phase of the Proposed Scheme, due to there being no significant effects reported.

9.10.21. There are however a number of ecological mitigation measures introduced primarily for compensatory habitat creation, which due to their location and nature will help contribute to wider landscape character integration. These measures include

a. Habitat Provision Area; comprising the provision of new hedgerow planting to the north of the Power Station Site and an area of seasonally waterlogged parcel of land in the vicinity of New Road and Pear Tree Avenue.

b. Off-Site Habitat Provision Area; located outside of the Order Limits, to the west of Drax Power Station and comprising the land parcels of Arthur's Wood and Fallow Field.

9.10.22. The **OLBS** also sets out measures for the reinstatement / replacement of existing vegetation removed during construction:

a. Existing vegetation identified for removal in order to facilitate construction works

b. Any additional loss of vegetation within Works Plan Areas (subject to detailed design progression)

Opportunities for Environmental Enhancement

9.10.23. At this time, no further environmental enhancement measures have been identified in relation to the Proposed Scheme.

9.11. ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS

9.11.1. This section details the assessment of significant effects taking account of the secondary and tertiary mitigation detailed in **Section 9.10** above.

CONSTRUCTION AND DECOMMISSIONING PHASES

9.11.2. The provision of advance planting to the eastern boundary of the East Construction Laydown Area would, in combination with existing field boundary vegetation, provide additional filtering of views towards the East Construction Laydown Area for users of nearby PRoWs (Reference K on **Figure 9.2 (Visual Receptor Plan)**) and residents of

properties on Pear Tree Avenue (Reference A on **Figure 9.2 (Visual Receptor Plan)**). This would reduce the magnitude of change experienced for these visual receptors, but the mitigation measures would not reduce the overall level of effect to not-significant during construction and decommissioning**.** Effects would remain **moderate adverse (significant).** All effects would be temporary.

9.11.3. It is anticipated that the mitigation measures outlined in the CEMP / DEMP would reduce the magnitude of change experienced for significantly affected visual receptors. However, these measures would not reduce the assessed level of effect (**Moderate adverse – significant**) to not-significant during construction and decommissioning**.** All effects would be temporary.

OPERATIONAL PHASE

9.11.4. There are no significant effects identified for landscape and visual associated with the operation phase of the Proposed Scheme, as such there are no specific mitigation measures introduced to reduce or avoid the likelihood of significant effects.

9.11.5. There would however be indirect (**not significant**) benefits to landscape character and visual amenity resulting from the following:

a. Habitat Provision Area; The proposed woodland and new / enhanced hedgerows would provide further definition of agricultural land, creating a stronger sense of enclosure and filtering of views towards Drax Power Station for PRoW users and nearby residential receptors;

b. Off-Site Habitat Provision Area; Woodland enhancement measures would contribute to the extensive existing woodland structure associated with Barlow Mound.

c. Landscape mitigation measures, identified for construction phase mitigation (along the East Construction Laydown Area boundary), would also serve to strengthen the landscape pattern surrounding Drax Power Station during operation and to filter views towards Drax Power Station for PRoW users.

d. The replacement / reinstatement of existing vegetation removed during construction to restore habitats / landscape pattern, as described with the **OLBS**.

e. Areas of soft and hard landscape areas within the Drax Power Station Site (subject to detailed design) in accordance with the design principles to restore landscape structure / screening within the Drax Power Station for workers and visitors, as described in **Section 9.10** above.

ASSESSMENT AGAINST FUTURE BASELINE

9.11.6. It is not anticipated that the baseline conditions as described above in **Section 9.7** would be significantly different to those encountered today, or within the 15-year period assessed in this chapter.

9.11.7. As such, for the purpose of this assessment, the future baseline (2044) is considered as comparable to the present day.

9.12. CUMULATIVE EFFECTS

9.12.1. An assessment of cumulative effects for the Proposed Scheme in relation to landscape and visual effects has been carried out and is presented in **Chapter 18 (Cumulative Effects)** of this ES.

9.13. IN-COMBINATION CLIMATE CHANGE IMPACTS

9.13.1. The effects that have been considered within this chapter have been assessed against likely climate hazards, as set out within **Chapter 14 (Climate Change Resilience)** (document reference 6.1.14), and the effects identified are not anticipated to change as a result of these hazards.

Table 9.6 - In-combination Climate Change Impacts

Climate Hazard	Receptor	Likely Impact(s)	Mitigation Required
Precipitation	Landscape and Visual Receptors	~ Increase in flooding events ~ Planting failure	~ Consideration of species selection, mixes and avoid single species used for example as avenue trees / sourcing from local suppliers and ensuring species are suitable for local conditions resilient to threats, pests and diseases. Indicative planting palettes for specific features and / or locations are detailed within **Section 3.3** of the **OLBS** ~ Sustainable Urban Drainage Schemes.
Temperature	Landscape and Visual Receptors	~ Loss of vegetation cover due to scorching leading to destabilisation of soil structure ~ Longer growing season, more vigorous	~ Consideration of species selection in the initial row of this table. Indicative planting palettes for specific features and / or locations are detailed within **Section 3.3** of the OLBS.

Climate Hazard	Receptor	Likely Impact(s)	Mitigation Required
		~ vegetation growth in spring and autumn.	~ Consideration of management requirements.
Wind	Landscape and Visual Receptors	~ Damage from high winds and rain infiltration into surfaces and materials ~ Soil erosion leading to destabilisation	~ Consideration of species selection in the initial row of this table. Indicative planting palettes for specific features and / or locations are detailed within **Section 3.3** of the OLBS.
Pests and Diseases	Landscape and Visual Receptors	~ Planting failure	~ Consideration of species selection in the initial row of this table. Indicative planting palettes for specific features and / or locations are detailed within Section 3.3 of the OLBS. ~ Avoid monoculture.

9.14. MONITORING

9.14.1. In order to ensure that the Landscape Elements (the design of mitigation planting and reinstatement planting) identified within the **OLBS** establishes, planting would be supplied, planted and maintained in accordance with:

a. The **REAC**, the measures within which would be included in the CEMP for the Proposed Scheme; and

b. Landscape and Biodiversity Management Plans within the Landscape and Biodiversity Strategy (LBS), developed in accordance with the **OLBS**, to be approved by the LPA following consultation with NYCC.

9.14.2. Where planting forms part of the mitigation strategy, a five-year maintenance and establishment period is considered appropriate for a scheme of this scale. Beyond this, a maintenance schedule over a timescale of years 6-30 is set out within **Section 4.3** of the **OLBS**.

9.14.3. Maintenance inspections during the initial 5 year establishment period would be undertaken (by an appointed landscape architect) on an annual basis following the

completion of the Proposed Scheme, to review the effectiveness of the proposed Landscape Elements in meeting prescribed functions.

9.14.4. Inspection visits would review planting maintenance and establishment as set out within the 5-year establishment period and subsequently in accordance with the Landscape Management Plan. During each inspection, records would be made of the standard of work undertaken, general plant health and obvious signs of disease or plant stress. At the autumn inspection the number of plant failures would be recorded, and the extent of replacement planting agreed with the main contractor. Where plants have failed, replacement planting would be carried out in the following planting season.

9.14.5. With the absence of reported operational significant effects on either landscape character or upon visual receptors, long-term monitoring requirements to ensure the achievement of mitigation planting function would not be required. The LBS would include measures to address any mitigation planting / replacement beyond the 5-year establishment period (years to 6 to 30) which would ensure that there would be reasonable measures in place to ensure that mitigation functions are secured by year 15 and that residual effects would be in line with those predicted within this chapter.

9.14.6. **Table 9.7** below summarises the significant residual landscape and visual effects associated with the Proposed Scheme.

Table 9.7 - Summary of significant residual landscape and visual effects

Receptor	Potential Effects	Additional Mitigation	Residual Effects
Construction and Decommissioning			
Landscape There are no significant residual effects on landscape character.			
Visual			
Residents living in properties with western facing views (Pear Tree Avenue, Wren Hall Lane, Carr Lane and Main Road)	~ Visible construction activity within the East Construction Laydown Area and the movement of plant and materials along New Road. ~ Views of tall plant associated with the construction of the Proposed Scheme above and in the gaps between the built form in Drax Power Station.	Advance mitigation planting along the East Construction Laydown Area boundary. Site hoardings provided to construction areas.	**Moderate adverse (significant)** T / D / ST
Residents living in properties with eastern facing views (Camela / Clay Lane)	~ Views of tall plant associated with the construction of the Proposed Scheme, to the western aspect of Drax Power Station.	No additional mitigation measures are proposed. The construction activity associated with the Proposed Scheme will be visible above intervening vegetation and landform.	**Moderate adverse (significant)** T / D / ST
Residents in properties with north-east facing views from the settlement of Camblesforth	~ Views of tall plant associated with the construction of the Proposed Scheme, to the western aspect of Drax Power Station.	No additional mitigation measures are proposed. The construction activity associated with the Proposed Scheme will be visible above intervening vegetation and landform.	**Moderate adverse (significant)** T / D / ST
People travelling along PRoW with close proximity eastern facing views.	~ The proximity and prominence of construction activity associated with the Proposed Scheme, experienced in sequential views approaching Drax Power Station and alongside its boundary.	Site hoardings provided to construction areas.	**Moderate adverse (significant)** T / D / ST
People travelling along PRoW with south – western facing views	~ Visible construction activities within the East Construction Laydown Area and the movement of plant and materials along New Road. ~ Views of tall plant associated with the construction of the Proposed Scheme above and in the gaps between the built form in Drax Power Station.	Advance mitigation planting along the East Construction Laydown Area boundary. Site hoardings provided to construction areas.	**Moderate adverse (significant)** T / D / ST
Other visual receptors assessed (residential, recreational, workers, road users).	~ Visible construction activities within Construction Laydown Areas / site compounds. ~ Views of tall plant associated with the construction of the Proposed Scheme above and in the gaps between the built form in Drax Power Station. ~ The transport of plant and materials to / from the Proposed Scheme.	Site hoardings provided to construction areas.	**Minor adverse or Negligible (not significant)** T / D / ST

Receptor	Potential Effects	Additional Mitigation	Residual Effects
Operational			
Landscape and Visual There are no significant residual effects on landscape character and visual receptors.			

Key to table:

P/T = Permanent or Temporary, D/I = Direct or Indirect, ST/MT/LT = Short Term, Medium Term or Long Term, N/A = Not Applicable

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