HyNet North West

2023 ENVIRONMENTAL STATEMENT ADDENDUM CHANGE REQUEST 1

HyNet Carbon Dioxide Pipeline DCO

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 - Regulations 8(1)(c)

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PURPOSE OF 2023 ES ADDENDUM CHANGE REQUEST 1

An Environmental Statement (ES) was submitted to the Planning Inspectorate in October 2022 as part of a Development Consent Order (DCO) application (EN070007) for the HyNet Carbon Dioxide Pipeline development (hereafter referred to as the 'DCO Proposed Development'). The ES sets out the findings of the full Environmental Impact Assessment (EIA) that was carried out for the DCO Proposed Development. The previously submitted ES is hereafter referred to as the '2022 ES'. A number of confirmatory environmental surveys completed following the finalisation of the 2022 ES were submitted and accepted by the Examining Authority as part of the Applicant's Section 51 advice response on 14 March 2023. These confirmatory surveys, along with the 2022 ES, form the starting point for this 2023 ES Addendum Change Request 1 (herein referred to as the ES Addendum).

This ES Addendum has been produced to update the findings of the 2022 ES and confirmatory environmental surveys, where applicable, in response to a number of proposed amendments to the DCO Proposed Development and clarifications to the assessments undertaken in the 2022 ES. The proposed design changes are described in **Table 1.1** of this ES Addendum, comprise changes to the design and construction of the DCO Proposed Development and are collectively referred to as 'proposed design changes'. Each proposed design change has been assigned a unique reference number Post Submission (PS xx). The proposed clarifications to the assessments undertaken in the 2022 are described in **Table 1.2** and are referred as 'proposed clarifications to the assessments' the ES Addendum.

The purpose of this ES Addendum is to ensure that the environmental impacts of the proposed design changes and proposed clarifications to assessments have been appropriately assessed with any likely significant environmental effects identified, and to satisfy the requirements of the Infrastructure Planning (EIA) Regulations 2017 (as amended).

The proposed design changes to the DCO Proposed Development can be seen in **Figure i.i** in Appendix B of this ES Addendum. The revised Order Limits and Newbuild Infrastructure Boundary are depicted in **Figure 3.1**.

Table 1-1 Overview of Proposed Design Changes

Reference	Description	Chapter scoped in
PS01	Relocation of Cornist Lane BVS in response to consultation comments received from the landowner. This change requires an amendment to the Newbuild Infrastructure Boundary. The change comprises the same design for Cornist Lane BVS as in the 2022 ES but relocated approximately 120m to the south east and rotated 180°. Drainage will be same principle as existing but amended to flow north west via an underground surface water pipe. The	4, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19

Reference	Description	Chapter scoped in
	proposed vegetated open channel and discharge into the Nant-y-Fflint watercourse will be the same as in the 2022 ES.	
PS02	This change is proposed in response to the construction of a 25m wide slurry tank within the Newbuild Infrastructure Boundary at New Bridge Farm. The location of the slurry tank creates a pinch point between Ancient Woodland to the west and the holdings of New Bridge Farm to the east and the available construction working area for the Stanlow Above Ground Installation (AGI) to Flint AGI Pipeline is now limited in this area due to the 25m wide slurry tank (and associated below ground foundations) in the location of the Stanlow AGI to Flint AGI Pipeline indicative alignment. The Applicant is therefore proposing two changes in this location to provide optionality (PS02a & PS02b) while it works with the landowner to seek to find an acceptable location for the slurry tank and work with Natural Resource Wales (NRW) to develop mitigation to protect the adajcent Ancient Woodland. Both options requires an extension of the Newbuild Infrastructure Boundary to the northwest and west, towards the Ancient Woodland south of Holywell Road.	
PS02a	PS02a would remove the slurry tank at New Bridge Farm and the pipeline would be constructed outside of the 15m Ancient Woodland buffer within the indicative alignment of the Stanlow AGI to Flint AGI Pipeline proposed in the 2022 ES. The removal of the slurry tank requires some additional equipment to be utilised for the demolition of the slurry tank. The relocation of the slurry tank to another site has not been assessed as part of this ES Addendum as if required it will be secured through a separate planning consent and associated environmental considerations.	3, 4, 6, 9, 10, 13, 14, 16, 19
PS02b	PS02b would involve retaining the slurry tank at New Bridge Farm in its current location with the pipeline being constructed further northwest and west than the indicative alignment of the Stanlow AGI to Flint AGI Pipeline proposed in the 2022 ES. It would remain outside of the Ancient Woodland itself but work would be required within 15m of the Ancient Woodland.	3, 4, 9, 10, 13, 15, 16, 19
PS03	Relocation of Northop Hall AGI in response to consultation comments received from the landowner. This change requires an amendment to the Newbuild Infrastructure Boundary. The change comprises the same design for Northop Hall AGI as in the 2022 ES but relocated approximately 75m west of its existing position. Drainage will	4, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19

Reference	Description	Chapter scoped in
	be same principle as existing but amended to flow west into Wepre Brook Tributary 1.	
PS04	Extension of the Newbuild Infrastructure Boundary to the north which would increase the pipeline corridor width to reduce impacts on veteran trees west of Backford Brook. The indicative alignment of the Stanlow AGI to Flint AGI Pipeline has been realigned to aid the avoidance of the removal of Veteran trees at this location, subject to detailed design. For the purposes of the assessment it is assumed that four veteran trees will be avoided in comparison to the 2022 ES.	3, 4, 9, 10, 15, 16, 18, 19
PS05	Extension in construction working hours to include Saturday morning working. The proposed change seeks to update the construction working hours to include 08.00 to 13.00 on Saturdays. The addition of Saturday mornings to the project working hours will enable the opportunity for the construction programme to be executed in a more efficient and timely manner. For the purposes of a reasonable worst-case assessment the overall duration of the construction programme has not been reduced.	3, 6, 10, 15, 16, 17, 19
PS06	Extension of the Newbuild Infrastructure Boundary in two locations to enable access to Ince AGI from the public highway. One change extends along a private road under the ownership of Peel which adjoins the public highway at Pool Lane. The second, located south, is along a private road heading south from Ash Road.	8, 10, 16, 17, 18, 19
PS07	Additional temporary footway diversion along the north of Chester Road adjacent to 2 Sisters Industrial Facility, in Sandycroft. This change also seeks to temporarily stop the pedestrian footway and cycleway during the duration of the construction period to execute the trenchless crossing under Chester Road.	Scoped out of all chapters
PS08	Reduction of the Newbuild Infrastructure Boundary to remove a section of the Hapsford railway line spur, near Ince. The land is no longer required to facilitate the DCO Application.	10, 16, 18, 19
PS09	Applicant carried out a check against 2022 ES and the proposed amendment not required.	N/A
PS10	Proposed amendment to change construction methodology for one of the trenched crossing not taken forward	N/A
PS11	Reduction of the Newbuild Infrastructure Boundary to remove the full residential curtilage of two residential properties from the Newbuild Infrastructure Boundary. The properties are located at Grove Road (Mollington) and Halls Green Lane (South of Stanlow).	10, 15, 16, 19
PS12	Reduction of the Newbuild Infrastructure Boundary to remove a section of land stretching around 110m in length	10, 16, 19

Reference	Description	Chapter scoped in
	along the east bank of the River Gowy from the southern extent of the Newbuild Infrastructure Boundary.	
PS13	Extension of the Newbuild Infrastructure Boundary to include to include a new private access track at Beeches Farm. The revised access would utilise an existing private track and therefore avoid any conflict with the landowner's farmstead.	9, 10, 16, 19
PS14	Proposed amendment not taken forward	
PS15	Clarification of construction methodology to allow non road mobile machinery to cross features at the surface at 19 trenchless crossings along the proposed pipeline route.	3, 16, 17, 19
PS16	Applicant assessed a potential development along the pipeline route. As no planning application has been submitted the proposed amendment not taken forward.	N/A
PS17	Reduction of the Newbuild Infrastructure Boundary to remove a section of PRoW 307/2/10 that runs alongside the River Dee. This change is being proposed in response to consultation with NRW.	10, 16, 19
PS18	Reduction of the Newbuild Infrastructure Boundary to remove a section of the Shropshire Union Canal. This change is being proposed in response to consultation with Canal & River Trust.	10, 16, 19
PS19	Reduction of the Newbuild Infrastructure Boundary at Shotton Lane Construction Compound near Ewloe and realignment of proposed access track to avoid known protected species habitats.	10, 16, 19
PS20	Additional PRoW (294/FP2/1) diversion near Stanlow. This sequenced diversion of the PRoW (294/FP2/1) was erroneously missed from the DCO Application submitted in October 2022.	16, 19
PS21	This Proposed amendment number not used and replaced with PS24.	N/A
PS22	Proposed amendment to relocate a construction access not taken forward.	N/A
PS23	The proposed change would update the Land Acquisition Category (LAC) of the Land Plans at the following locations in response to a request from affected landowners: – Plot 16-03a – Plot 9-04	Scoped out of all chapters
PS24	Extension of the Newbuild Infrastructure Boundary to include operational access using bridleway Picton BR4 to access from Picton Lane in response to a request from the affected landowner.	Scoped out of all chapters

Table 1-2 - Clarifications to the assessments undertaken in the 2022 ES

Clarification	Description	Chapter scoped in
Chester Road Earth Bund	The existing bund located adjacent to the 2 Sisters Industrial Facility at Chester Road will require temporary removal during the construction of the DCO Proposed Development. It will be reinstated once construction is complete. The impact of the temporary removal and reinstatement of the bund was not assessed in the 2022 ES. The impact of the temporary removal and reinstatement of the bund has been assessed within the ES Addendum.	15
24hrs works at trenchless crossings	Within the 2022 ES, it was assumed all areas where trenchless installation techniques were used for construction of the Newbuild Infrastructure Pipelines would include 24 hour working over a period of four weeks. The magnitude of impact was assessed quantitively for day, evening and night-time hours. However, a quantitative assessment of the significance of effects was only undertaken for day-time hours. For evening and night-time hours, a qualitative assessment was carried out. This approach was undertaken because the detail required for the number and locations of trenchless crossings for a duration of longer than 10 days during evening and night-time hours in any 15 consecutive days or nights was not known at the time of the assessment. It has subsequently been confirmed that four weeks of 24 hour working will be required at the following six trenchless crossing points: – TRS 01: Hapsford railway line (and spur to Encirc glass factory) – TRS 02: A5117 (north of M56 Chester Services) – TRS 28: River Dee – TRS 31/32: Chester Road – TRS 38: Church Lane – TRS 37: A494 Works at all other trenchless crossings will be less than 10 days during evening and night-time hours in any 15 consecutive days or nights. The impact of undertaking 24 hour working over a four-week duration at six trenchless crossing locations, and, works at all other trenchless crossings being less than 10 days during evening and night-time hours in any 15	15

Clarification	Description	Chapter scoped in
	consecutive days or nights has been assessed within the ES Addendum. The assessment of the significance of effects for evening and night-time hours has also been quantified.	
River Dee trenchless crossing depth	The trenchless crossing methodology for the River Dee is assumed to be either micro-tunneling or horizonal directional drilling (HDD). The 2022 ES had assumed that the depth of the crossing would be a minimum of 15m for both trenchless crossing methods. However, the depth of the crossing would be at least a minimum of 15m for HDD or, 8m for micro-tunnelling (distance between the top of the casing and the riverbed). The impact of a minimum depth of 15m for HDD or 8m for micro-tunnelling technique for the trenchless crossing of the River Dee has been assessed within the ES Addendum.	3, 9

This ES Addendum provides information regarding the proposed design changes to the DCO Proposed Development and clarifications to the assessments undertaken in the 2022 ES. However, it does not duplicate the 2022 ES and should be read in conjunction with the 2022 ES. For further detail regarding the structure of this ES Addendum, please see the 'Structure of the ES Addendum' section below.

SCOPE OF THE ES ADDENDUM

This ES Addendum only presents new assessment work where the proposed design changes to the DCO Proposed Development are considered to have potentially resulted in a material change to the content of the 2022 ES. Where there are no changes to the chapters from the 2022 ES, the original conclusions in the 2022 ES are unchanged.

Further details on the EIA methodology can be found in **Chapter 5** of the 2022 ES **(APP-057)**. The significance criteria adopted in this ES Addendum are the same as those outlined in **Section 5.11** of the 2022 ES **(APP-057)**.

STRUCTURE OF THE ES ADDENDUM

This ES Addendum is structured as follows:

- **2023 ES Addendum Change Request 1: Main Text (Document Ref: D.7.7)**
- **Appendix A: ES Appendices addenda (Document Ref: D.7.7.1)** – includes ES Appendices that have required updates to text in the form of appendices addenda as set out in **Table 1.3**
- **Appendix B: Figures (Document Ref: D.7.7.2)** – includes figures produced for the ES Addendum, figures that have been revised for ES Appendices that have addenda in Appendix A, and, figures that have been revised for ES Appendices that do not require an update or revision as set out in **Table 1.3**

The main text of this ES Addendum considers each chapter of the 2022 ES in turn. Within each technical chapter the updated information is presented under the same section headings as the original assessment of the 2022 ES. The ES Addendum should therefore be read in conjunction with, and as an addendum to, the 2022 ES and the confirmatory environmental surveys, where applicable.

A summary of the changes to the 2022 ES and the confirmatory environmental surveys is provided in **Table 1.3**. Where no change to the technical chapter and associated figures and appendices present within the 2022 ES is necessary, no additional text regarding that topic has been included within this ES Addendum.

Appendices (Volume III) and **Figures (Volume IV)** from the 2022 ES and the confirmatory environmental surveys that have been revised as a result of the changes will also be re-submitted as new revisions alongside the ES Addendum. The **Appendices (Volume III)** and **Figures (Volume IV)** that have been revised are set out **Table 1.3.**

The **Non-Technical Summary (Volume I)** has been revised as a result of the changes and will also be re-submitted as new revisions alongside the ES Addendum.

For any ‘stand-alone’ accompanying documents submitted with the 2022 ES affected by changes, these will also be re-submitted alongside this ES Addendum as new revisions.

Table 1.3: Summary of the updates made to documents included within this ES Addendum

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
APP-051	D.6.1 Environmental Statement - Non-Technical Summary	Revision A of the Non-Technical Summary has been replaced with Revision B. The Non-Technical Summary has been updated as follows: • Newbuild Infrastructure Boundary updated on figures • Summary assessment of Inter-project effects updated
APP-052	D.6.1a Environmental Statement - Non-Technical Summary (Welsh Translation)	As above.
APP-053	D.6.2.1 Environmental Statement Volume II – Chapter 1 Introduction	No update required and Chapter 1 of the 2022 ES remains unchanged and valid.
APP-054	D.6.2.2 Environmental Statement Volume II – Chapter 2 The Project	No update required and Chapter 2 of the 2022 ES remains unchanged and valid.
APP-055	D.6.2.3 Environmental Statement Volume II – Chapter 3 Description of the Proposed Development	Updated as follows: • Assumption that the alignment of Newbuild Carbon Dioxide Pipeline at Detailed Design can be placed anywhere within the "Permanent Acquisition of Subsurface" area, unless there is a commitment or requirement that places restrictions on its precise location. • "Pipeline Construction Sequencing in Rural areas" section to clarify "clearing" includes the removal of existing infrastructure. • Update of trenchless crossing methodology for the River Dee that trenchless crossing depth will be a minimum of 15m for HDD and a minimum of 8m for micro-tunnelling • Construction methodology updated for 19 trenchless crossings to allow non road mobile machinery to cross features at the surface. • Construction working hours updated for Saturday morning working.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
APP-056	D.6.2.4 Environmental Statement Volume II – Chapter 4 Consideration of Alternatives	Updated as follows: • Options considered for the Newbuild Carbon Dioxide Pipeline indicative alignment for PS02b and PS04. • Options considered the relocation of Northop Hall AGI (PS03) • Options considered the relocation of Cornist Lane BVS (PS01) • Errata updates to embedded mitigation measures. The following new figures have also been produced for Chapter 4 and are located in Appendix B of the ES Addendum: • Figure 4.19 – Additional Northop Hall AGI options
APP-057	D.6.2.5 Environmental Statement Volume II – Chapter 5 EIA Methodology	Updated as follows: • Basis of Assessment section updated to include the following statement '*The final alignment of the Newbuild Infrastructure Pipeline will take into account the commitments made in this ES and the outline control documents*'
APP-058	D.6.2.6 Environmental Statement Volume II – Chapter 6 Air Quality	Updated as follows: • Preliminary construction dust assessment undertaken for PS02a. • Screening undertaken for change in traffic data as a result of Saturday morning working (PS05). The proposed design changes as set out in Table 1.1 do not result in changes to the likely significant effects as reported in the 2022 ES for air quality. The 2022 ES conclusions are therefore not materially changed for this topic.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
APP-059	D.6.2.7 Environmental Statement Volume II – Chapter 7 Climate Resilience	Updated as follows: • Prosperity for All: A Climate Conscious Wales (Welsh Climate Change Adaptation Plan) 2019 added to the legislative and policy framework. • Preliminary assessment of proposed design changes are limited to aspects of the design that are in keeping with the principles of design formerly assessed. The proposed design changes as set out in Table 1.1 do not result in changes to the likely significant effects as reported in the 2022 ES for climate resilience. The 2022 ES conclusions are therefore not materially changed for this topic.
APP-060	D.6.2.8 Environmental Statement Volume II – Chapter 8 Cultural Heritage	Updated as follows: • Number of designated heritage assets within the 1km Study Area has increased from 158 to 183 as a result of PS06. • PS01 has removed one heritage asset and added two new heritage assets within the Newbuild Infrastructure Boundary. The proposed design changes as set out in Table 1.1 do not result in changes to the likely significant effects as reported in the 2022 ES for Cultural Heritage. The 2022 ES conclusions are therefore not materially changed for this topic.
AS-025	D.6.2.9 Environmental Statement Volume II – Chapter 9 Biodiversity Rev B	Updated as follows: • Additional engagement. • Distances to designated sites have changed. • Cumulative areas and extents of habitat types within the Newbuild Infrastructure Boundary have changed.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
		• Surveys undertaken to obtain updated baseline information in response to the proposed design changes. • Embedded mitigation item D-BD-019 has changed. • Assessment of likely impacts and effects for Biodiversity during the Construction Stage has changed. • Ecological Mitigation Measure REAC References D-BD-005 and D-BD-067 have been updated due to errata. • Significant effects and residual effects for Wintering Birds have changed for the construction stage. The proposed design changes as set out in Table 1.1 do not result in changes to the likely significant effects as reported in Revision B of Chapter 9: Biodiversity. The conclusions for Revision B of Chapter 9: Biodiversity has therefore not materially changed.
APP-062	D.6.2.10 Environmental Statement Volume II – Chapter 10 Greenhouse Gases	Updated as follows: • Proposed design changes PS01, PS02a, PS02b, PS03, PS04, PS06, PS08, PS11, PS12, PS13, PS17, PS18 and PS19 are considered in the preliminary assessment but do not materially change the conclusions of the 2022 ES. • PS05 considered which results in an increase in emissions from construction plant and equipment use. The proposed design changes as set out in Table 1.1 do not result in changes to the likely significant effects as reported in the 2022 ES for greenhouse gases. The 2022 ES conclusions are therefore not materially changed for this topic.
APP-063	D.6.2.11 Environmental Statement Volume II – Chapter 11 Land and Soils	Updated as follows:

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
		• The baseline conditions and area of Best and Most Versatile land affected have changed as a result of PS01 and PS03. • A reasonable worse cast assessment approach has been adopted which assumes all land not surveyed is BMV. Surveying the land is not considered likely to reduce the outcome of the assessment. The proposed design changes as set out in Table 1.1 do not result in changes to the likely significant effects as reported in the 2022 ES for land and soils. The 2022 ES conclusions are therefore not materially changed for this topic.
APP-064	D.6.2.12 Environmental Statement Volume II – Chapter 12 Landscape and Visual	Updated as follows: • Further field surveys undertaken to capture additional viewpoint information for PS01 and PS03. • Viewpoints WAGI8 and WAGI9 was reassessed and new viewpoints, WAGI8a and WAGI9a, was added to the assessment as a result of PS03. • New viewpoints, B8, B9a and B9b, was added to the assessment, replacing viewpoint B9, as a result of PS01. The proposed design changes as set out in Table 1.1 do not result in changes to the likely significant effects as reported in the 2022 ES for landscape and visual. The 2022 ES conclusions have therefore not materially changed for this topic.
APP-065	D.6.2.13 Environmental Statement Volume II – Chapter 13 MA&D	Updated as follows: • Scope of the assessment has changed as a result of PS02a and PS02b.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
		• Assessment of vulnerability to the risk of MA&D events has changed as a result of PS02a and PS02b. The proposed design changes as set out in Table 1.1 do not result in changes to the likely significant effects as reported in the 2022 ES for Major Accidents and Disasters. The 2022 ES conclusions are therefore not materially changed for this topic.
APP-066	D.6.2.14 Environmental Statement Volume II – Chapter 14 Material Assets and Waste	Updates as follows: • Preliminary assessment undertaken on PS01, PS02a, PS02b and PS03. The proposed design changes as set out in Table 1.1 do not result in changes to the likely significant effects as reported in the 2022 ES for material assets and waste. The 2022 ES conclusions are therefore not materially changed for this topic.
APP-067	D.6.2.15 Environmental Statement Volume II – Chapter 15 Noise and Vibration	Updated as follows: • Sensitive receptors have changed due to changes in the Newbuild Infrastructure Boundary, PS01, PS11 and clarifications to the assessment for trenchless crossings. • Assessment of likely impacts and effects updated due to the proposed design changes and clarifications to the assessments. • More detailed assessment undertaken for evening and night residual noise effects. The proposed design changes as set out in Table 1.1 do not result in changes to the residual effects as reported in the 2022 ES for noise and vibration. The 2022 ES conclusions are therefore not materially changed for this topic.
APP-068	D.6.2.16 Environmental Statement Volume II – Chapter 16 Population and Human Health	Updated as follows:

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
		• Baseline conditions has changed for land use and accessibility receptors. • Assessment of likely impacts for construction stage has changed for WCH and Private Property and Housing. • Assessment of likely impacts for operation stage has changed for agricultural land holdings. • Residual effects has changed associated with the additional PRoW diversion (294/FP2/1) south of Stanlow (PS20). The proposed design changes as set out in Table 1.1 do not result in changes to the likely significant effects as reported in the 2022 ES for Population and Human Health. The 2022 ES conclusions are therefore not materially changed for this topic.
APP-069	D.6.2.17 Environmental Statement Volume II – Chapter 17 Traffic and Transport	Updated as follows: • Scope of the assessment has changed to revise the number of accesses included in the DCO Proposed Development. • An additional ATC survey has been added as a result of PS06. • Baseline conditions updated as a result of PS06. • Preliminary assessment has changed as a result of PS05 and PS06. • Pre-mitigation calculated effects has changed as a result of PS05 and PS06. The proposed design changes as set out in Table 1.1 do not result in changes to the likely significant effects as reported in the 2022 ES for traffic and transport. The 2022 ES conclusions are therefore not materially changed for this topic.
APP-070	D.6.2.18 Environmental Statement Volume II – Chapter 18 Water Resource and Flood Risk	Updated as follows:

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
		• Four additional watercourses scoped into the assessment as a result of PS06, and one additional watercourse scoped into the assessment as a result of PS03. The proposed design changes as set out in Table 1.1 do not result in changes to the likely significant effects as reported in the 2022 ES for water resources and flood risk. The 2022 ES conclusions are therefore not materially changed for this topic.
APP-071	D.6.2.19 Environmental Statement Volume II – Chapter 19 Combined and Cumulative Effects	Updated as follows: • Cultural Heritage scoped out of operation stage assessment and scoped into construction stage assessment due to errata. • Population and Human Health scoped out of operation stage assessment due to errata. • Development 14 (construction of the A55 red route) scoped out of the long list for intra-project effects due to errata. • Assessment of likely impacts and effects updated The proposed design changes as set out in Table 1.1 do not result in changes to the residual effects as reported in the 2022 ES for combined and cumulative effects. The 2022 ES conclusions are therefore not materially changed for this topic.
APP-072	D.6.2.20 Environmental Statement Volume II – Chapter 20 Summary of Likely Significant Effects	Updated as follows: • Chapter 12 – Landscape and Visual: significant visual effects for construction and operational Year 1 for new viewpoint WAGI8a and construction visual effects for new viewpoint B9a added. • Chapter 16 – Population and Human Health: significant residual effects for PRoW route 294/FP2/1 removed.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
		• Chapter 19 - Combined and Cumulative Effects: updated to report state no significant adverse or beneficial effects. The proposed design changes as set out in Table 1.1 do not result in material changes to the summary likely significant effects as reported in the 2022 ES. The 2022 ES conclusions are therefore not materially changed for this topic.
Appendices		
APP-073	D.6.3.1.1 Environmental Statement - Appendix 1.1 EIA Scoping Report	No update required and this appendix of the 2022 ES remains valid.
APP-074	D.6.3.1.1 Environmental Statement - Appendix 1.1 EIA Scoping Report Part 2	No update required and this appendix of the 2022 ES remains valid.
APP-075	D.6.3.1.2 Environmental Statement - Appendix 1.2 EIA Scoping Opinion	No update required and this appendix of the 2022 ES remains valid.
APP-076	D.6.3.1.3 Environmental Statement - Scoping Opinions Responses	No update required and this appendix of the 2022 ES remains valid.
APP-077	D.6.3.3.1 Environmental Statement - Chapter 3.1 - Table of Trenchless Crossings Rev A	Revision A of Appendix 3.1 has been replaced with Revision B. Appendix 3.1 has been updated as follows: • Addition of columns stating which trenchless crossings will allow non road mobile machinery to cross at the surface (PS15).
APP-078	D.6.3.3.2 Environmental Statement - Chapter 3.2 - Indicative Plant and Equipment Rev A	Revision A of Appendix 3.2 has been replaced with Revision B. Appendix 3.2 has been updated as follows: • Indicative list of additional equipment expected to be required for the proposed removal of the slurry tank (PS02a).
APP-079	D.6.3.4.1 Environmental Statement - Chapter 4.1 - Guiding Principles Factors and Criteria for Options Rev A	No update required and this appendix of the 2022 ES remains valid.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
APP-080	D.6.3.5.1 Environmental Statement - Chapter 5.1 - Relevant Expertise and Competency Rev A	Revision A of Appendix 5.1 has been replaced with Revision B. Appendix 5.1 has been updated as follows: • Updated with WSP technical experts responsible for the preparation of the ES Addendum.
APP-081	D.6.3.6.1 Environmental Statement - Chapter 6.1 - Construction Dust Assessment Rev A	Appendix 6.1 has been updated as an addendum and can be found in Appendix A of this ES Addendum. Updates are as follows: • Construction dust assessment for the removal of the slurry tank at New Bridge Farm (PS02a). • Change in traffic data presented as a result of Saturday morning working (PS05).
APP-082	D.6.3.6.2 Environmental Statement – Chapter 6.2 – Impurities Venting Rev A	No update required and this appendix of the 2022 ES remains valid.
APP-083	D.6.3.7.1 Environmental Statement – Chapter 7.1 – Climate Resilience Preliminary Assessment Rev A	No update required and this appendix of the 2022 ES remains valid.
APP-084 – APP-086	D.6.3.8.1 Environmental Statement – Chapter 8.1 – HEDBA – Parts 1-3 Rev A	Appendix 8.1 has been updated as an addendum and can be found in Appendix A of this ES Addendum. Updates are as follows: • Additional site visit added to the proposed site of the relocated Northop Hall AGI. • Designated heritage sites within 1km Newbuild Infrastructure Boundary updated as a result of the proposed design changes. • Baseline and assessment for buried heritage assets updated due the proposed relocation of Cornist Lane BVS. Revision A of Figures 8.1.1 to 8.1.4 that form part of Appendix 8.1 have been replaced with Revision B due to changes in the Newbuild

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
		Infrastructure Boundary. Revision B of Figures 8.1.1 to 8.1.4 can be found in Appendix B of this ES Addendum.
APP-087	D.6.3.8.2 Environmental Statement - Chapter 8.2 - Gazetteer Rev A	No update required and this appendix of the 2022 ES remains valid.
APP-088	D.6.3.8.3 Environmental Statement - Chapter 8.3 - Cultural Heritage Remote Sensing - Aerial Photos and LiDAR Assessment Rev A	No update required to the text of this appendix and the text of this appendix of the 2022 ES remains valid. Revision A of Figures 8.3.1 to 8.3.4 and 8.3.6 and 8.3.7 that form part of Appendix 8.1 have been replaced with Revision B due to changes in the Newbuild Infrastructure Boundary. Revision B of Figures 8.3.1 to 8.3.4 and 8.3.6 and 8.3.7 can be found in Appendix B of this ES Addendum.
APP-089	D.6.3.8.4 Environmental Statement - Appendix 8.4 Geophysical Survey Report	No update required and this appendix of the 2022 ES remains valid.
APP-090	D.6.3.8.5 Environmental Statement - Appendix 8.5 Geoarchaeological Deposit Model Report	No update required and this appendix of the 2022 ES remains valid.
APP-091 – APP-093	D.6.3.9.1 Environmental Statement - Appendix 9.1 Habitats and Designated Sites Survey Report Parts 1-3.	Revision A of Appendix 9.1 has been replaced with Revision B which provides updated baseline information in response to the proposed design changes. Revision A of Figures 9.1.1 to 9.1.4 that form part of Appendix 9.1 have been replaced with Revision B. The revised figures can be found in Revision B of Appendix 9.1.
APP-094 - APP-097	D.6.3.9.2 Environmental Statement - Appendix 9.2 Great Crested Newt Survey Report - Parts 1-4	Revision A of Appendix 9.2 has been replaced with Revision B which provides updated baseline information in response to the proposed design changes. Revision A of Figures 9.2.1 to 9.2.3 that form part of Appendix 9.2 have been replaced with Revision B. The revised figures can be found in Revision B of Appendix 9.2.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
AS-027 – AS-030	D.6.3.9.3 Environmental Statement - Appendix 9.3 Bat Activity Survey Report - Parts 1-4	Revision B of Appendix 9.3 has been replaced with Revision C which provides updated baseline information in response to the proposed design changes. Revision B of Figures 9.3.1 to 9.3.3 that form part of Appendix 9.3 have been replaced with Revision C. The revised figures can be found in Revision C of Appendix 9.3.
AS-031 – AS-038	D.6.3.9.4 Environmental Statement - Appendix 9.4 Bats and Hedgerows Assessment - Parts 1-4	Revision B of Appendix 9.4 has been replaced with Revision C to provide updated figures in response to proposed design changes. The proposed design changes have not resulted in any changes to the text within baseline methodology, results and summary of this appendix. Revision B of Figures 9.4.1 to 9.4.10 that form part of Appendix 9.4 have been replaced with Revision C. The revised figures can be found in Revision C of Appendix 9.4.
APP-106	D.6.3.9.5 Environmental Statement - Appendix 9.5 Badger Survey Report - Confidential	Revision A of Appendix 9.5 has been replaced with Revision B which provides updated baseline information in response to the proposed design changes. Revision A of Figure 9.5.1 that form part of Appendix 9.5 has been replaced with Revision B. The revised figure can be found in Revision B of Appendix 9.5.
AS-039 – AS-042	D.6.3.9.6 Environmental Statement - Appendix 9.6 Riparian Mammal Survey Report	Revision B of Appendix 9.6 has been replaced with Revision C which provides updated baseline information in response to the proposed design changes. Revision B of Figures 9.6.1 to 9.6.2 that form part of Appendix 9.6 have been replaced with Revision C. The revised figures can be found in Revision C of Appendix 9.6.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
APP-108 – APP-111	D.6.3.9.7 Environmental Statement - Appendix 9.7 Barn Owl Survey Report -Confidential - Parts 1-4	Revision A of Appendix 9.7 has been replaced with Revision B which provides updated baseline information in response to the proposed design changes. Revision A of Figure 9.7.1 that form part of Appendix 9.7 has been replaced with Revision B. The revised figure can be found in Revision B of Appendix 9.7.
APP-112	D.6.3.9.8 Environmental Statement - Appendix 9.8 Bird Survey Report	Revision A of Appendix 9.8 has been replaced with Revision B which provides updated baseline information in response to the proposed design changes. Revision A of Figures 9.8.1 to 9.8.8 that form part of Appendix 9.8 have been replaced with Revision B. The revised figures can be found in Revision B of Appendix 9.8.
APP-113	D.6.3.9.9 Environmental Statement - Appendix 9.9 Aquatic Ecology (Watercourses) Survey Report	Revision A of Appendix 9.9 has been replaced with Revision B which provides updated baseline information in response to the proposed design changes. Revision A of Figure 9.9.1 that form part of Appendix 9.9 has been replaced with Revision B. The revised figure can be found in Revision B of Appendix 9.9.
APP-114	D.6.3.9.10 Environmental Statement - Appendix 9.10 Aquatic Ecology (Ponds) Survey Report	Revision A of Appendix 9.10 has been replaced with Revision B which provides updated baseline information in response to the proposed design changes. Revision A of Figures 9.10.1 to 9.10.2 that form part of Appendix 9.10 have been replaced with Revision B. The revised figures can be found in Revision B of Appendix 9.10.
APP-115 – APP-116	D.6.3.9.11 Environmental Statement - Appendix 9-11 Arboricultural Impact Assessment -Parts 1 and 2.	Revision A of Appendix 9.11 has been replaced with Revision B which provides an updated arboricultural impact assessment in response to the proposed design changes.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
		Revision A of Figures 9.11.1 to 9.11.2 that form part of Appendix 9.11 have been replaced with Revision B. The revised figures can be found in Revision B of Appendix 9.11.
APP-117 – APP-120	D.6.3.11.1 Environmental Statement - Appendix 11.1 Phase 1 Preliminary Assessment (Baseline Report) -Parts 1-4	No update required and this appendix of the 2022 ES remains valid.
AS-043 – AS-052	D.6.3.11.2 Environmental Statement - Appendix 11.2 Coal Mining Risk Assessment - Parts 1-10	No update required and this appendix of the 2022 ES remains valid.
APP-131 – APP-132	D.6.3.11.3 Environmental Statement -Appendix 11.3 Minerals Resource Assessment - Parts 1 and 2	No update required and this appendix of the 2022 ES remains valid.
APP-133	D.6.3.11.4 Environmental Statement - Appendix 11.4 Agricultural Land Classification and Soil Resources (Newbuild Carbon Dioxide Pipeline) Report	No update required and this appendix of the 2022 ES remains valid.
APP-134	D.6.3.11.5 Environmental Statement - Appendix 11.5 Agricultural Land Classification and Soil Resources (Block Valve Stations) Report	No update required and this appendix of the 2022 ES remains valid.
APP-135 – APP-137	D.6.3.11.6 Environmental Statement - Appendix 11.6 Ground Investigation Report -Parts 1-3	No update required and this appendix of the 2022 ES remains valid.
APP-138	D.6.3.12.1 Environmental Statement - Appendix 12.1 Baseline Information	Revision A of Appendix 12.1 has been replaced with Revision B. Appendix 12.1 has been updated with updated legislation and policies since the publication of the 2022 ES.
APP-139	D.6.3.12.2 Environmental Statement - Appendix 12.2 Landscape and Visual Impact Assessment Methodology	No update required and this appendix of the 2022 ES remains valid.
APP-140	D.6.3.12.3 Environmental Statement - Appendix 12.3 Landscape Analysis	No update required and this appendix of the 2022 ES remains valid.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
APP-141	D.6.3.12.4 Environmental Statement - Appendix 12.4 Visual Analysis	Revision A of Appendix 12.4 has been replaced with Revision B. Appendix 12.4 has been updated with revised visual analysis for existing viewpoints and new viewpoints added as a result of PS01 and PS03.
APP-142	D.6.3.13.1 Environmental Statement - Appendix 13.1 Major Accidents and Disasters Long List	Revision A of Appendix 13.1 has been replaced with Revision B. Appendix 13.1 has been updated as as a result of the retention or removal of the slurry tank at Hollywell Road (PS02a and PS02b).
APP-143	D.6.3.13.2 Environmental Statement - Appendix 13.2 ES Risk Record	Revision A of Appendix 13.2 has been replaced with Revision B. Appendix 13.2 has been updated as a result of the retention or removal of the slurry tank at Hollywell Road (PS02a and PS02b).
APP-144	D.6.3.15.1 Environmental Statement - Appendix 15.1 Baseline Noise Data	No update required and this appendix of the 2022 ES remains valid.
APP-145	D.6.3.15.2 Environmental Statement - Appendix 15.2 Noise and Vibration Assessment Assumptions	No update required and this appendix of the 2022 ES remains valid.
APP-146	D.6.3.15.3 Environmental Statement - Appendix 15.3 Noise and Vibration Assessment Results	Revision A of Appendix 15.3 has been replaced with Revision B. Appendix 15.3 has been updated due to changes in the Newbuild Infrastructure Boundary, PS01, PS11 and clarifications to the assessment for trenchless crossings.
APP-147	D.6.3.16.1 Environmental Statement - Chapter 16.1 -Land Use and Assets Rev A	Revision A of Appendix 16.1 has been replaced with Revision B which provides an updated assessment for community land and assets, private property and housing, development land and businesses and agricultural land holdings located within the 500m Study Area in response to the proposed design changes.
APP-148	D.6.3.16.2 Environmental Statement - Chapter 16.2 - PRoWs Rev A	Revision A of Appendix 16.2 has been replaced with Revision B which provides an updated assessment on Public Rights of Way (PRoW) located within the 500m Study Area.
APP-149	D.6.3.17.1 Environmental Statement - Chapter 17.1 - Surveyed Traffic Data Rev A	No update required and this appendix of the 2022 ES remains valid.
APP-150	D.6.3.17.2 Environmental Statement - Chapter 17.2 - Methodology Rev A	No update required and this appendix of the 2022 ES remains valid.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
APP-151	D.6.3.17.3 Environmental Statement - Chapter 17.3 - Personal Injury Accident Summary Rev A	No update required and this appendix of the 2022 ES remains valid.
APP-152	D.6.3.17.4 Environmental Statement - Chapter 17.4 - Baseline Traffic Data Rev A	No update required and this appendix of the 2022 ES remains valid.
APP-153	D.6.3.17.5 Environmental Statement - Chapter 17.5 - PRoW by Section Rev A	No update required and this appendix of the 2022 ES remains valid.
APP-154	D.6.3.17.6 Environmental Statement - Chapter 17.6 - Section by Section Descriptions Rev A	No update required and this appendix of the 2022 ES remains valid.
APP-155	D.6.3.17.7 Environmental Statement - Chapter 17.7 - Construction Traffic Flows Rev A	No update required and this appendix of the 2022 ES remains valid.
APP-156	D.6.3.17.8 Environmental Statement - Chapter 17.8 - Construction Traffic Profiles Rev A	No update required and this appendix of the 2022 ES remains valid.
APP-157	D.6.3.17.9 Environmental Statement - Chapter 17.9 - Future Year Traffic Flows Rev A	No update required and this appendix of the 2022 ES remains valid.
APP-158	D.6.3.17.10 Environmental Statement - Chapter 17.10 - Assigned Link Sensitivities Rev A	No update required and this appendix of the 2022 ES remains valid.
APP-159	D.6.3.17.11 Environmental Statement - Chapter 17.11 - Summary of Pre-Mitigation Calculated Effects Rev A	No update required and this appendix of the 2022 ES remains valid.
APP-160	D.6.3.17.12 Environmental Statement - Chapter 17.12 - Scoping Note Rev A	No update required and this appendix of the 2022 ES remains valid.
APP-161	D.6.3.17.13 Environmental Statement - Chapter 17.13 - Transport Assessment Rev A	Revision A of Appendix 17.3 has been replaced with Revision B which provides an updated assessment in response to PS05 and PS06. Revision A of Figures 17.13.1 to 17.13.2 that form part of Appendix 17.13 have been replaced with Revision B. The revised figures can be found in Revision B of Appendix 7.13.
APP-162	D.6.3.17.14 Environmental Statement - Chapter 17.14 - Interim Worker Travel Plan Rev A	No update required and this appendix of the 2022 ES remains valid.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
APP-163	D.6.3.18.1 Environmental Statement - Chapter 18.1 - Baseline Rev A	Appendix 18.1 has been updated as an addendum and can be found in Appendix A of this ES Addendum. Updates are as follows: • Western Boundary Drain is an additional main river within the Newbuild Infrastructure Boundary as a result of PS06. • Goldfinch Meadow Drain and Marsh Lane Drain are additional ordinary watercourses within the Newbuild Infrastructure Boundary as a result of PS06. Wepre Brook Tributary 1 is an additional ordinary watercourse within the Newbuild Infrastructure Boundary as a result of PS03.
APP-164	D.6.3.18.2 Environmental Statement - Chapter 18.2 – Summary of Effects Appendix Rev A	Appendix 18.2 has been updated as an addendum and can be found in Appendix A of this ES Addendum. Updates are as follows: • Western Boundary Drain, Goldfinch Meadow Drain and Marsh Lane Drain has been added as additional receptors as a result of PS06. • Wepre Brook Tributary 1 has been added as an additional receptor as a result of PS03. • Change in location of crossing over Backford Brook as a result of PS04 assessed.
APP-165	D.6.3.18.3 Environmental Statement - Chapter 18.3 - Water Framework Directive Assessment Rev A	Appendix 18.3 has been updated as an addendum and can be found in Appendix A of this ES Addendum. Updates are as follows: • Western Boundary Drain, Goldfinch Meadow Drain and Marsh Lane Drain are scoped into the assessment for the construction phase as a result of PS06. • Wepre Brook Tributary 1 is scoped into the assessment for the construction, operation and decommissioning stage as a result of PS03. • No proposed design changes have been scoped in for detailed assessment for WFD compliance.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
		Revision A of Figure 18.3.1 that forms part of Appendix 18.1 has been replaced with Revision B due to changes in the Newbuild Infrastructure Boundary. Revision B of Figure 18.3.1 can be found in Appendix B of this ES Addendum.
APP-166 – APP-167	D.6.3.18.4 Environmental Statement - Chapter 18.4 - Flood Risk Assessment Parts 1 and 2 Rev A	No update required to the text of this appendix and the text of this appendix of the 2022 ES remains valid. Revision A of Figures 18.4.1 to 18.4.3, 18.4.6 to 18.4.13, 18.4.16 to 18.4.18 and 18.4.20 to 18.4.21 that forms part of Appendix 18.4 has been replaced with Revision B due to changes in the Newbuild Infrastructure Boundary. Revision B of these figures can be found in Appendix B of this ES Addendum.
AS-004 – AS-006	D.6.3.18.5 Environmental Statement - Chapter 18.5 - Flood Consequences Assessment Parts 1-3 Rev A	Appendix 18.5 has been updated as an addendum and can be found in Appendix A of this ES Addendum. Updates are as follows: • Description of the local topography and existing waterbodies in relation to the relocated Northop Hall AGI (P03) and Cornist Lane BVS (P01) has changed. Revision A of Figures 18.5.1 to 18.5.7, 18.5.10 to 18.5.11, 18.5.14, 18.5.17 to 18.5.19 and 18.5.21 to 18.5.22 that forms part of Appendix 18.5 has been replaced with Revision B due to changes in the Newbuild Infrastructure Boundary. Revision B of these figures can be found in Appendix B of this ES Addendum.
APP-171	D.6.3.18.6 Environmental Statement - Chapter 18.6 - Record of Consultation Rev A	No update required and this appendix of the 2022 ES remains valid.
APP-172	D.6.3.19.1Environmental Statement - Chapter 19.1 - Inter-Project Effects Assessment Rev A	Revision A of Appendix 19.1 has been replaced with Revision B to provide an updated assessment in response to errata and the proposed design changes.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
APP-173	D.6.3.19.2 Environmental Statement - Chapter 19.2 - Intra-Project Effects Assessment Rev A	Revision A of Appendix 19.2 has been replaced with Revision B to provide an updated assessment in response to the proposed design changes.
Figures		
APP-174	D.6.4 Environmental Statement - Volume 4 - Figures	
APP-175	D.6.4.3.1 Environmental Statement - Figure 3.1 DCO Proposed Development Boundaries	Revision A of Figure 3.1 has been replaced with Revision B. Figure 3.1 has been updated with the revised Order Limits and Newbuild Infrastructure Boundary.
APP-176	D.6.4.3.2 Environmental Statement - Figure 3.2 DCO Proposed Development	Revision A of Figure 3.2 has been replaced with Revision B. Figure 3.2 has been updated as follows: • Revised Newbuild Infrastructure Boundary • Locations of PS01 and PS03 • Indicative alignment of the Stanlow AGI to Flint AGI Pipeline Option PS02b. • Realignment of the indicative alignment of the Stanlow AGI to Flint AGI Pipeline at Backford Brook
APP-177	D.6.4.3.3 Environmental Statement - Figure 3.3 - Environmental Features	Revision A of Figure 3.3 has been replaced with Revision B. Figure 3.3 has been updated with the revised Newbuild Infrastructure Boundary.
APP-178	D.6.4.3.4 Environmental Statement - Figure 3.4 - Landscape and Ecological Mitigation Plan	Revision A of Figure 3.4 has been replaced with Revision B. Figure 3.4 has been updated with the revised Newbuild Infrastructure Boundary.
APP-179	D.6.4.4.1 Environmental Statement - Figure 4.1 - Strategic Route Corridors	No update required and this figure of the 2022 ES remains valid.
APP-180	D.6.4.4.2 Environmental Statement - Figure 4.2 - Route Options	No update required and this figure of the 2022 ES remains valid.
APP-181	D.6.4.4.3 Environmental Statement - Figure 4.3 - Ewloe Options	No update required and this figure of the 2022 ES remains valid.
APP-182	D.6.4.4.4 Environmental Statement - Figure 4.4 - Shropshire UC Crossing Options	No update required and this figure of the 2022 ES remains valid.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
APP-183	D.6.4.4.5 Environmental Statement - Figure 4.5 - Mollington Railway Crossing Options	No update required and this figure of the 2022 ES remains valid.
APP-184	D.6.4.4.6 Environmental Statement - Figure 4.6 - Alltami Brook Options	No update required and this figure of the 2022 ES remains valid.
APP-185	D.6.4.4.7 Environmental Statement - Figure 4.7 - Ince AGI Options	No update required and this figure of the 2022 ES remains valid.
APP-186	D.6.4.4.8 Environmental Statement - Figure 4.8 - Stanlow AGI Options	No update required and this figure of the 2022 ES remains valid.
APP-187	D.6.4.4.9 Environmental Statement - Figure 4.9 - Northop Hall AGI Options	Revision A of Figure 4.9 has been replaced with Revision B. Figure 4.9 has been updated to remove the outline of Northop Hall AGI.
APP-188	D.6.4.4.10 Environmental Statement - Figure 4.10 - Flint AGI Options	No update required and this figure of the 2022 ES remains valid.
APP-189	D.6.4.4.11 Environmental Statement - Figure 4.11 - Rock Bank BVS	No update required and this figure of the 2022 ES remains valid.
APP-190	D.6.4.4.12 Environmental Statement - Figure 4.12 - Mollington BVS	No update required and this figure of the 2022 ES remains valid.
APP-191	D.6.4.4.13 Environmental Statement - Figure 4.13 - Aston Hill BVS	No update required and this figure of the 2022 ES remains valid.
APP-192	D.6.4.4.14 Environmental Statement - Figure 4.14 - Cornist Lane BVS	Revision A of Figure 4.14 has been replaced with Revision B. Figure 4.14 has been updated as follows: • Options considered for the relocation of Cornist Lane BVS (PS01). • Preferred option indicated.
APP-193	D.6.4.4.15 Environmental Statement - Figure 4.15 - Pentre Halkyn BVS	No update required and this figure of the 2022 ES remains valid.
APP-194	D.6.4.4.16 Environmental Statement - Figure 4.16 - Babell BVS	No update required and this figure of the 2022 ES remains valid.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
APP-195	D.6.4.4.17 Environmental Statement - Figure 4.17 - Construction compound alternatives at Stanlow	No update required and this figure of the 2022 ES remains valid.
APP-196	D.6.4.4.18 Environmental Statement - Figure 4.18 - Construction compound alternatives at Northop Hall	No update required and this figure of the 2022 ES remains valid.
APP-197	D.6.4.6.1 Environmental Statement - Figure 6.1 - Construction Dust Study Area	Revision A of Figure 6.1 has been replaced with Revision B. Figure 6.1 has been updated as follows: • Revised Newbuild Infrastructure Boundary. • Updated buffers to reflect revised Newbuild Infrastructure Boundary. • Access Points added to the figure.
APP-198	D.6.4.6.2 Environmental Statement - Figure 6.2 - Operational Study Area	Revision A of Figure 6.2 has been replaced with Revision B. Figure 6.2 has been updated with the revised Newbuild Infrastructure Boundary.
APP-199	D.6.4.6.3 Environmental Statement - Figure 6.3 - H2S Odour Risk Zone Sheet 1	Revision A of Figure 6.3 has been replaced with Revision B. Figure 6.3 has been updated with the revised Newbuild Infrastructure Boundary.
APP-200	D.6.4.8.1 Environmental Statement - Figure 8.1 - Designated Heritage Assets	Revision A of Figure 8.1 has been replaced with Revision B. Figure 8.1 has been updated with the revised Newbuild Infrastructure Boundary.
APP-201	D.6.4.8.2 Environmental Statement - Figure 8.2 - Non-Designated Heritage Assets	Revision A of Figure 8.2 has been replaced with Revision B. Figure 8.2 has been updated with the revised Newbuild Infrastructure Boundary.
APP-202	D.6.4.8.3 Environmental Statement - Figure 8.3 - DCO Proposed Development Previous Investigations	Revision A of Figure 8.3 has been replaced with Revision B. Figure 8.3 has been updated with the revised Newbuild Infrastructure Boundary.
APP-203	D.6.4.12.1 Environmental Statement - Figure 12.1 Zone of Theoretical Visibility	Revision A of Figure 12.1 has been replaced with Revision B. Figure 12.1 has been updated with the revised Newbuild Infrastructure Boundary.
APP-204	D.6.4.12.2 Environmental Statement - Figure 12.2 Landscape Character Plan	Revision A of Figure 12.2 has been replaced with Revision B. Figure 12.2 has been updated with the revised Newbuild Infrastructure Boundary.
APP-205	D.6.4.12.3 Environmental Statement - Figure 12.3 Viewpoint Plan	Revision A of Figure 12.3 has been replaced with Revision B. Figure 12.3 has been updated as follows:

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
		• Revised Newbuild Infrastructure Boundary. • Revised Viewpoint Locations.
APP-206	D.6.4.12.4 Environmental Statement - Figure 12.4 Viewpoint Photography	Revision A of Figure 12.4 has been replaced with Revision B. Figure 12.4 has been updated as follows: • Revised Newbuild Infrastructure Boundary. • Revised Viewpoints.
APP-207	D.6.4.12.5 Environmental Statement - Figure 12.5 Photomontages	Revision A of Figure 12.5 has been replaced with Revision B. Figure 12.5 has been updated with the revised photomontages.
APP-208	D.6.4.15.1 Environmental Statement - Figure 15.1 Environmental Noise Survey Locations and Noise Constraints	No update required and this figure of the 2022 ES remains valid.
APP-209	D.6.4.15.2 Environmental Statement - Figure 15.2 Predicted Construction Noise Levels	Revision A of Figure 15.2 has been replaced with Revision B. Figure 15.2 has been updated as follows: • Revised Newbuild Infrastructure Boundary. • Revised to show noise levels for three time periods; Day, Evening, and Night rather than one time period.
APP-210	D.6.4.15.3 Environmental Statement - Figure 15.3 Magnitude of Construction Noise Impacts	Revision A of Figure 15.3 has been replaced with Revision B. Figure 15.3 has been updated as follows: • Revised Newbuild Infrastructure Boundary. • Removal of 'Low' and 'Negligible' Magnitude of Impacts which were shown in the 2022 ES.
APP-211	D.6.4.17.1 Environmental Statement - Figure 17.1 Traffic and Transport Zone of Influence	Revision A of Figure 17.1 has been replaced with Revision B. Figure 17.1 has been updated with the revised Newbuild Infrastructure Boundary.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
APP-212	D.6.4.17.2 Environmental Statement - Figure 17.2 ATC Locations	Revision A of Figure 17.2 has been replaced with Revision B. Figure 17.2 has been updated as follows: • Revised Newbuild Infrastructure Boundary. • Addition of Pool Lane ATC Location. • New key showing ATC – December 2022.
APP-213	D.6.4.17.3 Environmental Statement - Figure 17.3 Personal Injury Accident Locations	Revision A of Figure 17.3 has been replaced with Revision B. Figure 17.3 has been updated with the revised Newbuild Infrastructure Boundary.
APP-214	D.6.4.17.4 Environmental Statement - Figure 17.4 Construction Traffic Routes	Revision A of Figure 17.4 has been replaced with Revision B. Figure 17.4 has been updated as follows: • Revised Newbuild Infrastructure Boundary. • Revised construction layers, construction access points and new labels.
APP-215	D.6.4.17.5 Environmental Statement - Figure 17.5 Access Locations	Revision A of Figure 17.5 has been replaced with Revision B. Figure 17.5 has been updated as follows: • Revised Newbuild Infrastructure Boundary. • Revised construction layers, construction access points and new labels.
APP-216	D.6.4.17.6 Environmental Statement -Figure 17.6 PRoW Diversions	Revision A of Figure 17.6 has been replaced with Revision B. Figure 17.6 has been updated as follows: • Revised Newbuild Infrastructure Boundary. • Revised Public Rights of Way (PRoW) proposed diversions and Public Rights of Way. • Updated construction layers.

Examination Library Reference	Document	Summary of updates included in this ES Addendum, where required
APP-217	D.6.4.17.7 Environmental Statement - Figure 17.7 Road Diversions	Revision A of Figure 17.7 has been replaced with Revision B. Figure 17.7 has been updated as follows: • Revised Newbuild Infrastructure Boundary. • Revised construction layers, construction access points and new labels.
APP-218	D.6.4.18.1 Environmental Statement - Figure 18.1 Watercourses	Revision A of Figure 18.1 has been replaced with Revision B. Figure 18.1 has been updated as follows: • Revised Newbuild Infrastructure Boundary. • Addition of new watercourses.
APP-219	D.6.4.18.2 Environmental Statement - Figure 18.2 Superficial and Bedrock Geology	Revision A of Figure 18.2 has been replaced with Revision B. Figure 18.2 has been updated with the revised Newbuild Infrastructure Boundary.
APP-220	D.6.4.18.3 Environmental Statement - Figure 18.3 Radii of influence	Revision A of Figure 18.3 has been replaced with Revision B. Figure 18.3 has been updated with the revised Newbuild Infrastructure Boundary.
APP-221	D.6.4.19.1 Environmental Statement - Figure 19.1 Other Developments	Revision A of Figure 19.1 has been replaced with Revision B. Figure 19.1 has been updated as follows: • Revised Newbuild Infrastructure Boundary. • Renumbering of one ‘Other Development’ and several labels. • Replacement and addition of boundaries for certain ‘Other Developments’.

1. INTRODUCTION

1.1.1. **Chapter 1: Introduction** of the 2022 ES (**APP-053**) has not changed due to the proposed design changes. Therefore, the text within **Chapter 1 – Introduction** of the 2022 ES (**APP-053**) remains unchanged and valid.

2. THE PROJECT

2.1.1. **Chapter 2: The Project** of the 2022 ES (**APP-054**) has not changed due to the proposed design changes. Therefore, the text within **Chapter 2 – The Project** of the 2022 ES (**APP-054**) remains unchanged and valid.

3. DESCRIPTION OF THE DCO PROPOSED DEVELOPMENT

3.1 INTRODUCTION

3.1.1. **Chapter 3: Description of the DCO Proposed Development** of the 2022 ES **(APP-055)** provides a description of the DCO Proposed Development for the purposes of identifying and reporting the potential environmental impacts and likely significant effects in the ES.

3.1.2. This ES Addendum chapter updates the description of the DCO Proposed Development resulting from the proposed design changes and clarifications to assessments as outlined in **Tables 1.1** and **Table 1.2** of **Chapter I** of this ES Addendum. **Tables 1.1 and 1.2** indicates the proposed design changes and clarifications to assessments requiring updates to the Description of the DCO Proposed Development.

3.1.3. Revision A of **Appendix 3.1 - Table of Trenchless Crossings (APP-077)** and **Appendix 3.2 – Indicative Plant and Equipment (APP-078)** have been updated and superseded by Revision B as a result of the proposed design changes.

3.1.4. Revision A of **Figures 3.1** to **3.4 (APP-175** to **APP-178)** have been updated and superseded by Revision B as a result of the proposed design changes.

3.2. KEY ELEMENTS OF THE DCO PROPOSED DEVELOPMENT

3.2.1. The key elements of the DCO Proposed Development have not changed due to the proposed design changes. Therefore, the text within **Section 3.2** of the 2022 ES **(APP-055)** remains unchanged and valid.

3.3. NEWBUILD CARBON DIOXIDE PIPELINE

3.3.1. **Section 3.3** of the 2022 ES **(APP-055)** has changed as a result of proposed design changes PS02a, PS02b and PS04.

3.3.2. The “Permanent Acquisition of Subsurface” area shown on Revision B of **Figure 3.2 – DCO Proposed Development** extends within 15m of a designated Ancient Woodland and the Root Protection Area (RPA) of trees classified as Veteran as a result of proposed design changes PS02a, PS02b and PS04. The final alignment of the Newbuild Carbon Dioxide Pipeline will be micro-sited within the Newbuild Infrastructure Boundary having regard to *inter alia* the results of the pre-commencement surveys, in order to avoid or reduce impacts on Ancient Woodland and veteran trees where practicable.

3.3.3. Therefore, **paragraph 3.3.8** of the 2022 ES **(APP-055)** should be replaced with the following text:

The final route of the Newbuild Carbon Dioxide Pipeline will be confirmed at Detailed Design stage. For the purposes of the ES, in order to ensure a reasonable worst case has been assessed, it has been assumed that the Newbuild Carbon Dioxide Pipeline could be installed anywhere within the "Permanent Acquisition of Subsurface" area as marked in pink on Figure 3.2 - DCO Proposed Development (Volume IV), unless there is a commitment or requirement that places restrictions on its precise location.

3.3.4. All other text within **Section 3.3** of the 2022 ES **(APP-055)** remains unchanged and valid.

3.4. ABOVE GROUND INFRASTRUCTURE

3.4.1. Although the locations of some above ground infrastructure have been subject to change, the description of the above ground infrastructure itself has not changed due to the proposed design changes. Therefore, the text within **Section 3.4** of the 2022 ES **(APP-055)** remains unchanged and valid.

3.5. OTHER INFRASTRUCTURE

3.5.1. The description of the other infrastructure has not changed due to the proposed design changes. Therefore, the text within **Section 3.5** of **Chapter 3** of the 2022 ES **(APP-055)** remains unchanged and valid.

3.6. CONSTRUCTION OF THE DCO PROPOSED DEVELOPMENT

3.6.1. **Section 3.6** of the 2022 ES **(APP-055)** has changed as a result of design changes PS02a, PS02b, PS05 and PS15.

PIPELINE CONSTRUCTION TECHNIQUES AND SEQUENCING

Pipeline Construction Sequencing in Rural Areas

3.6.2. Proposed design change PS02a involves the removal of a slurry tank at New Bridge Farm, so a clarification has been included to the sequence of activities for pipeline construction around the clearing of the working width. Therefore, **Paragraph 3.6.24** of the 2022 ES **(APP-055)** should be replaced with the following text:

The sequence of activities for pipeline construction in rural areas will typically comprise:

- *Survey and PRoW preparation;*
- *Clearing (including the clearing of any existing equipment/infrastructure) and fencing the pipeline working width; (see **paragraphs 3.6.25 – 3.6.31** for more details);*
- *Removal of topsoil, which is stored separately to subsoil, on one side of the trench. Topsoil will be stored where it will not be compacted by vehicles or*

contaminated and will be stored in a manner that will minimise its loss and/or degradation and protected/demarked, if necessary;

- *Receiving materials;*
- *Laying out ('stringing') of pipe sections adjacent to the trench line;*
- *Welding, inspecting and applying coating to the pipe sections where applicable;*
- *Excavation of a narrow trench for the pipeline;*
- *Lifting and lowering of the pipe into the trench;*
- *Laying of FOC into the trench;*
- *Backfilling of the trench;*
- *Pre-commissioning activities (please refer to **paragraphs 3.6.5 - 3.6.7** for further detail);*
- *Reinstatement of existing drainage features;*
- *Replacement of topsoil which is levelled and reinstated to the original state (further detail is provided in **paragraphs 3.6.37 - 3.6.38**);*
- *Removal of temporary fencing; and*
- *Planting and other mitigation.*

Specialist Trenchless Crossings

3.6.3. Due to the clarification that the trenchless crossing methodology for the River Dee is assumed to be either micro-tunnelling or horizonal directional drilling (HDD) with a minimum depth of 8m or 15m under the River Dee respectively, **Paragraph 3.6.62** should be replaced with the following text:

3.6.4. *At the River Dee, the trenchless crossing technique has been assumed to be either micro-tunnelling or HDD only (auger boring has not been assessed). For both techniques at this location only, in addition to Table 3.2, the following parameters would apply:*

- *Entrance and exit pits will be located at least 16m from the embankments.*
- *The trenchless crossing depth will be a minimum of 15m for HDD and a minimum of 8m for micro-tunnelling.*
- *Compounds would be a maximum size of 50 m x 50m.*

EQUIPMENT AND MATERIALS

Types of Plant and Equipment

3.6.5. The proposed removal of the slurry tank at New Bridge Farm (PS02a) requires some additional equipment to be utilised for the demolition of the slurry tank.

3.6.6. Revision A of **Appendix 3.2 – Indicative Plant and Equipment (APP-078)** has been updated and superseded by Revision B to include this additional

information. Also, the following additional paragraph should be inserted after **Paragraph 3.6.81** in the 2022 ES **(APP-055)**:

Clearance of the working width specifically at New Bridge Farm to remove the slurry tank, will require the use of plant and equipment including a saw, dumper truck, roller, excavator, crane and a small diesel-powered generator for hydraulic jacks.

TRAFFIC AND ACCESS MANAGEMENT

3.6.7. Proposed design change PS15 requires a clarification around construction access for non-road mobile machinery (NRMM) where trenchless installation techniques are used to construct the Newbuild Carbon Dioxide Pipeline. At 19 non-sensitive locations where the pipeline is being installed under a feature using trenchless techniques, above ground construction access will be used to allow NRMM to cross from one side of the trenchless crossing to the other providing there is no adverse impact on the environment. Further detail on these crossings is provided within **Appendix 3.1 – Table of Trenchless Crossings.**

3.6.8. Revision A of **Appendix 3.1 – Table of Trenchless Crossings (APP-077)** has been updated and superseded by Revision B to include the above clarification. Also, the following paragraph should be inserted after **Paragraph 3.6.9** (sic, Revision A contains a paragraph numbering error) of the 2022 ES **(APP-055)**:

Out of the 19 crossings:

- *Seven crossings (TRS-03, TRS-04, TRS-07, TRS-10, TRS-13, TRS-16 and TRS-19) are considered to have low potential for adverse environmental impacts.*
- *Ten crossings (TRS-11, TRS-15, TRS-21, TRS-22, TRS-23, TRS-25, TRS-33, TRS-38, TRS-40 and TRS-42) are considered to have low potential for adverse environmental impacts. Appropriate traffic management measures are outlined within the **OCTMP (Document Reference: D.6.5.3)**.*
- *Two crossings (TRS-12 and TRS-26) have potential for adverse environmental impacts due to the presence of possible sensitive receptors. These two crossings will be subject to pre-construction surveys and above ground construction access will only proceed if, having regard to the surveys and the judgement of the ECoW, it is concluded that the surveys demonstrate that there will be no significant adverse environmental impact on receptors. This would include confirming that there are no likely adverse effects on users of the PRoWs. The surveys would be part of the CEMP which would be approved by the local authority (**D-PD-020** of the **REAC**).*

CONSTRUCTION SCHEDULE AND WORKING HOURS

3.6.9. Proposed design change PS05 extends the construction working hours to include Saturday morning working, therefore **Paragraph 3.6.15** (sic, Revision A contains a paragraph numbering error) of the 2022 ES should be replaced with the following text:

3.6.10. *The Construction Contractor(s) will be committed to promoting the use of local workforce and suppliers, wherever practicable. Core working hours are proposed to be from 08.00 to 18.00 on weekdays (excluding bank holidays) and from 08.00 to 13.00 on Saturdays.*

3.6.11. All other text within **Section 3.6** of the 2022 ES **(APP-055)** remains unchanged and valid.

3.7. OPERATION AND MAINTENANCE

3.7.1. The description of the operation and maintenance has not changed due to the proposed design changes. Therefore, the text within **Section 3.7** of the 2022 ES **(APP-055)** remains unchanged and valid.

3.8. DECOMMISSIONING

3.8.1. The description of the decommissioning has not changed due to the proposed design changes. Therefore, the text within **Section 3.8** of the 2022 ES **(APP-055)** remains unchanged and valid.

4. CONSIDERATION OF ALTERNATIVES

4.1. INTRODUCTION

4.1.1. **Chapter 4: Consideration of Alternatives** of the 2022 ES **(APP-056)** sets out the reasonable alternatives that have been considered during the evolution of the DCO Proposed Development and design process as presented in **Chapter 3: Description of the DCO Proposed Development.**

4.1.2. This ES Addendum chapter updates the consideration of alternatives for the DCO Proposed Development resulting from the proposed design changes as outlined in **Table 1.1** of **Chapter I** of this ES Addendum. **Table 1.1** indicates the proposed design changes requiring amendments to the consideration of alternatives.

4.1.3. **Appendix 4.1 – Guiding Principles, Factors and Criteria for Options Selection** of the 2022 ES **(APP-079)** remains unchanged and valid.

4.1.4. Revision A of **Figure 4.14** (**APP-192**) has been amended and superseded by Revision B as a result of the proposed design change at Cornist Lane BVS (PS01). **Figure 4.19** has been added to consider alternative options for the relocation of Northop Hall AGI (PS03).

4.2. REQUIREMENT FOR CONSIDERATION OF ALTERNATIVES

4.2.1. The requirement for consideration or alternatives has not changed due to the proposed design changes. Therefore, the text within **Section 4.2** of the 2022 ES **(APP-056)** remains unchanged and valid.

4.3. DO NOTHING ALTERNATIVE

4.3.1. The do-nothing alternative has not changed due to the proposed design changes. Therefore, the text within **Section 4.3** of the 2022 ES **(APP-056)** remains unchanged and valid.

4.4. THE NEED FOR THE DCO PROPOSED DEVELOPMENT

4.4.1. The need for the DCO Proposed Development has not changed due to the proposed design changes. Therefore, the text within **Section 4.4** of the 2022 ES **(APP-056)** remains unchanged and valid.

4.5. PIPELINE ROUTING

4.5.1. The pipeline routing has changed as a result of avoiding direct impacts upon an existing slurry tank at New Bridge Farm (PS02b) and reducing impacts on veteran trees at Backford Brook (PS04).

STAGE 3: REFINEMENT OF THE CARBON DIOXIDE PIPELINE ROUTE OPTIONS AND SITING

4.5.2. Variations to the Newbuild Carbon Dioxide Pipeline indicative alignment described and shown in the 2022 ES (**APP-055** and **APP-176**) are required to avoid direct impacts upon an existing slurry tank at New Bridge Farm (PS02b) and to reduce impacts on veteran trees at Backford Brook (PS04).

4.5.3. The following text should be added after **paragraph 4.5.41** of **Section 4.5** of the 2022 ES **(APP-056)**:

Avoidance of direct impacts upon an existing slurry tank at New Bridge Farm

The Stanlow AGI to Flint AGI Pipeline indicative alignment at New Bridge Farm and crossing at Holywell Road is located within a pinch point between an Ancient Woodland to the west and New Bridge Farm and associated farm buildings to the east. The available construction working area for the Stanlow AGI to Flint AGI Pipeline is now further limited in this area due to New Bridge Farm recently constructing a 25m wide slurry tank (and associated below ground foundations) in the location of the Stanlow AGI to Flint AGI Pipeline indicative alignment.

Two options of the Stanlow AGI to Flint AGI Pipeline indicative alignment have been considered separately - PS02a and PS02b. Both require the same extension of the Newbuild Infrastructure Boundary to the northwest and west, towards the Ancient Woodland south of Holywell Road. The proposed design options for the changes are:

- *PS02a – Removal the slurry tank at New Bridge Farm and the pipeline would be constructed outside of the 15m Ancient Woodland buffer within the indicative alignment of the Stanlow AGI to Flint AGI Pipeline proposed in the 2022 ES.*
- *PS02b – Retention of the slurry tank at New Bridge Farm in its current location with the pipeline being constructed further northwest and west than the indicative alignment of the Stanlow AGI to Flint AGI Pipeline proposed in the 2022 ES. It would remain outside of the Ancient Woodland itself but work would be required within 15m of the Ancient Woodland.*

Two further alternative options for the installation of the Stanlow AGI to Flint AGI Pipeline were developed at this location but were discounted. These include:

Option 1 included installing the pipeline to the east between the slurry tank and New Bridge Farm to avoid the removal of the slurry tank. The available width is 12 metres which is insufficient to safely install the pipeline and avoid risks to both the tank and farm buildings. There are also pipes located between the slurry tank and New Bridge Farm which would need to be diverted and a risk that settlement could result in damage to the tank foundations with potential risks to the environment in the event of leakage. Works in this location would

prevent access to the adjacent field and could interfere with the farm's water supply, borehole and septic tank located in this area. Therefore, Option 1 was discounted.

Option 2 considered leaving the tank in situ and the pipeline going underneath the slurry tank by extending the trenchless crossing under Holywell Road. This would extend the trenchless crossing from approximately 55 metres to 135 metres in length. To reduce construction and maintenance risks, trenchless crossings should be minimised in quantity and length, as such they should only be used where no practical alternative engineering solution exists. The presence of the slurry tank would also provide a significant obstacle for maintenance of the pipeline if required. Therefore, Option 2 was discounted. The presence of the slurry tank would provide a significant obstacle for maintenance of the pipeline if required. Therefore, Option 2 was discounted.

Reduce impacts on Veteran Trees at Backford Brook

The Stanlow AGI to Flint AGI Pipeline indicative alignment at Backford Brook proposed in the 2022 ES would result in the loss of veteran trees. Spatial constraints in this location associated with the Shropshire Union Canal and existing buried utilities limits the options for routing the pipeline in this location. Two options have been considered to minimise tree loss, in particular the veteran trees in this area.

Option 1 crosses Backford Brook and the nearby veteran trees via a trenchless crossing. This would require a minimum of 75 metres trenchless crossing length to avoid the veteran trees and 120 metres to avoid all trees and maintain a safe distance from the nearby existing buried utilities. To reduce construction and maintenance risks, trenchless crossings should be minimised in quantity and length, as such they should only be used where no practical alternative engineering solution exists.

Option 2 extends the Newbuild Infrastructure Boundary to the north which would increase the pipeline corridor width to reduce impacts on veteran trees west of Backford Brook. Further tree surveys of this area were undertaken in January 2023 and the indicative alignment of the Stanlow AGI to Flint AGI Pipeline has been realigned to aid the avoidance of the removal of Veteran trees at this location, subject to detailed design. This option avoids four veteran trees in comparison to the 2022 ES and is considered the preferred option.

All other pipeline routing text within **Section 4.5** of the 2022 ES **(APP-056)** remains unchanged and valid.

4.6. ABOVE GROUND INSTALLATIONS – ALTERNATIVE SITES

4.6.1. The AGI – alternative sites have changed as a result of the relocation of Northop Hall AGI (PS03). Two alternative locations for Northop Hall AGI were put forward by the landowner to move the AGI to a less productive field to the west.

4.6.2. Therefore, **Table 4.4** of **Section 4.6** of the 2022 ES **(APP-056)** has changed, in relation to Northop Hall, and should be replaced with **Table 4.1** below.

Table 4.1: AGI Alternatives Considered

AGI	Consideration of Alternatives
Ince	Three options have been identified for location of the AGI, taking into consideration potential future CO_2 connections. A north option in agricultural land to the north of Marsh Lane, a central option in the overflow carpark to the south of Marsh Lane opposite the Ince Bio Power station, and a south option in agricultural land to the south of CF Fertilisers UK. These options, which were developed with consideration of existing utilities and future development in the locality, are shown in **Figure 4-7 (Volume IV)**. None of the three options had any particular advantage in terms of likely environmental impacts and all three locations are technically feasible. As such, minimising disruption to stakeholders has been the key factor in determining a preferred option. The north option has the potential to disrupt existing planning conditions and construction of the Protos Phase 2 & 3 development. The central option would reduce available space for vehicle movements and temporary construction compounds required for the maintenance of the CF fertiliser facility. The south option was considered to have the least disruption to existing site activities and Protos during the construction but would require longer connecting pipework to industrial emitters. The south option would have the least disruption to existing facilities and future construction activities associated with Protos. This option has been taken forward as the preferred option.
Stanlow	In 2021, the Applicant conducted a review to determine options for the location and orientation of the AGI proposed within the existing Essar Manufacturing Complex at Stanlow. This was undertaken to optimise the location with due consideration of AGIs for the future Natural Gas (CADENT) and Hydrogen (Essar). PEL/Essar provided a land allocation within the Essar complex for an integrated HyNet Project. The siting of the AGI needs to allow space for future expansion and flexibility for future emitters. The area allocated for siting the AGIs is shaded in **Figure 4-8 (Volume IV).**

AGI	Consideration of Alternatives
	Due to the industrial setting, health and safety and access were key considerations. Locating the AGI within the centre of the allocated area would position the AGI between two other proposed AGIs promoted by CADENT and Essar and would prevent future expansion to the east and west. It would require the incoming pipeline to cross buried power cables and raw water mains. The preliminary routing of the pipeline corridor into the AGI would be located in close proximity to the Traveller Site located to the south of the A5117, which is seen as a risk in terms of gaining consent as well as complications for installation. Locating the AGI in the western section of the allocated area would allow a direct approach into the refinery property and would be easier to construct as it would be closer to the temporary construction compound and laydown areas. The location of the AGI has been adjusted north following input on the likely siting of a proposed natural gas AGI promoted by CADENT, with the pipelines routed to maximise distance from the Traveller Site.
Northop Hall	*The Northop Hall AGI options are shown in **Figures 4-9** and **4.19 (Volume IV)**.* *Originally Northop Hall was identified as a BVS, which was required to allow segmentation of the pipeline. However, it also provided a convenient location for the connection to future emitters and the requirement for above ground equipment and pipework in this location transitioned it into an AGI.* *Option 1, in fields north of Magazine Lane, was identified early in the preliminary design phase. However, this provided challenges for connection of future emitters.* *The identification of a potential future housing development triggered a high-level review of options for the pipeline south of the A55 and further from residential development. This simplified the connection for future emitters but added two trenchless crossings and increased pipeline length by approximately 300m and also impacted on Ancient Woodland. Therefore, locations to the south of the A55 were discounted.* *A further option (Option 2), was developed, located just south of the B5125 and the Highfield Hall Wedding Venue which provides an easier connection for potential future pipeline connections*

AGI	Consideration of Alternatives
	from other emitters, as such was selected as the preferred option in the 2022 ES. *Following Statutory Consultation, the landowner requested the location of Northop Hall AGI was reviewed to avoid severance and reduced productivity of the field. Alternative locations to the west were considered. However, this would result in potential impacts upon the setting of the Grade II Listed Highfield Hall, while moving to the south risked impacting woodland, surface water bodies or an area of Ancient Woodland and to the east risked impacting local residents. Therefore, design development resulted in micrositing of Option 2 by positioning Northop Hall AGI nearer to the field boundary in the 2022 ES.* *Two alternative options for the Northop Hall AGI were put forward by the landowner compared to that proposed in the 2022 ES. These options (Option 3a and 3b) aimed to move the AGI to a less productive field to the west* ***(Figure 4.19)****. A further option 'Option 4' was added, located on the east side of that field. The locations were subject to a micrositing exercise to compare construction and engineering feasibility and potential environmental impacts.* *Option 3a was not considered viable as it is directly adjacent to the electrical overhead cables and would require removal of hedgerow to fit within the field boundary. It would also likely be in the direct line of sight of the wedding venue (Highfield Hall) to the north and as such it was not taken forward. Option 3b provides a sufficient distance from the electrical overhead cables and the nearby woodland and would not require hedgerow removal. It also retains existing access between sections of the field.* *Option 4 has similar advantages to Option 3b in terms of engineering feasibility, whilst it is closer to the woodland in the field and generally severs the south east section of the field, the visual impacts for receptors at Highfield Hall are less than for Option 3b. Option 4 is considered the preferred option as it would benefit from greater screening and have reduced impact on the setting of the Grade II listed Highfield Hall and forms the proposed design change for the relocation of Northop Hall AGI (PS03) considered in the ES Addendum.*
Flint	Three options were considered for location of the Flint AGI. These are shown in **Figure 4-10 (Volume IV)**.

AGI	Consideration of Alternatives
	Following confirmation of the preferred route for the 36” Newbuild Carbon Dioxide Pipeline, further design work was undertaken to determine where the end of the pipeline should connect to the existing natural gas pipeline at Flint. Three spurs were included to provide flexibility for the location of the AGI. The West Option and associated spur avoids an Ancient Woodland, but would have a direct impact on Flint Mountain SSSI and passes through Crown Land and within 250m of a Scheduled Monument (Bryn y Cwm Mound & Bailey Castle). The spur for the Central Option passes north towards a connection close to Coed Onn Road/Allt-Goch Lane. This option avoids residential areas and designated ecological sites, but does pass in proximity to agricultural buildings and close to an area of Ancient Woodland. The East Option spur passes in a north-east direction to a connection close to Leadbrook Drive. The option avoids direct impacts to national or local ecology or landscape designations, but crosses an area of Ancient Woodland, and passes within 1km of Oakenholt Hall Conservation Area and three Grade II listed buildings. The Central Option is preferred as it is located further away from the Scheduled Monument, does not impact on designated ecological sites and does not impact on Crown Land and residential areas. The location has been adjusted south to minimise impacts to farmland.

4.6.3. All other AGI – alternative sites text within **Section 4.6** of the 2022 ES **(APP-056)** remains unchanged and valid.

4.7. BLOCK VALVE STATIONS (BVS) – ALTERNATIVE SITES

4.7.1. The Block Value Stations (BVS) – alternative sites considered have changed as a result of the relocation of Cornist Lane BVS (PS01). Two alternative locations for Cornist Lane BVS were considered as a result of engagement with landowner and tenant farmers to avoid impacts to farming practices in the agricultural field within which the Cornist Lane BVS proposed in the 2022 ES was located. Also, alternative options for the access track and surface water drainage were also considered for Cornist Lane BVS.

4.7.2. Therefore **Table 4.6** of **Section 4.7** of the 2022 ES **(APP-056)** has changed, in relation to Cornist Lane, and should be replaced with **Table 4.2** below.

Table 4.2: BVS alternatives considered (Flint Connection to PoA Terminal Pipeline)

BVS	Consideration of Alternatives
Coed-y-Cra	A location for a BVS at Coed-y-Cra was identified and presented during the Statutory Consultation in Spring 2022. Following technical review of the BVS locations it was identified that a fourth BVS would not be required and due to the proximity to the Cornist Lane BVS and the Flint AGI, the Coed-y-Cra BVS has since been removed from both the DCO Proposed Development and TCPA Proposed Development.
Cornist Lane	*Topography and existing development limited the options available along the pipeline in this location. One area along the pipeline route was considered for the BVS. Locating the BVS in a flat, accessible field, maximising separation from the overhead line that cuts through the southern corner of the field was the priority for the BVS at Cornist Lane. These features are shown in* ***Figure 4-14 (Volume IV)****.* *The BVS is located such that the BVS and associated pipeline is 40m from the overhead line to avoid interference with the pipeline cathodic protection.* *A consultation response was received from the landowner and tenant farmers, which requested relocation to an alternative site to the west of the Cornist Lane BVS proposed in the 2022 ES (west alternative). The aim was to avoid impacts to farming practices in the agricultural field within which the BVS was located in the 2022 ES. The west alternative, whilst closer than the 2022 ES Cornist Lane BVS to the residential property (Bryn Awel), would be less visible to the residence and screened due to presence of existing vegetation. Whilst the west alternative would have the benefit of a shorter access track it would be located on a sloped site making construction more difficult and would require construction of an embankment to create the flat surface required. This would take the entire width of the field to the west, preventing access to the fields further south. The location would also clash with existing overhead cables. The west alternative would be closer to other properties to the north and northwest on Lleprog Lane and Nant Road. Road closures would also be required to construct the BVS. As such the west alternative was discounted.*

BVS	Consideration of Alternatives
	*Further options for locating the BVS were investigated in seven nearby fields, with a focus on fields to the east of the location shown in the 2022 ES. The east alternative in the adjacent field (**Figure 4-14**) was considered the preferred option as it would be screened by the existing hedgerow, reduce visual impacts for the nearby residence and would be positioned on relatively flat, high ground. The east alternative lies alongside the field boundary, as such would minimise impacts to farming practices and severance of the agricultural field.* *Alternatives for the access track to the east alternative involved extending the same access track as for the 2022 ES, or an alternative shorter access to connect with Cornist Lane further east. The shorter access track further east, providing a more direct route to the east alternative, along the field boundary was chosen as the preferred route for access to the preferred east alternative (PS01) (**Figure 4-14**).* *Options were investigated for the surface water drainage for the east alternative. A direct route for the drainage, south-west to Nant-y-Flint was investigated. An open channel to convey water was discounted due to the need to clear woodland around Nant-y-Flint that is functionally linked to an area of Ancient Woodland. Options to route the channel around trees or install via trenchless methods would likely also result in significant adverse effects to the Ancient Woodland, as such this route was discounted. The preferred drainage solution traverses the field in a northwest direction as shown in **Figure 4-14** and connects at the location shown in the 2022 ES, thus avoiding impacts to Ancient Woodland.*
Pentre Halkyn	Options considered for location of the Pentre Halkyn BVS are shown in **Figure 4-15 (Volume IV).** The three locations include: Beyn-y-Grug. This was the first location identified during design of the DCO Proposed Development. The site is located on farmland midway between Babell and Pentre Halkyn, however, this was considered too close to an occupied building and due to potential health and safety risks further options were investigated to the east and west. East of Beyn-y-Grug. This east option had greater visual impacts and the BVS and the associated access track would result in making a portion of the field unfarmable as such was rejected.

BVS	Consideration of Alternatives
	West of Beyn-y-Grug. The west option was located further from local residences, had better access and could be installed along the field boundary reducing the impact on farmland, as such the western option was chosen as the preferred option.
Babell	Only one location was considered for the Babell BVS within flat agricultural land accessed via a track off Racecourse Lane to the west. This is shown in **Figure 4-16 (Volume IV)**. This location was identified during the initial analysis. The location was chosen as it minimises land take and maximises distance from the overhead line in the field to the north. As impacts could be minimised through micrositing, no further options were considered.

4.7.1. All other BVS – alternative sites text within **Section 4.7** of the 2022 ES **(APP-056)** remains unchanged and valid.

4.8. CONSTRUCTION COMPOUND ALTERNATIVES

4.8.1. The construction compound alternatives have not changed due to the proposed design changes. Therefore, the text within **Section 4.8** of the 2022 ES **(APP-056)** remains unchanged and valid.

4.9. MITIGATION BY DESIGN

4.9.1. The mitigation by design has not changed due to the proposed design changes, however **Table 4.8** of the 2022 ES has been amended below due to errata items. The remaining text within **Section 4.9** of the 2022 ES **(APP-056)** remains unchanged and valid.

4.9.2. Therefore **Table 4.8** of **Section 4.9** of the 2022 ES **(APP-056)** has changed and should be replaced with **Table 4.3** below.

Table 4.3: Embedded Mitigation

Embedded Mitigation	Purpose
All Ancient Woodland areas will be protected. A 15m works exclusion zone or similar approved by an Arboriculturist is assumed, except for environmental mitigation works, drainage works or in areas restricted by existing infrastructure. In these areas, works will be carried out as required but will ensure protection of the trees under supervision of a suitably qualified Arboriculturist. Protective measures will be detailed within a site-specific Arboricultural	*To minimise landscape and visual impacts*

Embedded Mitigation	Purpose
*Method Statement (AMS) and shown on a Tree Protection Plan (TPP) and where necessary, working methods will be monitored by a suitable Arboricultural Clerk of Works (ACoW). The Construction Contractor will prepare the AMS approved as part of the CEMP (**D-LV-015** of the REAC, **Document Reference: D.6.5.1**).*	
A pre-commencement walkover survey will be completed by the ECoW (or appointed ecologist) of areas within the Newbuild Infrastructure Boundary (extended where necessary to encompass a relevant zone of influence as determined by the ECoW/ecologist) or any areas that could not be accessed during baseline surveys completed in 2021 and 2022. The walkover survey shall include a ground level assessment of land in search of presence or activity of protected and or notable species. The walkover survey results will determine the need for additional survey, mitigation and/or licensing beyond that included within the ES; to be carried out in advance of construction commencement. Results of surveys and any needs for mitigation and licensing will be discussed with relevant stakeholders (e.g. Natural England, Natural Resources Wales, Environment Agency) where required, with amendments captured within the detailed CEMPs to be approved for the DCO Proposed Development. *(**D-BD-005** of the REAC, **Document Reference D.6.5.1**)*	*To update baseline survey results and protect species and habitats*
Reinstatement of HPI habitats will take place post construction, however, recognising the need to reinstate with alternative habitats should former habitats potentially interfere with the buried pipeline (e.g. where trees are removed and cannot be reinstated, scrub will be planted as an alternative). *(**D-BD-062** of the REAC, **Document Reference: D.6.5.1**).*	*To compensate for the loss of habitats.*
Construction works will utilise existing accesses wherever practicable. Where new temporary construction accesses are required in existing hedgerows, the width to be lost will be kept to the minimum practicable and will not exceed 15m. Hedgerows, trees and woodland outside of this 15m will be protected and retained. Protective measures will be detailed within a site-specific Arboricultural Method Statement (AMS)	*To minimise landscape and visual impacts*

Embedded Mitigation	Purpose
and shown on a Tree Protection Plan (TPP) and where necessary, working methods will be monitored by a suitable Arboricultural Clerk of Works (ACoW). *(**D-LV-030** of the REAC, **Document Reference: D.6.5.1**).*	
The width within which the works for the Alltami Brook Crossing will be contained will not exceed 16 metres within the riparian zone. *Maximum width of bedrock channel permanently impacted from removal of bedrock will be no more than 4m.* *(**D-WR-063** of the REAC, **Document Reference: D.6.5.1**).*	*To minimise the impacts to geomorphology of watercourses.* *To ensure the DCO Proposed Development is WFD compliant*
For complex crossings, to avoid disruption to utilities, major highways, railways, watercourses and/or particular environmental sensitivities (e.g. Ancient Woodland), specialist trenchless installation techniques will be used. *(**D-PD-001** of the REAC, **Document Reference: D.6.5.1**).*	*To reduce the impacts on environmental features.*
The Principles of inherent safe design have been incorporated into the design of the pipeline as per relevant industry codes of practice and standards and the requirements of the Pipeline Safety Regulations 1996. **(D-CA-001 of the REAC, Document Reference: D.6.5.1).**	To avoid potential effects on sensitive environmental receptors
Inclusion of remotely operated valves to allow isolation of sections of the pipeline if required (D-CA-002 of the REAC, Document Reference: D.6.5.1).	To avoid potential effects on sensitive environmental receptors
24-hour remote monitoring of pipeline operation to detect leaks and enable remote shut down of the pipeline if required. (D-CA-003 of the REAC, Document Reference: D.6.5.1).	To avoid potential effects on sensitive environmental receptors

5. EIA METHODOLOGY

5.1. INTRODUCTION

5.1.1. **Chapter 5: EIA Methodology** of the 2022 ES **(APP-058)** sets out the overall approach to the Environmental Impact Assessment (EIA) for the DCO Proposed Development.

5.1.2. The introduction for the EIA methodology has not changed due to the proposed design changes. Therefore, the text within **Section 5.1** of the 2022 ES (**APP-058**) remains unchanged and valid.

5.2. RELEVANT EXPERTISE

5.2.1. The relevant expertise for has not changed due to the proposed design changes. Therefore, the text within **Section 5.2** of the 2022 ES (**APP-058**) remains unchanged and valid.

5.3. SCOPING

5.3.1. The EIA methodology for scoping has not changed due to the proposed design changes. Therefore, the text within **Section 5.3** of the 2022 ES (**APP-058**) remains unchanged and valid.

5.4. CONSULTATION

5.4.1. The EIA methodology for consultation has not changed due to the proposed design changes. Therefore, the text within **Section 5.4** of the 2022 ES (**APP-058**) remains unchanged and valid.

5.5. CONSIDERATION OF ALTERNATIVES

5.5.1. The EIA methodology for consideration of alternatives has not changed due to the proposed design changes. Therefore, the text within **Section 5.5** of the 2022 ES (**APP-058**) remains unchanged and valid.

5.6. STUDY AREAS

5.6.1. The EIA methodology for study areas have not changed due to the proposed design changes. Therefore, the text within **Section 5.6** of the 2022 ES (**APP-058**) remains unchanged and valid.

5.7. TEMPORAL SCOPE OF ASSESSMENT

5.7.1. The EIA methodology for temporal scope of assessment has not changed due to the proposed design changes. Therefore, the text within **Section 5.7** of the 2022 ES (**APP-058**) remains unchanged and valid.

5.8. BASELINE CONDITIONS

5.8.1. The EIA methodology for baseline conditions has not changed due to the proposed design changes. Therefore, the text within **Section 5.8** of the 2022 ES (**APP-058**) remains unchanged and valid.

5.9. APPROACH TO MITIGATION

5.9.1. The EIA methodology for approach to mitigation has not changed due to the proposed design changes. Therefore, the text within **Section 5.9** of the 2022 ES (**APP-058**) remains unchanged and valid.

5.10. MONITORING

5.10.1. The EIA methodology for monitoring has not changed due to the proposed design changes. Therefore, the text within **Section 5.10** of the 2022 ES (**APP-058**) remains unchanged and valid.

5.11. ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS

5.11.1. The EIA methodology for assessment of likely significant effects has not changed due to the proposed design changes. Therefore, the text within **Section 5.11** of the 2022 ES (**APP-058**) remains unchanged and valid.

5.12. BASIS OF ASSESSMENT

5.12.1. **Paragraph 5.12.4** of the 2022 ES **(APP-057)** should be replace with the following text:

*The EIA has assumed that the final alignment of the Newbuild Carbon Dioxide Pipeline could be situated anywhere within the Permanent Acquisition of Subsurface Area shown **in Figure 3-2 – DCO Proposed Development (Volume IV)**, unless there is a commitment or requirement that places restrictions on its precise location. The Working Width is assumed to be the area physically impacted by the construction of the DCO Proposed Development. The Working Width differs at locations depending on the construction methodology. For open-cut trenching, which will be used for the majority of the Newbuild Carbon Dioxide Pipeline, a 32m Working Width is required. The EIA therefore assumes the likely worst-case location of the Working Width within the Order Limits for all elements of the DCO Proposed Development to identify the significant effects for each topic reported in the ES. Any indicative alignment of the pipeline shown in this ES has only been used for assessment purposes and is not representative of the Detailed Design. The methodology for identifying the specific likely worst-case location used for each topic is explained within each **Technical Chapter 6-19 (Volume II)**.*

5.12.2. All other basis of assessment text within **Section 5.12** of the 2022 ES (**APP-057**) remains unchanged and valid.

5.13. COMBINED AND CUMULATIVE EFFECTS

5.13.1. The EIA methodology for combined and cumulative effects has not changed due to the proposed design changes. Therefore, the text within **Section 5.13** of the 2022 ES (**APP-058**) remains unchanged and valid.

5.14. IN-COMBINATION CLIMATE CHANGE IMPACTS

5.14.1. The EIA methodology for in-combination climate change impacts has not changed due to the proposed design changes. Therefore, the text within **Section 5.14** of the 2022 ES (**APP-058**) remains unchanged and valid.

5.15. ASSESSMENT OF TRANSBOUNDARY IMPACTS

5.15.1. The EIA methodology for assessment of transboundary impacts has not changed due to the proposed design changes. Therefore, the text within **Section 5.15** of the 2022 ES (**APP-058**) remains unchanged and valid.

5.16. STRUCTURE OF THE ENVIRONMENTAL STATEMENT

5.16.1. The structure of the Environmental Statement as reported in the EIA methodology has not changed due to the proposed design changes. Therefore, the text within **Section 5.16** of the 2022 ES (**APP-058**) remains unchanged and valid.

5.17. ADDITIONAL DOCUMENTATION

5.17.1. The additional documentation as reported in the EIA methodology has not changed due to the proposed design changes. Therefore, the text within **Section 5.17** of the 2022 ES (**APP-058**) remains unchanged and valid.

6. AIR QUALITY

6.1. INTRODUCTION

6.1.1. **Chapter 6: Air Quality** of the 2022 ES **(APP-058)** reports the outcome of the assessment of the likely significant effects of the DCO Proposed Development on Air Quality.

6.1.2. This ES Addendum chapter considers only the likely significant effects resulting from the proposed design changes as outlined in **Table 1.1** of **Chapter I** of this ES Addendum. **Table 1.1** indicates the proposed design changes that have been scoped into the assessment of likely significant effects for Air Quality.

6.1.3. **Appendix 6-1 - Construction Dust Assessment** of the 2022 ES **(APP-081)** has been updated to consider the impacts of the potential removal of the slurry tank (PS02a) and the impacts of Saturday morning working during construction (PS05). The addendum to **Appendix 6-1** can be found in **Appendix A** of this ES Addendum.

6.1.4. **Appendix 6-2** of the 2022 ES **(APP-082)** remains unchanged and valid.

6.1.5. Revision A of **Figures 6.1** to **6.3 (APP-197 to APP-199)** have been updated and superseded by Revision B as a result of the proposed design changes.

6.2. LEGISLATIVE AND POLICY FRAMEWORK

6.2.1. The legislative and policy framework for air quality has not changed due to the proposed design changes however since the publication of the 2022 ES, there have been updates to the following relevant legislation and policies:

- Environmental Improvement Plan – Published by Defra in February 2023 (**Ref 6.36**); and
- The Flintshire County Council Unitary Development Plan 2000–2015 (**Ref 6.37**) has been superseded by the Flintshire Local Development Plan 2015–2030 adopted 24 January 2023.

6.2.2. Following publication of the Environmental Improvement Plan, the following text should be inserted after **paragraph 6.2.15** of the 2022 ES **(APP-058)**:

*Environment Improvement Plan 2023 (**Ref 6.36**)*

The Environmental Improvement Plan sets out the UK Government's visions at improving the environment in the UK. Goal 2: 'Clean Air' specifies how the government will improve air quality in the UK including the introduction of new targets and commitments.

6.2.3. Following the adoption of the Flintshire Local Development Plan 2015-2030, **paragraph 6.2.19** and **6.2.20** of the 2022 ES **(APP-058)** should be replaced with the following text:

*Flintshire Local Development Plan 2015-2030 (**Ref 6.37**)*

The Flintshire Local Development Plan was adopted 24 January 2023 and is in force as of the date of this report.

Policy PC5: Transport and Accessibility sets out requirements to improve the transport network across Flintshire including the use of more sustainable means of transportation. In delivering this objective it will make an important contribution to improving air quality in the region.

6.2.4. No other text in **Section 6.2** of the 2022 ES **(APP-058)** are affected by the proposed design changes or updates to relevant legislation and policy since the publication of the 2022 ES, and therefore remains unchanged and valid.

6.3. SCOPING OPINION AND CONSULTATION

6.3.1. The scoping opinion has not changed, and no additional consultation has been undertaken regarding the proposed design changes in relation to air quality.

6.3.2. No amendments to **Appendix 1.3 – Environmental Statement – Scoping Opinion Responses (APP-076)** are required in relation to air quality due to the proposed design changes. Therefore, the text within **Section 6.3** of the 2022 ES **(APP-058)** remains unchanged and valid.

6.4. SCOPE OF THE ASSESSMENT

6.4.1. The scope of the assessment for air quality has not changed due to the proposed design changes. Therefore, the text within **Section 6.4** of the 2022 ES (**APP-058**) remains unchanged and valid.

6.5. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

6.5.1. The assessment methodology and significance criteria for air quality has not changed due to the proposed design changes. Therefore, there text within **Section 6.5** of the 2022 ES **(APP-058)** remains unchanged and valid.

6.6. BASELINE CONDITIONS

6.6.1. The baseline for the air quality assessment has not changed due to the proposed design changes. Therefore, the text within **Section 6.6** of the 2022 ES **(APP-058)** remains unchanged and valid.

6.7. SENSITIVE RECEPTORS

6.7.1. The sensitive receptors for the air quality assessment have not changed for the proposed design changes. Therefore, the text within **Section 6.7** of the 2022 ES **(APP-058)** remains unchanged and valid.

6.8. DESIGN DEVELOPMENT, IMPACT AVOIDANCE, AND EMBEDDED MITIGATION

6.8.1. The design development, impact avoidance and embedded mitigation for air quality have not changed due to the proposed design changes. Therefore the text within **Section 6.8** of the 2022 ES **(APP-058)** remains unchanged and valid.

6.9. PRELIMINARY ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

6.9.1. There are changes to the likely impacts and effects previously identified within the 2022 ES **(APP-058)**.

6.9.2. The removal of the existing slurry tank to facilitate construction of the Newbuild Carbon Dioxide Pipeline (PS02a) could result in impacts from dust during construction. **Appendix 6-1** of the 2022 ES **(APP-081**) has been updated to consider the impacts of PS02a and can be seen in **Appendix A** of this ES Addendum.

6.9.3. Using IAQM Dust Assessment Guidance (**Ref 6.24**) the resulting impact is negligible and will not lead to a significant effect.

6.9.4. The extension in construction working hours to include Saturday morning working (PS05) will change the traffic data presented in the 2022 ES. **Appendix 6-1** of the 2022 ES (**APP-081**) has been updated to include the screening of updated traffic flows for air quality assessment and can be seen in **Appendix A** of this ES Addendum.

6.9.5. The screening of the updated traffic data suggests that the introduction of Saturday morning working is unlikely to result in a significant effect.

6.9.6. All other impacts and effects during both operation and construction are the same as previously identified in the 2022 ES **(APP-058)** and remain valid.

6.10. MITIGATION AND ENHANCEMENT MEASURES

6.10.1. The following mitigation and enhancement measures for air quality have been added as a result of the proposed design changes:

- *Avoid explosive blasting, using appropriate manual or mechanical alternatives (**D-AQ-043** of the **REAC, Document reference D.6.5.1**).*

6.10.2. The other mitigation and enhancement measures for air quality within **Section 6.10 (APP-058)** have not changed due to the proposed design changes.

6.11. RESIDUAL EFFECTS

6.11.1. No additional residual effects have been identified for air quality due to the proposed design changes. Therefore, the text within **Section 6.11** of the 2022 ES **(APP-058)** remains unchanged and valid.

6.12. IN-COMBINATION CLIMATE CHANGE IMPACTS

6.12.1. There are no additional in-combination climate change impacts identified for the air quality assessment from these proposed design changes. Therefore, the text within **Section 6.12** of the 2022 ES **(APP-058)** remains unchanged and valid.

6.13. MONITORING

6.13.1. The additional proposed design changes do not change the requirements for monitoring measures during construction. Therefore, the text within **Section 6.13** of the 2022 ES **(APP-058)** remains unchanged and valid.

6.14. CONCLUSIONS

6.14.1. The proposed design changes as set out in **Table 1.1** do not result in changes to the likely significant effects as reported in the 2022 ES (**APP-058**) for air quality. The 2022 ES conclusions are therefore not materially changed for this topic.

6.15. REFERENCES

6.15.1. Ref. 6.36 and Ref.6.37 below have been added to **Section 6.2** of the 2022 ES (**APP-058**):

- **Ref. 6.36** – Defra (2023). Environmental Improvement Plan. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1133967/environmental-improvement-plan-2023.pdf
- **Ref. 6.37** – Flintshire County Council (2023). Flintshire Local Development Plan 2023. Available at: https://www.flintshire.gov.uk/en/PDFFiles/Planning/Examination-Library-Documents/LDP-Version-8.pdf

7. CLIMATE RESILIENCE

7.1. INTRODUCTION

7.1.1. **Chapter 7: Climate Resilience** of the 2022 ES **(APP-059)** reports on the vulnerability of the DCO Proposed Development to climate change and reports on the assessment and the DCO Proposed Development's resilience to the likely significant effects from climate change.

7.1.2. This ES Addendum chapter considers only the likely significant effects of the proposed design changes as outlined in **Table 1.1** in **Chapter I** of this ES Addendum. **Table 1.1** indicates the proposed design changes that have been scoped into the assessment of likely significant effects for Climate Resilience.

7.1.3. **Appendix 7.1 – Climate Resilience Preliminary Assessment** of the 2022 ES **(APP-083)** remains unchanged and valid.

7.1.4. No figures were submitted in support of **Chapter 7: Climate Resilience** of the 2022 ES **(APP-059)**.

7.2. LEGISLATIVE AND POLICY FRAMEWORK

7.2.1. The legislative and policy framework for climate resilience has not changed due to the proposed design changes however since the publication of the 2022 ES, there have been updates to the following relevant legislation and policies:

- Prosperity for All: A Climate Conscious Wales (Welsh Climate Change Adaptation Plan) 2019

7.2.2. Therefore, the following text should be inserted after **paragraph 7.2.16** of the 2022 ES (**APP-059**):

Prosperity for All: A Climate Conscious Wales (Welsh Climate Change Adaptation Plan) 2019 ***(Ref. 7.44)***

The Welsh Government developed this plan to take steps to prepare for changes caused by climate change from 2020 – 2025. Recognising that average temperatures over land have warmed in recent decades in Wales; the Welsh government are increasing knowledge, increasing capacity to empower communities to adapt the climate change; and building resilience and reducing vulnerability across Wales. The plan highlights summary actions including:

- *Protecting people, communities, buildings and infrastructure from flooding*
- *Protecting public water supplies from drought and low flows*
- *Tackling land management practices that increase flood risk*
- *Risks to ecosystems and agriculture businesses from changes in climatic conditions; and*
- *Planning Policy for Wales & National Development Framework*

7.2.3. All other legislative and policy framework text within **Section 7.2** of the 2022 ES **(APP-059)** remains unchanged and valid.

7.3. SCOPING OPINION AND CONSULTATION

7.3.1. The scoping opinion has not changed, and no additional consultation has been undertaken regarding the proposed design changes in relation to Climate Resilience.

7.3.2. No amendments to **Appendix 1.3 – Environmental Statement – Scoping Opinion Responses (APP-076)** are required in relation to Climate Resilience due to the proposed design changes. Therefore, the text within **Section 7.3** of the 2022 ES **(APP-059)** remains unchanged and valid.

7.4. SCOPE OF THE ASSESSMENT

7.4.1. The scope of the assessment for Climate Resilience has not changed due to the proposed design changes. Therefore, the text within **Section 7.4** of the 2022 ES **(APP-059)** remains unchanged and valid.

7.5. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

7.5.1. The assessment methodology and significance criteria for Climate Resilience has not changed due to the proposed design changes. Therefore, the text within **Section 7.5** of the 2022 ES **(APP-059)** remains unchanged and valid.

7.6. BASELINE CONDITIONS

7.6.1. The baseline for the Climate Resilience assessment has not changed due to the proposed design changes. Therefore, the text within **Section 7.6** of the 2022 ES **(APP-059)** remains unchanged and valid.

7.7. SENSITIVE RECEPTORS

7.7.1. The sensitive receptors for the Climate Resilience assessment have not altered for the proposed design changes. Therefore, the text within **Section 7.7** of the 2022 ES **(APP-059)** remains unchanged and valid.

7.8. DESIGN DEVELOPMENT, IMPACT AVOIDANCE, AND EMBEDDED MITIGATION

7.8.1. The design development, impact avoidance and embedded mitigation for Climate Resilience have not changed due to the proposed design changes. Therefore, the text within **Section 7.8** of the ES **(APP-059)** remains unchanged and valid.

7.9. PRELIMINARY ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

Likely Impacts and Effects of the DCO Proposed Development

7.9.1. Incorporating the proposed design changes into the overall assessment of Climate Resilience of the DCO Proposed Development, it is considered that the assessment of likely impacts and effects within **Section 7.9** of the 2022 ES **(APP-059)** will remain unchanged and valid. This is because the design changes are limited to aspects of the design that are in keeping with the principles of design formerly assessed, such as drainage design updates and embedded flood mitigation, and the changes to the extent of the Newbuild Infrastructure Boundary do not increase the assessment area.

7.10. MITIGATION AND ENHANCEMENT MEASURES

7.10.1. The mitigation and enhancement measures for Climate Resilience have not changed due to the proposed design changes. Therefore, the text within **Section 7.10** of the 2022 ES **(APP-059)** remains unchanged and valid.

7.11. RESIDUAL EFFECTS

7.11.1. No additional residual effects have been identified for Climate Resilience due to the proposed design changes. Therefore, the text within **Section 7.11** of the 2022 ES **(APP-059)** remains unchanged and valid.

7.12. IN-COMBINATION CLIMATE CHANGE IMPACTS

7.12.1. There are no additional in-combination climate change impacts identified for the Climate Resilience assessment from the proposed design changes. Therefore, the text within **Section 7.12** of the 2022 ES **(APP-059)** remains unchanged and valid.

7.13. MONITORING

7.13.1. The additional proposed design changes do not change the requirements for monitoring measures during construction. Therefore, the text within **Section 7.13** of the 2022 ES **(APP-059)** remains unchanged and valid.

7.14. CONCLUSIONS

7.14.1. The proposed design changes as set out in **Table 1.1** do not result in changes to the likely significant effects as reported in the 2022 ES (**APP-059**) for climate resilience. The 2022 ES conclusions are therefore not materially changed for this topic.

7.15. REFERENCES

7.15.1. **Ref. 7.44** has been added to **Section 7.2** of the 2022 ES (**APP-059**):

- **Ref.7.44** – Welsh Government (2019). Prosperity for All: A Climate Conscious Wales – A climate change adaptation plan for Wales. Available at: https://www.gov.wales/sites/default/files/publications/2019-11/prosperity-for-all-a-climate-conscious-wales_0.pdf

8. CULTURAL HERITAGE

8.1. INTRODUCTION

8.1.1. **Chapter 8: Cultural Heritage** of the 2022 ES **(APP-060)** reports the outcome of the assessment of the likely significant effects of the DCO Proposed Development on Cultural Heritage.

8.1.2. This ES Addendum chapter considers only the likely significant effects of the proposed design changes as outlined **Table 1.1** of **Chapter I** of this ES Addendum. **Table 1.1** indicates the proposed design changes that have been scoped into the assessment of likely significant effects for Cultural Heritage.

8.1.3. **Appendix 8.1 - Heritage Environment Desk Based Assessment (HEDBA)** of the 2022 ES **(APP-084 to APP-086)** has also been updated as a result of the relocated Cornist Lane BVS (PS01) to remove and add heritage assets as described in **Section 8.7**. The updated **Appendix 8.1** can be found in **Appendix A** of this ES Addendum.

8.1.4. **Appendices 8.2** to **8.5** of the 2022 ES **(APP-087 to APP-089)** remain unchanged and valid.

8.1.5. Revision A of **Figures 8.1** to **8.3 (APP-200 to APP-202)** have been updated and superseded by Revision B as a result of the proposed design changes.

8.2. LEGISLATIVE AND POLICY FRAMEWORK

8.2.1. The legislative and policy framework for Cultural Heritage has not changed due to the proposed design changes however since the publication of the 2022 ES, there have been updates to the following relevant legislation and policies:

- Flintshire County Council Unitary Development Plan 2000-2015 has been superseded by the Flintshire Local Development Plan 2015-2030 adopted 24 January 2023

8.2.2. Therefore, **paragraph 8.2.14** of the 2022 ES **(APP-060)** should be replaced with the following text:

*Flintshire Local Development Plan 2015–2030 (**Ref. 8.31**)*

The Flintshire Local Development Plan was adopted 24 January 2023 and is in force as of the date of this report. The relevant policies are EN8–EN10.

8.2.3. No other legislative and policy framework text in **Section 8.2** of the 2022 ES **(APP-060)** are affected by the proposed design changes or updates to relevant legislation and policy since the publication of the 2022 ES, and therefore remains unchanged and valid.

8.3. SCOPING OPINION AND CONSULTATION

8.3.1. The scoping opinion has not changed, and no additional consultation has been undertaken regarding the proposed design changes in relation to Cultural Heritage.

8.3.2. No amendments to **Appendix 1.3 – Environmental Statement – Scoping Opinion Responses (APP-076)** are required in relation to Cultural Heritage due to the proposed design changes. Therefore, the text within **Section 8.3** of the 2022 ES **(APP-060)** remains unchanged and valid.

8.4. SCOPE OF THE ASSESSMENT

8.4.1. The scope of the assessment for Cultural Heritage has not changed due to the proposed design changes. Therefore, the text within **Section 8.4** of the 2022 ES **(APP-060)** remains unchanged and valid.

8.5. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

8.5.1. The assessment methodology and significance criteria for Cultural Heritage has not changed due to the proposed design changes. Therefore, there text within **Section 8.5** of the 2022 ES **(APP-060)** remains unchanged and valid.

8.6. BASELINE CONDITIONS

8.6.1. The Baseline Conditions for the Cultural Heritage assessment have changed due to the proposed design changes. Therefore, the text within **Section 8.6** of the 2022 ES relating to Designated Heritage Assets has been changed.

8.6.2. Due to the extension of the Newbuild Infrastructure Boundary to enable access to Ince AGI from the adopted highway (PS06) the number of designated heritage assets within the 1km Study Area has increased from 158 to 183.

8.6.3. **Paragraphs 8.6.4 to 8.6.6** in the 2022 ES should be replaced with the following text:

A total of 183 designated heritage assets are present within 1km of the Newbuild Infrastructure Boundary, comprise:

- *20 Scheduled Monuments;*
- *150 Listed Buildings;*
- *2 Registered Historic Parks and Gardens;*
- *1 Registered Historic Landscape; and*
- *10 Conservation Areas.*

Of these, only three designated heritage assets lie within the Newbuild Infrastructure Boundary, comprising Chester Canal Conservation Area, Thornton-le-Moors Conservation Area and the Holywell Common and the Halkyn Mountain Registered Historic Landscape (HLW (C) 2).

8.6.4. No other heritage assets included in **Section 8.6** of the 2022 ES **(APP-060)** are affected by the proposed design changes and therefore this information remains unchanged and valid.

8.7. SENSITIVE RECEPTORS

8.7.1. The relocation of Cornist Lane BVS (PS01) has removed the Pentre Halkyn Windmill (PRN 17017) from within the Newbuild Infrastructure Boundary and added two new heritage assets, Bryn-eithin farmstead (PRN 89541) and Bryn-eithin well (PRN 37999).

8.7.2. Therefore, **Table 8.5** of **Section 8.7** of the 2022 ES **(APP-060)** has changed and should be replaced with **Table 8.1**.

Table 8-1 – Sensitive Heritage Receptors

Value/Sensitivity	***Receptor***
Very High	*None*
High	***Scheduled Monument:*** *Moated site, fishpond and connecting channel, Elton (NHLE 1012122)* *Hafod Wood Moated Site (FL179)* *Bryn y Cosyn Round Barrows (FL096)* *Round Barrow 225m south-east of Plas Newydd (FL076)* *Offa's Dyke: Section N & S of the Circle on Holywell Racecourse, and Circle and Round Barrow (FL006)* *Llyn Du Round Barrow (FL189)* *Enclosure, Field System & Hollow-ways North of Pant (FL163)* ***Conservation Area:*** *Thornton le Moors Conservation Area* *Ince Conservation Area* ***Grade II* Listed Building:*** *Aston Hall (Cadw ref. 23)* ***Grade II Listed Building:*** *Grade II listed The Willows (NHLE 1229983)*

Value/Sensitivity	***Receptor***
	Grade II listed Barn 25 Metres South East of Willow Farmhouse (NHLE 1229984) *Grade II listed Sundial within the garden of The Willows (NHLE 1278832)* *Aedocular Gateway at Aston Hall (Cadw ref. 15103)* ***Non-designated Asset:*** *Whitford Dyke (106723 and 106724)* *Wat's Dyke (27061–27075)*
Medium	***Conservation Area:*** *Picton Conservation Area* *Chester Canal Conservation Area* ***Grade II Listed Building:*** *Footpath Guidepost 40 Metres North West of No 123 (NHLE 1130583)* *Church of the Holy Spirit (20115)* *Castle Hill Farm Complex (Cadw Ref. 15105 – 15110)* *Former Maltings at Swndwr Farm (Cadw ref. 575) and associated farm buildings* *Plas Moor (Cadw Ref. 15113) and L-Plan range of Farm Buildings (Cadw Ref. 15114)* *Highfield Hall (322)* *Plas-newydd (24687)* ***Non-designated Asset:*** *King's Wood Lane/Saltersway/ Military Way (2030/1, MCH1278)* *Roman Road - Chester to Wirral (Margary 670) (2010/1/0, MCH6164)*
Low	***Non-designated Asset****:* *Chester to Crewe Line (L & NWR) (2468/1/0, MCH1705)*

Value/Sensitivity	*Receptor*
	Birkenhead and Chester Line (L & NWR/GWR) (2527/1/0, MCH19851) *ROF Dunham on the Hill (4217, MCH9985)* *Ridge and Furrow Earthworks in Large Standleys and Standleys Small (15191, MCH25127)* *Sidings South of Mollington Station, Chester to Birkenhead Railway (2527/1/14, MCH1552)* *Royal Observer Corps Monitoring Post at Saughall (4135/0/2, MCH9818)* *Sealand Embankment III (34237)* *Ashfield Farm Brickworks (103787)* *Brookside Ridge and Furrow (97837)* *Chester - St Asaph Roman road (46802)* *Coal Pit Hey (99047)* *Ewloe Green Farm Colliery (103806)* *Ewloe railway (99043)* *Ewloe, Old Aston Hill, RAF Hawarden wireless station, aerial mast IV (129644)* *Ewloe, Old Aston Hill, RAF Hawarden wireless station, building II (129640)* *Hen-dyddyn Farm sand pit (85032)* *Holly House Farm Sand pits (99061)* *Little Leadbrook Farm marl pit (85035)* *Little Leadbrook Farm marl pit (85036)* *Mancot Royal strip field system (99060)* *Sandycroft boundary stone (103807)* *Bryn-eithin farmstead (89541)* *Bryn-eithin well (37999)*

Value/Sensitivity	*Receptor*
Negligible	***Non-designated Asset:*** *Hawarden find spot, finger ring (120329)*
Unknown	*Previously unrecorded buried archaeological remains*

8.7.1. Also, **Appendix 8.1 - HEDBA** of the 2022 ES **(APP-084 to APP-086)** has been updated to reflect these changes and can be seen in **Appendix A** of this ES Addendum.

8.8. DESIGN DEVELOPMENT, IMPACT AVOIDANCE, AND EMBEDDED MITIGATION

8.8.1. The design development, impact avoidance and embedded mitigation for Cultural Heritage have not changed due to the proposed design changes. Therefore, the text within **Section 8.8** of the 2022 ES **(APP-060)** remains unchanged and valid.

8.9. PRELIMINARY ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

8.9.1. The preliminary assessment of likely impacts and effects for Cultural Heritage have not changed due to the proposed design changes. Therefore, the text within **Section 8.9** of the 2022 ES **(APP-060)** remains unchanged and valid.

8.10. MITIGATION AND ENHANCEMENT MEASURES

8.10.1. The mitigation and enhancement measures for Cultural Heritage have not changed due to the proposed design changes. Therefore, the text within **Section 8.10** of the 2022 ES **(APP-060)** remains unchanged and valid.

8.11. RESIDUAL EFFECTS

8.11.1. No additional residual effects have been identified for Cultural Heritage due to the proposed design changes. Therefore, the text within **Section 8.11** of the 2022 ES **(APP-060)** remains unchanged and valid.

8.12. IN-COMBINATION CLIMATE CHANGE IMPACTS

8.12.1. There are no additional in-combination climate change impacts identified for the Cultural Heritage assessment from these proposed design changes. Therefore, the text within **Section 8.12** of the 2022 ES **(APP-060)** remains unchanged and valid.

8.13. MONITORING

8.13.1. The additional proposed design changes do not change the requirements for monitoring measures during construction. Therefore, the text within **Section 8.13** of the 2022 ES **(APP-060)** remains unchanged and valid.

8.14. CONCLUSIONS

8.14.1. The proposed design changes as set out in **Table 1.1** do not result in changes to the likely significant effects as reported in the 2022 ES (**APP-060**) for Cultural Heritage. The 2022 ES conclusions are therefore not materially changed for this topic.

8.15. REFERENCES

8.15.1. Ref. 8.31 below has been added to **Section 8.14** of the 2022 ES **(APP-060)**.

- **Ref. 8.31:** Flintshire County Council. (2023). *Flintshire Local Development Plan 2015–2030***.** Retrieved from**:** https://www.flintshire.gov.uk/en/Resident/Planning/Flintshire-Local-Development-Plan.aspx

9. BIODIVERSITY

9.1. INTRODUCTION

9.1.1. Revision A of **Chapter 9: Biodiversity (APP-061)** of the 2022 ES reports the outcome of the assessment of the likely significant effects of the DCO Proposed Development on Biodiversity. Revision A of **Chapter 9: Biodiversity (APP-061)** has been superseded by Revision B **(AS-025)** which has taken into account updated survey data that was not presented within the Revision A of **Chapter 9 Biodiversity (APP-061)**.

9.1.2. This ES Addendum chapter considers only the likely significant effects of the proposed design changes and clarifications to assessments as outlined in **Tables 1.1** and **1.2** of **Chapter I** of this ES Addendum. **Tables 1.1** and **1.2** indicates the proposed design changes that have been scoped into the assessment of likely significant effects for Biodiversity **(AS-025)**.

9.1.3. Revision A of **Appendices 9.1, 9.2**, **9.5**, **9.7, 9.8, 9.9, 9.10** and **9.11** (**APP-091** to **APP-097**, **APP-106** and **APP-108** to **APP-116**) and the **Habitats Regulations Assessment (APP-226)** have also been updated and superseded by Revision B as a result of the proposed design changes.

9.1.4. Revision B of **Appendices 9.3 (AS-027 and AS-029)**, **9.4 (AS-031, AS-033-AS-038),** and **9.6 (AS-039)** have also been updated and superseded by Revision C as a result of the proposed design changes.

9.2. LEGISLATIVE AND POLICY FRAMEWORK

9.2.1. The legislative and policy framework for Cultural Heritage has not changed due to the proposed design changes however since the publication of the 2022 ES, there have been updates to the following relevant legislation and policies:

- Flintshire County Council Unitary Development Plan 2000-2015 has been superseded by the Flintshire Local Development Plan 2015-2030 adopted 24 January 2023

9.2.2. Therefore **paragraph 9.2.43** of **Chapter 9 (AS-025)** has changed and should be replaced with the following text:

It should be noted that the FCC Local Development Plan 2015-2030 was adopted on 24 January 2023. The following current draft policies of relevance in assessing the DCO Proposed Development include:

- *STR13: Natural and Built Environment, Green Networks and Infrastructure;*
- *EN6: Sites of Biodiversity and Geodiversity Importance;*
- *EN7: Development Affecting Trees, Woodlands and Hedgerows*
- *EN11: Green Wedges*

9.2.3. The remaining text within **Section 9.2** of **Chapter 9 (AS-025)** remains unchanged and valid.

9.3. SCOPING OPINION AND CONSULTATION

9.3.1. The scoping opinion has not changed; however, additional engagement has been undertaken in relation to Biodiversity. Therefore, **Table 9.1** of **Chapter 9** (**AS-025)** requires the addition of three more rows, presented in **Table 9.1** below:

Table 9.2 - Summary of Consultation Undertaken

Body / organisation	*Meeting dates and other forms of consultation*	*Summary of outcome of discussions*
NRW & NE	*26 July 2022 Teleconference*	*A meeting was held to discuss the BNG approach and methodology for the DCO Proposed Development. This included details on survey approach, sources of habitat data, irreplaceable habitats, river condition assessment and post development assessment and offsetting. A summary of the current BNG results was provided. It was noted that the DCO Proposed Development will seek to offset loss of priority habitat on land within the same local authority boundary it was lost from, where possible, with this approach agreed with NE and NRW.*
NRW & NE	*17 November 2022 Teleconference*	*An update on the DCO Proposed Development was provided. This included an update on the surveys to be undertaken post submission, updates on project design amendments, mitigation requirements and likely future survey requirements.*
FCC & CWCC	*08 December 2022 Teleconference*	*An update on the DCO Proposed Development was provided. This included an update on the surveys to be undertaken post submission, updates on project design amendments, mitigation requirements and likely future survey requirements.*

9.4. SCOPE OF THE ASSESSMENT

9.4.1. The scope of the assessment for Biodiversity has not changed due to the proposed design changes. Therefore, the text within **Section 9.4** of **Chapter 9** (**AS-025)** remains unchanged and valid.

9.5. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

9.5.1. The assessment methodology and significance criteria for Biodiversity has not changed due to the proposed design changes. Therefore, the text within **Section 9.5** of **Chapter 9** (**AS-025)** remains unchanged and valid.

9.6. BASELINE CONDITIONS

9.6.1. The baseline conditions for Biodiversity have changed due to the proposed design changes. Therefore, the text within **Section 9.6** of **Chapter 9** (**AS-025)** has been updated.

EXISTING BASELINE

Designated Sites

9.6.2. Distances of designated sites from the Newbuild Infrastructure Boundary have changed as a result of the proposed design changes. Therefore **Table 9.6** of **Chapter 9** (**AS-025)** has changed and should be replaced with **Table 9.2** below:

Table 9.2 Summary of Statutory and Non-Statutory Designated Sites

Site name	Approximate Size (ha)	Distance from Newbuild Infrastructure Boundary	Reason For Designation
European/Internationally Designated Sites			
River Dee and Bala Lake SAC	*1,309*	*0 m – crossed by the Newbuild Infrastructure Boundary*	*The SAC is designated for its presence of sea lamprey Petromyzon marinus, brook lamprey Lampetra planeri, Atlantic salmon Salmo salar and plant species such as floating water-plantain Luronium natans.*
Deeside and Buckley Newt Sites SAC	*208*	*0 m north – shares a boundary with the Newbuild Infrastructure Boundary*	*This site in north-east Flintshire is designated for the largest populations of great crested newt in Great Britain. The site also includes European bullhead Cottus gobio, and old sessile oak Quercus petraea woods with holly Ilex sp. and hard fern species Blechnum sp.*
Halkyn Mountain (Mynydd Helygain) SAC	*611*	*248 m north*	*Halkyn Mountain includes an extensive Calaminarian grassland of Violetalia calaminariae. There is a large population of great crested newt, which breed in the abandoned quarry workings and across the site. Other Annex I qualifying habitats include European dry heaths, semi-natural dry grasslands and scrubland facies on calcareous substrates, and Molinion caeruleae meadows are also present on the calcareous, peaty or clayey-silt-laden soils.*
The Mersey Estuary SPA & Ramsar	*5,024*	*1 km north*	*The sites importance is noted regarding feeding and roosting sites for waterfowl. Golden plover Pluvialis apricaria are an Annex I qualifying species found at the site. The site is regularly used by over 20,000 waterbirds in any season.*
Dee Estuary / Aber Dyfrdwy SAC	*15,806*	*1.02 km north*	*This large site comprises an estuary, saltmarshes, mudflats and sandflats. The SAC is designated for its presence of mudflats and sandflats which during low tide are not covered by seawater. The SAC also mentions the importance of annuals, including Salicornia sp., which colonize the mud and sands within the site area. Atlantic salt meadows Glauco-Puccinellietalia maritimae form the most extensive type of saltmarsh in the Dee, helping displace vast amounts of Spartina anglica, a non-native common cordgrass. The SAC also supports Annex II species including river lamprey Lampetra fluviatilis, sea lamprey Petromyzon marinus and petalwort Petalophyllum ralfsii.*
The Dee Estuary SPA & Ramsar	*14,292*	*1.02 km north*	*The Dee Estuary is a large, sheltered estuary which is internationally important due to the number of waterfowl and waders it supports. Qualifying interests include a breeding colony of natterjack toad Bufo calamita and over 20,000 individual waterbirds each year such as redshank Tringa totanus and black-tailed godwit Limosa limosa.*
Alyn Valley Woods SAC	*167*	*5.9 km southwest*	*Characterised by three of the habitat types that are listed in Annex I of the SAC Directive: Tilio-Acerion forests of slopes, screes and ravines; alluvial forests of alder Alnus glutinosa and ash Fraxinus excelsior; and areas of semi natural dry grassland and scrubland facies on a calcareous substrate.*
Midland Meres & Mosses Phase 1 Ramsar	*511*	*8.67 km east*	*A series of 16 sites made up of nutrient-rich open water bodies with fringing habitats of reed swamp, fen, carr and damp pasture and peatlands.*
Midland Meres & Mosses Phase 2 Ramsar	*1,594*	*8.9 km east*	*A series of 18 sites made up of nutrient-rich open water bodies with fringing habitats of reed swamp, fen, carr and damp pasture and peatlands.*

Site name	Approximate Size (ha)	Distance from Newbuild Infrastructure Boundary	Reason For Designation
Nationally Designated Sites			
Afon Dyfrdwy (Wales) / River Dee (England) SSSI	1,490	0 m – crossed by the Newbuild Infrastructure Boundary	Afon Dyfrdwy (River Dee) is of special interest for its fluvial geomorphology and range of river habitat types, as well as saltmarsh transition habitats. It is also of special interest for populations of floating water plantain Luronium natans, slender hare's-ear Bupleurum tenuissimum, sea barley Hordeum marinum, hard-grass Parapholis strigosa, otter, salmon, European bullhead, brook lamprey, river lamprey Lampetra fluviatilis, sea lamprey, club-tailed dragonfly Gomphus vulgatissimus and other aquatic invertebrates. The River Dee is of special interest for Atlantic salmon for which it is one of the Environment Agency's index rivers. The Mynach, Meloch and Ceiriog tributaries are the most important salmon spawning tributaries in the Dee catchment and are included within the Afon Dyfrdwy SSSI. The lower reaches of the River Dee support Britain's only known population of the stonefly Isogenus nubecula, which is classified as vulnerable in the Red Data Book. Furthermore, the nationally scarce weevil Baris lepidii has been recorded along the lower Dee and has not been recorded on any other Welsh river.
Connah's Quay Ponds and Woodland SSSI	94	0 m north – shares a boundary with the Newbuild Infrastructure Boundary	Part of 'The Deeside and Buckley Newts Site SAC'. This site includes Broadoak Wood, Wepre Country Park, Gathering Grounds Wood and Llwyni Pond Local Nature Reserve. The site is of special interest for its population of great crested newt' its assemblage of widespread amphibian species, and for its semi-natural broadleaved woodland.
Halkyn Common and Holywell Grasslands/Comin Helygain a Glaswell Tiroedd Treffynnon SSSI	699.3	248 m northeast	Halkyn Common and Holywell Grasslands is of special interest for the mineralisation associated with the Carboniferous Limestone and cherts which is found in spoil tips and in situ exposures; open vegetation on soils rich in heavy metals; calcareous grassland; dry heath; fen meadow; base-rich flush; and populations of spring sandwort Minuartia verna and stemless thistle Cirsium acaule. An assemblage of widespread amphibian species including great crested newt are also present.
Buckley Claypits and Commons SSSI	100	540 m south	This site forms part of the Deeside and Buckley Newt Sites SAC and is notable due to its presence of great crested newt. Breeding reed bunting Emberiza schoeniclus and water vole are also present.
Flint Mountain (Mynydd Y Fflint) SSSI	26	500 m northwest	The site is of special interest for its stands of unimproved neutral grassland and semi-natural broadleaved woodland, which occur in association with scrub, fen-meadow and swamp vegetation. Notable species include pale flax Linum bienne, restharrow Ononis repens, figwort Scrophularia nodosa and hemp agrimony Eupatorium cannabinum.
Maes Y Grug SSSI	18	870 m south	The site is of special interest for its population of great crested newt and forms part of the Deeside and Buckley Newts Site SAC. Habitats comprise a mosaic of grassland, scrub and woodland habitats surrounding waterbodies that have been managed or allowed to develop naturally.
Mersey Estuary SSSI	6,715	1.1 km north	The Mersey Estuary is an internationally important site for wildfowl and consists of large areas of intertidal sand and mudflats. The site also includes an area of reclaimed marshland, saltmarshes, brackish marshes and boulder clay cliffs with freshwater seepages. Notable species include curlew Numenius arquata and golden plover.
Dee Estuary SSSI	13,680	1.02 km north	The Dee Estuary is a large, sheltered estuary which is internationally important due to the number of waterfowl and waders it supports. Habitats include intertidal mud and sandflats, rocky sandstone cliffs of Hilbre Island and Middle Eye with species

Site name	Approximate Size (ha)	Distance from Newbuild Infrastructure Boundary	Reason For Designation
			including sandhill rustic moth Luperina nickerlii gueneei, a Red Data Book species. River lamprey, sea lamprey and European smelt Osmerus eperlanus are also of note.
Parc Linden SSSI	*10.2*	*1.2 km southeast*	*Parc Linden is an area of enclosed pasture located close to the village of Lixwm on a shallow glacial drift over carboniferous limestone. The site supports unimproved calcareous grassland, acid grassland, limestone pavement, bracken Pteridium aquilinum and scrub. Parc Linden is of special interest for its unimproved calcareous grassland which is the best-known example of its type in Clwyd (Flintshire). A small partially wooded limestone pavement occurs in the northern part of the site.*
Gathering Grounds Woods & Llwyni Pond Local Nature Reserve LNR	*3*	*1.2 km north*	*This site is within the Connah's Quay Ponds and Woodland SSSI and The Deeside and Buckley Newts Site SAC.* *The site is notable due to the presence of great crested newt.* *Other species include, badger, field vole Microtus agrestis, blue tit Cyanistes caeruleus, chaffinch Fringilla coelebs, tawny owl Strix aluco, redwing Turdus iliacus and dunnock Prunella modularis.*
Coed Trefraith SSSI	*11*	*1.4 km southwest*	*Designated for its botanical interest. One of the best examples in Clwyd (Flintshire) of a woodland type found mainly in Wales and south-west England but also in the Midlands and north-east England. In north Wales the majority of the examples are in Clwyd at low altitudes, the remainder being in West Gwynedd.*
Parc Bodlondeb and Gwenallt-Parc SSSI	*17.5*	*2.0 km south*	*Parc Bodlondeb and Gwenallt-Parc is an area of enclosed pasture located close to the village of Lixwm, on a shallow glacial drift over Carboniferous Limestone. The site supports a mosaic of unimproved calcareous, acid and neutral grasslands together with limestone heath and stands of bracken, scrub and broadleaved woodland. It is of special interest for its unimproved calcareous grassland, limestone heath and species-rich acid grassland. All these types have highly localised national distributions. Additional interest is provided by the neutral grassland, scrub and woodland communities.*
Non-Statutory Designated Sites			
England			
Frodsham Helsby and Ince Marshes LWS	*1,150*	*0 m – within the Newbuild Infrastructure Boundary*	*An extensive area of coastal floodplain, used for agricultural purposes. The wider landscape includes Ince Banks and the Mersey Estuary SPA and Ramsar to the north. The site provides a mosaic of habitats including grassland, a complex ditch system, semi-natural plantation woodland, scrub, tall ruderal vegetation, hedgerows, reed beds and an area of developing saltmarsh. It is of county, national and international ornithological importance for breeding, wintering and passage species. It is also of botanical interest at county and national levels, with yellow-vetch Vicia lutea, a nationally scarce species, recorded. There is a good-sized water vole population within the ditch system.*
Saughall Bank LWS	*3.80*	*0 m– within the Newbuild Infrastructure Boundary*	*Species-rich grassland on the south-west facing old bank of the River Dee over 2km from the river, containing plants rare in Cheshire including restharrow, agrimony Agrimonia sp., and dyer's greenweed Genista tinctoria.*

Site name	Approximate Size (ha)	Distance from Newbuild Infrastructure Boundary	Reason For Designation
Shropshire Union Canal (Main Line) LWS	14.12	0 m– within the Newbuild Infrastructure Boundary	A 1.9km length of the Shropshire Union Canal main line, south-east of Huxley between Williamson's Bridge and Bate's Mill Bridge, including the canal, towpath and boundary hedgerows. Bird species recorded include yellowhammer Emberiza citrinella, chaffinch, house martin Delichon urbicum and great spotted woodpecker Dendrocopos major.
Gowy Meadows and Ditches LWS	193	0 m– within the Newbuild Infrastructure Boundary	A large group of fields with an interconnecting ditch system which is part of the eastern floodplain of the River Gowy. Some areas of good semi-improved, neutral and marshy grassland. Native black poplar Populus nigra is present and the ditches in particular are of high conservation value, supporting rare/scarce flora and a water vole population. The site is of significant ornithological interest, supporting a number of red and amber list species and breeding snipe Gallinago gallinago.
Wood West of Crabwell Manor LWS	0.94	0 m– within the Newbuild Infrastructure Boundary	A narrow strip of broadleaved woodland along a stream. The canopy consists of ash, pedunculate oak, sycamore Acer pseudoplatanus and beech Fagus sylvatica, with an understory of hawthorn Crataegus monogyna, hazel, field-rose Rosa arvensis and wild cherry Prunus avium. Common ground flora species are present, such as bramble Rubus fruticosus, common nettle Urtica dioica and wood avens Geum urbanum.
Collinge Wood & Meadow LWS	4.67	5 m south	Two adjoining areas of woodland and a wet meadow with reed bed, adjacent to the Shropshire Union Canal. Silver birch Betula pendula is abundant in the woodland, with pedunculate oak and sycamore. Wetland species in the meadow include gipsywort Lycopus europaeus, common marsh bedstraw Galium palustre, wild angelica Angelica sylvestris and yellow iris Iris pseudacorus.
Chester Zoo (Butterhill – Millenium Cycle Route) LWS	0.89	14 m west	A section of the Millenium Cycle Way between Butter Hill and Chester Zoo, comprising of a surfaced track/cycle route with a steep hedge bank in the northern section and deep ditches along the southern section. Common tree and shrub species line the track, including sessile and pedunculate oak, ash Fraxinus excelsior, hawthorn Crataegus monogyna and hazel Corylus avellana. In the ditches hard shield fern Polystichum aculeatum and greater burdock Arctium lappa are present, which are locally scare species, along with ground flora such as yellow iris, brooklime Veronica beccabunga, duckweed Lemna minor and red campion Silene dioica.
Shropshire Union Canal (Little Stanley to Waverton) LWS	4.6	15 m south	A long section of canal passing through Chester and ending near Ellesmere Port. The section between bridges 138 and 141 is of greatest botanical interest, with hedgerows, extensive marginal-emergent vegetation, aquatic vegetation and other wetland flora species.
Lea by Backford Railway Cutting LWS	3.20	34 m north	A narrow strip of regenerating mixed woodland, scrub and neutral grassland north-east of Mollington. Contains notable species for Cheshire, including agrimony, yellow wort Blackstonia perfoliata and common spotted orchid Dactylorhiza fuchsii.
Viaduct Wood LWS	2.34	40 m south	A narrow section of woodland on the slopes of a brook, adjacent to the Chester to Liverpool Railway line. Canopy and shrub layer consists of common woodland species such as beech, hazel, field rose Rosa arvensis and bramble. Ground flora includes wood anemone Anemone nemorosa, bluebell Hyacinthoides non-scripta, and common dog violet Viola riviniana.
Wervin Meadows LWS	35.83	57 m north	Predominantly a grazed floodplain adjacent to the River Gowy, consisting of a mosaic of grassland, wetland and tall ruderal vegetation with numerous ditches. The grassland provides important habitat for ground nesting birds, in particular lapwing Vanellus vanellus. The ditches and wet areas are botanically rich. The site supports brown hare.

Site name	Approximate Size (ha)	Distance from Newbuild Infrastructure Boundary	Reason For Designation
Chester Zoo Ponds LWS	0.35	108 m south from closest pond	A cluster of seven ponds within permanent pasture, grazed by cattle. Important in the wider region due to supporting aquatic invertebrates and rare plants, including 24 wetland indicator species and regionally rare species.
Canal Wood LWS	3.6	270 m south	The site lies several metres below the Shropshire Union Canal and comprises of woodland, wet grassland, swamp and drainage ditches. The canopy and shrub layer consist of common woodland species such as sycamore, oak, hawthorn and elder Sambucus nigra. Wood melick Melica uniflora, an Ancient Woodland indicator species in Cheshire, is present in the ground flora. The grassland is of varying quality and is more diverse to the south.
Station Road Railway Site LWS	0.5	270 m north	An area of open mosaic habitat at a disused former railway site. Reptiles are present in the vicinity.
Backford Brook Fields LWS	8.15	283 m north	A section of Backford Brook Valley. Species within the grassland include cat's-ear Hypochaeris radicata, selfheal Prunella vulgaris, yarrow Achillea millefolium and pignut Conopodium majus. There is a large mature black poplar along the brook's banks. There is a pond within the site, with common bird's-foot-trefoil Lotus corniculatus nearby.
Picton Green Lane LWS	0.92	290 m southeast	An area of damp neutral unimproved grassland and adjacent green lane, with a gully leading to a spring and associated wet flush. Scattered trees present include crack Salix fragilis and goat Salix caprea willow, ash and crab apple Malus sylvestris. In the flush species include marsh marigold Caltha palustris and black knapweed Centaurea nigra, and in the grassland ragged-robin Lychnis flos-cuculi, glaucous sedge Carex flacca and meadowsweet Filipendula ulmaria are present.
The Greenway Millenium Cycle Route LWS	11.4	350 m southeast	A section of the Millenium Cycle Way between Blacon and Newton which was a former railway line. The site consists of a surfaced track/cycle route with amenity grassland and planted trees. Grassland flora of note include tor-grass Brachypodium pinnatum and thrift Armeria maritima, which are locally rare and scarce species, respectively.
Blacon Escarpment Wood LWS	11.2	520 m southeast	An area of broadleaved woodland along the old sea cliffs of the Dee Estuary. The woodland canopy includes ash, sycamore and pedunculate oak, with understory of hawthorn and hazel.
Hoblane Ponds LWS	0.30	670 m east	A series of small ponds north of Cottage Farm, west of Dunham on the Hill. Notable species within the ponds include water forget-me-not Myosotis scorpioides, tubular water dropwort Oenanthe fistulosa L., greater spearwort Ranunculus lingua, yellow iris and marsh figwort Scrophularia auriculata.
Bridge Trafford North LWS	13.3	750 m east	The site consists of planted woodland, ponds, grassland and tall ruderal vegetation, as well as scrub and a small area of swamp. The site is adjacent to the River Gowy. The woodland has abundant ash and field maple Acer campestre, with spindle Euonymus europaeus (a locally scarce species). Bulrush Typha latifolia is present in the wetland area, and the grassland supports flora such as ribwort plantain Plantago lanceolata, red clover Trifolium pratense and black medick Medicago lupulina. Bird species present include Bullfinch Pyrrhula pyrrhula.
Old river Dee Escarpment LWS	16.28	770 m northwest	A mosaic of habitats including broadleaved semi-natural woodland, broadleaved plantation, scrub, semi-improved neutral grassland, running water and an area of marsh. A strip of woodland in the south-east has some Ancient Woodland indicator species such as wood melick, wood sedge Carex sylvatica, soft shield fern Polystichum setiferum, sanicle Sanicula europaea, bluebell, wood millet Milium effusum and common dog violet.

Site name	Approximate Size (ha)	Distance from Newbuild Infrastructure Boundary	Reason For Designation
Field North of Hadrian Drive LWS	4.20	800 m southeast	A shallow valley with a stream, consisting of several fields, hedgerows and a pond. Grassland quality varies but the presence of thrift, a locally scarce species, is notable.
Knolls Bridge Fields	11.31	890 m south	Site includes restorable grassland, fens, swamps, bogs and reedbeds, wildlife corridors and is accessible natural greenspace.
Wales			
Leadbrook Wood WS	35.1	0 m – within the Newbuild Infrastructure Boundary	Semi-natural broad-leaved woodland occupying the dingles in which the Lead Brook and its tributaries flow. In several areas drainage is impeded. The woodland canopy is mainly dominated by ash and sycamore with some oak alder, beech, common lime Tilia x europaea and silver birch. The shrub layer has abundant holly, hazel and wych elm Ulmus glabra. Near Ty'n-y-coed there is semi-improved and species-rich marshy grassland, with oval sedge Carex leporina, ragged-robin and common spotted orchid.
Brook Park Farm Wood WS	6.7	0 m – within the Newbuild Infrastructure Boundary	Semi-natural broadleaved woodland and mixed broadleaved and coniferous plantation along a stream valley. The mixed woodland includes sycamore, larch Larix decidua and Corsican pine Pinus nigra with a shrub layer of wych elm, elder, blackthorn Prunus spinosa and hazel. The herb layer has bluebell, wood avens, great wood-rush Luzula sylvatica and common centaury Centaurium erythraea. Ash and sycamore dominate the broadleaved canopy with some oak, holly and wild cherry.
Coed y Cra WS	44.9	0 m – within the Newbuild Infrastructure Boundary	Large woodland along the Nant y Fflint and its tributaries, comprising semi-natural broadleaved woodland, mixed and conifer plantation. Part of the wood at the north-west end is wet and the canopy is dominated by ash and alder and some goat willow. Here the ground flora is rich with marsh marigold, yellow flag, meadowsweet and horsetails. The majority of the wood is mixed woodland with conifers, sycamore, oak, silver birch, sweet chestnut Castanea sativa, wild cherry, hornbeam Carpinus betulus, beech and poplar Populus sp. The understorey is generally sparse with hazel, holly, hawthorn and elder with patches of laurel Laurus sp. and rhododendron Rhododendron ponticum. In part of Coed y Felin there is an open wet grassland with common spotted orchid, meadowsweet, marsh valerian Valeriana dioica, bugle Ajuga reptans and horsetail.
New Inn Brook Wood WS	4.8	Shares a boundary with the Newbuild Infrastructure Boundary	Semi-natural broadleaved woodland in the steep side valley of the New Inn Brook. Parts of the woodland are wet. The woodland canopy is dominated by ash and sycamore with occasional poplar and alder. There is a small patch of larch. The shrub layer has abundant hazel and elder with some hawthorn and holly. The rich herb layer has frequent male fern Dryopteris filix-mas, wood avens, yellow archangel Lamium galeobdolon, tufted hair-grass Dechampsia cespitosa, ramsons Allium ursinum, bryophytes and ivy Hedera helix with occasional hart's-tongue fern Asplenium scolopendruim, dog's mercury Mercurialis perennis, bluebell and wood anemone.
Aston Wetland WS	4.0	9 m north	Level triangular site of willow Salix sp. scrub with marshy grassland mosaic with patches of tall herb fen and birch trees along the railway. The area of scattered grey willow Salix cinerea and downy birch Betula pubescens is species-rich with common spotted orchid, black knapweed, ragged-robin, greater bird's-foot trefoil Lotus penduculatus, carnation sedge Carex panicea, fleabane Pulicaria dysenterica and marsh pennywort Hydrocotyle vulgaris. The patches of tall herb are dominated by great willow herb Epilobium hirsutum, giant horsetail Equisetum telmateia and hemp agrimony. Two sides of the site are bounded by a steep embankment with hawthorn, elder, nettle, bramble, rosebay willowherb Chamerion angustifolium and cleavers Galium aparine.
Warred Wood WS	14.2	41 m south	Site comprises broadleaved semi-natural woodland, coniferous plantation and mixed plantation woodland.

Site name	Approximate Size (ha)	Distance from Newbuild Infrastructure Boundary	Reason For Designation
Cobbler's and Stoneybeach Woods	*12.5*	*141 m south*	*An elongated narrow stand of semi-natural broad-leaved woodland in the steep-sided valleys of Alltami Brook and two of its tributaries. Oak, ash and sycamore are the dominant canopy trees with some birch and willow. In the shrub layer there are dense patches of holly with elder, hazel, elm and sycamore saplings. Broad buckler fern Dryopteris dilatata, opposite-leaved golden saxifrage Chrysosplenium oppositifolium, bramble, yellow archangel, wood avens and bryophytes are abundant in the species-rich herb layer.*
Sea View Wetland WS	*2.3*	*190 m northwest*	*Wetland habitat with stands of common reed Phragmites australis and bare ground where floating sweet-grass Glyceria fluitans and toad rush Juncus bufonius have colonised. Marshy grassland habitat is present with frequent glaucous and hairy sedge Carex hirta, sweet vernal grass Anthoxanthum odoratum and common spotted orchid.*
Coed Cae-Crwn	*18.0*	*360 m east*	*Broad-leaved woodland, conifer plantation and mixed plantation with a marshy grassland. Coed Cae-crwn has a canopy of mainly beech and sycamore with locally frequent sweet chestnut and an area of coniferous plantation. The shrub layer is sparse comprising mainly elder and the ground layer is dominated by bramble with frequent broad buckler fern, bracken, wood sorrel Oxalis acetosella, rosebay willowherb and raspberry Rubus idaeus. Coed Bryn-eithin is on a gentle north facing slope with some wet areas. This mixed woodland has a canopy of mainly larch, fir and sycamore with some ash, alder and oak. The shrub layer is elder with some holly. The herb layer comprises frequent bluebell, bracken, soft grass, bramble, wood sorrel and dog's mercury. Along the northern edge of Coed Bryn-eithin is a marshy grassland dominated by soft rush Juncus effusus with marsh bedstraw, ragged-robin, compact rush Juncus conglomeratus, greater bird's-foot trefoil and cuckooflower Cardamine pratensis.*
Llwyn-onn	*1.0*	*460 m west*	*A complex site consisting of woodland, neutral grassland, scrub and marsh on the slopes of a stream valley. The grassland is semi-improved and has abundant sweet vernal grass, crested dog's-tail and red fescue. Herbs present include field wood-rush, bulbous buttercup Ranunculus bulbosus and bird's-foot trefoil. Dense scrub with some woodland plants borders the grassland. The marsh is situated at the bottom of the valley and is botanically very rich. Sweet-grass, fool's water-cress Helosciadium nodiflorum, Yorkshire fog Holcus lanatus, marsh horsetail Equisetum palustre and meadowsweet are common here with common fleabane, bog stitchwort Stellaria alsine and water mint Mentha aquatica occurring. These marshy species continue into the wet woodland. This habitat is dominated by alder with some willow in the understorey. Other species found in the wet woodland include valerian Valeriana sp. and remote sedge Carex remota. On the slopes the woodland is dry and bluebell, wood anemone, pignut and yellow archangel are found.*
Coed Ffrith	*8.2*	*535 m north*	*Elongated, semi-natural broad-leaved woodland on the slopes of a stream valley. The woodland canopy is dominated by sycamore with some oak and ash occurring. Wych elm and holly are frequent in the shrub layer with hawthorn abundant in the areas influenced by grazing. The field layer has also been affected by grazing but still retains its diversity. Ramsons, bluebell and lesser celandine Ficaria verna are copious within this layer. Woodruff Galium odoratum, moschatel Adoxa moschatellina, tufted hair-grass and pignut can also be found on the site.*
Pentre Moch Pond	*2.6*	*645 m north*	*Small swamp and pond. The swamp is dominated by greater reedmace Typha latifolia and tufted sedge Carex lenticularis. The hedges around the swamp are formed by hawthorn, blackthorn, elder, willow and sessile oak. Nearby is a small pond surrounded by oak trees with a woodland flora.*

Site name	Approximate Size (ha)	Distance from Newbuild Infrastructure Boundary	Reason For Designation
Soughton Hall & Gorse Wood Ponds	*72.9*	*680 m west*	*Over mature common lime, oak, sweet chestnut, ash, sycamore and horse chestnut Aesculus hippocastanum, with occasional dead fallen and hollow trees. Includes two small ponds on the edge of woodland. The ponds are of importance to amphibians, especially great crested newts. The site includes a fringe of woodland and grassland habitat as foraging area.*
Cornist Wood WS	*4.1*	*720 m east*	*Broadleaved and mixed woodland in a steep sided stream valley with a pond. The northern part of woodland is predominately beech with some oak and larch, whereas the southern part of the wood is dominated by sycamore with some ash. The shrub layer is mainly elder, holly and hazel with some field maple and wild cherry. The ground flora is predominantly ivy, bramble, dog's mercury, wood melick, nettle and ferns. The wood has been severed by a trackway.*
Engineer Park	*1.0*	*855 m west*	*Part of old River Dee wildlife site. Semi-improved neutral grassland with scrub, with saltmarsh grading into intertidal mud.*

Habitats

9.6.3. The proposed design changes have changed the cumulative areas and extents of habitat types within the Newbuild Infrastructure Boundary reported in **Chapter 9 (AS-025)**. Therefore, **paragraphs 9.6.14**, **9.6.16** and **Table 9.7** of **Chapter 9 (AS-025)** has changed and should be replaced with the following text respectively and **Table 9.3**.

Excluding linear features such as hedgerows, non HPI/BAP habitats form the majority of habitat types within the Newbuild Infrastructure Boundary, which is dominated by an agricultural landscape comprising arable farmland (34.14%), improved grassland (38.76%), poor semi-improved grassland (9.07%) and neutral semi-improved grassland (3.49%).

*Four HPIs, as identified through the provision of the NERC Act (Section 41) (**Ref. 9.5**), were identified as part of the DCO Proposed Development. Pockets of woodland are present across the landscape, invariably in small aggregations. Ancient Woodland and woodland considered to be Annex I habitat is located within the Newbuild Infrastructure Boundary in discrete locations (Alltami Brook, and Northop Hall). Marshy grassland was located within the Newbuild Infrastructure Boundary, and although not a HPI or BAP habitat, forms part of the coastal and floodplain grazing marsh HPI associated with the Gowy Meadows and Ditches LWS.*

Table 9.3 Habitats within the Newbuild Infrastructure Boundary and their Importance

Habitat	***HPI / BAP***	***Area (Ha) or Length (km)***	***Approximate Area (% of overall Newbuild Infrastructure Boundary)***
Broad-leaved semi-natural woodland	✓	*3.60ha*	*0.79*
Broad-leaved plantation woodland		*3.27ha*	*0.72*
Mixed semi-natural woodland		*7.35ha*	*1.61*
Mixed plantation woodland		*0.37ha*	*0.08*
Scattered broadleaved and coniferous trees		*0.54ha*	*0.12*

Habitat	*HPI / BAP*	*Area (Ha) or Length (km)*	*Approximate Area (% of overall Newbuild Infrastructure Boundary)*
Standing water (for example, ponds) and canals	✓	*1.18ha*	*0.26*
Running water (for example, ditches, rivers, and streams)	✓	*2.15ha*	*0.47*
Ephemeral short perennial		*0.01ha*	*0.00*
Arable		*155.93ha*	*34.14*
Poor semi-improved grassland		*41.43ha*	*9.07*
Improved grassland		*177.04ha*	*38.76*
Neutral unimproved grassland		*0.84ha*	*0.18*
Neutral semi-improved grassland		*15.93ha*	*3.49*
Marshy grassland		*7.89ha*	*1.73*
Dense/continuous scrub		*5.16ha*	*1.13*
Scattered scrub		*1.90ha*	*0.42*
Continuous bracken		*0.002ha*	*0.00*
Tall ruderal		*1.94ha*	*0.42*
Introduced shrub		*0.007ha*	*0.00*
Amenity grassland		*1.89ha*	*0.41*
Buildings		*1.49ha*	*0.33*
Bare ground		*2.71ha*	*0.59*

Habitat	*HPI / BAP*	*Area (Ha) or Length (km)*	*Approximate Area (% of overall Newbuild Infrastructure Boundary)*
Other habitat		*2.42ha*	*0.53*
Hardstanding		*21.67ha*	*4.74*
Scattered scrub		*0.25km*	*-*
Line of trees – broadleaved		*3.18km*	*-*
Line of trees – coniferous		*0.30km*	*-*
Line of trees – mixed		*0.03km*	*-*
Running water (for example, ditches, rivers, and streams)	✓	*6.34km*	*-*
Intact hedge species rich	✓	*3.68km*	*-*
Intact hedge species poor	✓	*17.3km*	*-*
Defunct hedge species rich	✓	*0.54km*	*-*
Defunct hedge species poor	✓	*4.57km*	*-*
Hedge with trees species rich	✓	*3.03km*	*-*
Hedge with trees species poor	✓	*7.57km*	*-*
Fence		*8.81km*	*-*

Habitat	*HPI / BAP*	*Area (Ha) or Length (km)*	*Approximate Area (% of overall Newbuild Infrastructure Boundary)*
Dry ditch		*3.53km*	*-*
Earth bank		*0.17km*	

Aquatic Habitat

9.6.4. Additional surveys have taken place, therefore the dates included for the Aquatic habitat walkover assessments have changed from those reported in **Chapter 9 (AS-025)**. Therefore, **paragraph 9.6.21** of **Chapter 9 (AS-025)** has changed and should be replaced with the following text:

*Aquatic habitat walkover assessments were completed from April 2021 to December 2022 (detailed within **Appendix 9.9 – Aquatic Ecology (Watercourses) Survey Report, (Volume III) (Revision B).** These assessments form the preliminary phase of the aquatic ecology surveys and were used to characterise watercourses and identify further survey requirements. A total of 70 initial aquatic habitat walkover assessments have been completed of watercourses across the Newbuild Infrastructure Boundary.*

Species

9.6.5. Species-specific surveys were undertaken in December 2022 to obtain updated baseline information in response to the proposed design changes to determine the presence, or otherwise, of protected and notable species within the Newbuild Infrastructure Boundary. Full methodologies and updated results of each receptor surveyed are detailed within **Appendices 9.1** to **9.10.**

9.6.6. The results of these surveys have changed **Table 9.8** of **Chapter 9 (AS-025)** and should be replaced with **Table 9.4** below.

9.6.7. No other baseline conditions for Biodiversity included in **Section 9.6** of **Chapter 9 (AS-025)** are affected by the proposed design changes and therefore this section remains unchanged and valid.

Table 9.4 Summary of Species Survey Results

Receptor	Desk Study and Field Study Results Summary	Rationale for Valuation	Importance	Relevant Appendix
Great crested newt	***Desk Study*** *The desk study identified 174 records of GCN in England, and 810 in Wales during the last 10 years. The closest record was located 84 m southeast of the Newbuild Infrastructure Boundary.* *A total of 220 waterbodies were identified within 250 m of the Newbuild Infrastructure Boundary. These were identified from aerial imagery, OS Mapping and during Phase 1 Habitat Surveys. An additional two waterbodies were identified outside the Survey Area and scoped into the assessment.* ***Field Survey*** *Habitat Suitability Index (HSI) assessments have been carried out on 147 of waterbodies and ranged from Poor to Excellent.* *eDNA surveys were completed on 11 waterbodies in 2021 with two returning as positive for the presence of GCN.* *Presence / likely absence surveys of 56 waterbodies were completed.* *Sixteen waterbodies were subject to a population size class assessment. Fourteen waterbodies were found to have a small population of GCN (of which 5 are within England and 9 in Wales), and two waterbodies (both in Wales) contained a medium GCN population.* *In total, GCN presence has been confirmed within 17 waterbodies: 6 waterbodies in England and 11 waterbodies in Wales.* *Where ponds were not able to be surveyed for a minimum of 4 visits, due to access restrictions, in Wales or in the England Red Risk Zone, the likely presence of GCN was assessed using a precautionary approach. Eleven waterbodies were precautionarily assessed as having GCN presence. This was applicable to 5 waterbodies in England and 6 in Wales.*	*GCN are afforded protection under the Habitats Regulations (**Ref. 9.1**) and WCA (**Ref. 9.2**). GCN are also afforded additional consideration under the NERC Act (**Ref. 9.5**)* *GCN presence was recorded within 11 ponds in Wales and 6 ponds within the red risk zone in England. A further 11 waterbodies were precautionarily assessed as having GCN presence (5 waterbodies in England and 6 in Wales). Given the proximity of Chester Zoo Ponds LWS and the Deeside and Buckley Newt SAC to the Newbuild Infrastructure Boundary the potential for GCN to use habitats within the Newbuild Infrastructure Boundary as functionally linked habitat has been considered.* *The valuation has taken into account the presence of international designated sites, the presence of suitable habitat within the Newbuild Infrastructure boundary and within the wider landscape and the consideration of GCN movement through the landscape.*	*National*	***Appendix 9.2 - Great Crested Newt Survey Report (Volume III) (Revision B)***
Bats – Roosting	***Desk Study*** *The desk study returned 192 records of bats in England, of which eight records pertained to confirmed bat roosts during the last 10 years, the closest being 590 m southeast of the Newbuild Infrastructure Boundary and pertained to a soprano pipistrelle Pipistrellus pygmaeus roost, however, the roost type is unknown.* *In Wales, 163 records were returned, of which 18 records pertained to confirmed bat roosts during the last 10 years, the*	*All bat species in the UK are principally afforded protection under the Habitats Regulations (**Ref. 9.1**) and WCA (**Ref. 9.2**). Certain bat species are also afforded additional consideration under the NERC Act (**Ref. 9.5**).*	*Common pipistrelle – Local* *Soprano pipistrelle – Local* *Noctule – Local* *Brown long-eared bat – Local*	***Appendix 9.3 – Bat Activity Survey Report (Volume III) (Revision C)***

Receptor	Desk Study and Field Study Results Summary	Rationale for Valuation	Importance	Relevant Appendix

	closest roost record was 80 m east of the Newbuild Infrastructure Boundary and pertained to a day roost of two common pipistrelles a single soprano pipistrelle and a single lesser horseshoe bat Rhinolophus hipposideros.
	
	Field Survey
	Preliminary Bat Roost Assessment (PBRA) surveys identified trees and structures with suitability to support roosting bats by virtue of the features present within the Newbuild Infrastructure Boundary. Those identified with potential to support roosting bats were subject to further assessment through either aerial tree climb inspections, dusk emergence and/or dawn re-entry surveys, or a combination of the two methods, appropriate to the level of potential determined during the PBRA survey.
	A total of 90 structures were identified within the Newbuild Infrastructure Boundary, of which 79 recorded as Negligible, 6 with Low suitability, four with Moderate suitability and one with high suitability.
	Additionally, a total of 427 trees were identified within the Newbuild Infrastructure Boundary, of which 202 were of Low suitability, 192 of Moderate suitability and 33 of high suitability.
	Of those, 86 trees were subjected to aerial tree climb inspection surveys, with updated suitability as follows:
	- *234 trees with Low suitability;*
	- *140 trees with Moderate suitability;*
	- *31 trees with High suitability*
	Twenty confirmed roosts have been recorded to date through further surveys, comprising:
	- *B97 (single common pipistrelle Pipistrellus pipistrellus day roost)*
	- *B113 (single common pipistrelle day roost).*
	- *B133 (Four common pipistrelles and three soprano pipistrelles day roost)*
	- *Seventeen tree roosts comprising;*
	  - *T1 (single common pipistrelle potential day roost);*
	  - *T49 (single soprano pipistrelle day roost);*
	  - *T70 (single soprano pipistrelle day roost);*
		*As per the Bat Conservation Trust (BCT) Species Factsheet (**Ref. 9.53**), common pipistrelle are Britain's commonest bat species, being widely distributed across the UK. The population of common pipistrelle are considered to have increased from baseline levels in 1999 (**Ref. 9.54**) across the UK. Wray et al (**Ref. 9.50**) classify common pipistrelle as common in both England and Wales with roosts attributed a local valuation.*
		*Soprano pipistrelle are widely distributed across the UK and alongside the common pipistrelle are considered one of Britain's commonest species, with the population stable within the UK (**Ref. 9.55**). Wray et al (**Ref. 9.50**) classify soprano pipistrelle as common in both England and Wales with roosts attributed a local valuation.*
		*Noctule are considered relatively common and widespread across England and Wales (**Ref. 9.56**) with the population considered to be stable with the UK (**Ref. 9.54**). Wray et al (Ref. 9.50) classify noctule as rarer in England and rarest in Wales with roosts attributed a regional valuation.*
		*Brown long-eared bat are considered common and widespread across England and Wales (**Ref. 9.57**) with the population considered to be stable within England and to have increased in Wales (**Ref. 9.54**). Wray et al (**Ref. 9.50**) classify brown long-eared bat as common*
			Myotis species. - Local	

Receptor	Desk Study and Field Study Results Summary	Rationale for Valuation	Importance	Relevant Appendix
	○ *T111 (single common pipistrelle and single Myotis sp. day roost);* ○ *T159 (single soprano pipistrelle day roost);* ○ *T190 (single common pipistrelle day roost);* ○ *T200 (single soprano pipistrelle day roost);* ○ *T220 (single common pipistrelle day roost);* ○ *T234 (single soprano pipistrelle day roost);* ○ *T238 (two soprano pipistrelle's day roost);* ○ *T283 (single common pipistrelle day roost);* ○ *T321 (noctule Nyctulus noctula maternity roost).* ○ *T325 (potential brown long-eared Plecotus auritus bat day roost along the tree line associated with T325, T326 and T327);* ○ *T326 (potential brown long-eared bat day roost along the tree line associated with T325, T326 and T327);* ○ *T327 (potential brown long-eared bat day roost along the tree line associated with T325, T326 and T327);* ○ *T365 (single common pipistrelle day roost);* ○ *T371 (single common pipistrelle day roost);* *Where structures and trees were not subjected to a full suite of dusk emergence and dawn re-entry surveys, due to access restrictions, the likely presence of a bat roost was assumed using a precautionary approach. Five structures and 35 trees were precautionarily assessed as a bat roost, comprising;* - *B79, B80, B125, B126, and B127; and* - *T4, T11, T13, T16, T17, T18, T25, T26, T27, T28, T34, T36, T37, T165, T230, T265, T349, T376, T377, T419, T422 – T431, T435, T491, T495, T496 and T499.* *Taking into consideration the known species and roost types identified across the DCO Proposed Development, inferences can be made on the likelihood of a similar mix of species and roost types likely found within the 35 trees and 5 buildings assessed precautionarily to contain a roost. These would primarily comprise day roosts of common species such as common pipistrelle and soprano pipistrelle, with the potential occurrence of a single maternity roost of a common species. Consideration is given to the likelihood of an Annex II species*	*in England and rarer in Wales with roosts attributed valuations of local and regional, respectively.* *Myotis species (Daubenton's bat Myotis daubentonii, Brandt's bat Myotis brandtii, whiskered bat Myotis mystacinus, Natterer's bat Myotis nattereri) are widespread across England and Wales with populations considered to be stable across both England and Wales for Daubenton's bat, whiskered bat and Brandt's bat. The Natterer's bat population is considered to have increased in both England and Wales since 1999 (**Ref. 9.54**). Wray et al (**Ref. 9.50**) classify Myotis species as rarer in England and Wales and a value of County is attributed to Myotis species roosts in England and Wales. However, given the landscape contains a myriad of suitable potential roosting locations, in the form of trees and buildings across the landscape, suitable roosting provision is available. On this basis, a valuation of Local is attributed to Myotis sp.* *A number of bat roosts have been identified within the Newbuild Infrastructure Boundary, primarily associated with roosts comprising small numbers of common bat species, but also including the presence of a noctule maternity roost. Roosts of common species (pipistrelle species and brown long-eared bat) are of a Local value, and maternity roosts of noctule species are categorised as*		

Receptor	Desk Study and Field Study Results Summary	Rationale for Valuation	Importance	Relevant Appendix
	significant roost within structures; however, no building was identified with potential roosting features suitable for Annex II species such as lesser horseshoe bats.	*Regional value according to Wray et al (**Ref. 9.50**).* *The extent of features identified with suitability to support roosting bats across the Newbuild Infrastructure Boundary has also been taken into account as part of each species valuation. Given the common and widespread occurrence of noctule within the Newbuild Infrastructure Boundary it is considered appropriate to attribute noctule a value of Local. As the wider landscape contains habitats of similar type and quality, it is anticipated that an extensive range of features suitable to support roosting bats is present within the wider landscape beyond the Newbuild Infrastructure Boundary. Similarly, whilst brown long-eared bats are attributed Regional value within Wray, given the abundance of potential roost opportunities within the wider landscape a value of Local is considered proportionate.*		
Bats – Foraging and Commuting	*As part of the novel methodology (**paragraph 9.5.10**) to assess impacts to hedgerows and movement of bats, hedgerows were initially assessed and categorised as either 'Poor', 'Good' or 'Excellent'. Eighty-two 'Poor', 250 'Good' and 23 'Excellent' hedgerows were initially recorded. Hedgerows were subsequently individually assessed and, where appropriate, grouped in advance of static detector monitoring and/or activity survey assessment in the form of crossing point surveys, utilising a variation on the Defra landscape scale survey method ('Modified Defra Local Scale surveys') (**Ref. 9.58**)). Static bat detectors were located on 'Good' and 'Excellent' hedgerows to collect recordings of bat echolocation calls and help identify bat activity levels along each hedgerow. Both commuting and foraging activity has been recorded for the following species: serotine Eptesicus serotinus; common pipistrelle; soprano*	*All bat species in the UK are principally afforded protection under the Habitats Regulations (**Ref. 9.1**) and WCA (**Ref. 9.2**). Certain bat species are also afforded additional consideration under the NERC Act (**Ref. 9.5**).* *As per the Bat Conservation Trust (BCT) Species Factsheet (**Ref. 9.53**), common pipistrelle are Britain's commonest bat species, being widely distributed across the UK. The population of common pipistrelle are considered to have increased from baseline levels in*	*Common pipistrelle – Local* *Soprano pipistrelle – Local* *Brown long-eared bat – Local* *Myotis species - Local* *Lesser horseshoe bat - Local*	***Appendix 9.3 – Bat Activity Survey Report (Volume III) (Revision C)*** ***Appendix 9.4 – Bat & Hedgerow Assessment (Volume III) (Revision C)***

Receptor	Desk Study and Field Study Results Summary	Rationale for Valuation	Importance	Relevant Appendix
	pipistrelle; Nathusius' pipistrelle Pipistrellus nathusii; noctule; Leisler's bat Nyctalus leisleri; Myotis sp.; brown long-eared bat; and lesser horseshoe bat. All statics with Annex II species lesser horseshoe bat activity levels were subject to interval analysis. Once assessed, activity levels at a total of 27 hedgerows/hedgerow groups were within the upper bounds of the data during the static detector monitoring. These hedgerows remained at, or were upgraded to, Excellent categorisation. *The data from the remaining static bat detectors was compared against parameters to determine whether the initial hedgerow category should be upgraded or downgraded. These parameters were based on the presence and numbers of Annex II species, presence and numbers of 'sensitive' species (Myotis sp. and brown long-eared bat), and total numbers of bats recorded at each hedgerow. The parameters are defined in detail within* ***Appendix 9.4****. As a result, the final numbers in each category are as follows: 102 Poor hedgerows, 144 Good hedgerows and 45 Excellent hedgerows.* *High flying, aerial hawking species and/or those that prefer more open habitats, such as noctule, Leisler's bat, serotine and Nathusius' pipistrelle, were considered within species groups given the regularity at which they will cross open habitats (i.e., they are less reliant on linear features) and the small numbers (an average of less than one pass per night across all seasons) recorded during the static monitoring assessment. These groups were Nyctalus sp (noctule, Leisler's bat, and unidentified Nyctalus sp.); NSL (serotine and unidentified NSL (noctule, Leisler's bat, or serotine)), and Pipistrellus sp (Nathusius' pipistrelle and unidentified Pipistrellus sp.).* *Following the static monitoring assessment, hedgerows with a final category of 'Excellent' were subject to activity survey assessments, in the form of Modified Defra Local Scale surveys. Surveys have been completed on 32 of the 45 'Excellent' hedgerows, 10 of which met the existing Defra thresholds (10 or more commuting bat passes of a single species or genus; or one commuting bat pass for Annex II species).* *A precautionary approach has been taken in determining hedgerows which are Important Foraging and Commuting Routes (Important FCRs) (Important FCRs are classified as those with bat activity levels considered key for the conservation of the species recorded and that are retained as, or categorisation increased to, 'Excellent' as detailed within* ***Bat and Hedgerows***	*1999 (**Ref. 9.54**) across the UK. Wray et al (**Ref. 9.50**) classify common pipistrelle as common. In the context of commuting routes, common pipistrelle in England and Wales are attributed a valuation of Local.* *Soprano pipistrelle are widely distributed across the UK and alongside the common pipistrelle are considered one of Britain's commonest species, with the population stable within the UK (**Ref. 9.54**). Wray et al (**Ref. 9.50**) classify soprano pipistrelle as common. In the context of commuting routes, soprano pipistrelle in England and Wales are attributed a valuation of Local.* *Brown long-eared bat are considered common and widespread across England and Wales (**Ref. 9.57**) with the population considered to be stable within England and to have increased in Wales (**Ref. 9.54**). Wray et al (**Ref. 9.50**) classify brown long-eared bat as common in England and rarer in Wales. In the context of commuting routes, brown long-eared bats are valued as Local and County, respectively.* *Myotis species (Daubenton's bat Myotis daubentonii, Brandt's bat Myotis brandtii, whiskered bat Myotis mystacinus, Natterer's bat Myotis nattereri) are widespread across England and Wales with populations considered to be stable across both England and Wales for Daubenton's bat, whiskered bat and Brandt's bat.*		

Receptor	Desk Study and Field Study Results Summary	Rationale for Valuation	Importance	Relevant Appendix
	***Assessment, Appendix 9.4**; **Volume III**) for bat foraging and commuting. As such, the 10 hedgerows which have met the existing Defra thresholds, plus the remaining 13 Excellent hedgerows which were unable to be surveyed are currently precautionarily assessed Important FCRs.*	*The Natterer's bat population is considered to have increased in both England and Wales since 1999 (**Ref. 9.54**). Wray et al (**Ref. 9.50**) classify Myotis species as rarer in England and Wales. In the context of commuting routes, a value of County is attributed to Myotis species in England and Wales.* *Lesser horseshoe bats are considered rare in the British Isles (**Ref. 9.59**), however, the populations in both England and Wales are considered to have increased since 1999 (Ref. 9.54). Wray et al (**Ref. 9.50**) classify lesser horseshoe bats as rarer in England and Wales. In the context of commuting routes, a value of County is attributed to lesser horseshoe in England and Wales.* *Despite the values quoted above, the landscape contains a myriad of linear features, and in particular hedgerows, that provide ample flightline and commuting corridors. On this basis, a valuation of Local is attributed to all species.*		
Badger	***Desk Study*** *The desk study identified 464 records of badger. Of these, 79 were in England, and 385 were recorded within Wales. Fifteen records within England related to badger sett locations and 17 records were road collision casualties. In Wales, 35 records pertained to badger sett locations and 22 were road collision casualties. The remaining records were largely field signs and tracks.* *A total of eight records are within 100 m of the Newbuild Infrastructure Boundary and comprise two badger setts, three records of signs of badgers, and three roadkill events. Four records were within the Newbuild Infrastructure Boundary and*	*Badger and their setts are afforded protection within the UK under the Protection of Badgers Act 1992 (**Ref. 9.6**) and the WCA (**Ref. 9.2**). However, badger are not identified as a priority species.* *The valuation has taken into account presence of setts located across the Newbuild Infrastructure Boundary and the propensity for badger to move throughout a landscape. The surrounding landscape connected to the*	*Local*	***Appendix 9.5 - Badger Survey Report (Volume III) (Revision B) (Confidential)***

Receptor	Desk Study and Field Study Results Summary	Rationale for Valuation	Importance	Relevant Appendix
	comprised two badger setts, a single sign of badger and a single roadkill event. ***Field Survey*** *Thirty-eight setts (S1-S38) have been recorded within the Newbuild Infrastructure Boundary. Given the sensitivity and confidentiality afforded to this species, specific information (including the location of the badger setts) is not defined here but is presented in* ***Appendix 9.5 - Badger Survey Report (Revision B) (Confidential) (Volume III).*** *These setts comprise 7 Main setts, 1 Annex sett, 7 Subsidiary setts and 23 outlier setts. All Main and Annex setts were recorded as Well-used, with Outlier and Subsidiary recorded as either well-used, partially used, or disused setts.* *Camera trap deployment confirmed presence of badger and active setts at S13, S29 and S31.*	*Newbuild Infrastructure Boundary includes extensive habitat with potential for badger sett creation and foraging.*		
Riparian Mammals (Otter and water vole)	***Desk Study*** *The desk study identified 10 records of otter in England and one in Wales. The closest records were of spraints located along the River Gowy in 2012, approximately 619 m east of the Newbuild Infrastructure Boundary. In Wales, the single record pertained to a spraint 938 m north of the Newbuild Infrastructure Boundary at Pandy Lake Brook.* *The desk study identified three records of water vole in England and four in Wales. The closest record was located at Chester Zoo in 2014, approximately 731 m south of the Newbuild Infrastructure Boundary, relating to burrows and sightings of 17 water voles. In Wales, the closest record was of feeding remains and latrines 1.2 km south of the Newbuild Infrastructure Boundary at Broughton Brook where it runs through Hawarden Business Park.* ***Field Survey*** *Of the 61 watercourses surveyed, 50 watercourses have been identified with suitability to support otter and/or water vole, for either commuting, foraging and/or burrowing/resting. Eleven watercourses were determined to be unsuitable for supporting either otter or water vole and were scoped out of further surveys and assessments.* *Surveys identified signs of otter activity along eight individual watercourses (Thornton Uplands, Thornton Ditches 4 and 6, Gowy Tributary 2, Shropshire Union Canal, Alltami Brook, Wepre*	*Otter are afforded protection under the Habitats Regulations (**Ref. 9.1**) and WCA (**Ref. 9.2**). Water vole are afforded protection under the WCA (**Ref. 9.2**). Otter and Water vole are additionally listed as a SPI under the NERC Act (**Ref. 9.5**).* *Evidence of otter activity has been recorded on eight individual watercourses across the Newbuild Infrastructure Boundary and, given their propensity to move throughout a landscape, their presence is considered likely throughout appropriate habitat across the Newbuild Infrastructure Boundary.* *Evidence of water vole was recorded in select locations across the Newbuild Infrastructure Boundary, primarily within England, comprising signs of activity and burrows. The challenges faced by water vole in terms of geographic distribution and conservation status have been*	*Otter – Local* *Water Vole - County*	***Appendix 9.6 - Riparian Mammal Survey Report (Volume III) (Revision C)***

Receptor	Desk Study and Field Study Results Summary	Rationale for Valuation	Importance	Relevant Appendix
	Brook (sections A and B) and Northop Brook), consisting of footprints, spraints and/or possible laying-up sites. *Signs of water vole, comprising burrows and activity signs such as latrines and feeding stations, were recorded along 13 watercourses (West Central Drain A and B, Hapsford Brook, River Gowy, Thornton Diches 4, 5a, 5b, 6, 7a, 7b and 8, Thornton Main Drain, and Gowy Tributary 2).* *In the absence of a second survey visit (due to access restrictions), a precautionary assessment has been applied with presence of otter and water vole assumed. These watercourses comprise East and West Central Drains and Elton Land Ditches, Gale Brook, Stanney Main Drain and Stanney Mill Brook, and Alltami Brook.*	*taken into account as part of this valuation, particularly in the knowledge of mink presence within the landscape.*		
Barn Owl	***Desk Study*** *The desk study identified seven records of barn owl in England and 37 in Wales. The closest of these records was within Wales in 2011, approximately 19 m from the Newbuild Infrastructure Boundary. The closest record in England was 69 m from the Newbuild Infrastructure Boundary.* ***Field Survey*** *A number of features (trees and structures) have been identified with suitability to be used by roosting and/or nesting barn owl across the Newbuild Infrastructure Boundary. These comprise 13 trees and 3 barn owl boxes. Access limitations (as detailed within* ***Appendix 9.7 Barn Owl Survey Report (Confidential) (Revision B) (Volume III)*** *prohibited further surveys of three trees.* *Aerial tree climbed inspections and Vantage Point surveys have been undertaken to determine use or otherwise by barn owl. During the aerial tree climb inspections four features were scoped out for further surveys. Vantage Point surveys were completed on 10 features (8 trees and 2 barn owl boxes). Three features were found to contain evidence of barn owl.* *Barn owl evidence of a temporary rest site was recorded at T472 (SJ35006 66638).* *Barn owl were recorded nesting within;* - *BOB3 (SJ35043 66642); and* - *T465 (SJ 41653 71153)* *Where a feature was not subjected to a full suite of vantage point surveys, due to access restrictions, the likely presence of a nest*	*Barn owl are protected under Schedule 1 of the WCA (**Ref. 9.2**) which affords them protected against disturbance whilst nesting. Confirmed nest locations have been recorded within the Newbuild Infrastructure Boundary alongside a single potential roost site.* *The Newbuild Infrastructure Boundary encompasses a small proportion of the overall available foraging, roosting and nesting resource available to barn owl in the wider landscape.*	*County*	***Appendix 9.7 - Barn Owl Survey Report (Confidential) (Volume III) (Revision B)***

Receptor	Desk Study and Field Study Results Summary	Rationale for Valuation	Importance	Relevant Appendix
	site was assumed using a precautionary approach. This applies to; - *T471 (SJ2642467608)*			
Breeding Birds	***Desk Study*** *Records of 145 species of breeding bird were returned in England including: 10 Local Biodiversity Action Plan (LBAP) and 21 WCA Schedule 1 (Sch1) species.* *Records of 197 species of breeding birds were returned in Wales including: 118 LABP and 38 WCA Sch1 species.* ***Field Survey*** *Breeding bird surveys were undertaken in 2021, recording over 106 bird species. Species have included Schedule 1 listed birds including marsh harrier Circus aeruginosus and black-tailed godwit Limosa limosa, as well as Birds of Conservation Concern red listed species including: grey patridge Perdix perdix and skylark Alauda arvensis; and amber listed species, (for example willow warbler Phylloscopus trochilus and kestrel Falco tinnunculus.*	*A variety of bird species listed as LBAP (**Ref. 9.18**) and/or Schedule 1 WCA (**Ref. 9.2**) were recorded during surveys. The abundance of similar habitats with suitability to support breeding bird species beyond the Newbuild Infrastructure Boundary, has been taken into account when determining an importance value.*	*Local*	***Appendix 9.8 - Bird Survey Report (Volume III) (Revision B)***
Wintering Birds	***Desk Study*** *Records of 145 species of wintering bird were returned in England, including: 10 LBAP and 21 W&CA Sch1 species.* *Records of 197 species of wintering birds were returned in Wales, including: 118 LBAP and 38 W&CA Sch1 species.* ***Field Survey*** *Wintering bird surveys were completed during the winters of 2020/2021 and 2021/2022. Over 105 bird species have been recorded. Species have included Schedule 1 listed birds including peregrine Falco peregrinus and black-tailed godwit, as well as Birds of Conservation Concern red listed species including: lapwing Vanellus vanellus and yellowhammer Emberiza citronella, and amber listed species, for example, redshank Tringa totanus and oystercatcher Haematopus ostralegus.*	*A variety of bird species listed as LBAP (**Ref. 9.18**) and/or Schedule 1 WCA (**Ref. 9.2**) were recorded during surveys. Species listed within citations of the Mersey Estuary SPA were recorded along the River Dee in small numbers. Redshank were recorded using the mudflats exposed by low tide along the River Dee in numbers greater than the 1% of citation population for the SPA, only during the winter months and were not recorded regularly on any other survey transect throughout the year. The abundance of similar habitats with suitability to support wintering bird species, including redshank, beyond the Newbuild Infrastructure Boundary, has been taken into account when determining an importance value.*	*Redshank – Regional* *All other species - Local*	***Appendix 9.8 - Bird Survey Report (Volume III) (Revision B)***

Receptor	Desk Study and Field Study Results Summary	Rationale for Valuation	Importance	Relevant Appendix
Fish	***Desk Study*** *EA electrofishing surveys along the River Gowy extend from 1994 to 2014, and the fish community can be considered as well documented within this watercourse. EA surveys within 2 km of the Newbuild Infrastructure Boundary were only conducted in 2014, however, results confirmed presence of European eel Anguilla anguilla, a species of conservation concern, as well as European bullhead Cottus gobio, gudgeon Gobio gobio, stone loach Barbatula barbatula, perch Perca fluviatilis, roach Rutilus rutilus and flounder Platichthys flesus.* *Consultation with NRW and EA identified seven fish species of conservation interest including European eel Anguilla anguilla, brown/sea trout Salmo trutta, Atlantic salmon Salmo salar, river lamprey Lampetra fluviatilis, sea lamprey Petromyzon marinus, smelt Osmerus eperlanus, and European bullhead Cottus gobio. Fish species of conservation interest were identified at 22 watercourses; Thornton Main Drain, River Gowy, Shropshire Union Canal, Seahill Drain, Sealand Main Drain, River Dee, Railway Ditch 1, Railway Ditch 2, Broughton Brook, Chester Road Brook Tributary 2, Mancot Brook, Mancot Tributary, Oakfield Ditch 1, Chester Road Drain Tributary 1, Willow Park Brook, New Inn Brook, Alltami Brook, Wepre Brook, Wepre Brook Tributary 1, Northop Brook, Northop Brook Tributary 1, and Little Lead Brook.* ***Field Survey*** *An electrofishing survey was conducted on Backford Brook within the Newbuild Infrastructure Boundary. A single species, three-spined stickleback Gasterosteus aculeatus, was recoded. Seine netting surveys were conducted on the River Dee. Two species of conservation interest were recorded in the seine netting surveys carried out on the River Dee. Sea trout was recorded in March 2022, whilst smelt was recorded in May 2022.* *Fish e-DNA surveys were carried out on 16 watercourses. The species recorded in the e-DNA surveys include three species of conservation interest, namely European eel, brown/sea trout, and smelt.*	*Salmon and freshwater fish are afforded protection under the Salmon and Freshwater Fisheries act 1975 (**Ref. 9.9**). Atlantic salmon, river lamprey, sea lamprey, and bullhead are afforded protection under the Habitats Regulations (**Ref. 9.1**). European eel, brown/sea trout, Atlantic salmon, river lamprey, sea lamprey, and smelt are all listed as a SPI under the NERC Act (**Ref. 9.5**). European eel are afforded further protection under the Eels (England and Wales) Regulations 2009 (**Ref. 9.10**). European eel are listed as Critically endangered under the International Union for Conservation of Nature (IUCN) Red List of Threatened Species.* *Fish are known to occur and/or were recorded within the Newbuild Infrastructure Boundary. As fish are mobile, their presence is considered likely throughout appropriate habitat across the Newbuild Infrastructure Boundary.*	*European eel – Regional* *Salmon – County* *River Lamprey – County* *Sea Lamprey – County* *Smelt – County* *Other species - Local*	***Appendix 9.9 - Aquatic Ecology (Watercourses) Survey Report (Volume III) (Revision B)***
Aquatic macroinvertebrates	***Desk Study*** *The desk study identified EA aquatic macroinvertebrate survey data for two watercourses (River Gowy and Stanney Mill Brook)*	*Aquatic macroinvertebrates are afforded protection under the Habitats Regulations (**Ref. 9.1**).*	*Local*	***Appendix 9.9 - Aquatic Ecology (Watercourses) Survey Report (Volume III) (Revision B)***

Receptor	Desk Study and Field Study Results Summary	Rationale for Valuation	Importance	Relevant Appendix
	during the last 10 years, within 5 km of the Newbuild Infrastructure Boundary. *Results from the EA aquatic macroinvertebrate survey carried out within the River Gowy, approximately 1.8 km downstream of the Newbuild Infrastructure Boundary, in June 2019, highlighted two species of local conservation importance and two regionally notable species. The species of local conservation importance, the caddisfly Athripsodes bilineatus and the freshwater snail Bithynia leachii were recorded. The regionally notable species, the caddisfly Brachycentrus subnubilus and pale evening mayfly Procloeon bifidum, were recorded.* *No aquatic macroinvertebrate species of conservation importance were recorded in the EA survey conducted in Stanney Mill Brook.* ***Field Survey*** *Aquatic macroinvertebrate surveys have been completed on 19 watercourses within the Newbuild Infrastructure Boundary. Benthic macroinvertebrate grab sampling was additionally conducted on the River Dee.* *Aquatic macroinvertebrate species of local conservation importance were recorded at four sites. Lesser water boatman Corixa dentipes was recorded at Seahill Drain, leech Erpobdella testacea was identified at Willow Park Brook, button ramshorn snail Anisus leucostoma was recorded at Wervin Hall Ditch Tributary, and the caddisfly Beraeodes minutus was recorded at Wepre Brook.* *The aquatic macroinvertebrate community assemblage of the River Gowy consisted of a high diversity of taxa.*	*The valuation has taken into account the conservation value of the aquatic macroinvertebrate species found within the desk study and field surveys, the number and connectivity of the waterbodies and watercourses across the wider landscape, the ability for species expansion across the landscape and the expected recolonisation of species following loss from an area.*		
Macrophytes	***Desk Study*** *The desk study identified historic EA macrophyte surveys on two watercourses (River Gowy and Stanney Mill Brook) during the last 10 years, within 3 km of the Newbuild Infrastructure Boundary. Survey results included the INNS Himalayan/Indian balsam as present within the River Gowy.* ***Field Survey*** *One invasive non-native macrophyte species, water fern Azolla filiculoides, was identified in three watercourses, Thornton Ditch 4, Thornton Ditch 6, and Seahill Drain, during surveys. No protected macrophyte species were recorded in the field surveys.*	*No macrophytes are afforded protection under the Habs Regs (**Ref. 9.1),** the NERC Act (**Ref. 9.5**), or Schedule 8 were recorded under desk study or field surveys.* *The valuation has taken into account the distribution and abundance of macrophytes within the Newbuild Infrastructure Boundary and their propensity to spread across a landscape where connected watercourses are present.*	*Less than Local*	***Appendix 9.9 - Aquatic Ecology (Watercourses) Survey Report (Volume III) (Revision B)***

Receptor	Desk Study and Field Study Results Summary	Rationale for Valuation	Importance	Relevant Appendix
	One species listed on the Vascular Plant Red List for England, water violet Hottonia palustris was noted in Thornton Ditch 6.			
Invasive Non-Native Species	***Desk Study*** *A total of 98 records of 27 individual species of invasive plant species, identified on Schedule 9 of the W&CA, were returned during the desk study. Species included Japanese knotweed Reynoutria japonica, Himalayan balsam Impatiens glandulifera, variegated yellow archangel Lamium galeobdolon subsp. Argentatum, Cherry laurel Prunus laurocerasus, Montbretia Crocosmia × crocosmiiflora, Floating pennywort Hydrocotyle ranunculoides, and New Zealand Pigmyweed Crassula helmsii. The closest record pertained to giant hogweed Heracleum mantegazzianum and was located within the Newbuild Infrastructure Boundary.* *A desk study of EA data identified the INNS Himalayan/Indian balsam as present within the River Gowy.* *Consultation with NRW identified the presence of giant hogweed, Himalayan balsam and Chinese mitten crab Eriocheir sinensis on the River Dee.* ***Field Survey*** *Five species of invasive non-native plants have been recorded at varying locations within the Newbuild Infrastructure Boundary. These have included giant hogweed, rhododendron Rhodoendron ponticum, Japanese knotweed, Himalayan balsam and variegated yellow archangel.* ***Aquatic Species*** *The e-DNA of two invasive non-native fish species sunbleak Leucaspius delineates and Amur bitterling Rhodeus sericeus were identified within the Shropshire Union Canal. The e-DNA of one invasive non-native fish species was identified at Wepre Brook, pertaining to Wels catfish Silurus glanis.* *Five invasive non-native aquatic macroinvertebrate species were identified during the ecological surveys conducted at West Central Drain, the River Gowy, Stanney Main Drain, Stanney Mill Brook, Wervin Hall Ditch Tributary, Backford Brook, Finchetts Gutter Tributary, Seahill Drain, Sealand Main Drain, Broughton Brook, Mancot Brook, Willow Park Brook, New Inn Brook, Alltami Brook, and Wepre Brook. These species were: New Zealand mud snail Potamopyrgus antipodarum, the flatworm Girardia*	*Invasive species listed under Schedule 9 of the WCA Act 1981 (**Ref. 9.2**) are prohibited from release into the wild and prohibits the planting or "causing to grow" in the wild of any plant species listed under Schedule 9.* *The valuation has taken into consideration of the potential unintentional spread of INNS, and their current distribution within the Newbuild Infrastructure Boundary.*	*Less than Local*	***Appendix 9.1 - Habitats and Designated Sites Survey Report (Volume III) (Revision B)*** ***Appendix 9.9 - Aquatic Ecology (Watercourses) Survey Report (Volume III) (Revision B)*** ***Appendix 9.10 - Aquatic Ecology (Ponds) Survey Report (Volume III) (Revision B)***

Receptor	Desk Study and Field Study Results Summary	Rationale for Valuation	Importance	Relevant Appendix
	tigrina, demon shrimp Dikerogammarus haemobaphes, the mollusc Physella sp. and the amphipod Crangonyx pseudogracilis/floridanus. One invasive non-native macrophyte species, water fern Azolla filiculoides, was identified in three watercourses, Thornton Ditch 4, Thornton Ditch 6, and Seahill Drain.			

9.7. SENSITIVE RECEPTORS

9.7.1. The sensitive receptors for Biodiversity have not changed for the proposed design changes. Therefore, the text within **Section 9.7** of **Chapter 9 (AS-025)** remains unchanged and valid.

9.8. DESIGN DEVELOPMENT, IMPACT AVOIDANCE, AND EMBEDDED MITIGATION

9.8.1. The design development, impact avoidance and embedded mitigation for Biodiversity have changed due to the proposed design changes. Therefore, the text within **Section 9.8** of **Chapter 9 (AS-025)** has updated. This update is related to embedded mitigation item **D-BD-019** which has been replaced with the following text. All other remaining embedded mitigation items remain unchanged and valid.

9.8.2. Therefore, **D-BD-019** within **Table 9.10** of **Chapter 9 (AS-025)** has updated and should be replaced with the row contained within **Table 9.5.**

Table 9.5: Embedded Mitigation Designed for the DCO Proposed Development

Receptor/Location	*Reference*	*Description*
Aquatic Habitats and Species	*D-BD-019*	*All entry and exit pits for all trenchless crossings will be sited a minimum of 8 m away from any main riverbank top (and/or flood defence), and 16 m away from any transitional (tidal) waters. Stand-off distances around watercourses will be implemented prior to the commencement of works and clearly demarcated through the use of physical barriers (fencing, tape or similar). These include;* • *A minimum 8 m buffer will be demarcated around non-tidal main river watercourses; and* • *A minimum 16 m buffer will be demarcated around tidal watercourses, i.e., the River Dee.* *With regards the crossing under the River Dee, this will be a minimum depth of at least 15m for Horizontal Directional Drilling or 8m for Micro-tunnelling (distance between the top of the casing and the riverbed).*

9.9. ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

9.9.1. The assessment of likely impacts and effects for Biodiversity for the Operational and Decommissioning stages are not affected by the proposed design changes and therefore the text within these sub-sections of **Section 9.9** of **Chapter 9 (AS-025)** remains unchanged and valid.

CONSTRUCTION STAGE

9.9.2. The assessment of likely impacts and effects for Biodiversity during the Construction Stage has changed due to the proposed design changes. Therefore, **Table 9.11** of **Chapter 9 (AS-025)** has changed and should be replaced with **Table 9.6** below.

Table 9.6 Likely Significant Effects during the Construction Stage

Ecological Receptor	*Potential Impacts and Effects*	*Likely Significant Effects*
Statutory Designated Sites (International and National)	*Temporary land take will be required to facilitate trenchless installation techniques at the River Dee SAC and SSSI. However, at trenchless crossing locations, any temporary land take will be located on land outwith the boundary of the designated sites.* *Indirect impacts to water quality, hydrological and hydromorphological processes due to changes in groundwater and drainage links to the River Dee SAC during construction.* *Potential for pollution events, discharges of sediment, frac-out and release of drill fluid to ground or watercourses/waterbodies during construction. Potential for dispersal downstream in the event of discharge to watercourses, with potential for effects to be spread over a larger distance than the point of origin. Discharge of sediment or drill fluid may impact fauna and flora, both aquatic and terrestrial.* *Potential vibration caused by trenchless installation activities impacting on migratory fish / fish passage and other protected species that are features of the River Dee SAC.* *Potential disturbance as a result of construction activities / movements and noise to breeding and wintering birds / waterfowl which are qualifying features of the Mersey Estuary SPA & Ramsar & SSSI Dee Estuary SPA & Ramsar & SSSI.* *Potential for dust emissions, noise and vibration disturbance and artificial illumination of habitats from lighting due to the proximity of construction activities to the River Dee SAC and SSSI, Deeside and Buckley Newt Sites SAC and Connah's Quay Ponds and Woodland SSSI.* *Temporary and short-term habitat severance/fragmentation of functionally linked habitat in proximity to statutory designated sites.* *Direct and indirect effects upon statutory designated sites, whilst temporary in nature, may result in negative effects significant at a National/International scale.*	*In the absence of secondary mitigation, construction could lead to effects of* ***Moderate adverse*** *significance (****Significant****)*
Non-Statutory Designated sites	*Temporary land take will be required for construction of the DCO Proposed Development within a number of non-statutory designated sites to facilitate open cut trench techniques, including Frodsham Helsby and Ince Marshes, Gowy Meadows and Ditches, Wood West of Crabwell Manor, Saughall Bank and Brook Park Farm Wood.* *Potential for pollution events, discharges of sediment, frac-out and release of drill fluid to ground or watercourses/waterbodies during construction. Potential for dispersal downstream in the event of discharge to watercourses, with potential for effects to be spread over a larger distance than the point of origin. Discharge of sediment or drill fluid may impact fauna and flora, both aquatic and terrestrial.* *Potential noise and vibration caused by trenchless installation activities including sheet piling impacting on migratory fish/fish passage and other protected species, such as otter and water vole identified with non-statutory designated sites.* *Potential disturbance as a result of construction activities / movements and noise to breeding and wintering birds / waterfowl which are noted features of Frodsham Helsby and Ince Marshes LWS, Gowy Meadows and Ditches LWS, Wervin Meadows LWS.* *Potential for dust emissions, noise and vibration disturbance and artificial illumination of habitats from lighting due to the proximity of construction activities.* *Temporary and short-term habitat severance/fragmentation of functionally linked habitat in proximity to non-statutory designated sites.* *Direct and indirect effects upon non-statutory designated sites, whilst temporary in nature, may result in negative effects significant at a National scale.*	*In the absence of secondary mitigation, construction could lead to effects of* ***Moderate adverse*** *significance (****Significant****)*

Ecological Receptor		*Potential Impacts and Effects*	*Likely Significant Effects*
Habitats of Principal Importance (excluding waterbodies and watercourses)	*Woodland*	*Temporary short-term and permanent direct and indirect loss and/or damage (through compaction and disturbance) of woodland (including deciduous woodland functionally linked to Annex I woodland (**paragraph 9.6.12**)) within and adjacent to the footprint of the Newbuild Infrastructure Boundary due to open cut trench techniques. Woodland habitats applicable include;* • *Deciduous and / or Lowland Mixed Deciduous woodland located at;* *- Woodland within the Gowy Meadows & Ditches LWS (SJ 43854 72961)* *- Wood West of Crabwell Manor LWS (SJ 37962 69677)* *- Church Lane (SJ 30286 66981),* *- Small woodland at SJ 25822 67958 (Northop Hall)* *- Woodland strip associated with Northop Hall Brook (SJ 25462 68931)* *- Small woodland at SJ 25275 70122* • *Ancient Woodland located at:* *- Flint AGI, (SJ 25245 70815)* *- Northop Hall (SJ 26353 67697)* *- Wepre Brook (SJ 27164 67443)* *- Alltami Brook (SJ 27620 67143); and,* *- Ancient Woodland associated with Deeside and Buckley Newt Sites SAC at SJ 28808 67098* *Permanent and temporary fragmentation of woodland due to land clearance requirements to facilitate construction.* *Potential for dust emissions, noise and vibration disturbance and artificial illumination from lighting due to the proximity of construction activities.* *Damage to retained habitat due to changes in hydrological conditions* *Damage to retained woodland (e.g., damage to roots of trees), impacting receptor health or longevity.* *Where trenchless installation techniques are proposed at watercourses (e.g., the River Dee SAC and Shropshire Union Canal LWS), this may require deep excavations within adjacent terrestrial habitats to facilitate the equipment and crossing methodology.* *Direct and indirect effects upon Habitats of Principal Importance, including temporary and short-term impacts and permanent impacts, may result in negative effects significant at a National scale.*	*In the absence of secondary mitigation, construction could lead to effects of **Moderate adverse** significance (**Significant**)*
	Hedgerows	*Temporary and permanent direct and indirect loss and/or damage (through compaction and disturbance) of all hedgerows within the footprint of the Newbuild Infrastructure Boundary due to open cut trench techniques. Hedgerows include:* • *Species-rich intact and defunct hedgerows,* • *Species-poor intact and defunct hedgerows; and,* • *Hedgerows with trees, species rich and species poor)* *Temporary and short-term fragmentation of hedgerows due to land clearance requirements to facilitate construction.*	

Ecological Receptor		Potential Impacts and Effects	Likely Significant Effects
		Potential for dust emissions, noise and vibration disturbance and artificial illumination from lighting due to the proximity of construction activities. *Damage to retained habitats/features (e.g., damage to roots of trees and hedgerows), impacting receptor health or longevity.* *Where trenchless installation techniques are proposed at watercourses (e.g., the River Dee SAC and Shropshire Union Canal LWS), this may require deep excavations within adjacent terrestrial habitats to facilitate the equipment and crossing methodology.* *Direct and indirect effects to hedgerows, including both temporary and short term, and permanent effects, may result in negative effects significant at a County scale.*	
	Coastal and Floodplain Grazing Marsh	*Temporary short-term and permanent direct and indirect loss and/or damage (through compaction and disturbance) of Coastal and Floodplain Grazing Marsh habitat within the footprint of the Newbuild Infrastructure Boundary due to open cut trench techniques. Coastal and floodplain grazing marsh habitat is located at Frodsham, Helsby Marshes LWS and Gowy Meadows and Ditches LWS.* *Damage to retained habitat due to changes in hydrological conditions.* *Potential for dust emissions, noise and vibration disturbance and artificial illumination from lighting due to the proximity of construction activities.* *Damage to retained habitats/features (e.g., damage to roots of trees and hedgerows), impacting receptor health or longevity.* *Direct and indirect effects to coastal and floodplain grazing marsh, including both temporary and short term, and permanent effects, may result in negative effects significant at a Local scale.*	
Aquatic habitat - Watercourses		*Direct loss of habitat from open cut trench crossing techniques, both at the bank and in-channel resulting in a potential loss of sensitive life stage dependent habitat types, flow refugia and cover. Installation of cofferdams and overpumping of water may lead to a potential disruption in flow dynamics and associated sedimentation processes, with consequential further loss of sensitive habitat both upstream and downstream of the crossing point.* *Where temporary culverts are to be installed at watercourse crossing points, there is potential for direct impacts through localised loss and/or damage of habitats.* *Accidental pollution and discharge of materials (sediment/drill fluid) into watercourses (including blow-out/frac-out from trenchless installation techniques) may impact water quality, which may negatively impact aquatic ecology (for example, increased turbidity and consequent reduction in dissolved oxygen) and potentially a decrease in biodiversity through a loss of sensitive habitat. Potential for pollution event dispersal downstream in the event of discharge to watercourses, with potential for effects to be spread over a larger distance than the point of origin.* *Construction activities in close proximity to water may result in the spread of invasive non-native species.* *Direct and indirect effects to aquatic habitats, including both temporary and short term, and permanent effects, may result in negative effects significant at a County scale.*	*In the absence of secondary mitigation, construction could lead to effects of **Moderate adverse** significance (**Significant**)*
Aquatic habitat - Ponds		*Permanent direct loss of a single waterbody 141 at SJ 44609 74749 near Stanlow Refinery to facilitate construction.* *Construction activities in close proximity to water may result in the spread of invasive non-native species.* *Accidental pollution and discharge of materials (sediment / drill fluid) into ponds may impact water quality, which may negatively impact aquatic ecology (for example, reduction in oxygen content or increased turbidity) and potentially decrease biodiversity through loss of habitat.*	*In the absence of secondary mitigation, construction could lead to effects of Negligible*

Ecological Receptor		Potential Impacts and Effects	Likely Significant Effects
		Direct and indirect effects to ponds, including both temporary and short term, and permanent effects, may result in negative effects significant at a Local scale.	*significance (Not Significant)*
Great Crested Newt		*Direct mortality and/or injury of GCN as a result of habitat clearance and construction activities (e.g. vehicle movement/activity, pollution events) within 250m of a confirmed GCN waterbody. GCN have been confirmed within the following waterbodies;* *England: 43, 46, 166, 167, 169, 171;* *Wales: 9, 14, 15, 31, 35, 38, 49, 154, 155, 157, 161;* *Where ponds were not able to be surveyed for a minimum of 4 visits to confirm GCN presence in Wales and in the Red Risk Zone in England, the likely presence of GCN was considered based on the survey results of ponds in the surrounding area and professional judgement. The following waterbodies were assessed as having precautionary GCN presence:* *England: 42, 47, 48, 49, 52;* *Wales: 10, 11, 12, 50, 121, 148.* *Temporary (short-term) and permanent loss and/or damage to supporting terrestrial habitats within 250 m of a confirmed GCN waterbody, for example as a result of topsoil stripping and vegetation clearance, and temporary removal of connective features, such as hedgerows to facilitate construction.* *Temporary short-term reduction in foraging and sheltering opportunities and temporary severance of commuting habitats.* *Whilst waterbodies are to be retained, with the exception of one waterbody, given the proximity of works, potential for temporary disturbance of GCN within or adjacent to waterbodies as a result of indirect impacts (e.g. light spill, dust, vibration).* *Direct and indirect effects to great crested newt, including both temporary and short term, and permanent effects, may result in negative effects significant at a National scale.*	*In the absence of secondary mitigation, construction could lead to effects of* ***Moderate adverse*** *significance (****Significant)***

Bats	*Roosts*	*Direct mortality and/or injury of bats as a result of habitat clearance (particularly trees with bat roosts or bat roost potential) and construction activities.*
		
		Construction of the DCO Proposed Development may result in the direct permanent loss of bat roosts and/or features with the potential to support roosting bats. Bat roosts (shown in ***Appendix 9.3 – Bat Activity Report (Revision B) (Volume III); Figure 9.3.3 - Confirmed Bat Roosts (Revision B))*** *have been recorded within:*
		
		- *B97 (single common pipistrelle day roost)*
		- *B113 (single common pipistrelle day roost)*
		- *B133 (Four common pipistrelle's and three soprano pipistrelle's day roost)*
		- *Seventeen tree roosts comprising;*
		  - *T1 (single common pipistrelle potential day roost)*
		  - *T49 (single soprano pipistrelle day roost)*
		  - *T70 (single soprano pipistrelle day roost)*
		  - *T111 (single common pipistrelle and a single Myotis sp. day roosts)*
		  - *T159 (single soprano pipistrelle day roost)*
			In the absence of secondary mitigation, construction could lead to effects of ***Moderate adverse*** *significance (****Significant)***

Ecological Receptor		Potential Impacts and Effects	Likely Significant Effects
		○ *T190 (single common pipistrelle day roost)* ○ *T200 (single soprano pipistrelle day roost)* ○ *T220 (single common pipistrelle day roost)* ○ *T234 (single soprano pipistrelle day roost)* ○ *T238 (two soprano pipistrelle's day roost)* ○ *T283 (single common pipistrelle day roost)* ○ *T321 (noctule maternity roost)* ○ *T325 (potential brown long-eared bat day roost along the tree line associated with T325, T326 and T327)* ○ *T326 (potential brown long-eared bat day roost along the tree line associated with T325, T326 and T327)* ○ *T327 (potential brown long-eared bat day roost along the tree line associated with T325, T326 and T327)* ○ *T365 (single common pipistrelle day roost)* ○ *T371 (single common pipistrelle day roost)* - *Five structures and 35 trees were precautionarily assessed as a bat roost (due to access restrictions), comprising;* ○ *B79, B80, B125, B126, and B127; and* ○ *T4, T11, T13, T16, T17, T18, T25, T26, T27, T28, T34, T36, T37, T165, T230, T265, T349, T376, T377, T419, T422 – T431, T435, T491, T495, T496 and T499.* *Construction (including 24 hours working at trenchless crossing locations over a four week duration (TRS 01, TRS 02, TRS 28, TRS 31/32, TRS 38 and TRS 37)) may result in temporary short-term disturbance of roosting bats and potential for permanent or temporary functional loss of a roost, or roosts, due to the proximity to construction and associated disturbance (noise, vibration, and light levels).* *Direct and indirect effects to roosting bats, including both temporary and short term, and permanent effects, may result in negative effects significant at a Local scale.*	
	Foraging and Commuting Bats	*Construction (including 24 hours working at trenchless crossing locations over a four week duration (TRS 01, TRS 02, TRS 28, TRS 31/32, TRS 38 and TRS 37), may result in temporary short-term disturbance of foraging and commuting bats due to the proximity to construction and associated disturbance (noise, vibration, and light levels).* *Permanent or temporary (short-term) loss of foraging and commuting habitats as a result of construction of the DCO Proposed Development. A number of 'Excellent' hedgerows (as defined in* ***Appendix 9.4 - Bats and Hedgerow Assessment (Revision C) (Volume III)*** *will be impacted through the removal of sections of hedgerow to facilitate construction. Excellent hedgerows identified comprise H28, H66, H67, H82, H91, H145, H196, H199, H202, H206, H229, H236, H237, H238, H247, H267, H283, H289, H348, H349, H350, H353, H354, H374, H398, H399, H400, H402, H403, H405, H406, H414, H419, H420, H421, H422, H429, H482, H488, H489, H491, H940, H974, H1004 and H1011. Of these, 23 hedgerows are currently considered Important FCRs on a precautionary basis and comprise: H66, H67, H145, H199, H202, H206, H229, H237, H267, H349, H350, H354, H399, H400, H402, H405, H406, H419, H421, H488, H491, H940, H974.* *Permanent or temporary (short-term) severance of habitats, for example hedgerows, as a result of construction of the DCO Proposed Development.*	*In the absence of secondary mitigation, construction could lead to effects of* ***Moderate adverse*** *significance (****Significant)***

Ecological Receptor		Potential Impacts and Effects	Likely Significant Effects
		Given the short term, temporary and localised nature of construction of the DCO Proposed Development, despite the localised severance of hedgerows to facilitate construction, alternative linear features and flight lines will remain intact. In the context of the impacts of construction of the DCO Proposed Development a value of Local is considered proportionate for all species. *Direct and indirect effects to foraging and commuting bats, including both temporary and short term, and permanent effects, may result in negative effects significant at a Local scale.*	
Badger		*Direct permanent and / or temporary (short-term) functional loss of three outlier setts (S19, S20 and S26) and a single annex sett (S32) may occur as a result of construction.* *Direct mortality and/or injury to badger as a result of construction activities (e.g., entrapment in voids or vehicle collision risk).* *Temporary and permanent loss of habitat, such as scrub, grassland and hedgerows impacting foraging and commuting opportunities, as well as potential sett building habitat.* *Temporary short-term indirect impacts, for example noise, light, dust, visual and vibration disturbance, may occur as a result of construction of the DCO Proposed Development. Temporary short-term disturbance to foraging and commuting badgers may occur at trenchless crossing locations where 24 hour working is proposed over a four-week duration (TRS 01, TRS 02, TRS 28, TRS 31/32, TRS 38 and TRS 37),* *Temporary short-term and permanent habitat fragmentation/severance.* *Direct and indirect effects to commuting badger, including both temporary and short term, and permanent effects, may result in negative effects significant at a Local scale.*	*In the absence of secondary mitigation, construction could lead to effects of Minor adverse significance (Not Significant)*
Riparian Mammals (Otter and Water vole)		*Direct mortality and/or injury to riparian mammals as a result of construction activities.* *Direct loss of resting places (holts and burrows) as a result of permanent or temporary land take to facilitate construction. Water vole burrows are present within West Central Drain A, West Central Drain B, Hapsford Brook, Thornton Ditches, Thornton Main Drain, Gowy Tributary 2 and the River Gowy. Potential otter holts or lay-ups were recorded on Thornton Uplands, Thornton Ditch 4 and 6 and Wepre Brook. Watercourses which have been precautionarily assessed for the presence of otter and water vole include East and West Central Drains and Elton Land Ditches, Gale Brook, Stanney Main Drain and Stanney Mill Brook, and Alltami Brook.* *Temporary and short-term loss of foraging and commuting habitats as a result of construction activities.* *Temporary and short-term disturbance (through noise, vibration, and light) and displacement of animals through loss of suitable sheltering, foraging or commuting habitat during construction activities along and adjacent to watercourses.* *Temporary and short-term riparian habitat degradation and alteration of aquatic habitats and water quality as a result of pollution events in the absence of mitigation, resulting in impacts to foraging and commuting opportunities.* *Direct and indirect effects to riparian mammals, including both temporary and short term, and permanent effects, may result in negative effects significant at a County scale.*	*In the absence of secondary mitigation, construction could lead to effects of **Moderate adverse** significance (**Significant**)*
Barn Owl		*Direct mortality and/or injury of barn owl as a result of construction activities.* *Permanent and temporary short-term loss and/or damage to habitat used by foraging and commuting barn owls, e.g, loss of grassland and hedgerows.* *Permanent and/or temporary short-term loss and disturbance to nesting and / or roosting sites. Confirmed nesting sites comprise BOB3 (SJ35043 66642) and T465 (SJ 41653 71153), with T471 precautionarily assessed as a nesting site (due to access restrictions).*	*In the absence of secondary mitigation, construction could lead to effects of **Moderate adverse***

Ecological Receptor	*Potential Impacts and Effects*	*Likely Significant Effects*
	Temporary and short-term disturbance and displacement due to increased noise, vibration, visual, dust and light pollution during construction which may also lead to reduced breeding and fledging of chicks. *Temporary short-term disturbance to foraging and commuting barn owls and temporary short-term disturbance and displacement of potential nesting and / or roosting sites may occur at trenchless crossing locations where 24 hour working is proposed over a four-week duration (TRS 01, TRS 02, TRS 28, TRS 31/32, TRS 38 and TRS 37),* *Direct and indirect effects to barn owl, including both temporary and short term, and permanent effects, may result in negative effects significant at a County scale.*	*significance (**Significant**)*
Wintering Birds (including redshank)	*Direct mortality and/or injury to wintering birds as a result of construction activities.* *Temporary (short-term) and permanent loss, including functional loss, of foraging, commuting, and sheltering habitats used by wintering birds.* *Temporary short-term disturbance and displacement effects associated with construction affiliated operations, including increased noise, light, vibration and plant or personnel movements. This is also applicable at the River Dee trenchless crossing location (TRS 28) where 24 hour working is proposed over a four-week duration. Increased disturbance may lead to increased use of energy resources coupled with a decrease in foraging time, leading to depletion of fat reserves and overall decline in condition and breeding success. This is of particular importance for redshank. Given the topography of the landscape comprising steep sided banks associated with the river at low tide (when birds utilise the mud flats), redshank (and other bird species) are likely to be sheltered from disturbance effects, particularly personnel movements, associated with construction. On the northern bank in particular, given the presence of a popular cycle pathway, any birds using mudfats along this stretch will be habituated to a degree of disturbance associated with recreational movements along the riverbank (e.g. cyclists, dog walkers, walkers). Redshank were recorded using the bare banks of the River Dee during winter months and were not recorded regularly on any other survey transect throughout the year. Given the above, redshank are assessed to be of Local value.* *Temporary short-term habitat degradation through incidental pollution events, such as chemical spills and construction drainage run-off, impacting waterbodies and terrestrial habitat that may be used for foraging or roosting.* *Direct and indirect effects to wintering birds, including both temporary and short term, and permanent effects, may result in negative effects significant at a Local scale.*	*In the absence of secondary mitigation, construction could lead to effects of **Moderate adverse** significance (**Significant**)*
Breeding Birds	*Direct mortality and/or injury as a result of construction activities; accidental loss of nests either directly or indirectly (e.g. through displacement of parent birds leading to loss of chicks/eggs).* *Temporary (short-term) and permanent loss of nesting and foraging habitats during construction, for example hedgerow, individual trees, and scrub.* *Temporary short-term disturbance and displacement associated with construction affiliated operations, including increased noise, light, vibration and plant or personnel movements. This is also applicable at trenchless crossing locations where 24 hour working is proposed over a four-week duration (TRS 01, TRS 02, TRS 28, TRS 31/32, TRS 38 and TRS 37), Increased disturbance may lead to increased use of energy resources coupled with a decrease in foraging time, leading to depletion of fat reserves and overall decline in condition and breeding success.* *Temporary (short -term habitat degradation through incidental pollution events, such as chemical spills and construction drainage run-off, impacting waterbodies and terrestrial habitat that may be used for foraging or nesting.* *Direct and indirect effects to breeding birds, including both temporary and short term, and permanent effects, may result in negative effects significant at a Local scale.*	*In the absence of secondary mitigation, construction could lead to effects of Minor adverse significance (Not significant)*

Ecological Receptor	*Potential Impacts and Effects*	*Likely Significant Effects*
Fish	*Direct and indirect loss of sensitive fish habitat which may impact fish populations as a result of construction techniques (e.g., open cut trench crossing techniques).* *Habitat severance and barriers to fish migration may occur where there is a requirement for the creation of dry-works areas.* *Temporary short-term disturbance and/or dispersal of fish populations from works areas due to increased noise, light and vibration impacts associated with construction of both open cut trench and trenchless crossings (for example, drilling activities, pile driving and vehicle/plant movements), leading to disturbances to fish migrations, spawning and embryo mortality. Use of artificial lighting during proposed 24 hour working associated with the River Dee (TRS 28) trenchless crossing may result in temporary short-term disturbance and / or dispersal of fish populations.* *Temporary short-term habitat and water quality degradation as a result of incidental pollution events (suspended sediment or pollutant run off) may result in direct and indirect mortality and/or injury of fish.* *Where temporary culverts are to be installed at watercourse crossing points, there is potential for direct impacts through localised loss and/or damage of habitats.* *Direct and indirect effects to fish, including both temporary and short term, and permanent effects, may result in negative effects significant at a Regional scale.*	*In the absence of secondary mitigation, construction could lead to effects of* ***Major adverse*** *significance (****Significant****)*
Aquatic Macroinvertebrates	*Temporary short-term direct and indirect habitat loss through open cut trench crossing techniques.* *Temporary short-term disturbance and/or dispersal of aquatic macroinvertebrates from works areas due to increased noise, light and vibration impacts associated with construction of open cut trench crossings (for example, pile driving and vehicle/plant movements).* *Temporary short-term habitat and water quality degradation as a result of incidental pollution events (suspended sediment or pollutant run off) may result in direct and indirect mortality.* *Where temporary culverts are to be installed at watercourse crossing points, there is potential for direct impacts through localised loss and/or damage of habitats.* *Direct and indirect effects to aquatic macroinvertebrates, including both temporary and short term, and permanent effects, may result in negative effects significant at a local scale.*	*In the absence of secondary mitigation, construction could lead to effects of Minor adverse significance (Not significant)*
Macrophytes	*Open cut trench crossing techniques have the potential to impact macrophyte communities both directly, through riverbank and channel bed removal, and indirectly through water quality degradation as a result of incidental pollution events (suspended sediment or pollutant run off).* *Where temporary culverts are to be installed at watercourse crossing points, there is potential for direct impacts through localised loss and/or damage of habitats.* *Direct and indirect effects to macrophytes, including both temporary and short term, and permanent effects, may result in negative effects significant at a less than local scale.*	*In the absence of secondary mitigation, construction could lead to effects of Negligible significance (Not Significant)*

9.10. MITIGATION, COMPENSATION AND ENHANCEMENT MEASURES

9.10.1. The mitigation, compensation and enhancement measures for Biodiversity have changed due to the proposed design changes.

9.10.2. The Ecological Mitigation Measure REAC References **D-BD-005** and **D-BD-067** within **Table 9.12** of **Chapter 9 (AS-025)** have been updated due to errata items. Therefore, the rows presenting information for **D-BD-005** and **D-BD-067** within **Table 9.12** of **Chapter 9 (AS-025)** should be replaced with the text in **Table 9.7** below:

Table 9.7 Design and Mitigation Measures and their Delivery Mechanisms

Receptor/Location	*Timing of Mitigation Measure*	*Ecological Mitigation Measure REAC Reference*	*Description*	*Mitigation Purpose or Objective*
Entire Newbuild Infrastructure Boundary	*Design, Pre-construction*	*D-BD-005*	*A pre-commencement walkover survey will be completed by the ECoW (or appointed ecologist) of areas within the Newbuild Infrastructure Boundary (extended where necessary to encompass a relevant zone of influence as determined by the ECoW/ecologist) of any areas that could not be accessed during baseline surveys completed in 2021 and 2022. The walkover survey shall include a ground level assessment of land in search of presence or activity of protected and or notable species. The walkover survey results will determine the need for additional survey, mitigation and/or licensing beyond that included within the ES; to be carried out in advance of construction commencement. Results of surveys and any needs for mitigation and licensing will be discussed with relevant stakeholders (.e.g Natural England, Natural Resources Wales, Environment Agency) where required, with amendments captured within the detailed CEMPs to be approved for the DCO Proposed Development.*	*To update baseline survey results and protect species and habitats.*
Entire Newbuild Infrastructure Boundary	*Construction*	*D-BD-067*	*During or following Detailed Design, the Construction Contractor will undertake a sensitivity test of the Habitats Regulations Assessment (HRA) should any of the project parameters change (as assessed within the HRA). The sensitivity test will seek to confirm that the conclusions of the HRA remain valid.*	*To protect biodiversity and ensure legal compliance with the Habitats Regulations*

9.11. RESIDUAL EFFECTS

9.11.1. The residual effects for Biodiversity have changed due to the proposed design changes.

9.11.2. The Mitigation and Enhancement measures within **Table 9.13** of **Chapter 9 (AS-025)** has been updated to align with entries within the **REAC (Revision C)**. Also, the significant effects for Wintering Birds (including redshank) have changed to **Moderate adverse (Significant)** and residual effects for the construction stage have changed to **minor adverse (Not significant)** as a result of the proposed design changes.

9.11.3. Therefore, **Table 9.13** of **Chapter 9 (AS-025)** has changed and should be replaced with **Table 9.8** below.

Table 9.8 Summary of Residual Effects

Description of the effect		*Significant Effects*	*Mitigation and Enhancement measure*	*Residual Effect*		
				Construction	***Operation***	***Decommissioning***
Statutory Designated Sites		***Moderate adverse (Significant)***	*D-BD-001, D-BD-002, D-BD-004, D-BD-007, D-BD-009, D-BD-013, D-BD-015, D-BD-018, D-BD-019, D-BD-041, D-BD-042, D-BD-054, D-LV-036, D-PD-001, D-PD-004, D-AQ-004,*	*Minor adverse significance (Not significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*
Non-Statutory Designated Sites		***Moderate adverse (Significant)***	*D-BD-001, D-BD-002, D-BD-004, D-BD-007, D-BD-009, D-BD-013, D-BD-015, D-BD-018, D-BD-019, D-BD-041, D-BD-042, D-BD-054, D-LS-001, D-LV-034, D-LV-036, D-PD-004, D-AQ-004, D-WR-067*	*Minor adverse significance (Not significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*
Habitats of Conservation Importance	*Woodland and Ancient Woodland*	***Moderate adverse (Significant)***	*D-BD-001, D-BD-004, D-PD-004, D-BD-008, D-BD-009, D-BD-010, D-BD-013, D-BD-015, D-BD-062, D-BD-063, D-LV-014, D-LV-015, D-LV-017, D-LV-018, D-LV-019, D-LV-020, D-LV-026, D-LV-028, D-LV-030, D-LV-031, D-LV-032, D-LV-033, D-LV-034, D-LV-036, , D-AQ-004*	*Minor adverse significance (Not significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*
	Hedgerows	***Moderate adverse (Significant)***	*D-BD-001, D-BD-004, D-PD-004, D-BD-009, D-BD-012, D-BD-013, D-BD-015, D-BD-031, D-BD-032, D-BD-033, D-BD-062, D-LV-016, D-LV-026, D-LV-028, D-LV-032, D-LV-033, D-LV-034, D-LV-036, D-AQ-004*	*Minor adverse significance (Not significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*
	Coastal and Floodplain Grazing Marsh	***Moderate adverse (Significant)***	*D-BD-001, D-BD-004, D-BD-009, D-BD-015, D-BD-062, D-LS-001, D-LS-026, D-LV-034, D-LV-036, D-AQ-004*	*Minor adverse significance (Not significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*
Aquatic habitat – Watercourses		***Moderate adverse (Significant)***	*D-BD-001, D-BD-002, D-BD-004, D-BD-009, D-BD-011, D-BD-015, D-BD-018, D-BD-019, D-BD-046, D-BD-048, D-BD-049, D-BD-052, D-BD-054, D-BD-059, D-BD-060, D-BD-064, D-LS-026, D-LV-034, D-PD-004, D-PD-009, , D-AQ-004, D-WR-003, D-WR-005, D-WR-009, D-WR-022, D-WR-023, D-WR-027, D-WR-028, D-WR-029, D-WR-035, D-WR-044, D-WR-050, D-WR-062, D-WR-063*	*Minor adverse significance (Not significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*
Aquatic habitats - Ponds		*Negligible (Not Significant)*	*D-BD-001, D-BD-002, D-BD-004, D-BD-009, D-BD-011, D-BD-015, D-LS-026, D-LV-034, D-PD-004, , D-AQ-004, D-WR-003, D-WR-028, D-WR-035, D-WR-044*	*Negligible (Not Significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*

Description of the effect		*Significant Effects*	*Mitigation and Enhancement measure*	*Residual Effect*		
				Construction	***Operation***	***Decommissioning***
Amphibians (incl. great crested newt)		***Moderate adverse (Significant)***	*D-BD-001, D-BD-002, D-BD-004, D-BD-009, D-BD-011, D-BD-015, D-BD-023, D-BD-044, D-BD-045, D-LV-034, D-PD-004, , D-AQ-004*	*Minor adverse significance (Not significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*
Bats	*Roosts*	***Moderate adverse (Significant)***	*D-BD-001, D-BD-002, D-BD-004, D-BD-009, D-BD-015, D-BD-024, D-BD-025, D-BD-026, D-BD-027, D-BD-028, D-BD-029, D-BD-030, D-BD-066, D-LV-034, D-PD-004, D-PD-013,*	*Negligible (Not Significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*
	Foraging and commuting bats	***Moderate adverse (Significant)***	*D-BD-001, D-BD-002, D-BD-004, D-BD-009, D-BD-015, D-BD-031, D-PD-004, D-PD-013,*	*Minor adverse significance (Not significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*
Badger		*Minor adverse (Not Significant)*	*D-BD-001, D-BD-002, D-BD-004, D-BD-009, D-BD-015, D-PD-004, D-PD-013, D-PD-014, D-BD-020, D-BD-021, D-BD-022, D-BD-023, D-LV-034, D-AQ-004*	*Negligible (Not Significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*
Barn Owl		***Moderate adverse (Significant)***	*D-BD-001, D-BD-002, D-BD-004, D-BD-009, D-BD-015, D-PD-004, D-PD-013, D-PD-014, D-BD-037, D-BD-038, D-BD-039, D-BD-040, D-BD-066, D-LV-034, D-AQ-004*	*Minor adverse significance (Not significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*
Riparian Mammals (Otter and Water vole)		***Moderate adverse (Significant)***	*D-BD-001, D-BD-002, D-BD-004, D-BD-009, D-BD-015, D-BD-018, D-BD-019, D-BD-034, D-BD-035, D-BD-036, D-BD-050, D-BD-059, D-BD-060, D-LV-034, D-PD-004, D-AQ-004, D-WR-027, D-WR-028, D-WR-029, D-WR-062, D-WR-063*	*Minor adverse significance (Not Significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*
Wintering Birds (including redshank)		***Moderate adverse (Significant)***	*D-BD-001, D-PD-004, D-BD-004, D-BD-009, D-BD-015, D-PD-013, D-PD-014, D-LV-034, D-NV-009*	*Minor adverse significance (Not Significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*
Breeding Birds		*Minor adverse (Not significant)*	*D-BD-001, D-BD-004, D-PD-004, D-BD-009, D-BD-015, D-BD-043, D-BD-066, D-LV-034, D-PD-013, D-PD-014,*	*Negligible (Not Significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*
Fish		***Major adverse (Significant)***	*D-BD-001, D-BD-004, D-BD-002, D-BD-009, D-BD-015, D-BD-018, D-BD-019, D-BD-050, D-BD-051, D-BD-054, D-BD-056, D-BD-057, D-BD-058, D-LV-034, D-PD-004, D-WR-009, D-WR-022, D-WR-023, D-WR-027*	*Minor adverse significance (Not significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*

Description of the effect	*Significant Effects*	*Mitigation and Enhancement measure*	*Residual Effect*		
			Construction	***Operation***	***Decommissioning***
Aquatic macroinvertebrates	*Minor adverse (Not significant)*	*D-BD-001, D-BD-004, D-BD-009, D-BD-011, D-BD-015, D-BD-018, D-BD-019, D-BD-054, D-LV-034, D-WR-009, D-WR-022, D-WR-023*	*Negligible (Not Significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*
Macrophytes	*Negligible (Not Significant)*	*D-BD-004, D-BD-009, D-BD-011, D-BD-019, D-BD-060, D-LV-034, D-WR-027, D-WR-028, D-WR-029*	*Negligible (Not Significant)*	*Negligible (Not Significant)*	*Negligible (Not Significant)*

9.12. IN-COMBINATION CLIMATE CHANGE IMPACTS

9.12.1. There are no additional in-combination climate change impacts identified for the Biodiversity assessment from the proposed design changes. Therefore, the text within **Section 9.12** of **Chapter 9 (AS-025)** remains unchanged and valid.

9.13. MONITORING

9.13.1. Monitoring requirements for Biodiversity have not changed as a result of the proposed design changes. Therefore, the text within **Section 9.13** of **Chapter 9 (AS-025)** remains unchanged and valid.

9.14. CONCLUSIONS

9.14.1. The significant effects for Wintering Birds have changed to ***Moderate adverse (Significant)*** and residual effects for the construction stage have changed to *minor adverse (Not significant)* as a result of the proposed design changes. However, the residual effects for Biodiversity are not significant as a result of the proposed design changes, which is the same as the residual effects reported in Revision B of **Chapter 9: Biodiversity (AS-025)**.

9.14.2. Therefore, the proposed design changes as set out in **Table 1.1** do not result in changes to the likely significant effects as reported in Revision B of **Chapter 9: Biodiversity (AS-025)**. The conclusions of Revision B of **Chapter 9: Biodiversity (AS-025)** has therefore not materially changed.

10. GREENHOUSE GASES

10.1. INTRODUCTION

10.1.1. **Chapter 10: Greenhouse Gases** of the 2022 ES **(APP-062)** reports the outcome of the assessment of the likely significant effects of the DCO Proposed Development on greenhouse gases (GHG).

10.1.2. This ES Addendum chapter considers only the likely significant effects of the proposed design changes as outlined in **Table 1.1** of **Chapter I** of this ES Addendum. **Table 1.1** indicates the proposed design changes that have been scoped into the assessment of likely significant effects for greenhouse gases.

10.1.3. No appendices or figures were submitted in support of **Chapter 10: Greenhouse Gases** of the 2022 ES **(APP-062)**.

10.2. LEGISLATIVE AND POLICY FRAMEWORK

10.2.1. The legislative and policy framework for GHG has not changed due to the proposed design changes however since the publication of the 2022 ES, there have been updates to the following relevant legislation and policies:

- Flintshire Local Development Plan (LDP) (**Ref.10.26**)

10.2.2. The Flintshire LDP has been adopted which includes climate-related strategic policies. Therefore, the following text should be added at the end of the Local subheading:

- *Flintshire Local Development Plan (LDP) (Ref.10.26)*
  - *Policy EN13 (renewable and low energy development): outlines the requirements for the permitting of renewable and low carbon energy development;*
  - *Policy STR14 (climate change and environmental protection): details the Council's strategy to ensure environmental protection, including encouraging energy efficient development and environmentally acceptable renewable and zero / low carbon energy generation; and*
  - *PC4 (sustainability and resilience of new development): requires developments to be sustainably located and accessible to non – private car means of travel, make efficient use of resources through sustainable construction techniques and materials and incorporate renewable energy technologies and carbon sinks where appropriate.*

10.3. SCOPING OPINION AND CONSULTATION

10.3.1. The scoping opinion has not changed, and no additional consultation has been undertaken regarding the proposed design changes in relation to GHG.

10.3.2. No amendments to **Appendix 1.3 – Environmental Statement – Scoping Opinion Responses (APP-076)** are required in relation to GHG due to the proposed design changes. Therefore, the text within **Section 10.3** of the 2022 ES **(APP-062)** remains unchanged and valid.

10.4. SCOPE OF THE ASSESSMENT

10.4.1. The scope of the assessment for GHG has not changed due to the proposed design changes. Therefore, the text within **Section 10.4** of the 2022 ES **(APP-062)** remains unchanged and valid.

10.5. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

10.5.1. The assessment methodology and significance criteria for GHG has not changed due to the proposed design changes. Therefore, there text within **Section 10.5** of the 2022 ES **(APP-062)** remains unchanged and valid.

10.6. BASELINE CONDITIONS

10.6.1. The baseline conditions for GHG assessment as a result in the changes to the Newbuild Infrastructure Boundary will not have a material impact on the current and future carbon storage of habitats within the Newbuild Infrastructure Boundary reported in the 2022 ES **(APP-062)**. Therefore, the text within **Section 10.6** of the 2022 ES **(APP-062)** remains unchanged and valid.

10.7. SENSITIVE RECEPTORS

10.7.1. The sensitive receptors for the GHG assessment have not changed for the proposed design changes. Therefore, the text within **Section 10.7** of the 2022 ES remains unchanged and valid.

10.8. DESIGN DEVELOPMENT, IMPACT AVOIDANCE, AND EMBEDDED MITIGATION

10.8.1. The design development, impact avoidance and embedded mitigation for GHG have not changed due to the proposed design changes. Therefore, the text within **Section 10.8** of the 2022 ES **(APP-062)** remains unchanged and valid.

10.9. PRELIMINARY ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

10.9.1. The preliminary assessment of likely impacts and effects has changed as a result of the proposed design changes.

10.9.2. The designs of the relocated Cornist Lane BVS (PS01) and Northop Hall AGI (PS03) will remain unchanged. Therefore, the construction materials or generation of waste from data assessed for Cornist Lane BVS (PS01) and Northop Hall AGI in **Section 10.9** of the 2022 ES **(APP-062)** remains unchanged and valid.

10.9.3. The removal of the slurry tank at New Bridge Farm (PS02a) would adopt the mitigation measures set out in **Section 10.10** of the 2022 ES **(APP-062)**, using local waste disposal facilities where practicable and reducing the potential for any disposal of waste to landfill.

10.9.4. The extension of the Newbuild Infrastructure Boundary to the north to reduce the impact on veteran trees at Backford Brook (PS04) will reduce the GHG emissions from construction LULUCF (A5) and increase carbon sequestration of habitats to be retained, improving operational LULUCF (B8). The changes to the Newbuild Infrastructure Boundary associated with proposed design changes PS02a, PS02b, PS06, PS08, PS11, PS12, PS13, PS17, PS18 and PS19 will also have an impact on the operational LULUCF from carbon sequestration reported in the 2022 ES **(APP-062)**. However due to the scale of the Newbuild Infrastructure Boundary changes, this is not expected to materially affect the assessment of construction and operational LULUCF (A5/B8) reported in **Tables 10.9** and **10.11** the 2022 ES **(APP-062)**.

10.9.5. The extension in construction working hours to include Saturday morning working (PS05) will result in an increase in emissions from construction plant and equipment use (A5) by 988 tCO_2e compared to the results reported **Table 10.8** of **Section 10.9** of the 2022 ES **(APP-062)**. Therefore, **Table 10.8** of **Section 10.9** has changed and should be replaced with **Table 10.1** below.

Table 10.1 - Estimated Plant Use Emissions During Construction (A5)

Stage	*Plant Type*	*Total (tCO_2e)*
Newbuild Carbon Dioxide Pipeline	*Bulldozers*	*1,033*
	Articulated haul trucks	*2,260*
	Excavators	*1,705*
	Vibratory Soil Compactor	*465*
	Rough Terrain Concrete Trucks	*581*
	Concrete pump trucks	*170*
	Motor Graders	*581*
	Side Boom Pipelayers	*1,162*
	Directional Drill	*148*
	Boring Machine	*443*

	Trenching machine	*369*
	All-Terrain cranes	*664*
	Other equipment	*1,131*
AGIs and BVSs	*Mini Excavator*	*69*
	Tandem Vibratory Roller	*12*
	Telehandler	*14*
	Site Dumper	*15*
	Motor Graders	*17*
	Other equipment	*29*
	Total	***10,868***

10.9.6. The GHG assessment in the 2022 ES assumed that plant and equipment used during end-of-life decommissioning will be similar to that used during construction. Therefore, GHG emissions arising from end-of-life decommissioning plant and equipment use (C1) also increases by 988 tCO_2e as a result of PS05 compared to the results reported in **Table 10.15** of **Section 10.9** of the 2022 ES **(APP-062)**. Therefore, **Table 10.15** of **Section 10.9** has changed and should be replaced with **Table 10.2** below.

Table 10.2 - Estimated Plant Use Emissions During Decommissioning (C1)

Plant Type	***Total (tCO_2e)***
Demolition and hauling equipment	*10,868*
Total	***10,868***

10.9.1. Construction stage emissions from embodied carbon (A1-3), transport of materials to site (A4), transport and disposal of waste (A5) and construction plant use (A5) have increased by 1% as a result of the extension in construction working hours to include Saturday morning working (PS05). This does not materially impact assessment of GHG emissions, therefore, the conclusions on the likely effects during the construction stage within **Section 10.9** of the 2022 ES **(APP-062)** remains unchanged and valid.

10.9.2. End of life decommissioning emissions have increased by 8% as a result of the extension in construction working hours to include Saturday morning working (PS05). Whilst this is a material increase in emissions, based on the results in **Table 10.2** above, IEMA's 2022 guide to assessing GHG emissions and evaluating their significance and professional judgement, the conclusions on the likely effects during the end-of-life decommissioning phase within **Section 10.9** of the 2022 ES **(APP-062)** remains unchanged and valid.

10.10. MITIGATION AND ENHANCEMENT MEASURES

10.10.1. The mitigation and enhancement measures for GHG have not changed due to the proposed design changes. Therefore, the text within **Section 10.10** of the 2022 ES **(APP-062)** remains unchanged and valid.

10.11. RESIDUAL EFFECTS

10.11.1. No additional residual effects have been identified for GHG due to the proposed design changes. Therefore, the text within **Section 10.11** of the 2022 ES **(APP-062)** remains unchanged and valid.

10.12. MONITORING

10.12.1. The additional proposed design changes do not change the requirements for monitoring measures during construction. Therefore, the text within **Section 10.12** of the 2022 ES **(APP-062)** remains unchanged and valid.

10.13. CONCLUSIONS

10.13.1. The proposed design changes as set out in **Table 1.1** do not result in changes to the likely significant effects as reported in the 2022 ES (APP-062) for greenhouse gases. The 2022 ES conclusions are therefore not materially changed for this topic.

10.14. REFERENCES

10.14.1. **Ref. 10.26** has been added to Section 10.2 of the 2022 ES **(APP-062)**:

- **Ref. 10.26** - Flintshire County Council. (2023). Flintshire Local Development Plan 215 - 2030. Retrieved from https://www.flintshire.gov.uk/en/PDFFiles/Planning/Examination-Library-Documents/FINAL-LDP-Written-Statement-

11. LAND AND SOILS

11.1. INTRODUCTION

11.1.1. **Chapter 11: Land and Soils** of the 2022 ES **(APP-063)** reports the outcome of the assessment of the likely significant effects of the DCO Proposed Development on land and soils, including contaminated land, mineral resources, coal mining and agricultural land.

11.1.2. This ES Addendum chapter considers only the likely significant effects resulting from the proposed design changes as outlined in **Table 1.1** of **Chapter I** of this ES Addendum. **Table 1.1** indicates the proposed design changes that have been scoped into the assessment of likely significant effects for Land and Soils**.**

11.1.3. **Appendices 11.1** to **11.6** of the 2022 ES **(APP-117 to APP-120, AS-043 to AS-052, APP-131 to APP-137)** remains unchanged and valid.

11.1.4. No figures were submitted in support of **Chapter 11: Land and Soils** of the 2022 ES **(APP-063)**.

11.2. LEGISLATIVE AND POLICY FRAMEWORK

11.2.1. The legislative and policy framework for Land and Soils has not changed due to the proposed design changes. Since the publication of the 2022 ES, there have been no updates to relevant legislation and policy for Land and Soils. Therefore, the text within **Section 11.2** of the 2022 ES **(APP-063)** remains unchanged and valid.

11.3. SCOPING OPINION AND CONSULTATION

11.3.1. The scoping opinion has not changed, and no additional consultation has been undertaken regarding the proposed design changes in relation to Land and Soils.

11.3.2. No amendments to **Appendix 1.3 – Environment Statement - Scoping Opinion Responses (APP-076)** are required in relation to Land and Soils due to the proposed design changes. Therefore, the text within **Section 11.3** of the 2022 ES **(APP-063)** remains unchanged and valid.

11.4. SCOPE OF THE ASSESSMENT

11.4.1. The scope of the assessment for Land and Soils has not changed due to the proposed design changes. Therefore, the text within **Section 11.4** of the 2022 ES **(APP-063)** remains unchanged and valid.

11.5. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

11.5.1. The assessment methodology and significance criteria for Land and Soils has not changed due to the proposed design changes. Therefore, the text within **Section 11.5** of the 2022 ES **(APP-063)** remains unchanged and valid.

11.6. BASELINE CONDITIONS

11.6.1. The baseline conditions for Land and Soils have changed as a result of the relocation of Cornist Lane BVS (PS01) and Northop Hall AGI (PS03) and a change to impacts on the loss of agricultural land, therefore **Table 11.7** of the 2022 ES **(APP-063)** has changed and should be replaced with **Table 11.1** below.

Agricultural Soils and Agricultural Land

Table 11.1 - Hectarage of Permanently Sealed Agricultural Land

Name	*Hectare (ha)*	*BMV Grade*
Ince AGI	*0.180*	*Grade 3a**
Northop Hall AGI*	*0.1155*	*Not surveyed (prior to design change Grade 3b)*
Flint AGI	*0.560*	*Grade 3a*
Rock Bank BVS	*0.1050*	*Grade 2*
Mollington BVS	*0.1050*	*Grade 2*
Aston Hill BVS	*0.1050*	*Grade 3a*
Cornist Lane BVS*	*0.1050*	*Not Surveyed (prior to design change Grade 3a)*
Pentre Halkyn BVS	*0.105*	*Grade 3a*
Babell BVS	*0.105*	*Grade 2**
Mitigation Area 1*	*1.699*	*Grade 3b*
Mitigation Area 2	*0.364*	*Grade 3a*
Mitigation Area 3	*0.445*	*Grade 3a*
Mitigation Area 4	*1.375*	*Grade 3a*
Mitigation Area 5	*1.335*	*Grade 2*
Mitigation Area 6	*1.173*	*Grade 3a*
Mitigation Area 7	*1.133*	*Grade 3a*
Mitigation Area 8	*0.768*	*Grade 2*
Mitigation Area 9	*2.347*	*Grade 2 / 3a / Not surveyed*

Mitigation Area 10	*4.127*	*Grade 3a / Not surveyed*
Altami Brook*	*3.439*	*Not surveyed*
Mitigation Area 11	*0.323*	*Grade 3a*
Mitigation Area 12	*0.930*	*Grade 3a*
Mitigation Area 13*	*1.294*	*Grade 3b*
Total BMV assuming BMV grades for Northop Hall and Cornist Lane	*19.245*	*excludes MA1 and MA13*

** Provisional Grade 3 within report so upgraded to 3a for conservatism*
***Grade 2 and 3a so upgraded to Grade 2 only for conservatism*
****Excluded from calculation as not BMV*
*****Not surveyed included as BMV for conservatism*

11.6.2. Following the change to **Table 11.2**, **paragraph 11.6.90** should be replaced with the following text:

*The AGIs, BVSs and Mitigation Areas in **Table 11.1** will sterilise a current total of 19.245ha BMV agricultural land assuming a worst-case scenario of Northop Hall and Cornist Lane being located on BMV land, for the duration of the development.*

11.7. SENSITIVE RECEPTORS

11.7.1. The sensitive receptors for Land and Soils have not changed for the proposed design changes. Therefore, the text within **Section 11.7** of the 2022 ES **(APP-063)** remains unchanged and valid.

11.8. DESIGN DEVELOPMENT, IMPACT AVOIDANCE, AND EMBEDDED MITIGATION

11.8.1. The design development, impact avoidance and embedded mitigation for Land and Soils have not changed due to the proposed design changes. Therefore, the text within **Section 11.8** of the 2022 ES **(APP-063)** remains unchanged and valid.

11.9. PRELIMINARY ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

11.9.1. A reasonable worse case assessment approach has been adopted which assumes all land not surveyed is BMV. Surveying the land is not considered likely to reduce the outcome of the assessment and therefore is not proposed at this stage. The increase in BMV land sterilisation remains a ***Moderate Adverse (significant)*** affect which has not changed the outcome of the assessment.

11.9.2. The likely impacts and effects previously identified within **Section 11.9** of the 2022 ES **(APP-063)** are not affected by the proposed design changes and therefore remain unchanged and valid.

11.10. MITIGATION AND ENHANCEMENT MEASURES

11.10.1. The mitigation and enhancement measures for Land and Soils have not changed due to the proposed design changes. Therefore, the text within **Section 11.10** of the 2022 ES **(APP-063)** remains unchanged and valid.

11.11. RESIDUAL EFFECTS

11.11.1. No additional residual effects have been identified for Land and Soils due to the proposed design changes. Therefore, the text within **Section 11.11** of the 2022 ES **(APP-063)** remains unchanged and valid.

11.12. IN-COMBINATION CLIMATE CHANGE IMPACTS

11.12.1. There are no additional in-combination climate change impacts identified for Land and Soils from the proposed design changes. Therefore, the text within **Section 11.12** of the 2022 ES **(APP-063)** remains unchanged and valid.

11.13. MONITORING

11.13.1. The proposed design changes do not change the requirements for further monitoring measures during construction. Therefore, the text within **Section 11.13** of the 2022 ES **(APP-063)** remains unchanged and valid.

11.14. CONCLUSIONS

11.14.1. A reasonable worse case assessment approach has been adopted which assumes all land not surveyed is BMV. Surveying the land is not considered likely to reduce the outcome of the assessment and therefore is not proposed at this stage. The increase in BMV land sterilisation remains a ***Moderate Adverse (significant)*** affect which has not changed the outcome of the assessment.

11.14.2. The proposed design changes as set out in **Table 1.1** do not result in changes to the likely significant effects as reported in the 2022 ES **(APP-063)** for land and soils. The 2022 ES conclusions are therefore not materially changed for this topic.

12. LANDSCAPE AND VISUAL

12.1. INTRODUCTION

12.1.1. **Chapter 12: Landscape and Visual** of the 2022 ES **(APP-064)** reports the outcome of the assessment of the likely significant effects of the DCO Proposed Development on landscape and visual receptors.

12.1.2. This ES Addendum chapter considers only the likely significant effects resulting from the proposed design changes as outlined in **Table 1.1** of **Chapter I** of this ES Addendum. **Table 1.1** indicates the proposed design changes that have been scoped into the assessment of likely significant effects for landscape and visual.

12.1.3. Revision A of **Appendices 12.1** and **12.4 (APP-138** and **APP-139)** has been updated and superseded by Revision B as a result of the proposed design changes.

12.1.4. Revision A of **Figures 12-1 to 12-5 (APP-203 to APP-207)** have been updated and superseded by Revision B as a result of the proposed design changes.

12.1.5. Revision A of the **Landscape Layouts (APP-023)** have been updated and superseded by Revision B as follows:

- D.2.14-LAY-Sheet 1 Northop Hall AGI Landscape Layout
- D.2.14-LAY-Sheet 3 Aston Hill BVS Landscape Layout
- D.2.14-LAY-Sheet 6 Barbell BVS Landscape Layout
- D.2.14-LAY-Sheet 7 Pentre Halkyn BVS Landscape Layout
- D.2.14-LAY-Sheet 8 Cornist Lane BVS Landscape Layout

12.2. LEGISLATIVE AND POLICY FRAMEWORK

12.2.1. The legislative and policy framework for landscape and visual has not changed due to the proposed design changes however since the publication of the 2022 ES, there have been updates to the following relevant legislation and policies:

- Flintshire County Council Unitary Development Plan 2000-2015 has been superseded by the Flintshire Local Development Plan 2015-2030 adopted 24 January 2023

12.2.2. Therefore **paragraph 12.2.10** of the 2022 ES **(APP-064)** should be replaced with the following text:

*The Flintshire Local Development Plan 2015-2030 (FCC, 2023) (**Ref. 12.17**) provides key guidance for the development throughout Flintshire. The Development Plan provides a number of policies relating to landscape and sets out a number of design ambitions for the area.*

12.2.3. All other legislative and policy framework text within **Section 12.2** of the 2022 ES **(APP-064)** remains unchanged and valid.

12.3. SCOPING OPINION AND CONSULTATION

12.3.1. The scoping opinion has not changed, and no additional consultation has been undertaken regarding the proposed design changes in relation to landscape and visual.

12.3.2. No amendments to **Appendix 1.3 – Environmental Statement – Scoping Opinion Responses (APP-076)** are required in relation to landscape and visual due to the proposed design changes. Therefore, the text within **Section 12.3** of the 2022 ES remains unchanged and valid.

12.4. SCOPE OF THE ASSESSMENT

12.4.1. The scope of the assessment for landscape and visual impacts has not changed due to the proposed design changes. Therefore, the text within **Section 12.4** of the 2022 ES **(APP-064)** remains unchanged and valid.

12.5. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

12.5.1. The assessment methodology and significance criteria for landscape and visual has changed due to further field surveys being undertaken to capture additional viewpoint information associated with the relocation of Cornist Lane BVS (PS01) and Northop Hall AGI (PS03).

12.5.2. Therefore **paragraph 12.5.5** of the 2022 ES **(APP-064)** should be replaced with the following text**:**

Site Visits and Surveys

An initial field survey was undertaken by a Chartered Landscape Architect between the 22 and 31 March 2021, followed by further site visits on the 05 July 2021, 09 February 2022; 06 May 2022 and 06 December 2022 to collect views for the Newbuild Carbon Dioxide Pipeline, AGIs and BVSs. Visits were carried out on the 26 July 2022 and 20 January 2023 to capture verified photographs for the six photomontage locations at the relevant AGI and BVS sites.

12.5.3. All other assessment methodology and significance criteria text within **Section 12.5** of the 2022 ES **(APP-064)** remains unchanged and valid.

12.6. BASELINE CONDITIONS

12.6.1. The baseline conditions for landscape and visual has changed due to the proposed design changes as follows.

Visual Amenity

12.6.2. The relocation of Northop Hall AGI (PS03) has resulted in viewpoints WAG18 and WAG19 being updated and WAG18a and WAG19a being added to **Table 12.5** of the 2022 ES. The relocation of Cornist Lane BVS (PS01) has resulted in viewpoints B9 being removed and replaced with B8, B9a and B9b in **Table 12.5** of the 2022 ES.

12.6.3. Therefore, **Table 12.5** of the 2022 ES **(APP-064)** has changed and should be replaced with **Table 12.1** below:

Table 12.1 – Overview of Viewpoints

Viewpoint Ref.	***Viewpoint Location***	***Identified Receptors***
WAGI1	*Cwm Eithion, Flint, Flintshire*	*Residents of Bryn Onnen*
WAGI2	*Llwyn Onn, Flint, Flintshire*	*Residents of farmsteads off Goed-Onn Farm & dwellings off Llwyn Onn* *Recreational users of Public Footpath Flint 56*
*WAGI3 (**Figure 12.5 – Photomontages, Volume IV**)*	*Allt-Goch Lane, Flint, Flintshire*	*Recreational users of Public Footpath Flint 66*
*WAGI4 (**Figure 12.5 – Photomontages, Volume IV**)*	*Allt-Goch Lane, Flint, Flintshire*	*Residents of Bryn Mawr* *Recreational users of Public Footpath Flint 68*
WAGI7	*Tros-y-mynydd, Starkey Lane, Northop*	*Residents of Tros-y-mynydd, Starkey Lane.* *Recreational users of Public Footpath Flint 70.*
*WAGI8 (**Figure 12.5 – Photomontages, Volume IV**)*	*North Wales Expressway, Northop Hall, Northop, Flintshire*	*Recreational users of Public Footpath Northop 4*
***WAGI8a** (**Figure 12.5 – Photomontages, Volume IV**)*	*Public Footpath Northop Hall 4, Village Road, Northop Hall, Flintshire*	*Recreational users of Public Footpath Northop 4*
WAGI9	*Village Road, Northop Hall, Flintshire*	*Residents at Northop Hall*
WAGI9a	*Village Road, Northop Hall, Flintshire*	*Visitors to Highfield Hall and Road Users (B5125)*
*EAGI5 (**Figure 12.5 – Photomontages, Volume IV**)*	*Ash Road, Elton*	*Residents within Elton*
EAGI9	*Yew Tree Close, Thornton-le-Moors*	*Residents within Yew Tree Close*
P1	*North Wales Expressway, Northop Hall, Northop*	*Residents off unnamed road off Connah's Quay Road* *Recreational users of Public Footpath Northop 2*
*P2a**	*Pinfold Lane, Northop Hall*	*Residents off Pinfold Lane*
*P2b**	*Magazine Lane, Northop Hall*	*Residents off Magazine Lane*
*P3**	*Holywell Road, Ewloe*	*Residents off Holywell Road, Ewloe* *Recreational users of Public Footpath Hawarden 144*

Viewpoint Ref.	*Viewpoint Location*	*Identified Receptors*
P4	*Moorfield Road, Hawarden, Aston*	*Residents of Aston* *Recreational users of Public Footpath Hawarden 31*
P4b	*Old Aston Hill, Deeside*	*Residents off Old Aston Hill*
P6	*Chester Road East, Queensferry, Sandycroft*	*Residents of Sandycroft off Chester Road*
P7	*Prince William Avenue, Queensferry, Sandycroft*	*Recreational users of the Wales Coastal Path*
*P8**	*B5129, Saltney Ferry, Saltney*	*Residents at Cop House Farm* *Recreational users of Public Footpath East Saltney 2*
P9	*Chester Millennium Greenway, Sealand*	*Recreational users of the Chester Millennium Greenway*
P10	*The Peg, Hermitage Road, Saughall*	*Residents of Saughall* *Recreational users of Public Footpath 263 FP6/2*
P12	*Gypsy Lane, Mollington*	*Residents off Gypsy Lane* *PRoW users Public Footpath 211 FP4/1*
P12a	*Station Road, Mollington, Lea-by-Backford*	*Recreational users of Public Footpath 177 FP2/1*
*P13a**	*Shropshire Union Canal Towpath, nr Liverpool Road, Backford*	*Recreational users of Shropshire Union Canal towpath* *Canal users of the Shropshire Union Canal*
*P13b**	*Shropshire Union Canal Towpath, nr Liverpool Road, Backford*	*Recreational users of Shropshire Union Canal towpath* *Canal users of the Shropshire Union Canal*
*P14a**	*Pretty Bridge, Caughall road, Chester*	*Recreational Users of Shropshire Union Canal towpath* *Canal users of the Shropshire Union Canal*
P15a	*Meadow View, Picton Lane, Picton*	*Residents off Picton Lane* *Recreational users of Public Bridleway 241 BR4/1*
P16	*Nr M56, Wervin, Stoak*	*Recreational users of Public Footpath 309 FP1/2 (North Cheshire Way)*
B3	*Ysceifiog, Babell*	*Residents of dwellings within Babell* *Recreational users of Public Footpath Ysceifiog 76*
B5	*Allt Y Chwiler, Pantlle, Brynford*	*Residents off Allt Chwiler*

Viewpoint Ref.	***Viewpoint Location***	***Identified Receptors***
B6	*Allt Y Chwiler, Pantlle, Brynford*	*Residents of dwellings off the B5121*
B7	*Ffordd Babell, Allt Y Chwiler junction, Pantlle, Brynford*	*Residents of Ffordd Babell and the B5121*
B8	*Lleprog Lane (north), Halkyn, Bagillt*	*Residents off Lleprog Lane*
B9a	*Cornist Lane, Flint, Flintshire*	*Residents off Cornist Lane* *Users of Cornist Lane*
B9b	*Footpath Flint 38, Cornist Lane, Flint, Flintshire*	*Recreational users of Public Footpath Flint 38*
B12	*Overlea Drive, Hawarden, Ewloe*	*Residents off Overlea Drive*
*B13 (**Figure 12.5 – Photomontages, Volume IV**)*	*Upper Aston Hall Lane, Hawarden, Aston*	*Recreational users of Public Footpaths Harwarden 29 and 34*
B14	*Overwood Avenue, Mollington*	*Residents at Overwood Avenue* *Recreational users of Public Footpath 211 FP9/1*
*B15 (**Figure 12.5 – Photomontages, Volume IV**)*	*Overwood Lane, Mollington*	*Residents at Mollington*

12.6.4. The proposed design changes associated with extension and reduction of the Newbuild Infrastructure Boundary are likely to be visible from viewpoints P3, P12, P13a and P13b. Following a review of the proposed design changes, it has been determined that the assessment has already accounted for landscape and visual impacts within the setting of these views and that there will be no fundamental changes to the assessment. The assessment for viewpoints P3, P12, P13a and P13b within the 2022 ES **(APP-064)** therefore remains unchanged and valid.

12.6.5. All other baseline conditions text within **Section 12.6** of the 2022 ES **(APP-064)** remains unchanged and valid.

12.7. SENSITIVE RECEPTORS

12.7.1. The sensitive receptors for the landscape and visual assessment have changed due to additional sensitive receptors in relation to visual amenity being identified as a result of the proposed design changes. These additional sensitive receptors are outline in **Table 12.1** above.

12.7.2. Therefore **paragraph 12.7.2** of the 2022 ES **(APP-064)** should be replaced with the following text**:**

*For visual amenity, sensitive receptors are set out in **Table 12.5** above (replaced by **Table 12.1** in this addendum chapter) but in summary include:*

- *Residents of Bryn Onnen;*
- *Residents of farmsteads off Goed-Onn Farm & dwellings off Llwyn Onn;*
- *Recreational users of Public Footpath Flint 56;*
- *Recreational users of Public Footpath Flint 66;*
- *Residents of Bryn Mawr;*
- *Recreational users of Public Footpath Flint 68;*
- *Residents of Tros-y-mynydd, Starkey Lane;*
- *Recreational users of Public Footpath Flint 70;*
- *Recreational users of Public Footpath Northop 4;*
- *Residents at Northop Hall;*
- *Residents within Elton;*
- *Residents within Yew Tree Close;*
- *Residents off unnamed road off Connah's Quay Road;*
- *Recreational users of Public Footpath Northop 2;*
- *Residents off Pinfold Lane;*
- *Residents off Magazine Lane;*
- *Residents off Holywell Road, Ewloe;*
- *Recreational users of Public Footpath Hawarden 144;*

- *Residents of Aston;*
- *Recreational users of Public Footpath Hawarden 31;*
- *Residents off Old Aston Hill;*
- *Residents of Sandycroft off Chester Road;*
- *Recreational users of the Wales Coast Path;*
- *Residents at Cop House Farm;*
- *Recreational users of Public Footpath East Saltney 2;*
- *Recreational users of the Chester Millennium Greenway;*
- *Residents of Saughall;*
- *Recreational users of Public Footpath 263 FP6/2;*
- *Residents off Gypsy Lane;*
- *PRoW users Public Footpath 211 FP4/1;*
- *Recreational users of Public Footpath 177 FP2/1;*
- *Recreational users of Shropshire Union Canal towpath;*
- *Canal users of the Shropshire Union Canal;*
- *Residents off Picton Lane;*
- *Recreational users of Public Bridleway 241 BR4/1;*
- *Recreational users of Public Footpath 309 FP1/2 (North Cheshire Way);*
- *Residents of dwellings within Babell;*
- *Recreational users of Public Footpath Ysceifiog 76;*
- *Residents off Allt Chwiler;*
- *Residents of dwellings off the B5121;*
- *Residents of Ffordd Babell and the B5121;*
- *Residents off Cornist Lane;*
- *Residents off Overlea Drive;*
- *Recreational users of Public Footpaths Harwarden 29 and 34;*
- *Residents at Overwood Avenue;*
- *Recreational users of Public Footpath 211 FP9/1;*
- *Residents at Mollington;*
- *Recreational users of Public Footpath Flint 38; and*
- *Visitors to Highfield Hall.*

12.7.3. All other sensitive receptor text within **Section 12.7** of the 2022 ES **(APP-064)** remains unchanged and valid.

12.8. DESIGN DEVELOPMENT, IMPACT AVOIDANCE, AND EMBEDDED MITIGATION

12.8.1. The design development, impact avoidance and embedded mitigation for the landscape and visual assessment have not changed due to the proposed design changes. Therefore, the text within **Section 12.8** of the 2022 ES **(APP-064)** remains unchanged and valid.

12.9. ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

12.9.1. The assessment of likely impacts and effects for the landscape and visual assessment has changed as a result of the proposed design changes as follows.

SIGNIFICANT EFFECTS

Construction Stage

12.9.2. Due to the scale of the proposed design changes relative to the identified landscape character areas associated with the DCO Proposed Development, it is concluded that the proposed design changes will not fundamentally alter the findings of the 2022 ES for construction landscape effects. Therefore **Table 12.6** of the 2022 ES **(APP-064)** therefore remains unchanged and valid.

12.9.3. Construction visual effects has changed as a result of the relocation of Northop Hall AGI (PS03) (viewpoints WAG18 and WAG19 updated and WAG18a and WAG19a added) and the relocation of Cornist Lane BVS (PS01) (viewpoints B9 removed and replaced with B8, B9a and B9b).

12.9.4. The construction visual effects of these updated and new viewpoints have been assessed in **Appendix 12.4 (Revision B).** The assessment concluded that construction visual effects for viewpoints WAGI19, WAGI19a, B8 and B9b would be *Minor adverse (not significant)* and therefore not reported in **Section 12.9**.

12.9.5. The assessment concluded that the construction visual effects of viewpoints WAGI8, WAGI8a and B9a would be *Moderate adverse (significant)*. Therefore, **Table 12.7** of the 2022 ES **(APP-064)** has changed and should be replaced with **Table 12.2** below:

Table 12.2 – Construction Visual Effects

Viewpoint Reference and Type	***Susceptibility, value, and overall sensitivity***	***Construction magnitude and effect***
Viewpoints associated with Wales based Above Ground Installations (WAGI)		
WAGI3 ***Recreational users of Public Footpath Flint 66*** ***Distance to AGI: Approx. 170m***	*Receptors are PRoW users. PRoW users are likely to be traversing this route seeking enjoyment of the countryside. The susceptibility of the receptor is recorded as High.* *The view is taken from a PRoW adjacent a road corridor and is not identified as a recognised or regionally significant view. The view contains detracting pylons. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*Construction activity associated with the DCO Proposed Development will be clearly visible in the foreground of the view. The scale of change is considered to be High. Construction activity will occupy the majority of the view, with views towards works associated with the proposed Flint AGI and beyond the existing field boundary vegetation visible to the right of the view. The existing vegetation within the surrounding landscape will provide some visual enclosure and limit the extent to which there will be visibility from the wider landscape. However, the geographical extent of change will be High. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
WAGI4 ***Residents of Bryn Mawr*** ***Recreational users of Public Footpath Flint 68*** ***Distance to AGI: Approx. 275m***	*Receptors are residents of dwellings with north-eastern views and PRoW users likely to be traversing this route seeking enjoyment of the countryside. The susceptibility of the receptors is recorded as High.* *The view is taken from a PRoW adjacent a road corridor and is not identified as a recognised or regionally significant view. The view contains a number of detracting features. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*The DCO Proposed Development site is clearly visible, comprising the foreground of the view, with the proposed Flint AGI location and Construction Compound area located beyond the existing hedgerow to the left of the view. Construction activity associated with the DCO Proposed Development will therefore be clearly visible within the view. The scale of change is considered to be High. Construction activity will occupy the majority of the foreground of the view, with proposed vegetation removal affording clear views towards works to the Flint AGI development to the north. It is noted however that while the view will occupy the foreground, the sloping topography and vegetation to the east will ensure that these changes will be locally perceived by visual receptors. The geographical extent of change is considered to be Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
WAGI7 ***Residents of Tros-y-mynydd, Starkey Lane.*** ***Recreational users of Public Footpath Flint 70.*** ***Distance to AGI: Approx. 670m***	*Receptors are residents of dwellings at home with western views, and PRoW users. PRoW receptors are likely to be traversing this route seeking enjoyment of the countryside, with an appreciation for the landscape. The susceptibility of the receptor is recorded as High.* *The view is taken from a PRoW. The view is not taken from within a recognised or regionally significant landscape and contains few detracting features. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*The DCO Proposed Development site is clearly visible, comprising part of the existing arable field to the forefront of the view and extending northwards to the adjoining field to the right of the view. Construction activity associated with the Newbuild Carbon Dioxide Pipeline will be clearly visible within the foreground of the view. Construction works associated with the proposed Flint AGI however is not likely to appear visible as it will be located beyond the sloping topography and existing vegetation structure within the wider landscape to the north. The scale of change is assessed as High. Construction activity associated with the DCO Proposed Development will be clearly visible in the foreground of the view with the limited field boundary vegetation and sloping nature of the topography to the west likely to increase the geographical extent of visibility. The geographical extent of*

		change is assessed as Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low. *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
WAGI8 ***Recreational users of Public Footpath Northop 4*** ***Distance to AGI: Approx 155m***	*Receptors are PRoW users. PRoW receptors are likely to be traversing this route seeking enjoyment of the countryside, with an appreciation for the landscape. The susceptibility of the receptor is recorded as High.* *The viewpoint is situated on a PRoW. The viewpoint is not within a recognised or regionally significant landscape and contains few detracting features. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium****.*	*The original DCO ES 2022 reported that at Construction Stage there would be an overall magnitude of change of* ***Medium*** *and an overall effect of* ***Moderate adverse (significant)****. This was as a result of clear views of construction activity associated with the DCO Proposed Development within the existing field for footpath users.* *With regard to the proposed design changes, construction activity associated with the DCO Proposed Development and the relocated Northop Hall AGI will be clearly visible, across the majority of the existing arable field within the foreground and extending northwards and westwards into the adjacent field and towards the B5125 in the background of the view. The scale of change is therefore assessed as High. The DCO Proposed Development will be clearly visible with the open grass field allowing for uninterrupted views towards construction activity associated with the proposed CO_2 pipeline and further views available towards the proposed Northop Hall AGI within the adjacent field. However, the rising topography and dense woodland vegetation cover that lies to the north of the B5125 and Highfield Hall will limit views towards the DCO Proposed Development from the north and northeast of the PRoW. The geographical extent of change is assessed as Low. The construction stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium.*** *Overall Effect:* ***Moderate adverse (significant).***
WAGI8a ***Recreational users of Public Footpath Northop 4*** ***Distance to AGI: Approx 114m***	*Receptors are PRoW users. PRoW receptors are likely to be traversing this route seeking enjoyment of the countryside, with an appreciation for the landscape. The susceptibility of the receptor is recorded as High.* *The view is taken from a PRoW. The view is not taken from within a recognised or regionally significant landscape and contains few detracting features. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium****.*	*Construction activity associated with the DCO Proposed Development and Northop Hall AGI will be clearly visible within the view. The DCO Proposed Development will extend across the existing grass pasture field within the foreground of the view and extend further westwards towards the Proposed Northop Hall AGI in the adjacent field. The scale of change is therefore assessed as High. The DCO Proposed development and Proposed Northop Hall AGI will be clearly visible within the view. While some degree of screening will be provided by the intervening field boundary vegetation, the sloping topography and open field network will ensure that clear views towards the Proposed DCO will be available. However, the sloping topography to the south and the dense woodland vegetation cover that lies to the north of the B5125 and Highfield Hall will serve to limit the availability of views to a relatively short section of the PRoW. The geographical extent of change is assessed as Low. The construction stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium.***

		Overall Effect: ***Moderate adverse (significant).***
Viewpoints associated England based Above Ground Installations (EAGI)		
EAGI5 ***Residents within Elton*** ***Distance to AGI: Approx. 1000m***	*Receptors are noted to be residents with eastern facing views. Residents. The overall susceptibility of the receptors is recorded as High* *The view is taken from the edge of a settlement and as such is likely to be frequently experienced. The view has detracting features and is not identified as locally or regionally significant. The value of the view is recorded as Negligible.* *Overall Sensitivity:* ***Medium***	*The DCO Proposed Development site is clearly visible within the fore and middle ground of the existing agricultural landscape and extending northwards towards Ines Park. Construction activity associated with the DCO Proposed Development will be perceptible within the view above the low-level vegetation. The scale of change is assessed as High. The DCO Proposed Development will extend across the view within the middle ground with construction elements also visible within the foreground to the right of the view. Trenchless Crossing Compounds associated with the trenchless crossing to the north will likely be visible in glimpsed views beyond the existing vegetation with the proposed Ince AGI further contained and located to the south of the existing industrial built form. The geographical extent of change is therefore considered to be High. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
EAGI9 ***Residents within Yew Tree Close*** ***Distance to AGI: Approx. 1190m***	*Receptors are residents of Yew Tree Close with eastern facing views. Residents have wide reaching views towards the wider landscape. Detracting features associated with industry at Stanlow and electricity pylons are evident within this view. The susceptibility of the receptor is recorded as High.* *The view is taken from a residential area. The view is not locally or nationally designated and there are noticeable detracting features evident within the view. The value of the view is recorded as Negligible.* *Overall Sensitivity:* ***Medium***	*The DCO Proposed Development site is clearly visible within the view extending across the agricultural landscape and extending northwards towards Stanlow Industrial Park. Construction activity will be visible across the view with Trenchless Crossing Compounds associated with trenchless crossings evident within the foreground and middle ground of the view. The scale of change is therefore High. The DCO Proposed Development will comprise the majority of the view and will be clearly perceptible within the landscape with the open landscape allowing for clear views towards construction activity. The geographical extent of change is recorded as High. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
Viewpoints associated with the Newbuild Carbon Dioxide Pipeline route (P)		
P1 ***Residents off unnamed road off Connah's Quay Road*** ***Recreational users of Public Footpath Northop 2*** ***Distance to Newbuild Infrastructure Boundary: Approx. 295m***	*Receptors are noted to be residents and PRoW users with eastern views. Users of the ProW are likely to be traversing this route seeking enjoyment of the countryside with an appreciation for the wider landscape. The susceptibility of the receptor is recorded as High.* *The view is not taken from within nationally or regionally significant landscape. The view contains few detracting features and is representative of a more rural character. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*Construction activity associated with the DCO Proposed Development will be visible within the background of the view partially filtered by the intervening vegetation. The scale of change is Medium. The DCO Proposed Development will be visible across a large portion of the view, with the undulating topography likely to afford some clear views towards the associated construction activity within the background of the view, with the foreground remaining unchanged. The geographical extent of change is recorded as Medium. The Construction Stage is short term, and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***

P3* ***Residents off Holywell Road*** ***Recreational users of Public Footpath Hawarden 144*** ***Distance to Newbuild Infrastructure Boundary: Approx. 125m***	*Receptors are residents and users of the PRoW and are likely to have an appreciation for the landscape. The susceptibility of the receptor is recorded as High.* *The view is taken from the route of a PRoW within a predominantly rural landscape. The view is not locally or regionally recognised but has few detracting features. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*Construction activity associated with the DCO Proposed Development will be visible in the background of the view occupying a large portion of the field of view and extending towards and beyond the road corridor. The scale of change is therefore assessed as Medium. The DCO Proposed Development will extend across the background of the view behind the existing residential dwellings at Ewole and farmstead associated with Newbridge Farm, however the rising topography to the west, will partially screen visibility of these changes as perceived in the wider landscape. The geographical extent of the change is assessed as Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
P4 ***Residents of Aston*** ***Recreational users of Public Footpath Hawarden 31*** ***Distance to Newbuild Infrastructure Boundary: Approx. 0m (within boundary)***	*Receptors are noted to be residents at Aston with southern views, and users of the PRoW. The PRoW users are likely to be seeking enjoyment of the countryside with an appreciation for the landscape with residents at home also likely to have an appreciation for views. The overall susceptibility of the receptors is recorded as High.* *The view is taken from a PRoW route within a rural landscape close to a settlement and as such is likely to be frequently experienced. The view is not locally or regionally recognised but has few detracting features. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*Construction activity associated with the DCO Proposed Development will be clearly visible, extending across the majority of the view to the south and east with the Trenchless Crossing Compounds associated with the proposed tunnelling under the railway line located within the foreground of the view. The scale of change is therefore considered to be High. Construction activity will be visible, albeit screened to some extent by the existing vegetation and topography. The geographical extent of change is therefore considered to be Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
P4b* ***Residents off Old Aston Hill, Ewloe*** ***Distance to Newbuild Infrastructure Boundary: Approx. 0m (within boundary)***	*Receptors are noted to be residents off Old Aston Hill. Residents at home are likely to have an appreciation for views and the wider landscape. The overall susceptibility of the receptors is recorded as High.* *The view is taken from a rural road corridor close to a settlement. The view is not locally or regionally recognised but has few detracting features. The value of the view is recorded as Low.*	*Construction activity associated with the DCO Proposed Development will be clearly visible within the view, extending across the majority of the view to the north, east and west. The Trenchless Crossing Compounds associated with the proposed tunnelling being visible within the middle ground of the view through the existing gap in the field boundary vegetation. The scale of change is therefore considered to be High. Construction activity will be widely visible although screened to some degree by the existing vegetation and topography. The geographical extent of change is therefore considered to be Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
P6 ***Residents of Sandycroft off Chester Road*** ***Distance to Newbuild Infrastructure Boundary: Approx. 60m***	*Receptors are noted to be residents of Sandycroft with south-western views and road users. Residents are afforded clear views to the wider rural landscape to the west and as such are likely to have an appreciation of the landscape. The overall susceptibility of the receptors is recorded as High.* *The view is not noted to be taken from with any regionally or locally significant landscapes and is considered to contain minimal detracting*	*Construction activity associated with the DCO Proposed Development will be clearly visible, with the DCO Proposed Development site comprising the existing pastural landscape bounding Chester Road within the middle-ground of the view. The scale of change is therefore assessed as High. The DCO Proposed Development would be widely visible acrossthe view with the low-level vegetation and rising landscape likely to afford clear views toward the Newbuild Infrastructure Boundary from the wider landscape. The*

	features associated with the road corridor and streetlights. The value of the view is recorded as Low. *Overall Sensitivity:* ***Medium***	*geographical extent of change is therefore assessed as High. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
P7 ***Recreational users of the Wales Coastal Path*** ***Distance to Newbuild Infrastructure Boundary: Approx. 204m***	*Receptors are PRoW users likely to be seeking enjoyment of the countryside with an appreciation for the wider landscape. The Wales Coastal Path is a nationally recognised long-distance recreational route. The susceptibility of the receptor is recorded as High.* *The view is taken from the Wales Coast Path a well-known long distance recreational route within the area. The view has few detracting features and demonstrates the more rural character of the landscape at this point. The value of the view is recorded as Medium.* *Overall Sensitivity:* ***High***	*Construction activity associated with the DCO Proposed Development will be clearly visible, with the DCO Proposed Development site comprising a large extent of the existing arable field to the right of the view and extending northwards. The proposed Trenchless Crossing Compounds associated with the trenchless crossing under the River Dee will be visible within the foreground. The scale of change is assessed as High. The construction activity will be clearly visible within the foreground and the wider landscape to the north with the limited vegetation structure likely to afford clear views from along the Wales Coast Path. The geographical extent of change is therefore as assessed as High. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
P8* ***Residents at Cop House Farm*** ***Recreational users of Public Footpath East Saltney 2*** ***Distance to Newbuild Infrastructure Boundary: Approx. 665m***	*Receptors are noted to be residents and PRoW users and with north-western facing views. The PRoW users are likely to be seeking enjoyment of the countryside with an appreciation for the landscape with residents at home also likely to have an appreciation for views. The overall susceptibility of the receptors is recorded as High.* *The view is taken from PRoW East Saltney, a locally significant route. Views from this location demonstrate the rural, riverside character of the landscape and contain few detracting features. The value of the view is recorded as Medium.* *Overall Sensitivity:* ***High***	*Construction activity associated with the DCO Proposed Development will be perceptible within middle distance views towards the point at which the Newbuild Carbon Dioxide Pipeline will cross the River Dee. Views towards the construction activities either side of the River Dee to the north and south of the river will be visible. The scale of change is therefore assessed as Medium. The construction activity will be clearly visible to the west, with the open views along the river corridor allowing clear views towards the proposed construction activity in the middle ground. However, some visual containment is provided by the existing vegetation and banks associated with the River Dee. The geographical extent of change is therefore as assessed as Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
P9 ***Recreational users of the Chester Millennium Greenway*** ***Distance to Newbuild Infrastructure Boundary: Approx. 15m***	*Receptors are users of the Chester Millennium Greenway. Users are likely to be traversing this route seeking enjoyment of the countryside with an appreciation for the wider landscape. The susceptibility of the receptor is recorded as High.* *The view is taken from the Chester Millennium Greenway, a locally significant route. Views from this location demonstrate the rural character of the landscape and contain few detracting features. The value of the view is recorded as Medium.* *Overall Sensitivity:* ***High***	*Construction activity associated with the DCO Proposed Development will be visible where gaps in existing vegetation allow with the DCO Proposed Development Boundary comprising the majority of the existing pastural field to the right of the view and extending beyond the Greenway to the left of the view. The Trenchless Crossing Compounds associated with the proposed trenchless crossing under the Greenway will be evident across the view. The scale of change is therefore assessed as Medium. Construction activity associated with the DCO Proposed Development will be visible across the majority of the view. However, some degree of containment will be provided by existing retained vegetation which limiting the extent to which construction activity will be perceived across the wider landscape. Views of construction activity within the DCO Proposed Development Boundary will likely be visible from sections of the Greenway through gaps in vegetation or where cover is limited. The geographical extent of change is therefore assessed as*

		Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low. *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
P10 ***Residents of Saughall*** ***Recreational users of Public Footpath 263 FP6/2*** ***Distance to Newbuild Infrastructure Boundary: Approx. 0m (within boundary)***	*Receptors are noted to be residents of Saughall with south-eastern facing views and users of PRoW. Residents at home are likely to have an appreciation of the wider landscape. Recreational users are likely to be traversing this route seeking enjoyment of the countryside with an appreciation for the wider landscape. The overall susceptibility of the receptors is recorded as High.* *The view is taken from a road corridor with a number of detracting features. The view is not identified as being located within any areas of regional or local significance. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*Construction activity associated with the DCO Proposed Development will be clearly visible in close range views with the viewpoint located at the point of the proposed Site access and extending towards the proposed construction envelope associated with the trenchless crossing under Hermitage Road within the southern part of the existing field. The scale of change is therefore considered to be High. Vegetation removal within the south-western corner of the field to the right of the view will likely increase the geographical extent of change, opening up views towards the DCO Proposed Development from the wider landscape. However, it is considered that the remaining vegetation and gently sloping topography will continue to provide some visual containment. The geographical extent of change is therefore recorded as Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
P12 ***Residents off Gypsy Lane*** ***PRoW users Public Footpath 211 FP4/1*** ***Distance to Newbuild Infrastructure Boundary: Approx. 20m***	*Receptors are noted to be residents off Gypsy Lane with northern facing views, and PRoW users. Both these receptors are considered to have a greater appreciation for the wider landscape. The overall susceptibility of the receptors is recorded as High.* *The view is taken from a PRoW within a rural area close to dwellings and is likely to be frequently experienced. The view is not identified as being locally or regionally significant and the view contains few detracting features. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*Construction activity associated with the DCO Proposed Development will be clearly visible within the foreground of the view which currently comprises agricultural fields. The scale of change is therefore recorded as High. Construction activity will be clearly visible within the view, however intervening vegetation will partially screen views. The geographical extent of change is therefore considered to be Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
P12a ***Residents off Station Road*** ***Recreational users of Public Footpath 177 FP2/1*** ***Distance to Newbuild Infrastructure Boundary: Approx. 0m (within boundary)***	*Receptors are noted to be residents off Station Road and recreational users of Public Footpath 177 FP2/1. Both these receptors are considered to have a greater appreciation for the wider landscape. Overall, the susceptibility of the receptor is recorded as High.* *The view is taken from a PRoW within a rural area close to dwellings and is likely to be frequently experienced. The view is not identified as being locally or regionally significant and the view contains few detracting features. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*Construction activity associated with the DCO Proposed Development will be clearly visible across a large part of the existing foreground pasture and extending further south towards the wider landscape. In addition, the Trenchless Crossing Compounds associated with the trenchless crossing under Station Road will also form a prominent feature within the foreground. The scale of change is therefore assessed as High. The works for the DCO Proposed Development will extend across the majority of the view including tunnelling under Station Road and continuing towards the wider landscape to the south and west. It is noted that the existing woodland associated with Viaduct Wood will partially contain views towards the Site from the wider landscape to the south. The geographical extent of change is therefore assessed as Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium***

		Overall Effect: ***Moderate adverse (significant)***
P13a ***Recreational users of Shropshire Union Canal towpath*** ***Canal users of the Shropshire Union Canal*** ***Distance to Newbuild Infrastructure Boundary: Approx. 23m***	*Receptors are PRoW users and users of the canal. Both are considered likely to have an appreciation for the wider landscape travelling at low speeds and likely to seeking enjoyment of the countryside. The overall susceptibility of the receptors is recorded as High.* *The view is taken from the towpath adjacent the Shropshire Union Canal, a route commonly used for tourism. The view contains few detracting features. The view is taken from within the Chester Canal Conservation Area. The value of the view is recorded as Medium.* *Overall Sensitivity:* ***High***	*Construction activity associated with the DCO Proposed Development will be clearly visible, with the development boundary lining the northern edge of the canal corridor and extending westwards. In addition, construction envelopes associated with the trenchless crossing under Liverpool Road, visible to the right of the view, and northwards to the south of the built form at Cheshire West Skip Hire will also form prominent features within the foreground. The scale of change would be High. Construction activity would be prominent although some visual containment would be provided by landform as it rises from the canal corridor. The geographical extent of change is therefore considered to be Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
P13b ***Recreational users of Shropshire Union Canal towpath*** ***Canal users of the Shropshire Union Canal*** ***Distance to Newbuild Infrastructure Boundary: Approx. 25m***	*Receptors are PRoW users and users of the canal. Both are considered likely to have an appreciation for the wider landscape travelling at low speeds and likely to seeking enjoyment of the countryside. The overall susceptibility of the receptors is recorded as High.* *The view is taken from the towpath adjacent the Shropshire Union Canal, a route commonly used for tourism. The view contains few detracting features. The view is taken from within the Chester Canal Conservation Area. The value of the view is recorded as Medium.* *Overall Sensitivity:* ***High***	*Construction activity associated with the DCO Proposed Development will be clearly visible across the majority of the existing grass pasture field that lies along the northern edge of the Shropshire Union Canal. In addition, the removal of some existing scattered mature trees will result in a greater scale of change by opening up views towards Friar's Park. The overall character of the view will become more open. The scale of change is therefore assessed as High. Where gaps allow, views towards construction activity will be readily available within the immediate landscape although contained to an extent by rising landform and vegetation bounding Friar's Park. The geographical extent of change is therefore assessed as Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
P14a* ***Recreational Users of Shropshire Union Canal towpath*** ***Canal users of the Shropshire Union Canal*** ***Distance to Newbuild Infrastructure Boundary: Approx. 95m***	*Receptors are PRoW users and users of the canal. Both are considered likely to have an appreciation for the wider landscape travelling at low speeds and likely to seeking enjoyment of the countryside. The overall susceptibility of the receptors is recorded as High.* *The view is taken from the towpath adjacent the Shropshire Union Canal, a route commonly used for tourism. The view contains few detracting features. The view is taken from within the Chester Canal Conservation Area. The value of the view is recorded as Medium.* *Overall Sensitivity:* ***High***	*Construction activity associated with the DCO Proposed Development will be visible, with the Newbuild Infrastructure Boundary lining the northern and southern edge of the canal corridor to the west. There will also be views towards the large Construction Compound located beyond the existing grass field that lies adjacent to the canal. In addition, Trenchless Crossing Compounds associated with the trenchless crossing under the canal are also likely to be visible through gaps in the existing vegetation along the canal. The scale of change is therefore recorded as High. Views of construction activity will be readily available, however, contained to an extent, within the wider landscape by the existing, vegetation lining the canal. The geographical extent of change is therefore considered to be Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***

P15a ***Residents off Picton Lane*** ***Recreational users of Public Bridleway 241 BR4/1*** ***Distance to Newbuild Infrastructure Boundary: Approx. 11m***	*Receptors are considered to be PRoW and road users of Picton Lane with western views. PRoW users are considered to have a greater appreciation for the wider landscape. Picton Lane is however a rural road corridor with users likely to be travelling at lower speeds. The overall susceptibility of the receptors is recorded as High* *The view is taken from a PRoW and demonstrates the rural character of the landscape, containing few detracting features. The view is not identified as locally or regionally significant. The value of the view is recorded as Negligible.* *Overall Sensitivity:* ***Medium***	*Construction activity associated with the DCO Proposed Development will be clearly visible including views of the temporary access extending across the existing grass field within the foreground of the view. In addition, views towards construction activity associated with the wider DCO Proposed Development to the west will also be available within the background, although these views will be partially filtered by existing vegetation. The scale of change is therefore assessed as High. Works associated with the DCO Proposed Development will be visible across the view with construction activity extending from Picton Lane further west. The relatively flat landform facilitates open views toward construction activity within the DCO Proposed Development site and these views will be available from sections of the existing bridleway. Existing field boundary vegetation will serve to contain views from the wider landscape some extent. The geographical extent of change is therefore considered to be Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
P16 ***Recreational users of Public Footpath 309 FP1/2 (North Cheshire Way)*** ***Distance to Newbuild Infrastructure Boundary: Approx. 176m***	*Receptors are considered to be PRoW users of the North Cheshire Way. PRoW users are considered to have a greater appreciation for the wider landscape. The overall susceptibility of the receptors is recorded as High* *The view is taken from the North Cheshire Way Long-Distance Recreational Route which is a nationally identified walking route. The view while rural in character is located within close proximity to the M56 road corridor with detracting features associated with infrastructure and traffic identifiable within the view. The value of this view is therefore assessed as Medium.* *Overall Sensitivity:* ***High***	*Construction activity associated with the DCO Proposed Development will be clearly visible extending across the agricultural landscape in the middle ground and extending to the southern edge of the M56 to the east. The limited boundary vegetation and flat topography within the immediate landscape will also allows unobstructed views towards construction activity. The scale of change is therefore assessed as High. Due to the relatively open and exposed nature of the landscape within the fore and middle ground construction activity associated with the DCO Proposed Development will be highly visible within the landscape. However, vegetation cover to the east and the existing infrastructure associated with the M56 to the north will partially contain views from the wider landscape. The geographical extent of change is therefore assessed as Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
Viewpoints associated with BVS		
B9a ***Users of Cornist Lane*** ***Distance to AGI: Approx 150m***	*Receptors are residents off Cornist Lane and users of Cornist Lane. Residents are considered likely to have a strong appreciation of the wider landscape. The susceptibility of this receptor is therefore recorded as High. Cornist Lane is a narrow rural road corridor with users likely to be travelling at a slower speed enabling an appreciation of the landscape. The susceptibility of this receptor is assessed as Medium.* *The viewpoint is situated within a road corridor. The view is not taken from within a recognised or regionally significant landscape and contains few detracting features. The value of the view is recorded as Low****.*** *Overall Sensitivity:* ***Medium***	*Construction activity associated with the DCO Proposed Development and Cornist Lane BVS will be clearly visible within the view, with the Newbuild Infrastructure Boundary comprising the existing grass field within the foreground of the view. The scale of change is assessed as High. While clear views towards construction activity will be available within the view it is considered that the existing vegetation and sloping topography of the surrounding landscape will ensure that these views are for the most part, localised. The geographical extent of change is therefore assessed as Low. The construction stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium.***

		Overall Effect: ***Moderate adverse (significant).***
B12 ***Grid Ref: SJ 31209 66819*** ***Address: Overlea Drive, Hawarden, Ewloe*** ***Residents off Overlea Drive*** ***Distance to BVS: Approx. 96m***	*Receptors are noted to be residents of dwellings off Overlea Drive with western facing views. Residents at home are considered to have an appreciation for the wider landscape. The susceptibility of the receptor is recorded as High.* *The view is taken from a residential street. The view is not identified as being locally or regionally significant. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*Construction activity will be clearly visible from the northern facing windows of residential properties off Overlea Drive. While views will likely be filtered to a degree by field boundary vegetation to the south of the proposed Aston Hill BVS views towards the DCO Proposed Development and wider Newbuild Infrastructure Boundary will be readily available. The scale of change is assessed as High. The DCO Proposed Development will extend across the existing agricultural landscape from north to south and will also extend further west towards the A494. Views of construction activity associated with the Aston Hill BVS will be readily available throughout the immediate landscape. However, it is considered that the existing built form to the north and south of the DCO Proposed Development Boundary, will serve to limit views towards the DCO Proposed Development from the wider landscape. The geographical extent of change is therefore assessed as Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
B13 ***Recreational users of Public Footpaths Harwarden 29 and 34*** ***Distance to BVS: Approx. 170m***	*Receptors are noted to be PRoW users who are likely to be seeking enjoyment of the countryside and to have an appreciation for the wider landscape. The susceptibility of the receptor is recorded as High.* *The view is taken from a PRoW. The view is not identified as nationally or regionally significant and contains few detracting features. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*Construction activity associated with the DCO Proposed Development will be clearly visible within the existing grass field within the foreground and middle ground of the view. The DCO Proposed Development Boundary will extend across the wider agricultural landscape to the north of the view and taller elements of construction activity are likely to be visible above the existing field boundary vegetation. The scale of change is therefore assessed as High. The DCO Proposed Development will extend across the entire view with the open character of the landscape and low-level vegetation allowing clear views within the landscape. However, vegetation further to the north and existing built form to the south will contain views towards the DCO Proposed Development and Aston Hill BVS from the wider landscape. The geographical extent of change is therefore assessed as Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***
B14 ***Recreational users of Public Footpath 211 FP9/1*** ***Distance to BVS: Approx. 185m***	*Receptors are noted to be PRoW users and residents of Overwood Avenue. PRoW users and residents at home are likely to have an appreciation for the wider landscape. The susceptibility of the receptor is recorded as High.* *The view is taken from a PRoW. The view is not identified as nationally or regionally significant and contains few detracting features. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*Construction activity associated with the DCO Proposed Development will be visible in glimpsed views through gaps in the existing field boundary vegetation to the west within the background of the view. The scale of change is therefore assessed as Medium. The DCO Proposed Development will extend across the background of the view beyond the existing vegetation that lies within the wider landscape to the west. The geographical extent of the change is therefore assessed as Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***

B15 ***Residents at Mollington*** ***Distance to BVS: Approx. 105m***	*Receptors are noted to be residents of dwellings at Mollington. Residents at home are considered to have an appreciation for the wider landscape. The susceptibility of the receptor is recorded as High.* *The view is taken from a residential street. The view is not identified as being locally or regionally significant. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*Construction activity associated with the DCO Proposed Development will be clearly visible with the relatively open pastural fields allowing open views towards the proposed Mollington BVS. The scale of change is therefore considered to be High. The DCO Proposed Development area extends across the view and towards the wider landscape to the south. It is noted however that the relatively flat landscape in addition to the existing field boundary vegetation will limit the availability of views towards the DCO Proposed Development and Mollington BVS from the wider landscape. The geographical extent of change is therefore recorded as Medium. The Construction Stage is considered to be short term and the duration of change is therefore assessed as Low.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)***

Operational Stage

12.9.6. Operational visual effects have changed as a result of the relocation of Northop Hall AGI (PS03) (viewpoints WAG18 and WAG19 updated and WAG18a and WAG19a added) and the relocation of Cornist Lane BVS (PS01) (viewpoints B9 removed and replaced with B8, B9a and B9b).

12.9.7. The operational visual effects of these updated and new viewpoints have been assessed in **Appendix 12.4 (Revision B).** The assessment concluded that the operational visual effects for viewpoints WAGI19, WAGI19a and B8 would be *Minor adverse (not significant)* in Year 1 and *Negligible neutral (not significant)* in Year 15. It was concluded that Viewpoint B9a would be *Minor adverse (not significant)* at both Year 1 and Year 15. Viewpoint B9b would be *Negligible neutral (not significant)* in both Years 1 and 15. Therefore these viewpoints would not be reported in **Section 12.9**.

12.9.8. The assessment concluded that the operational visual effects of viewpoints WAGI8 and WAGI8a would be *Moderate adverse (significant)* in Year 1 and *Minor adverse (not significant)* in Year 15. Therefore, Table **12.8** of the 2022 ES **(APP-064)** has changed and should be replaced with **Table 12.3** below:

Table 12.3 – Operational Visual Effects

Viewpoint Reference and Type	*Susceptibility, value, and overall sensitivity*	*Construction magnitude and effect*
Viewpoints associated with Wales based Above Ground Installations (WAGI)		
WAGI3 *Recreational users of Public Footpath Flint 66*	*Receptors are PRoW users. PRoW users are likely to be traversing this route seeking enjoyment of the countryside. The susceptibility of the receptor is recorded as High.* *The view is taken from a PRoW adjacent a road corridor and is not identified as a recognised or regionally significant view. The view contains detracting pylons. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*At operation year 1, the DCO Proposed Development will be visible, with the reinstated land associated with the open trench infill and replacement planting of a small section of the removed hedgerow to the south of the Flint AGI evident within the fore and middle ground. The Flint AGI will be a noticeable feature in glimpsed views. While the Flint AGI to Flint Connection Pipeline will be located underground, the proposed Flint AGI will form a prominent feature within the landscape. The scale of change is assessed as High. The majority of the change will be focussed to the right of the view including the presence of the Flint AGI and associated vegetation removal. Although clearly visible, this will occupy a small proportion of the view and will be contained by the topography and vegetation within the wider landscape to the east. The geographical extent of change is considered to be Low. The operational stage comprises the life of the DCO Proposed Development and is therefore assessed as long term. The duration of change is recorded as High.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)*** *At operation year 15, effects reduce to not significant.*
WAGI4 *Residents of Bryn Mawr* *Recreational users of Public Footpath Flint 68*	*Receptors are residents of dwellings at home with north-eastern views and PRoW users are likely to be traversing this route seeking enjoyment of the countryside. The susceptibility of the receptors is recorded as High.* *The view is taken from a PRoW adjacent a road corridor and is not identified as a recognised or regionally significant view. The view contains a number of detracting features. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*At operation year 1 the DCO Proposed Development will be perceptible including views towards the proposed Flint AGI to the north with hedgerow removal and reinstated land being discernible, although replacement planting will be of insufficient stature to feature prominently. These features, while clearly visible, will form a minor component within the wider landscape in the view, and will be viewed beyond middle ground vegetation. The scale of change is therefore considered to be Medium. With regard to the geographical extent the majority of the change will be focussed to the left of the view including the development of the Flint AGI and associated vegetation removal. While visible this will occupy a small proportion of the view and will be visually contained by landform and vegetation within the wider landscape to the east. The geographical extent of change is considered to be Low. The operational stage comprises the life of the DCO Proposed Development and is therefore assessed as long term. The duration of change is recorded as High.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)*** *At operation year 15, effects reduce to not significant.*
WAGI8 *Recreational users of Public Footpath Northop 4*	*Receptors are PRoW users. PRoW receptors are likely to be traversing this route seeking enjoyment of the countryside, with an appreciation for the landscape. The susceptibility of the receptor is recorded as High.* *The viewpoint is situated on a PRoW. The viewpoint is not within a recognised or regionally significant landscape and*	*At operation year 1 the Northop Hall AGI will be visible towards the background of the view close to the existing road corridor in views partially screened by the existing vegetation that lines the western field boundary. In addition, reinstated land and localised regrading associated with the DCO Proposed Development will also appear visible. Mitigation planting will be visible however, this will not be of sufficient maturity to provide screening at year 1. The scale of change is therefore assessed as Medium. The DCO Proposed Development will be visible within the open grass field however the Northop Hall AGI will be located to the left of the view, beyond the existing field boundary hedgerow*

	contains few detracting features. The value of the view is recorded as Low. *Overall Sensitivity:* ***Medium.***	*and generally contained within the wider landscape by the presence of existing dense vegetation structure that lines the road corridor. The geographical extent of change is assessed as Low. The operational stage comprises the life of the DCO Proposed Development and is therefore assessed as long term. The duration of change is recorded as High.* *Overall Magnitude:* ***Medium.*** *Overall Effect:* ***Moderate adverse (significant)***
WAGI8a ***Recreational users of Public Footpath Northop 4***	*Receptors are PRoW users. PRoW receptors are likely to be traversing this route seeking enjoyment of the countryside, with an appreciation for the landscape. The susceptibility of the receptor is recorded as High.* *The view is taken from a PRoW. The view is not taken from within a recognised or regionally significant landscape and contains few detracting features. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium.***	*At operation year 1 the Northop Hall AGI will be visible to the west. It is noted that some screening will be provided by the existing vegetation that lines the western field boundary. However, proposed mitigation planting will not be of sufficient maturity to provide screening at year 1. Reinstated land and localised regrading associated with the DCO Proposed Development adjacent to the Northop Hall AGI will also be visible. The scale of change is therefore assessed as Medium. The DCO Proposed Development will be visible above the existing field boundary hedgerow. While visible within the view the DCO Proposed Development will be visually contained to the north by the existing woodland cover to the south of Highgate Hall, with additional woodland cover also evident within the same field to the south. To the west views towards the Proposed Northop Hall AGI are likely to be available although contained to some extent by intervening hedgerow field boundaries. The geographical extent of change is assessed as Low. The operational stage comprises the life of the DCO Proposed Development and is therefore assessed as long term. The duration of change is recorded as High.* *Overall Magnitude:* ***Medium.*** *Overall Effect:* ***Moderate adverse (significant)***
Viewpoints associated with the Carbon Dioxide Pipeline route (P)		
P13a *Recreational users of Shropshire Union Canal towpath* *Canal users of the Shropshire Union Canal*	*Receptors are PRoW users and users of the canal. Both are considered likely to have an appreciation for the wider landscape travelling at low speeds and likely to seeking enjoyment of the countryside. The overall susceptibility of the receptors is recorded as High.* *The view is taken from the towpath adjacent the Shropshire Union Canal, a route commonly used for tourism. The view contains few detracting features. The view is taken from within the Chester Canal Conservation Area. The value of the view is recorded as Medium.* *Overall Sensitivity:* ***High***	*At operation year 1 the majority of the DCO Proposed Development will be barely perceptible with the Stanlow AGI to Flint AGI Pipeline located underground. Some change, such as the reinstated land associated with the open trench works and associated removal and replacement planting of the scattered tree and native shrub planting to the south and east of Friar's Park, will be clearly visible, opening up views within the landscape across the majority of the view. New mitigation planting that can be provided in this location will not be of a maturity to provide effective screening at year 1. The scale of change is therefore assessed as Medium. With regard to the geographical extent of change it is noted that proposed changes such as vegetation removal replacement and reinstated land will be perceptible within the view however, highly localised with the sloping topography and retained vegetation along the northern edge of the canal corridor serving to contain views towards the wider landscape. The geographical extent of change is therefore considered to be Low. The operational stage comprises the life of the DCO Proposed Development and is therefore assessed as long term. The duration of change is recorded as High.* *Overall Magnitude:* ***Low*** *Overall Effect:* ***Moderate adverse (significant)*** *At operation year 15 the majority of the DCO Proposed Development will remain largely imperceptible with the Stanlow AGI to Flint AGI Pipeline located underground. The effects of vegetation loss will*

		remain evident although establishment of mitigation planting will filter views towards Friar's Park to the northeast and provide some assimilation into the wider landscape. However, it is noted that change resulting, from the loss of vegetation within the view will remain where like-for-like mitigation has not been achieved due to constraints. The scale of change is therefore assessed as Low. The scale of change will be largely contained to localised views from the canal corridor and will therefore be highly localised. The geographical extent of change is therefore assessed as Low. The operational stage comprises the life of the DCO Proposed Development and is therefore assessed as long term. The duration of change is assessed as High. *Overall Magnitude:* ***Low*** *Overall Effect:* ***Moderate adverse (significant)***
P13b *Recreational users of Shropshire Union Canal towpath* *Canal users of the Shropshire Union Canal*	*Receptors are PRoW users and users of the canal. Both are considered likely to have an appreciation for the wider landscape travelling at low speeds and likely to seeking enjoyment of the countryside. The overall susceptibility of the receptors is recorded as High.* *The view is taken from the towpath adjacent the Shropshire Union Canal, a route commonly used for tourism. The view contains few detracting features. The view is taken from within the Chester Canal Conservation Area. The value of the view is recorded as Medium.* *Overall Sensitivity:* ***High***	*At operation year 1, the DCO Proposed Development will be, for the most part, barely perceptible, with the Stanlow AGI to Flint AGI Pipeline located underground. Noticeable changes associated with the removal of the mature scattered trees and limited scrub evident within the foreground will present a more open landscape, allowing greater visibility towards Friar's Park that lies within the background. While a number of trees will be replanted on a like for like basis, they will be immature at this time. The loss of this mature vegetation will remain a notable feature within the view. In addition, while less visible, views of the reinstated land associated with the open trench works will also be available within the open grass field to the north of the canal. The scale of change is therefore assessed as Medium. With regard to the geographical extent of change it is noted that proposed changes associated with the removal of the existing scattered trees are likely to be clearly visible along the canal path where existing vegetation cover is limited. Views towards the DCO Proposed Development from the wider landscape are however contained to a degree by the vegetation cover within the wider landscape to the north and further along the canal corridor. The geographical extent of change is therefore assessed as Low. The operational stage comprises the life of the DCO Proposed Development and is therefore assessed as long term. The duration of change is recorded as High.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)*** *At operation year 15, the DCO Proposed Development will remain largely imperceptible, with the Stanlow AGI to Flint AGI Pipeline located underground. The mitigation planting will have established at year 15, views towards Friar's Park and across the existing field to the north will generally be filtered as per the baseline views excluding where like for like mitigation cannot be achieved. The scale of change is therefore assessed as Low. The scale of change will be largely restricted to localised views from the canal corridor and will therefore be highly localised. The geographical extent of change is therefore assessed as Low. The operational stage comprises the life of the DCO Proposed Development and is therefore assessed as long term. The duration of change is assessed as High.* *Overall Magnitude:* ***Low*** *Overall Effect:* ***Moderate adverse (significant)***
P16 *Recreational users of Public Footpath 309 FP1/2 (North Cheshire Way)*	*Receptors are considered to be PRoW users of the North Cheshire Way. PRoW users are considered to have a*	*At operation year 1, the DCO Proposed Development will be barely perceptible, with the Stanlow AGI to Flint AGI Pipeline located underground. However, changes such as the reinstated land and vegetation removal and replacement planting will be visible within the landscape. However, while some vegetation removal will be required, vegetation along the southern edge of the M56 will be*

	greater appreciation for the wider landscape. The overall susceptibility of the receptors is recorded as High *The view is taken from the North Cheshire Way Long-Distance Recreational Route which is a nationally identified walking route. The view while rural in character is located within close proximity to the M56 road corridor with detracting features associated with infrastructure and traffic identifiable within the view. The value of this view is therefore assessed as Medium.* *Overall Sensitivity:* ***High***	*largely retained to a minimum of half its depth to ensure views towards the motorway are contained. The scale of change is therefore assessed as Low. With regard to the geographical extent of change views towards the DCO Proposed Development will be limited to those within the immediate landscape context and that longer distance views will be restricted by existing vegetation. The geographical extent of change is therefore considered to be Low. The operational stage comprises the life of the DCO Proposed Development and is therefore assessed as long term. The duration of change is recorded as High.* *Overall Magnitude:* ***Low*** *Overall Effect:* ***Moderate adverse (significant)*** *At operation year 15, effects reduce to not significant.*
Viewpoints associated with BVS		
B12 ***Residents off Overlea Drive***	*Receptors are noted to be residents of dwellings off Overlea Drive with western facing views. Residents at home are considered to have an appreciation for the wider landscape. The susceptibility of the receptor is recorded as High.* *The view is taken from a residential street. The view is not identified as being locally or regionally significant. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*At operation year 1 the Aston Hill BVS will be visible within north facing views from residential dwellings on the northern edge of Overlea Drive above the existing field boundary vegetation, however, the Stanlow AGI to Flint AGI Pipeline, will not be perceptible being located underground. New mitigation including native shrub, hedgerow and screen planting will also be visible adjacent to and to the south of the Aston Hill BVS, however, this will be newly planted and as such will not provide screening at year 1. The scale of change is therefore assessed as Medium. The Aston Hill BVS will be visible to the north in views from residential dwellings along Overlea Drive, however, the existing built from to the north and south of the DCO Proposed Development will serve to contain views towards the DCO Proposed Development from the wider landscape, ensuring that views towards the Aston Hill BVS are restricted to a small number of adjacent dwellings. The geographical extent of change is therefore assessed as Low. The operational stage is assessed as long term. The duration of change is assessed as High.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)*** *At operation year 15, effects reduce to not significant.*
B13 ***Recreational users of Public Footpaths Harwarden 29 and 34***	*Receptors are noted to be PRoW users who are likely to be seeking enjoyment of the countryside and to have an appreciation for the wider landscape. The susceptibility of the receptor is recorded as High.* *The view is taken from a PRoW. The view is not identified as nationally or regionally significant and contains few detracting features. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*At operation year 1 it is clear that the Aston Hill BVS and access track will be visible within the fore and middle ground within the existing agricultural landscape. However, the wider works associated with the Stanlow AGI to Flint AGI Pipeline will not be perceptible being located underground. In addition, it is noted that mitigation and replacement native shrub and hedgerow planting will be perceptible however at year 1 planting will not be of sufficient maturity to provide substantial screening. The scale of change is therefore assessed as Medium. The proposed Aston Hill BVS will be visible towards the north-eastern corner of the existing grass field within the foreground, with the proposed access track to extend along the northern edge of the field before connecting with the BVS. In addition, newly planted mitigation and replacement hedgerow planting will be visible across the view within both the existing field to the foreground and further north along the boundary with the adjacent field. While it is noted that mitigation planting will be visible across the view, this will represent a minor change, with principal changes resulting from visibility of the new permanent access track and Aston Hill BVS. The geographical extent of change is therefore assessed as Low. The operational stage is assessed as long term. The duration of change is assessed as High.*

		Overall Magnitude: ***Medium*** *Overall Effect:* ***Moderate adverse (significant)*** *At operation year 15, effects reduce to not significant.*
B14 *Recreational users of Public Footpath 211 FP9/1*	*Receptors are noted to be PRoW users and residents of Overwood Avenue. PRoW users and residents at home are likely to have an appreciation for the wider landscape. The susceptibility of the receptor is recorded as High.* *The view is taken from a PRoW. The view is not identified as nationally or regionally significant and contains few detracting features. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*At operation year 1 the Mollington BVS will be visible in views partially screened by the existing hedgerow that lies within the middle ground and forms the existing field boundary. At year 1 views towards the Site will be more open where the existing hedgerow has been removed to accommodate the Stanlow AGI to Flint AGI Pipeline works. While mitigation and replacement native shrub and hedgerow planting is proposed and will be perceptible to the left of the view, at year 1 planting will not be of a maturity to provide significant screening to effectively contain views towards the Mollington BVS. At operation the Stanlow AGI to Flint AGI Pipeline will not be perceptible. The scale of change is therefore assessed as Medium. The proposed Mollington BVS will be visible albeit filtered by the existing vegetation. While some views may be available where the existing hedgerow has been removed it is considered that retained vegetation within the wider landscape will ensure that views towards the DCO Proposed Development will be limited and highly localised with only glimpsed views of upper portions of the Mollington BVS likely to be visible. The geographical extent of change is therefore assessed as Low. The operational stage is assessed as long term. The duration of change is assessed as High.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)*** *At operation year 15, effects reduce to not significant.*
B15 *Residents at Mollington*	*Receptors are noted to be residents of dwellings at Mollington. Residents at home are considered to have an appreciation for the wider landscape. The susceptibility of the receptor is recorded as High.* *The view is taken from a residential street. The view is not identified as being locally or regionally significant. The value of the view is recorded as Low.* *Overall Sensitivity:* ***Medium***	*At operation year 1 the proposed Mollington BVS will be clearly visible within the foreground of the view. Mitigation and replacement hedgerow planting will also be visible although at year 1 this will not be of sufficient maturity to provide effective screening of the proposed development. The Stanlow AGI to Flint AGI Pipeline, will not be perceptible. The scale of change is therefore assessed as High. The proposed Mollington BVS will be clearly visible within the immediate landscape and within glimpsed views from the wider landscape to the south and west following the removal of hedgerow at Construction Stage. However, retained vegetation will serve to ensure that views towards the Site are localised with only glimpsed views of the upper portions of the Mollington BVS likely to be visible from within the wider landscape. The geographical extent of change is therefore assessed as Low. The operational stage is assessed as long term. The duration of change is assessed as High.* *Overall Magnitude:* ***Medium*** *Overall Effect:* ***Moderate adverse (significant)*** *At operation year 15, effects reduce to not significant.*

12.9.9. All other assessment of likely impacts and effects text within **Section 12.9** of the 2022 ES **(APP-064)** remains unchanged and valid.

12.10. MITIGATION AND ENHANCEMENT MEASURES

12.10.1. The mitigation and enhancement measures for the landscape and visual assessment have not changed due to the proposed design changes. Therefore, the text within **Section 12.10** of the 2022 ES **(APP-064)** remains unchanged and valid.

12.11. RESIDUAL EFFECTS

12.11.1. The residual effects for the landscape and visual assessment has changed as a result of construction and operational visual effects associated with the relocation of Northop Hall AGI (PS03) (viewpoints WAG18 and WAG19 updated and WAG18a and WAG19a added) and the relocation of Cornist Lane BVS (PS01) (viewpoints B9 removed and replaced with B8, B9a and B9b).

12.11.2. The construction and operational visual effects of these updated and new viewpoints have been assessed in **Appendix 12.4 (Revision B).** The assessment concluded that construction and operational visual effects for viewpoints WAGI8, WAGI8a and B9a would be significant. Therefore, **Table 12.9** of the 2022 ES **(APP-064)** has changed and should be replaced with **Table 12.4** below:

Table 12-4 – Summary of Residual Effects

Description of the effect	***Pre-mitigation significance of effects***	***Mitigation measure***	***Residual effect***
Construction Effects			
Landscape character receptors			
Dee coastal levels (FLNTVS076)	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
Shotton farmland fringe (FLNTVS072)	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
Estuary Edge and Valleys (FLNTVS014)	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
Limestone Plateau (FLNTVS004)	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
Visual amenity receptors			
WAGI3 *Recreational users of Public Footpath Flint 66*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
WAGI4 *Residents of Bryn Mawr* *Recreational users of Public Footpath Flint 68*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
WAGI7 *Residents of Tros-y-mynydd, Starkey Lane.* *Recreational users of Public Footpath Flint 70.*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
WAGI8 *Recreational users of Public Footpath Northop 4*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
WAGI8a ***Recreational users of Public Footpath Northop 4***	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9*** *of the ES.*	***Moderate adverse (significant)***
EAGI5 *Residents within Elton*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***

Description of the effect	***Pre-mitigation significance of effects***	***Mitigation measure***	***Residual effect***
EAGI9 *Residents within Yew Tree Close*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
P1 *Residents off unnamed road off Connah's Quay Road* *Recreational users of Public Footpath Northop 2*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
P3* *Residents off Holywell Road* *Recreational users of Public Footpath Hawarden 144*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
P4 *Residents of Aston* *Recreational users of Public Footpath Hawarden 31*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
P4b* *Residents off Old Aston Hall, Ewloe*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
P6 *Residents of Sandycroft off Chester Road*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
P7 *Recreational users of the Wales Coastal Path*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
P8* *Residents at Cop House Farm* *Recreational users of Public Footpath East Saltney 2*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
P9 *Recreational users of the Chester Millennium Greenway*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***

Description of the effect	*Pre-mitigation significance of effects*	*Mitigation measure*	*Residual effect*
P10 *Residents of Saughall* *Recreational users of Public Footpath 263 FP6/2*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
P12 *Residents off Gypsy Lane* *PRoW users Public Footpath 211 FP4/1*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
P12a *Residents off Station Road* *Recreational users of Public Footpath 177 FP2/1*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
P13a *Recreational users of Shropshire Union Canal towpath* *Canal users of the Shropshire Union Canal*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
P13b *Recreational users of Shropshire Union Canal towpath* *Canal users of the Shropshire Union Canal*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
P14a *Recreational Users of Shropshire Union Canal towpath* *Canal users of the Shropshire Union Canal*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
P15a *Residents off Picton Lane* *Recreational users of Public Bridleway 241 BR4/1*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***

Description of the effect	***Pre-mitigation significance of effects***	***Mitigation measure***	***Residual effect***
P16 *Recreational users of Public Footpath 309 FP1/2 (North Cheshire Way)*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
B9a ***Users of Cornist Lane***	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9*** *of the ES.*	***Moderate adverse (significant)***
B12 *Grid Ref: SJ 31209 66819* *Address: Overlea Drive, Hawarden, Ewloe* *Residents off Overlea Drive*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
B13 *Recreational users of Public Footpaths Harwarden 29 and 34*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
B14 *Recreational users of Public Footpath 211 FP9/1*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
B15 *Residents at Mollington*	***Moderate adverse (significant)***	*Construction Stage mitigation measures as set out in* ***Section 12.9.***	***Moderate adverse (significant)***
Operational Effects			
Landscape character receptors			
There are no reported significant residual effects for any LCAs.			
Visual amenity receptors			
WAGI3 *Recreational users of Public Footpath Flint 66*	*Operational Year 1 –* ***Moderate adverse (significant)*** *Operational Year 15* ***–*** *Minor adverse (not significant)*	*EN070007-D.2.14-LAY-Sheet 0 Flint AGI Landscape Layout as part of the embedded mitigation reduce the effects to not significant at year 15 following vegetation maturity. Therefore, no further mitigation measures are required to reduce effects at operational year 1 at the Flint AGI site.*	*Operational Year 1 –* ***Moderate adverse (significant)*** *Operational Year 15* ***–*** *Minor adverse (not significant)*

Description of the effect	*Pre-mitigation significance of effects*	*Mitigation measure*	*Residual effect*
WAGI4 *Residents of Bryn Mawr* *Recreational users of Public Footpath Flint 68*	*Operational Year 1 – **Moderate adverse (significant)*** *Operational Year 15 – Negligible neutral (not significant)*	*EN070007-D.2.14-LAY-Sheet 0 Flint AGI Landscape Layout as part of the embedded mitigation reduce the effects to not significant at year 15 following vegetation maturity. Therefore, no further mitigation measures are required to reduce effects at operational year 1 at the Flint AGI site.*	*Operational Year 1 – **Moderate adverse (significant)*** *Operational Year 15 – Negligible neutral (not significant)*
WAGI8 *Recreational users of Public Footpath Northop 4*	*Operational Year 1 - **Moderate adverse (significant)*** *Operational Year 15 – Minor adverse (not significant)*	*EN070007-D.2.14-LAY-Sheet 1 Northop Hall AGI Landscape Layout as part of the embedded mitigation reduce the effects to not significant at year 15 following vegetation maturity. Therefore, no further mitigation measures are required to reduce effects at operational year 1 at the Northop Hall AGI site.*	*Operational Year 1 - **Moderate adverse (significant)*** *Operational Year 15 – Minor adverse (not significant)*
WAGI8a ***Recreational users of Public Footpath Northop 4***	*Operational Year 1 - **Moderate adverse (significant)*** *Operational Year 15 – Minor adverse (not significant)*	*EN070007-D.2.14-LAY-Sheet 1 Northop Hall AGI Landscape Layout as part of the embedded mitigation reduce the effects to not significant at year 15 following vegetation maturity. Therefore, no further mitigation measures are required to reduce effects at operational year 1 at the Northop Hall AGI site.*	*Operational Year 1 - **Moderate adverse (significant)*** *Operational Year 15 – Minor adverse (not significant)*
P13a *Recreational users of Shropshire Union Canal towpath* *Canal users of the Shropshire Union Canal*	*Operational Year 1 - **Moderate adverse (significant)*** *Operational Year 15 - **Moderate adverse (significant)***	*Landscape mitigation proposals to reduce visual effects of the Newbuild Carbon Dioxide Pipeline corridor during both the Construction Stage and operational stage are likely to reduce impacts at both operational year 1 and operational year 15. Additionally, the Mitigation Area Work No 57G will provide screening towards the wider landscape for a short section (approx. 200m) of the Shropshire Union Canal towpath. Area shown on **Appendix 1 Landscape and Ecological Mitigation Plan (Document Ref: EN070007 D.6.5.10.1.)***	*Operational Year 1 - Minor adverse (not significant)* *Operational Year 15 – Minor adverse (not significant)*
P13b *Recreational users of Shropshire Union Canal towpath* *Canal users of the Shropshire Union Canal*	*Operational Year 1 - **Moderate adverse (significant)*** *Operational Year 1 - **Moderate adverse (significant)***	*Landscape mitigation proposals to reduce visual effects of the Newbuild Carbon Dioxide Pipeline corridor during both the Construction Stage and operational stage are likely to reduce impacts at both operational year 1 and operational year 15.*	*Operational Year 1 - Minor adverse (not significant)* *Operational Year 15 – Minor adverse (not significant)*

Description of the effect	***Pre-mitigation significance of effects***	***Mitigation measure***	***Residual effect***
P16 *Recreational users of Public Footpath 309 FP1/2 (North Cheshire Way)*	*Operational Year 1 -* ***Moderate adverse (significant)*** *Operational Year 15 –* *Not significant*	*Landscape mitigation proposals to reduce visual effects of the Newbuild Carbon Dioxide Pipeline corridor during both the Construction Stage and operational stage are likely to reduce impacts at both operational year 1 and operational year 15. Additionally, the Mitigation Areas Work No. 57F and 57E will provide additional screening towards the M56 motorway, supplementing the existing belt of trees in this area along the North Cheshire Way. Area shown on* ***Appendix 1 Landscape and Ecological Mitigation Plan (Document Ref: EN070007 D.6.5.10.1.)***	*Operational Year 1 - Minor adverse (not significant)* *Operational Year 15 – Minor adverse (not significant)*
B12 *Grid Ref: SJ 31209 66819* *Address: Overlea Drive, Hawarden, Ewloe* *Residents off Overlea Drive*	*Operational Year 1 -* ***Moderate adverse (significant)*** *Operational Year 15 – Minor adverse (not significant)*	*EN070007-D.2.14-LAY-Sheet 3 Aston Hill BVS Landscape Layout as part of the embedded mitigation reduce the effects to not significant at year 15 following vegetation maturity. Therefore, no further mitigation measures are required to reduce effects at operational year 1 at Aston Hill BVS.*	*Operational Year 1 -* ***Moderate adverse (significant)*** *Operational Year 15 – Minor adverse (not significant)*
B13 *Recreational users of Public Footpaths Harwarden 29 and 34*	*Operational Year 1 -* ***Moderate adverse (significant)*** *Operational Year 15 – Minor adverse (not significant)*	*EN070007-D.2.14-LAY-Sheet 3 Aston Hill BVS Landscape Layout as part of the embedded mitigation reduce the effects to not significant at year 15 following vegetation maturity. Therefore, no further mitigation measures are required to reduce effects at operational year 1 at Aston Hill BVS.*	*Operational Year 1 -* ***Moderate adverse (significant)*** *Operational Year 15 – Minor adverse (not significant)*
B14 *Recreational users of Public Footpath 211 FP9/1*	*Operational Year 1 -* ***Moderate adverse (significant)*** *Operational Year 15 – Minor adverse (not significant)*	*EN070007-D.2.14-LAY-Sheet 4 Mollington BVS Landscape Layout as part of the embedded mitigation reduce the effects to not significant at year 15 following vegetation maturity. Therefore, no further mitigation measures are required to reduce effects at operational year 1 at Mollington BVS.*	*Operational Year 1 -* ***Moderate adverse (significant)*** *Operational Year 15 – Minor adverse (not significant)*
B15 ***Residents at Mollington***	*Operational Year 1 -* ***Moderate adverse (significant)*** *Operational Year 15 – Minor adverse (not significant)*	*EN070007-D.2.14-LAY-Sheet 4 Mollington BVS Landscape Layout as part of the embedded mitigation reduce the effects to not significant at year 15 following vegetation maturity. Therefore, no further mitigation measures are required to reduce effects at operational year 1 at Mollington BVS.*	*Operational Year 1 -* ***Moderate adverse (significant)*** *Operational Year 15 – Minor adverse (not significant)*
Decommissioning Effects			
Landscape character receptors			
There are no reported significant residual effects for any LCAs.			
Visual amenity receptors			

Description of the effect	*Pre-mitigation significance of effects*	*Mitigation measure*	*Residual effect*
WAGI3 *Recreational users of Public Footpath Flint 66*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP).*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*
WAGI4 *Residents of Bryn Mawr* *Recreational users of Public Footpath Flint 68*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP).*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*
WAGI7 *Residents of Tros-y-mynydd, Starkey Lane.* *Recreational users of Public Footpath Flint 70.*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP).*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*
WAGI8 *Recreational users of Public Footpath Northop 4*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP).*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*
WAGI8a ***Recreational users of Public Footpath Northop 4***	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP).*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*
EAGI5 *Residents within Elton*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP).*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*

Description of the effect	*Pre-mitigation significance of effects*	*Mitigation measure*	*Residual effect*
EAGI9 *Residents within Yew Tree Close*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP).*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*
B5 *Residents off Allt Chwiler*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP).*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*
B6 *Residents of dwellings off the B5121*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP).*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*
B7 *Residents of Ffordd Babell and the B5121*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP).*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*
B9a ***Users of Cornist Lane***	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP).*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*
B12 *Residents off Overlea Drive*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP).*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*

Description of the effect	*Pre-mitigation significance of effects*	*Mitigation measure*	*Residual effect*
B13 *Recreational users of Public Footpaths Harwarden 29 and 34*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP).*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*
B14 *Recreational users of Public Footpath 211 FP9/1*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP).*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*
B15 *Residents at Mollington*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP).*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*

12.12. IN-COMBINATION CLIMATE CHANGE IMPACTS

12.12.1. There are no additional in-combination climate change impacts identified for the landscape and visual assessment from these proposed design changes. Therefore, the text within **Section 12.12** of the 2022 ES **(APP-064)** remains unchanged and valid.

12.13. MONITORING

12.13.1. The additional proposed design changes do not change the requirements for monitoring measures during construction. Therefore, the text within **Section 12.13** of the 2022 ES **(APP-064)** remains unchanged and valid.

12.14. CONCLUSIONS

12.14.1. Viewpoints WAGI8 and WAGI9 was reassessed and new viewpoints, WAGI8a and WAGI9a, was added to the assessment as a result of the relocation of Northop Hall AGI (PS03).

12.14.2. The assessment concluded that PS03 would have a ***moderate adverse (significant)*** effect during the construction stage and operation stage for Year 1 and a *minor adverse (not significant)* effect for the operation stage for Year 15 for viewpoints WAGI8 and WAGI8a. The assessment undertaken in **Appendix 12.4 (Revision B)** also concluded that PS03 would not have significant effects during the construction stage and operation stage for Years 1 and 15 on viewpoints WAGI9 and WAGI9a.

12.14.3. Therefore, this assessment has not changed the likely significant effects of the Northop Hall AGI on viewpoints WAGI8 and WAGI9 reported in the 2022 ES **(APP-064)**.

12.14.4. New viewpoints, B8, B9a and B9b, was added to the assessment, replacing viewpoint B9, as a result of the relocation of Cornist Lane BVS (PS01).

12.14.5. The assessment concluded that PS01 would have a ***moderate adverse (significant)*** effect during the construction stage and a *minor adverse (not significant)* effect for the operation stage for Years 1 and 15 for viewpoint B9a. The assessment undertaken in **Appendix 12.4 (Revision B)** also concluded that PS01 would not have significant effects during the construction stage and operation stage for Years 1 and 15 on viewpoints B8 and B9b.

12.14.6. This assessment has not changed the likely significant effects of the Cornist Lane BVS on viewpoint B9 reported in the 2022 ES.

12.14.7. Therefore, the proposed design changes as set out in **Table 1.1** do not result in changes to the likely significant effects as reported in the 2022 ES **(APP-064)** for landscape and visual. The 2022 ES conclusions have therefore not materially changed for this topic.

12.15. REFERENCES

12.15.1. **Ref. 12.17** below should be added to **Section 12.15** of the 2022 ES **(APP-064)**:

- **Ref. 12.17**– Flintshire County Council (2023). Flintshire Local Development Plan 2023. Available at: https://www.flintshire.gov.uk/en/PDFFiles/Planning/Examination-Library-Documents/LDP-Version-8.pdf

13. MAJOR ACCIDENTS AND DISASTERS

13.1. INTRODUCTION

13.1.1. **Chapter 13: Major Accidents and Disasters** of the 2022 ES **(APP-065)** describes the vulnerability of the DCO Proposed Development to the risk of Major Accidents and Disasters (MA&D).

13.1.2. This ES Addendum chapter considers only the likely significant effects resulting from the proposed design changes as outlined **Table 1.1** of **Chapter I** of this ES Addendum. **Table 1.1** indicates the proposed design changes that have been scoped into the assessment of likely significant effects for MA&D.

13.1.3. Revision A of **Appendices 13.1** and **13.2 (APP-142** and **APP-143)** and have also been updated and superseded by Revision B as a result of the proposed design changes.

13.2. LEGISLATIVE AND POLICY FRAMEWORK

13.2.1. The legislative and policy framework for MA&D has not changed due to the proposed design changes however since the publication of the 2022 ES, there have been updates to the following relevant legislation and policies:

- Flintshire Local Development Plan 2015–2030 adopted 24 January 2023.

13.2.2. Therefore, a new paragraph within **Section 13.2** under 'Policy' with the following text relative to the Flintshire Local Development Plan should be added to the 2022 ES **(APP-065)**:

*Flintshire Local Development Plan **(Ref. 13.34)***

The Flintshire Local Development Plan was adopted 24 January 2023 and is in force as of the date of this report.

Policy EN18: Pollution and Nuisance recognises that in addition to control measures implemented through legislative drivers, the planning policy also has a role to play in "ensuring that polluting or hazardous development does not affect or restrict other uses of land, either now or in the future." It also recognises that "Certain types of development, such as schools, hospitals and housing, may be particularly sensitive to environmental hazards". The Flintshire Local Development Plan does not set out any principles for the assessment of MA&D.

13.2.3. No other text in Section 13.2 of the 2022 ES **(APP-065)** are affected by the proposed design changes or updates to relevant legislation and policy since the publication of the 2022 ES, and therefore remains unchanged and valid.

13.3. SCOPING OPINION AND CONSULTATION

13.3.1. The scoping opinion has not changed, and no additional consultation has been undertaken regarding the proposed design changes in relation to MA&D.

13.3.2. No amendments to **Appendix 1.3 – Environmental Statement – Scoping Opinion Responses (APP-076)** are required in relation to MA&D due to the proposed design changes. Therefore, the text within **Section 13.3** of the 2022 ES **(APP-065)** remains unchanged and valid.

13.4. SCOPE OF THE ASSESSMENT

13.4.1. The scope of the assessment for MA&D has changed as a result of the retention or removal of the slurry tank at Hollywell Road (PS02a and PS02b).

13.4.2. Revision A of **Appendix 13.1 – Major Accidents and Disasters Long List (APP-142)** has been updated and superseded by Revision B as a result of scoping in potential impacts associated with the potential retention or removal of the slurry tank at Hollywell Road (PS02a and PS02b). The potential impacts include introducing new fire and/or explosion risk and a new potential source of contamination during the construction phase. Therefore, land pollution accidents and water pollution accidents can no longer be scoped out during the construction phase.

13.4.3. **Paragraph 13.4.9** of the 2022 ES **(APP-065)** should be replaced with the following text:

ELEMENTS SCOPED INTO THE ASSESSMENT

Construction and Decommissioning Stage

The DCO Proposed Development is considered to be potentially vulnerable to the following Risk Event types during the Construction and Decommissioning Stages of the DCO Proposed Development and have therefore been considered within this assessment:

- *Fluvial flooding;*
- *Pluvial flooding;*
- *Groundwater flooding;*
- *Major Accident Hazard (MAH) chemical sites;*
- *MAH pipelines;*
- *Mines and storage caverns;*
- *Electricity failure;*
- *Gas failure; and*
- *Unexploded ordnance.*
- *Fires associated with industrial and urban accidents;*
- *Land pollution accidents; and*
- *Water pollution accidents*.

13.4.4. All other scope of the assessment text within **Section 13.4** of the 2022 ES **(APP-065)** remains unchanged and valid.

13.5. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

13.5.1. The assessment methodology and significance criteria for MA&D has not changed due to the proposed design changes. Therefore, there text within **Section 13.5** of the 2022 ES **(APP-065)** remains unchanged and valid.

13.6. BASELINE CONDITIONS

13.6.1. The baseline for the MA&D assessment has not changed due to the proposed design changes. Therefore, the text within **Section 13.6** of the 2022 ES **(APP-065)** remains unchanged and valid.

13.7. SENSITIVE RECEPTORS

13.7.1. The sensitive receptors for the MA&D assessment have not changed for the proposed design changes. Therefore, the text within **Section 13.7** of the 2022 ES **(APP-065)** remains unchanged and valid.

13.8. DESIGN DEVELOPMENT, IMPACT AVOIDANCE, AND EMBEDDED MITIGATION

13.8.1. The design development, impact avoidance and embedded mitigation for MA&D have not changed due to the proposed design changes. Therefore, the text within **Section 13.8** of the 2022 ES **(APP-065)** remains unchanged and valid.

13.9. ASSESSMENT OF VULNERABILITY TO THE RISK OF MA&D EVENTS

13.9.1. The assessment of vulnerability to the risk of MA&D events has changed as a result of the presence of the slurry tank at Hollywell Road (PS02a and PS02b).

13.9.2. Revision A of **Appendix 13.2 – ES Risk Record (APP-143)** has been updated and superseded by Revision B as a result of scoping in potential impacts associated with the retention or removal of the slurry tank at Hollywell Road (PS02a and PS02b). The updates include five new MA&D events to which the DCO Proposed Development may be vulnerable during the construction stage.

13.9.3. **Paragraph 13.9.3** and **Table 13.3** of the 2022 ES **(APP-065)** should be replaced with the following text and **Table 13.2**:

Construction Stage

*Eight MA&D events have been identified to which the DCO Proposed Development may be vulnerable to during the Construction Stage as detailed in **Table 13.1** below. All events that have been considered are set out in **Appendix 13.2 ES Risk Record (Volume III)**.*

Table 13.1 – Potential Major Accident and/or Disaster Events during Construction Grouped by High Level Risk Event

Risk Record Entry Number	*Risk Description*	*Risk Event (High Level)*	*Reasonable Worst Consequence if Event Did Occur*
2	*Striking of underground services/utilities.*	*Fire and/or explosion or release of harmful gas.*	*Fire and/or explosion affects neighbouring property and/or members of the public.*
16	*Damage to a third-party MAH pipeline.*	*Spillage or longer-term seepage of pollutants into ground/watercourse.*	*Contamination of ground and/or water supply.*
20	*Damage to the slurry tank.*	*Land pollution accident.*	*Contamination of ground and/or water supply.*
21	*Damage to the slurry tank.*	*Water pollution accident.*	*Contamination of Wepre Brook.*
22	*Release of methane gas.*	*Fire.*	*Fire and/or explosion affects neighbouring property and/or members of the public.*
23	*Release of slurry resulting from decommissioning/demolition of the slurry tank.*	*Land pollution accident.*	*Contamination of ground and/or water supply.*
24	*Release of slurry resulting from decommissioning/demolition of the slurry tank.*	*Water pollution accident.*	*Contamination of Wepre Brook.*
25	*Presence of Centralised Compounds in the floodplain of the Tidal River Dee*	*Water pollution accident*	*Contamination of the River Dee*

13.9.4. Based on the assumptions and mitigation measures put forward in other relevant ES Chapters and **Sections 13.8** and **13.10** of the 2022 ES **(APP-**

065), it is considered that the identified potential MA&D events above will all be managed to be As Low As Reasonably Practicable (ALARP).

13.9.5. All other assessment of vulnerability to the risk of MA&D events text within **Section 13.9** of the 2022 ES **(APP-065)** remains unchanged and valid.

13.10. MITIGATION AND ENHANCEMENT MEASURES

13.10.1. Additional mitigation and enhancement measures for MA&D have been included in Revision B of **Appendix 13.2 – ES Risk Record** for risk record entry numbers 20, 21, 22, 23 and 24 as a result of the retention or removal of the slurry tank at Hollywell Road (PS02a and PS02b). However, the text within **Section 13.10** of the 2022 ES **(APP-065)** remains unchanged and valid.

13.11. RESIDUAL EFFECTS

13.11.1. No additional residual effects have been identified for MA&D due to the proposed design changes. Therefore, the text within **Section 13.11** of the 2022 ES **(APP-065)** remains unchanged and valid.

13.12. IN-COMBINATION CLIMATE CHANGE IMPACTS

13.12.1. There are no additional in-combination climate change impacts identified for the MA&D assessment from these proposed design changes. Therefore, the text within **Section 13.12** of the 2022 ES **(APP-065)** remains unchanged and valid.

13.13. MONITORING

13.13.1. The additional proposed design changes do not change the requirements for monitoring measures during construction. Therefore, the text within **Section 13.13** of the 2022 ES **(APP-065)** remains unchanged and valid.

13.14. CONCLUSIONS

13.14.1. The proposed design changes as set out in Table 1.1 do not result in changes to the likely significant effects as reported in the 2022 ES (**APP-065**) for Major Accidents and Disasters. The 2022 ES conclusions are therefore not materially changed for this topic.

13.15. REFERENCES

13.15.1. **Ref. 13.34** below has been added to **Section 13.2** of the 2022 ES **(APP-065)**:

- **Ref. 13.34** – Flintshire County Council (2023). Flintshire Local Development Plan 2023. Available at: https://www.flintshire.gov.uk/en/PDFFiles/Planning/Examination-Library-Documents/LDP-Version-8.pdf

14. MATERIALS AND WASTE

14.1. INTRODUCTION

14.1.1. **Chapter 14: Material Assets and Waste** of the 2022 ES **(APP-066)** reports the outcome of the assessment of the likely significant environmental effects of the DCO Proposed Development on Material Assets and Waste.

14.1.2. This ES Addendum chapter considers only the likely significant effects resulting from the proposed design changes as outlined in **Table 1.1** of **Chapter I** of this ES Addendum. **Table 1.1** indicates the proposed design changes that have been scoped in or out of the assessment of likely significant effects for Material Assets and Waste.

14.1.3. No appendices or figures were submitted in support of **Chapter 14: Material Assets and Waste** of the 2022 ES **(APP-066)**.

14.2. LEGISLATIVE AND POLICY FRAMEWORK

14.2.1. The legislative and policy framework for air quality has not changed due to the proposed design changes however since the publication of the 2022 ES, there have been updates to the following relevant legislation and policies:

- Flintshire County Council Unitary Development Plan 2000-2015 has been superseded by the Flintshire Local Development Plan 2015-2030 adopted 24 January 2023 (**Ref 14.2**).

14.2.2. **Paragraphs 14.2.33** to **14.2.35** in the 2022 ES (**APP-066**) should be replaced with the following text:

*Strategic Policy 15 (STR15) of the Flintshire Local Development Plan (LDP) **(Ref. 14.5)** on Waste Management describes the facilitation of sustainable waste management through "Securing opportunities to minimise the production of waste in all development and ensuring the sustainable management of waste once it has been produced." Policy EN19: Managing Waste Sustainably requires new developments to demonstrate how the production of waste will be minimised and how wastes that do arise will be sustainably managed in accordance with the waste hierarchy.*

STR16 on Strategic Planning for Minerals sets out the requirement to protect minerals from unnecessary sterilisation by directing development away from important mineral deposits. Where this is not possible, prior extraction should be undertaken as set out in Policy EN23 of the LDP. A commitment to contributing to the regional supply of minerals (sand and gravel and crushed rock) is also set out in the policy. Finally, the policy commits to maximising use of secondary and recycled aggregate as set out in Policy EN27.

14.2.3. All other legislative and policy framework text within **Section 14.2** of the 2022 ES **(APP-066)** remains unchanged and valid.

14.3. SCOPING OPINION AND CONSULTATION

14.3.1. The scoping opinion has not changed, and no additional consultation has been undertaken regarding the proposed design changes in relation to Material Assets and Waste.

14.3.2. No amendments to **Appendix 1.3 – Environment Statement - Scoping Opinion Responses (APP-076)** are required in relation to Material Assets and Waste due to the proposed design changes. Therefore, the text within **Section 14.3** of the 2022 ES remains unchanged and valid.

14.4. SCOPE OF THE ASSESSMENT

14.4.1. The scope of the assessment for Materials and Waste has not changed due to the proposed design changes. Therefore, the text within **Section 14.4** of the 2022 ES remains unchanged and valid.

14.5. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

14.5.1. The assessment methodology and significance criteria for Material Assets and Waste has not changed due to the proposed design changes. Therefore, the text within **Section 14.5** of the 2022 ES (**APP-066**) remains unchanged and valid.

14.6. BASELINE CONDITIONS

14.6.1. The baseline for the Material Assets and Waste assessment has not changed due to the proposed design changes. Therefore, the text within **Section 14.6** of the 2022 ES (**APP-066**) remains unchanged and valid.

14.7. SENSITIVE RECEPTORS

14.7.1. The sensitive receptors for the Material Assets and Waste assessment have not changed for the proposed design changes. Therefore, the text within **Section 14.7** of the 2022 ES (**APP-066**) remains unchanged and valid.

14.8. DESIGN DEVELOPMENT, IMPACT AVOIDANCE, AND EMBEDDED MITIGATION

14.8.1. The design development, impact avoidance and embedded mitigation for Material Assets and Waste have not changed due to the proposed design changes. Therefore, the text within **Section 14.8** of the 2022 ES (**APP-066**) remains unchanged and valid.

14.9. PRELIMINARY ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

14.9.1. The design of Cornist Lane BVS and Northop Hall AGI remains unchanged. The relocation and rotation of the Cornist Lane BVS (PS01) and the relocation of Northop Hall AGI (PS03) is not anticipated to require additional construction materials or generate additional waste from data assessed in **Section 14.9** of the 2022 ES (**APP-066**).

14.9.2. Extension of the Newbuild Infrastructure Boundary to the northwest and west, towards the Ancient Woodland south of Holywell Road, retention of the slurry tank and location of the pipeline within or outside the Ancient Woodland buffer (PS02) does not have an impact on the sensitive receptors for Material Assets and Waste and has been scoped out. The removal of a slurry tank (PS02a) would have the potential to generate waste, however the magnitude of impact is considered to be negligible given the potential for diversion of waste from landfill. Construction of a new slurry tank would be subject to a separate planning application and is not therefore considered in this assessment.

14.9.3. The assessment of likely impacts and effects has not changed due to the proposed design changes, including PS01, PS02 and PS03. Therefore, the text within **Section 14.9** of the 2022 ES remains unchanged and valid.

14.10. MITIGATION AND ENHANCEMENT MEASURES

14.10.1. The mitigation and enhancement measures for Material Assets and Waste have not changed due to the proposed design changes. Therefore, the text within **Section 14.10** of the 2022 ES (**APP-066**) remains unchanged and valid.

14.11. RESIDUAL EFFECTS

14.11.1. No additional residual effects have been identified for Material Assets and Waste due to the proposed design changes. Therefore, the text within **Section 14.11** of the 2022 ES (**APP-066**) remains unchanged and valid.

14.12. IN-COMBINATION CLIMATE CHANGE IMPACTS

14.12.1. There are no additional in-combination climate change impacts identified for the Material Assets and Waste assessment from the proposed design changes. Therefore, the text within **Section 14.12** of the 2022 ES (**APP-066**) remains unchanged and valid.

14.13. MONITORING

14.13.1. The proposed design changes do not change the requirements for monitoring measures during construction. Therefore, the text within **Section 14.13** of the 2022 ES (**APP-066**) remains unchanged and valid.

14.14. CONCLUSIONS

14.14.1. The proposed design changes as set out in **Table 1.1** do not result in changes to the likely significant effects as reported in the 2022 ES (**APP-066**) for material assets and waste. The 2022 ES conclusions are therefore not materially changed for this topic.

14.15. REFERENCES

14.15.1. **Ref. 14.35** and **Ref. 14.36** have been added to Section 14.2 of the 2022 ES **(APP-066)**:

- **Ref. 14.35** Flintshire County Council (2011). Flintshire County Council Unitary Development Plan 2000 – 2015. Retrieved from [redacted]
- **Ref. 14.36** - Flintshire County Council. (2023). Flintshire Local Development Plan 215 - 2030. Retrieved from https://www.flintshire.gov.uk/en/PDFFiles/Planning/Examination-Library-Documents/FINAL-LDP-Written-Statement-

15. NOISE AND VIBRATION

15.1 INTRODUCTION

15.1.1. **Chapter 15: Noise and Vibration** of the 2022 ES **(APP-067)** reports the outcome of the assessment of the likely significant effects of the DCO Proposed Development from Noise and Vibration.

15.1.2. This ES Addendum chapter considers only the likely significant effects of the proposed design changes and clarifications to the assessments as outlined in **Tables 1.1** and **1.2** of **Chapter I** of this ES Addendum. **Tables 1.1** and **1.2** indicates the proposed design changes and clarifications to the assessments that have been scoped into the assessment of likely significant effects for Noise and Vibration.

15.1.3. Revision A of **Appendix 15.3** (**APP-146**) has also been updated and superseded by Revision B as a result of the proposed design and clarification changes.

15.1.4. **Appendices 15.1** and **15.2** of the 2022 ES (**APP-144** and **APP-145**) remain unchanged and valid.

15.1.5. Revision A of **Figures 15.1** to **15.3** (**APP-208** to **APP-210**) have also been updated and superseded by Revision B as a result of the proposed design changes.

15.2. LEGISLATIVE AND POLICY FRAMEWORK

15.2.1. The legislative and policy framework for noise and vibration has not changed due to the proposed design changes however since the publication of the 2022 ES, there have been updates to the following relevant legislation and policies:

- Flintshire County Council Unitary Development Plan 2000-2015 has been superseded by the Flintshire Local Development Plan 2015-2030 adopted 24 January 2023

15.2.2. Therefore, **paragraph 15.2.15** of the 2022 ES **(APP-067)** should be replaced with the following text:

Flintshire Local Development Plan 2015-2030 ***(Ref.15.27)***

The Flintshire Local Development Plan was adopted 24 January 2023. The relevant policy is EN18 on Pollution and Nuisance.

15.2.3. No other legislative and policy framework text in **Section 15.2** of the 2022 ES **(APP-067)** are affected by the proposed design changes or updates to relevant legislation and policy since the publication of the 2022 ES, and therefore remains unchanged and valid.

15.3. SCOPING OPINION AND CONSULTATION

15.3.1. The scoping opinion has not changed, and no additional consultation has been undertaken regarding the proposed design changes in relation to noise and vibration.

15.3.2. No amendments to **Appendix 1.3 – Environmental Statement – Scoping Opinion Responses** (**APP-076**) are required in relation to noise and vibration due to the proposed design changes. Therefore, the text within **Section 15.3** (**APP-067**) of the 2022 ES remains unchanged and valid.

15.4. SCOPE OF THE ASSESSMENT

15.4.1. The scope of the assessment for noise and vibration has not changed due to the proposed design changes. Therefore, the text within **Section 15.4** of the 2022 ES (**APP-067**) remains unchanged and valid.

15.5. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

15.5.1. The assessment methodology and significance criteria for noise and vibration has not changed due to the proposed design changes. Therefore, the text within **Section 15.5** of the 2022 ES (**APP-067**) remains unchanged and valid.

15.6. BASELINE CONDITIONS

15.6.1. The baseline conditions for the noise and vibration assessment have not changed due to the proposed design changes. Therefore, the text within **Section 15.6** of the 2022 ES (**APP-067**) remains unchanged and valid.

15.7. SENSITIVE RECEPTORS

15.7.1. The sensitive receptors for the noise and vibration assessment have changed due to the proposed design changes. The relocation of Cornist Lane BVS (PS01) and subsequent change in the Newbuild Infrastructure Boundary has changed the amount of Noise Sensitive Receptors (NSRs) assessed in Section 7 of the DCO Proposed Development.

15.7.2. The reduction of the Newbuild Infrastructure Boundary to remove two residential properties and amenity curtilage at Grove Road (Mollington) and Halls Green Lane (South of Stanlow) (PS11) have been included within the overall results of the assessment.

15.7.3. Therefore, **Table 15.16** of the 2022 ES (**APP-067**) has changed and should be replaced with **Table 15.1** below.

Table 15.1 - Noise Sensitive Receptors

Value / Sensitivity	*Receptor*
High	*Section 1: 504 dwellings and no other sensitive receptors*
High	*Section 2: 107 dwellings and one other sensitive receptor*
High	*Section 3: 322 dwellings and two other sensitive receptors*
High	*Section 4: 1153 dwellings and six other sensitive receptors*
High	*Section 5: 1710 dwellings and six other sensitive receptors*
High	*Section 6: 31 dwellings and no other sensitive receptors*
High	*Section 7: 12 dwellings and no other sensitive receptors*

15.8. DESIGN DEVELOPMENT, IMPACT AVOIDANCE, AND EMBEDDED MITIGATION

15.8.1. The design development, impact avoidance, and embedded mitigation for the noise and vibration assessment have not changed due to the proposed design changes. Therefore, the text within **Section 15.8** of the 2022 ES **(APP 067)** remains unchanged and valid.

15.9. ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

15.9.1. The assessment of likely impacts and effects for noise and vibration has changed as a result of the proposed design changes as shown below.

CONSTRUCTION PHASE

15.9.2. The proposed design changes and clarifications to the assessments have led to a change in the number of receptors subject to medium or high daytime noise impact, therefore **Table 15.2, Table 15.3** and **Table 15.4** below replace **Table 15.17, Table 15.18** and **Table 15.19** of the 2022 ES **(APP-067)**.

Table 15.2 - Number of Receptors Subject to Medium or High Daytime Noise Impact – without Secondary Mitigation

Section	Magnitude of impact	
	Medium	High
1	9	5
2	28	7
3	90	41
4	180	133
5	186	82
6	6	7
7	3	1

Table 15.3 - Number of Receptors Subject to Medium or High Evening Noise Impact – without Secondary Mitigation

Section	Magnitude of impact	
	Medium	High
1	2	2
2	13	16
3	66	81
4	95	178
5	188	90
6	2	7
7	0	0

Table 15.4 - Number of Receptors Subject to Medium or High Night Noise Impact

Section	Magnitude of impact	
	Medium	High
1	20	23
2	9	26
3	63	181
4	296	263
5	246	332
6	4	9
7	0	0

15.9.3. **Paragraph 15.9.5** of the 2022 ES **(APP-067)** should be replaced with the following text:

*For construction activities associated with the trenchless installation techniques, **Table 15.18** and **Table 15.19** show that some receptors within sections 1 to 6 are likely to experience an adverse noise impact of either*

*medium or high magnitude. However, it is acknowledged that, at the majority of crossings, this activity will occur occasionally and for a short period of time and less than the period defined in **paragraph 15.5.56**. As described in **Chapter 3 Description of the DCO Proposed Development (Volume II),** at some longer crossings with difficult ground conditions, the duration of the evening and night-time working is expected to last up to four weeks. Therefore, it is considered to be a not significant effect (not significant) at most locations and a **significant effect (significant)** at six locations where the estimated duration of continuous 24h drilling for trenchless installation techniques exceeds the duration defined in **paragraph 15.5.56**.*

15.9.4. **Table 15.5** and **Table 15.6** are new and show the number of noise sensitive receptors near the six trenchless crossing locations subject to a ***significant effect (significant)*** during the evening and night-time, respectively, without the implementation of secondary mitigation.

Table 15.5 - Number of Receptors near the six trenchless crossing locations subject to a Significant Effect during Evening – without Secondary Mitigation

Section	Magnitude of impact	
	Medium	High
1	2	2
2	0	0
3	0	0
4	60	97
5	35	19
6	0	0
7	0	0

Table 15.6 - Number of Receptors near the six trenchless crossing locations subject to a Significant Effect during Night – without Secondary Mitigation

Section	Magnitude of impact	
	Medium	High
1	20	23
2	0	0
3	0	0
4	98	151
5	86	84
6	0	0
7	0	0

OPERATIONAL STAGE

15.9.5. The proposed design changes have led to a change in the ambient noise assessments at NSR 3 and 5. Therefore, **Table 15.7**, **Table 15.8, 15.9** and **Table 15.10** below replace **Table 15.22**, **Table 15.23, Table 15.24** and **Table 15.25** of the 2022 ES **(APP-067)**.

Table 15.7 - Operational Noise Assessment - Daytime

NSR	*X Coordinate*	*Y Coordinate*	*Background Noise Level $L_{A90,\ 15\ min}$ dB*	*Predicted Rating Level, $L_{Ar,Tr}$ dB*	*Difference dB*
1	*315152*	*374454*	*37*	*23*	*-14*
2	*317363*	*373383*	*37*	*29*	*-8*
3	*321792*	*372565*	*43*	*24*	*-19*
4	*324874*	*371018*	*39*	*21*	*-18*
5	*325987*	*368124*	*45*	*27*	*-18*
6	*331199*	*366849*	*45*	*32*	*-13*
7	*338206*	*370042*	*39*	*29*	*-10*
8	*341121*	*371522*	*46*	*28*	*-19*
9	*344232*	*374694*	*54*	*13*	*-41*

Table 15.8 - Operational Noise Assessment – Night-time

NSR	*X Coordinate*	*Y Coordinate*	*Background Noise Level $L_{A90,\ 15\ min}$ dB*	*Predicted Rating Level, $L_{Ar,Tr}$ dB*	*Difference dB*
1	*315152*	*374454*	*29*	*23*	*-6*
2	*317363*	*373383*	*31*	*29*	*-2*
3	*321792*	*372565*	*34*	*24*	*-10*
4	*324874*	*371018*	*32*	*21*	*-11*

NSR	X Coordinate	Y Coordinate	Background Noise Level $L_{A90,\ 15\ min}$ dB	Predicted Rating Level, $L_{Ar,Tr}$ dB	Difference dB
5	325987	368124	35	27	-8
6	331199	366849	35	32	-3
7	338206	370042	31	29	-2
8	341121	371522	38	28	-11
9	344232	374694	47	13	-34

Table 15.9 - Ambient Daytime Noise Assessment

NSR	Predicted Specific Noise Level from AGI/BVS $L_{Aeq,\ T}$ dB	Measured Noise Level, $L_{Aeq,\ 16\ h}$ dB	Predicted Noise Level + Measured Noise Level, $L_{Aeq,\ 16\ h}$ dB	Difference dB
1	18	47	47	0
2	24	53	53	0
3	19	50	50	0
4	16	51	51	0
5	22	53	53	0
6	27	53	53	0
7	24	50	50	0
8	23	54	54	0
9	8	60	60	0

Table 15.10 - Ambient Night-time Noise Assessment

NSR	Predicted Specific Noise Level from AGI/BVS $L_{Aeq, T}$ dB	Measured Noise Level, $L_{Aeq, 8\ h}$ dB	Predicted Noise Level + Measured Noise Level, $L_{Aeq, 8\ h}$ dB	Difference dB
1	18	41	41	0
2	24	51	51	0
3	19	49	49	0
4	16	41	41	0
5	22	53	53	0
6	27	53	53	0
7	24	41	41	0
8	23	48	48	0
9	8	56	56	0

15.9.6. All other text within **Section 15.9** of the 2022 ES (**APP-067**) remains unchanged and valid.

15.10. MITIGATION AND ENHANCEMENT MEASURES

15.10.1. The mitigation and enhancement measures for noise and vibration have not changed as a result of the proposed design changes. Therefore, the text within **Section 15.10** of the 2022 ES **(APP-067)** remains unchanged and valid.

15.11. RESIDUAL EFFECTS

15.11.1. The following changes have been identified for Noise and Vibration due to the proposed design changes and clarifications to the assessments.

15.11.2. **Table 15.11** below replaces **Table 15.27** of the 2022 ES **(APP-067)**.

Table 155.11 – ***Number of Receptors Subject to Medium or High Daytime Noise Impact – with Secondary Mitigation***

Section	*Medium*	*High*
1	*1*	*0*
2	*1*	*0*
3	*7*	*0*
4	*15*	*5*
5	*12*	*0*
6	*1*	*0*
7	*0*	*0*

15.11.3. **Paragraphs 15.11.3** and **15.11.4** of the 2022 ES **(APP-067)** should be replaced with the following text and tables:

Predicted noise levels are shown in ***Figure 15.2 - Predicted Construction Noise Levels – Mitigated (Volume IV)****. Receptors identified in* ***Table 15.27****, particularly those within section 4 and section 5, have the potential to experience medium and high adverse noise impacts after secondary mitigation is implemented. Based on* ***Table 5.1*** *of* ***Chapter 5 EIA Methodology (Volume II)****, these are considered to be* ***moderate*** *and* ***major significant effects (significant)****. It has been assumed that daytime activities would exceed the duration criteria in* ***paragraph 15.5.56.***

Potential residual noise effects for evening and night-time, once mitigation has been applied, have been identified as either medium or high and these are set out in ***Table 15.12*** *and* ***Table 15.13*** *below.*

Table 155.12 – ***Number of Receptors Subject to Medium or High Evening Noise Impact – with Secondary Mitigation***

Section	*Medium*	*High*
1	*0*	*0*
2	*13*	*0*
3	*29*	*10*
4	*65*	*19*
5	*22*	*21*
6	*2*	*1*
7	*0*	*0*

Table 155.13 – ***Number of Receptors Subject to Medium or High Night Noise Impact – with Secondary Mitigation***

Section	*Medium*	*High*
1	*0*	*0*
2	*13*	*0*
3	*34*	*78*
4	*94*	*84*
5	*59*	*50*
6	*2*	*6*
7	*0*	*0*

The locations of the noise sensitive receptors in ***Table 15.13****,* ***Table 15.14*** *and* ***Table 15.15*** *are shown in* ***Figure 15-3 Magnitude of Construction Noise Impacts – Mitigated (Volume IV)****.*

The numbers presented within ***Table 15.12*** *and* ***Table 15.13*** *above relate to all trenchless crossings works. All other construction works associated with the DCO Proposed Development are expected to be active during daytime only.*

Most of the noise sensitive receptors, shown in ***Table 15.12*** *and* ***Table 15.13****, subject to an adverse noise effect during evening and night-time periods will be classified as not significant as generally these activities will not exceed the duration criteria in* ***paragraph 15.5.56*** *of the 2022 ES* ***(APP-067)****.*

Noise sensitive receptors near the six trenchless crossing activities where continuous drilling activities will occur for up to four weeks are likely to experience a significant adverse noise effects as these activities will exceed the duration criteria in ***paragraph 15.5.56*** *of the 2022 ES* ***(APP-067)****.*

The number of noise sensitive receptors which have the potential to experience a significant adverse effect during evening and night-time due to trenchless crossing after secondary mitigation have been identified. The number of noise sensitive receptors subject to a significant adverse noise effect is provided in new ***Table 15.14*** *and* ***Table 15.15*** *below.*

Table 155.14 – ***Number of Receptors near the six trenchless crossing locations subject to a Significant Effect during Evening – with Secondary Mitigation***

Section	*Medium*	*High*
1	*0*	*0*
2	*0*	*0*
3	*0*	*0*
4	*33*	*12*
5	*7*	*0*
6	*0*	*0*
7	*0*	*0*

*Table 155.15 – **Number of Receptors near the six trenchless crossing locations subject to a Significant Effect during Night – with Secondary Mitigation***

Section	*Medium*	*High*
1	*0*	*0*
2	*0*	*0*
3	*0*	*0*
4	*56*	*45*
5	*22*	*13*
6	*0*	*0*
7	*0*	*0*

*Results in **Table 15.14** and **Table 15.15** indicate that 52 and 136 noise sensitive receptors will experience a **significant effect (significant)** during evening and night-time, respectively.*

*The noise sensitive receptors subject to **significant effects (significant)** during evening and night-time are primarily located in **Section 4** and **Section 5**.*

15.11.4. There are no changes to **Table 15.28 – Summary of Residual Effects** detailed in the 2022 ES **(APP-067)**.

15.11.5. All other **Residual Effects** text within **Section 15.11** of the 2022 ES (**APP-067**) remains unchanged and valid.

15.12. IN-COMBINATION CLIMATE CHANGE IMPACTS

15.12.1. There are no additional in-combination climate change impacts identified for the noise and vibration assessment from these proposed design changes and clarifications. Therefore, the text within **Section 15.12** of the 2022 ES **(APP-067)** remains unchanged and valid.

15.13. MONITORING

15.13.1. The additional proposed design changes and clarifications do not change the requirements for monitoring measures during construction. Therefore, the text within **Section 15.13** of the 2022 ES **(APP-067)** remains unchanged and valid.

15.14. CONCLUSIONS

15.14.1. The number of receptors having medium or high daytime, evening and night noise effects (before mitigation) have reduced as a result of the proposed design changes and clarifications to the assessments when compared to the 2022 ES.

15.14.2. A more detailed assessment for evening and night residual noise effects (after mitigation) has been presented in the addendum chapter compared with the 2022 ES.

15.14.3. The proposed design changes as set out in Table 1.1 do not result in changes to the residual effects as reported in the 2022 ES (APP-067) for noise and vibration. The 2022 ES conclusions are therefore not materially changed for this topic.

15.15. REFERENCES

15.15.1. **Ref. 15.27** below has been added to **Section 15.14** of the 2022 ES **(APP-067)**.

- **Ref.15.27**: Flintshire County Council. (2023). Flintshire Local Development Plan 2015–2030. Retrieved from: https://www.flintshire.gov.uk/en/Resident/Planning/Flintshire-Local-Development-Plan.aspx

16. POPULATION AND HUMAN HEALTH

16.1. INTRODUCTION

16.1.1. **Chapter 16: Population and Human Health** of the 2022 ES **(APP-068)** reports the outcome of the assessment of the likely significant effects of the DCO Proposed Development on Population and Human Health.

16.1.2. This ES Addendum chapter considers only the likely significant effects resulting from the proposed design changes as outlined in **Table 1.1** of **Chapter I** of this ES Addendum. **Table 1.1** indicates the proposed design changes that have been scoped into the assessment of likely significant effects for Population and Human Health.

16.1.3. Revision A of **Appendices 16.1** and **16.2 (APP-147** and **APP-148)** have also been updated and superseded by Revision B as a result of the proposed design changes.

16.1.4. No figures were submitted in support of **Chapter 16: Population and Human Health** of the 2022 ES **(APP-068)**.

16.2. LEGISLATIVE AND POLICY FRAMEWORK

16.2.1. The legislative and policy framework for Population and Human Health has not changed due to the proposed design changes however since the publication of the 2022 ES, there have been updates to the following relevant legislation and policies:

- Flintshire County Council Unitary Development Plan 2000-2015 has been superseded by the Flintshire Local Development Plan 2015-2030 adopted 24 January 2023

16.2.2. Therefore, **paragraph 16.2.18** of the 2022 ES (**APP-068**) should be replaced with the following text:

Flintshire Local Development Plan

The purpose of this Plan is to provide the overall vision, strategic objectives, spatial strategy and strategic planning policies for the borough to 2030. Objective 7 of the Plan requires development to 'create places that are safe, accessible and encourage and support good health, well-being and equality'

16.3. SCOPING OPINION AND CONSULTATION

16.3.1. The scoping opinion has not changed, and no additional consultation has been undertaken regarding the proposed design changes in relation to Population and Human Health.

16.3.2. No amendments to **Appendix 1.3 – Environmental Statement – Scoping Opinion Responses (APP-076**) are required in relation to Population and

Human Health due to the proposed design changes. Therefore, the text within **Section 16.3** of the 2022 ES (**APP-068**) remains unchanged and valid.

16.4. SCOPE OF THE ASSESSMENT

16.4.1. The scope of the assessment for Population and Human Health has not changed due to the proposed design changes. Therefore, the text within **Section 16.4** of the 2022 ES (**APP-068**) remains unchanged and valid.

16.5. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

16.5.1. The assessment methodology and significance criteria for Population and Human Health has not changed due to the proposed design changes. Therefore, there text within **Section 16.5** of the 2022 ES (**APP-068**) remains unchanged and valid.

16.6. BASELINE CONDITIONS

16.6.1. The baseline for the Population and Human Health assessment has changed due to the proposed design changes. Therefore, the text within **Section 16.6** of the 2022 ES has been updated to reflect the additional baseline area relevant to the assessment.

16.6.2. It should be noted that changes to the baseline only affect Land Use and Accessibility receptors. Baseline information relating to the characteristics of the population within the study area and their health remains unchanged and valid in **Section 16.6** of the 2022 ES.

EXISTING BASELINE

Land Use and Accessibility

Private Property and Housing

16.6.3. The proposed design changes have resulted in a change in number and location of private property and housing within the Study Area. Full details can be found in **Appendix 16.1 (Revision B).**

Community Land and Assets

16.6.4. The proposed design changes have resulted in a change in the number of community receptors. The full list of community land and asset receptors are detailed in **Appendix 16.1 (Revision B)**.

16.6.5. **Paragraph 16.6.63** of the 2022 ES (**APP-068**) should be replaced with the following text.

In total 76 community receptors have been identified within the Study Area of Sections 1 to 5. There were no community land and asset receptors identified within the Study Area of Sections 6 and 7.

16.6.6. **Table 16.11** of the 2022 ES (**APP-068**) should be replaced with **Table 16.1** below.

Table 16.1 – Community Land and Assets

Section	*Community Land and Assets*
Section 1	• *Five play parks* • *Elton Allotments* • *Elton Church Hall* • *Elton pharmacy* • *University of Chester, Thornton Science Park* • *St James the Great* • *Ince Village Hall*
Section 2	• *Three churches* • *Thornton Manor Care Home* • *Gowy Meadows Nature Reserve* • *Greater Grace School of Christian Education* • *Chester Zoo*
Section 3	• *The Five Villages Hall* • *St Oswald Primary School* • *Crabwall Hall Care Home* • *St Bartholomew's Church*
Section 4	• *Fore Golf Course* • *Harwarden Airport* • *Tornado Heritage Centre* • *Three places of worship* • *Sandycroft Community Centre* • *Two care homes* • *Two doctors' surgeries* • *Mancot Library* • *Mancot Village Hall* • *Sandycroft County Primary School* • *Library* • *Four Play parks/ playing fields*
Section 5	• *Allotments* • *Hawarden and Ewloe Community Woodland* • *Three primary schools* • *The Highway Day Nursery* • *Hawarden High School* • *Post Office* • *Nature Reserve* • *Two care homes* • *Four churches* • *Flintshire County Council Offices* • *Hawarden Scout Club* • *Skatepark* • *Five sports clubs*

Section	Community Land and Assets
Section 6	*No community facilities were identified.*
Section 7 (BVS)	*No community facilities were identified.*

Agricultural Land Holdings

16.6.7. The proposed design changes have resulted in a change in the number of agricultural land holdings and land used for farming purposes within the Study Area of the DCO Proposed Development. The full list of agricultural land holdings can be seen in **Appendix 16.1 (Revision B)**.

16.6.8. **Tables 16.15, 16.16** and **Table 16.17** of the 2022 ES (**APP-068**) should be replaced with **Tables 16.2, 16.3** and **Table 16.4** respectively below.

Table 16.2 – Agricultural Land Holdings located within the Study Area – Section 5

Plot Number	Agricultural Use	Frequency of Access Required
Plot 17-03 (Work No. 36 and 37)	*Pasture*	*Infrequent*
Plot 17-04 (Work No. 37)	*Pasture*	*Infrequent*
Plot 17-21 (Work No. 57H)	*Pasture*	*Infrequent*
Plot 17-43 (Work No. 57I)	*Livestock*	*Daily*
Plot 17-44 (Work No. 57I) Plot 19-01 (Work No. 57J)	*Arable*	*Monthly*
Plot 19-04a (Work No. 57K) Plot 19-04b (Work No. 57K)	*Dairy*	*Daily*
Plot 19-13 (Work No. 57L)	*Pasture*	*Infrequent*
Plot 20-11 (Work No. 57M)	*Pasture*	*Infrequent*
Plot 20-13a (Work No. 57M)	*Pasture*	*Infrequent*
Plot 20-19a (Work No. 45)	*Pasture*	*Infrequent*

Table 16.3 – Agricultural Land Holdings located within the Study Area – Section 6

Plot Number	*Agricultural Use*	*Frequency of Access Required*
Plot 22-03 (Work No. 48)	*Arable*	*Monthly*
Plot 22-06 (Work No. 48)	*Arable*	*Monthly*
Plot 22-10 (Work No. 50)	*Arable*	*Monthly*

Table 16.4 – Agricultural Land Holdings located within the Study Area – Section 7

Plot Number	*Agricultural Use*	*Frequency of Access Required*
Plot 25-05 (Work No. 51)	*Arable*	*Monthly*
Plot 25-10 (Work No. 51 and 52)	*Arable*	*Monthly*
Plot 27-03 (Work No. 53 and Work No. 54)	*Pasture*	*Infrequent*
Plot 29-05 (Work No. 55 and Work No. 56)	*Pasture*	*Infrequent*

Walkers Cyclist and Horse Riders

16.6.9. The proposed design changes have resulted in a change in the number of PRoWs within the Study Area of the DCO Proposed Development. The full list of PRoWs can be seen in **Appendix 16.2 (Revision B)**.

16.6.10. **Paragraph 16.6.67** of the 2022 ES (**APP-068**) should be replaced with the following text:

*In total across the Study Area of the DCO Proposed Development, 184 PRoWs were identified. Further details have been provided in **Appendix 16.2 (Revision B)**.*

16.6.11. **Table 16.18** of the 2022 ES (APP-068) should be replaced with **Table 16.5** below:

Table 16.5 – PRoWs located within the Study Area

Section	*PRoW*
Section 1	10 Footpaths NCN Route 5
Section 2	20 Footpaths 4 Bridleways NCN Route 70
Section 3	19 Footpaths 1 Byway NCN Routes 5, 56 and 70 Traffic Free Chester Chester Millennium Greenway
Section 4	22 footpaths Wales Coast Path
Section 5	54 footpaths
Section 6	11 footpaths
Section 7	44 footpaths

16.6.12. All other existing baseline conditions text within **Section 16.6** of the 2022 ES (**APP-068**) remains unchanged and valid.

16.7. SENSITIVE RECEPTORS

16.7.1. The sensitive receptors for the Population and Human Health assessment have changed for the proposed design changes and have been outlined in **Appendix 16.1 (Revision B)** and **Appendix 16.2 (Revision B)**.

16.7.2. Despite changes to the sensitive receptors, the text within **Section 16.7** of the 2022 ES (**APP-068**) remains unchanged and valid.

16.8. DESIGN DEVELOPMENT, IMPACT AVOIDANCE, AND EMBEDDED MITIGATION

16.8.1. The design development, impact avoidance and embedded mitigation for Population and Human Health have not changed due to the proposed design changes. Therefore, the text within **Section 16.8** of the 2022 ES (**APP-068**) remains unchanged and valid.

16.9. ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

16.9.1. There are changes to the likely impacts and effects previously identified within the 2022 ES as a result of the proposed design changes and these have been identified and outlined in **Revision B** of **Appendices 16.1** and **16.2**.

Construction Stage – Section 1

16.9.2. There are no changes to the significant effects reported in **Revision B** of **Appendices 16.1** and **16.2** for Construction Stage – Section 1. Therefore, the text in **paragraphs 16.9.3 to 16.9.25** of the 2022 ES (**APP-068**) remains unchanged and valid.

Construction Stage – Section 2

16.9.3. There are no changes to the significant effects reported in **Revision B** of **Appendices 16.1** and **16.2** for Construction Stage – Section 2 for: private property and housing; community land and assets; development land and businesses; and, human health. Therefore, the text in **paragraphs 16.9.26** to **16.9.34** and **paragraphs 16.9.39** to **16.9.53** of the 2022 ES (**APP-068**) remains unchanged and valid.

WCH

16.9.4. The additional PRoW diversion (294/FP2/1) south of Stanlow (PS20) has resulted in changes to the assessment of WCHs in Section 2. Therefore, **Table 16.20** of the 2022 ES (APP-068) should be replaced with **Table 16.6** below:

Table 16.6– Affected PRoWs in Section 2

PRoW Name	*Indicative Diversion/Effect Details*	*Sensitivity of PRoW*	*Magnitude of Impact*
309/FP1/2	*Proposed to divert along the southern Newbuild Infrastructure Boundary to join up with Picton Lane.* *Diversion Length: 265m* *Journey Decrease: 385m* *Diversion Duration: 2-4 weeks*	*Medium*	*Moderate*
309/FP3/1	*Proposed to divert along the southern Newbuild Infrastructure Boundary to join up with Picton Lane.* *Diversion Length: 205m* *Journey Decrease: 675m* *Diversion Duration: 2-4 weeks*	*Medium*	*Major*
294/FP2/1	*Proposed to diverted south, through the trenchless crossing and back north to re-join the existing route.* *Diversion Length: 430m*	*Medium*	*Moderate*

PRoW Name	*Indicative Diversion/Effect Details*	*Sensitivity of PRoW*	*Magnitude of Impact*
	Journey Increase: 334m *Diversion Duration: 2-4 weeks*		
309/BR4/1	*No planned diversion Route likely to be sequenced and fully reinstated once Construction Stage completed*	*Medium*	*Major*

16.9.5. **Paragraphs 16.9.37** and **16.9.38** of the 2022 ES (**APP-068**) should be replaced with the following text respectively:

*The magnitude of impact for PRoW routes 309/FP1/2 and 294/FP2/1 is moderate, resulting in **moderate adverse (significant)** temporary, short-term effects on WCHs using these routes.*

*The magnitude of impact for PRoW routes 309/FP3/1 and 309/BR4/1 is major due to their diversion lengths either exceeding 500m or there being no possible diversion route. This has resulted in **large adverse (significant)** temporary, short-term effects on WCHs using these routes.*

Construction Stage – Section 3

16.9.6. There are no changes to the significant effects reported in **Revision B** of **Appendices 16.1** and **16.2** for Construction Stage – Section 3. Therefore, the text in **paragraphs 16.9.54** to **16.9.81** of the 2022 ES (**APP-068**) remains unchanged and valid.

Construction Stage – Section 4

16.9.7. There are no changes to the significant effects reported in **Revision B** of **Appendices 16.1** and **16.2** for Construction Stage – Section 4. Therefore, the text in **paragraphs 16.9.82** to **16.9.121** of the 2022 ES (**APP-068**) remains unchanged and valid.

Construction Stage – Section 5

16.9.8. There are no changes to the significant effects reported in **Revision B** of **Appendices 16.1** and **16.2** for Construction Stage – Section 5 for: private property and housing; community land and assets; development land and businesses; and, human health. Therefore, the text in **paragraphs 16.9.122** to **16.9.132** and **paragraphs 16.9.136** to **16.9.151** of the 2022 ES (**APP-068**) remains unchanged and valid.

WCH

16.9.9. The proposed design changes has resulted in significant effects on an additional PRoW (303/25/10). Therefore, the following text should be added after paragraph **16.9.135** of the 2022 ES (**APP-068**):

PRoW (303/25/10) is adjacent to the Newbuild Infrastructure Boundary and links 3030/31/10 to the A494 and would be adversely affected during the construction phase of the DCO Proposed Development. PRoW (303/25/10) is of medium sensitivity and the works would have a moderate magnitude of impact resulting in a moderate adverse (significant), temporary, short-term effect.

16.9.10. **Paragraphs 16.9.133** to **16.9.135** of the 2022 ES (**APP-068**) remains unchanged and valid.

Construction Stage – Section 6

16.9.11. There are no changes to the significant effects reported in **Revision B** of **Appendices 16.1** and **16.2** for Construction Stage – Section 6. Therefore, the text in **paragraphs 16.9.152** to **16.9.168** of the 2022 ES (**APP-068**) remains unchanged and valid.

Construction Stage – Section 7

Private Property and Housing

16.9.12. The relocation of Cornist Lane BVS (PS01) has resulted in a change to the perimeter of the 500m study area used for the Population and Human Health assessment. The change has reduced the number of private properties affected by the DCO Proposed Development at Cornist Lane from three to two and the number at Nant Road from ten to seven.

16.9.13. Therefore, **Table 16.26** of the 2022 ES (**APP-068**) should be replaced with **Table 16.7** below:

Table 16.7 – Affected Private Property

Road Name	*Location/Distance from RLB*	*Number of properties affected (sensitivity)*	*Magnitude*
Cornist Lane	*Adjacent to RLB for Cornist Lane BVS*	*2 (medium)*	*Moderate*
Nant Road	*Adjacent to RLB for Cornist Lane BVS*	*7 (medium)*	*Moderate*
Lleprog Lane	*Adjacent to RLB for Cornist Lane BVS*	*1 (medium)*	*Moderate*
Allt Y Chwiler	*Adjacent to RLB for Pentre Halkyn. Construction access is located on Allt Y Chwiler.*	*6 (medium)*	*Moderate*

16.9.14. There are no changes to the significant effects reported in **Revision B** of **Appendices 16.1** and **16.2** for Construction Stage – Section 7 for: community land and assets; development land and businesses; WCH, and, human health.

Therefore, the text in **paragraphs 16.9.173** to **16.9.184** of the 2022 ES (**APP-068)** remains unchanged and valid.

Operational Stage – Sections 1 to 6

16.9.15. There are no changes to the significant effects reported in **Revision B** of **Appendices 16.1** and **16.2** for Operational Stages – Sections 1 to 6. Therefore, the text in **paragraphs 16.9.185** to **16.9.201** of the 2022 ES (**APP-068**) remains unchanged and valid.

Operational Stage – Section 7

16.9.16. The effects on agricultural land holdings in Section 7 remain the same, however, due to the relocation and rotation of Cornist Lane BVS (PS01) the land holdings affected have changed and have been identified and detailed in **Appendix 16.1 (Revision B)**.

16.9.17. Therefore, **paragraph 16.9.202** of the 2022 ES (**APP-068**) should be replaced with the following text:

The operation of Pentre Halkyn, Cornist Lane and Babell BVS would result in the permanent loss of four agricultural land holdings – Plots 25-05, 25-10, 27-03 and 29-05. These plots are currently used for pasture and are therefore in infrequent use. Due to the low usage of this land, no significant effects on these agricultural land holdings have been identified.

16.10. MITIGATION AND ENHANCEMENT MEASURES

16.10.1. The mitigation and enhancement measures for Population and Human Health have not changed due to the proposed design changes. Therefore, the text within **Section 16.10** of the 2022 ES (**APP-068**) remains unchanged and valid.

16.11. RESIDUAL EFFECTS

16.11.1. One change to the previous residual effects has been identified for Population and Human Health due to the proposed design changes. This is associated with the additional PRoW diversion (294/FP2/1) south of Stanlow (PS20).

16.11.2. The pre-mitigated effects on 294/FP2/1 has changed from large adverse to moderate adverse and the residual effect from moderate to minor adverse. Therefore, the information provided for PRoW route 294/FP2/1 in **Table 16.31** in the 2022 ES (**APP-068**) should be replaced with the information provided in **Table 16.8** below.

Table 16.8 – Summary of Construction Residual Effects

Description of the effect	*Pre-mitigation significance of effects*	*Mitigation measure*	*Residual effect*
Section 2			
Temporary disruption to users of PRoW route 294/FP2/1	***Moderate adverse (significant)***	*Clear signage. Engagement with affected users and local authority.*	*Minor adverse (not significant)*

16.11.3. All other residual effects reported within **Section 16.11** of the 2022 ES (**APP-068**) remain unchanged and valid.

16.12. IN-COMBINATION CLIMATE CHANGE IMPACTS

16.12.1. There are no additional in-combination climate change impacts identified for the Population and Human Health assessment from these proposed design changes. Therefore, the text within **Section 16.12** of the 2022 ES (**APP-068**) remains unchanged and valid.

16.13. MONITORING

16.13.1. The additional proposed design changes do not change the requirements for monitoring measures during construction. Therefore, the text within **Section 16.13** of the 2022 ES (**APP-068**) remains unchanged and valid.

16.14. CONCLUSIONS

16.14.1. The proposed design changes as set out in **Table 1.1** do not result in changes to the likely significant effects as reported in the 2022 ES (**APP-068**) for Population and Human Health. The 2022 ES conclusions are therefore not materially changed for this topic.

17. TRAFFIC AND TRANSPORT

17.1. INTRODUCTION

17.1.1. **Chapter 17: Traffic and Transport** of the 2022 ES **(APP-069)** reports the outcome of the assessment of the likely significant effects of the DCO Proposed Development on the environment in respect of Traffic and Transport.

17.1.2. This ES Addendum chapter considers only the likely significant effects of the proposed design changes as outlined in **Table 1.1** of **Chapter I** of this ES Addendum. **Table 1.1** indicates the proposed design changes that have been scoped into the assessment of likely significant effects for Traffic and Transport.

17.1.3. Revision A of **Appendix 17.13 - Transport Assessment (APP-161)** and the **Outline Construction Traffic Management Plan (APP-224)** of the 2022 ES have also been updated and superseded by Revision B as a result of the proposed design changes.

17.1.4. **Appendices 17.1** to **17.12** of the 2022 ES (**APP-149** to **APP-160**) remain unchanged and valid.

17.1.5. Revision A of **Figures 17.1** to **17.7 (APP-211** to **APP-217)** have also been updated and superseded by Revision B as a result of the proposed design changes.

17.2. LEGISLATIVE AND POLICY FRAMEWORK

17.2.1. The legislative and policy framework for Cultural Heritage has not changed due to the proposed design changes however since the publication of the 2022 ES, there have been updates to the following relevant legislation and policies:

- Flintshire County Council Unitary Development Plan 2000-2015 has been superseded by the Flintshire Local Development Plan 2015-2030 adopted 24 January 2023

17.2.2. Therefore, **paragraphs 17.2.9** of the 2022 ES **(APP-069)** should be replaced with the following text

POLICY

Relevant policy includes:

- *Ministry of Housing, Communities, and Local Government 'The National Planning Policy Framework' (NPPF) (2021);*
- *Welsh Government 'Planning Policy Wales' Edition 11 (2021);*

- *The National Development Framework: Future Wales – The National Plan 2040;*
- *Flintshire County Council Flintshire Local Development Plan (2015-2030);*
- *Cheshire West and Chester Council Local Plan Part 1 (Strategic Policies), Adopted 2015;*
- *The Department for Energy and Climate Change 'Overarching National Policy Statement for Energy (EN-1) 2011'; and*
- *North Wales Joint Local Transport Plan (2015).*

17.2.3. All other assessment methodology and significance criteria text within **Section 17.2** of the 2022 ES (**APP-069**) remains unchanged and valid.

17.3. SCOPING OPINION AND CONSULTATION

17.3.1. The scoping opinion has not changed, and no additional consultation has been undertaken regarding the proposed design changes in relation to Traffic and Transport.

17.3.2. No amendments to **Appendix 1.3 – Environmental Statement – Scoping Opinion Responses (APP-076)** are required in relation to Traffic and Transport due to the proposed design changes. Therefore, the text within **Section 17.3** of the 2022 ES **(APP-069)** remains unchanged and valid.

17.4. SCOPE OF THE ASSESSMENT

17.4.1. The scope of the assessment for Traffic and Transport has changed due to the proposed design changes as the number of accesses included in the DCO Proposed Development has been revised.

17.4.2. **Paragraph 17.4.20** of the 2022 ES **(APP-069)** should be replaced with the following text:

There are 95 existing and 18 new access locations which have been proposed to facilitate the construction of the DCO Proposed Development. Access locations are presented in ***Figure 17.5 - Access Locations (Volume IV).***

17.4.3. All other scope of the assessment text within **Section 17.4** of the 2022 ES **(APP-069)** remains unchanged and valid.

17.5. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

17.5.1. The 2022 ES Chapter Assessment Methodology and Significance Criteria for Traffic and Transport has changed as a result of the extension of the Newbuild Infrastructure Boundary to enable access to Ince AGI from the adopted highway (PS06). The methodology and significance criteria considered in the assessment have not changed. The extension to the Newbuild Infrastructure

Boundary required additional ATC surveys to be undertaken to assess the construction traffic for Ince AGI associated with PS06.

17.5.2. Therefore, **paragraphs 17.5.13 to 17.5.15** of the 2022 ES **(APP-069)** should be replaced with the following text:

Automatic Traffic Count Surveys

Automatic Traffic Count (ATC) surveys have been undertaken across 99 locations to provide 24-hour, seven day per week flows, as well as traffic speed information. Data was collected in the form of classified counts inclusive of LGVs and HGVs.

ATC surveys were carried out on the following dates:

- *4 – 18 October 2021;*
- *18 – 24 March 2022;*
- *12 - 19 July 2022; and*
- *6 – 12 December 2022.*

The ATC data is classified so that the proportions of LGVs and HGVs may be derived. In accordance with DfT WebTAG Modelling Guidance (Ref. 17.7), which recommends that traffic flows are derived using a 'neutral' month (for example, a month that is unlikely to feature school holidays), the majority of the data (82 sites) were collected in October 2021 and March 2022. Surveys were undertaken at the remaining locations (17 sites) in July and December 2022 outside of the school holidays in FCC and CWCC.

17.5.3. All other assessment methodology and significance criteria text within **Section 17.5** of the 2022 ES **(APP-069)** remains unchanged and valid.

17.6. BASELINE CONDITIONS

17.6.1. The baseline conditions for the Traffic and Transport have changed as a result of the extension of the Newbuild Infrastructure Boundary to enable access to Ince AGI from the adopted highway (PS06).

17.6.2. The changes are to **Table 17.5** of **Section 17.6** with a change to highway links for AGI CTR 1. Therefore, **Table 17.5** of **Section 17.6** of the 2022 ES **(APP-069)** has changed and should be replaced with **Table 17.1** below.

Table 17.1 – Proposed Construction Traffic Routes

Reference	Type	SRN Junction	Location	Highway Links
CC CTR 1	Two-Way	J14 M56	Stanlow	A5117 1, B5132 Cryers Lane
CC CTR 2	Two-Way	J10 M53	Picton Lane	A5117 2, Little Stanney Lane, Picton Lane
CC CTR 3	Two-Way	J10 M53	Chorlton Lane	A5117 2, Rake Lane, Little Rake Lane, Chorlton Lane
CC CTR 4	Two-Way	A494/ A548	Sealand Central	A548 Sealand Road
CC CTR 5	Two-Way	A494/ A548	Wood Farm	A548 Sealand Road, Deeside Lane
CC CTR 6	Two-Way	J36 A55	Sandycroft	A5104, Manor Lane, B5129
CC CTR 7	Two-Way	A494/ B5125/ B5127 Roundabout	Shotton Lane	B5125 3
CC CTR 8a	Inbound	J33A A55	Northop Hall	Brookside, B5125 1
CC CTR 8b	Outbound	J33 A55	Northop Hall	B5125 2, B5126, A5119
AGI CTR 1	Two-way	J14 M56	Ince AGI	A5117 1, Ince Lane, Ash Road, Pool Lane, Pool Lane North
AGI CTR 2	Two-Way	J14 M56	Stanlow AGI	A5117 1, Pool Lane
AGI CTR 3a	Inbound	J33A A55	Northop Hall AGI	Brookside, B5125 1
AGI CTR 3b	Outbound	J33 A55	Northop Hall AGI	B5125 2, B5126, A5119
AGI CTR 4	Two-Way	J33 A55	Flint AGI	A5119, Starkey Lane, Alt Goch Lane
BVS CTR 1	Two-Way	J10 M53	Rock Bank	A5117 2, Rake Lane Little Rake Lane, Chorlton Lane
BVS CTR 2	Two-Way	A494 Deeside Park	Mollington	A5117 4, A540, Overwood Lane
BVS CTR 3	Two-Way	A494/ B5125/ B5127 Roundabout	Aston Hall	B5125 4, Upper Aston Hall Lane, Lower Aston Hall Lane
BVS CTR 4	Two-Way	J32a A55	Cornist Lane	B5123, Bryntyrion Road, Lleprog Lane
BVS CTR 5	Two-Way	J32a A55	Pentre Halkyn	B5123, Bryn Emlyn, Ffordd Groes, B5121
BVS CTR 6	Two-Way	J31 A55	Babell	B5122, Racecourse Lane

17.6.3. All other baseline conditions text within **Section 17.6** of the 2022 ES **(APP-069)** remains unchanged and valid.

17.7. SENSITIVE RECEPTORS

17.7.1. The sensitive receptors for the Traffic and Transport assessment have not changed as a result of the proposed design changes. Therefore, the text within **Section 17.7** of the 2022 ES **(APP-069)** remains unchanged and valid.

17.8. DESIGN DEVELOPMENT, IMPACT AVOIDANCE, AND EMBEDDED MITIGATION

17.8.1. The design development, impact avoidance and embedded mitigation for the Traffic and Transport assessment have not changed as a result of the proposed design changes. Therefore, the text within **Section 17.8** of the 2022 ES **(APP-069)** remains unchanged and valid.

17.9. PRELIMINARY ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

17.9.1. The preliminary assessment of likely impacts and effects for Traffic and Transport has changed as a result of the extension in construction working hours to include Saturday morning working (PS05) and extension of the Newbuild Infrastructure Boundary to enable access to Ince AGI from the adopted highway (PS06).

17.9.2. The changes are to **Table 17.8** of **Section 17.9** with the addition of Ref 38 Pool Lane North and a change in magnitude for some of the environmental effects for Ref 3 B5132 Cryers Lane, Ref 9 B5125 1, and Ref 30 Manor Lane.

17.9.3. Therefore, **Table 17.8** of **Section 17.9** of the 2022 ES **(APP-069)** has changed and should be replaced with **Table 17.2** below**.**

Table 17.2 - Magnitude of Environmental Effects

		Magnitude					
Ref	*Link*	*Link Sensitivity*	*Severance*	*Fear and Intimidation*	*Pedestrian Amenity*	*Driver Delay*	*Pedestrian Delay*
1	*A5117 1*	*Low*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*
2	*A5117 2*	*Medium*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*
3	*B5132 Cryers Lane*	*Medium*	*High*	*High*	*Negligible*	*High*	*Medium*
4	*Little Stanney Lane*	*Medium*	*High*	*High*	*Negligible*	*High*	*Medium*
5	*Picton Lane*	*Medium*	*High*	*High*	*Negligible*	*High*	*Negligible*
6	*Rake Lane*	*Low*	*High*	*High*	*Negligible*	*High*	*Medium*
7	*A548 Sealand Road*	*Medium*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*
8	*B5129*	*Low*	*High*	*High*	*Negligible*	*High*	*Medium*
9	*B5125 1*	*Medium*	*Medium*	*Medium*	*Negligible*	*Medium*	*Medium*
10	*B5125 2*	*Medium*	*High*	*High*	*Negligible*	*High*	*Medium*
11	*B5126*	*Medium*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*
12	*A5119 1*	*Medium*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*
13	*Ince Lane*	*Medium*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*
14	*Ash Road*	*Medium*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*
15	*Pool Lane*	*Low*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*
16	*Starkey Lane*	*Low*	*High*	*High*	*Negligible*	*High*	*Negligible*
17	*Alt Goch Lane*	*Low*	*High*	*High*	*Negligible*	*High*	*Negligible*
18	*Chorlton Lane*	*Low*	*High*	*High*	*Negligible*	*High*	*Negligible*
19	*A540*	*Medium*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*
20	*Upper Aston Hall Lane*	*Low*	*High*	*High*	*Negligible*	*High*	*Medium*
21	*Lower Aston Hall Lane*	*Medium*	*High*	*High*	*Negligible*	*High*	*Medium*
22	*B5123*	*Medium*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*
23	*Bryntyrion Road*	*Low*	*High*	*High*	*Negligible*	*High*	*Medium*
24	*Lleprog Lane*	*Medium*	*High*	*High*	*High*	*High*	*Negligible*
25	*Bryn Emlyn*	*Medium*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*
26	*Ffordd Groes*	*Medium*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*
27	*B5121*	*Medium*	*Medium*	*Medium*	*Negligible*	*Medium*	*Medium*
28	*B5122*	*Medium*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*
29	*A5104*	*Medium*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*
30	*Manor Lane*	*Medium*	*High*	*High*	*Negligible*	*High*	*Medium*
31	*Little Rake Lane*	*Medium*	*High*	*High*	*Low*	*High*	*Negligible*
32	*Brookside*	*Medium*	*High*	*High*	*Negligible*	*High*	*Medium*
33	*A5117 4*	*Medium*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*
34	*Overwood Lane*	*Low*	*High*	*High*	*Negligible*	*High*	*Negligible*
35	*Racecourse Lane*	*Medium*	*High*	*High*	*High*	*High*	*Negligible*
36	*B5125 4*	*Medium*	*Medium*	*Medium*	*Negligible*	*Medium*	*Medium*
37	*A5119 2*	*Low*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*

38	*Pool Lane North*	*Low*	*Negligible*	*Negligible*	*Negligible*	*Negligible*	*Medium*

17.9.4. All other preliminary assessment of likely impacts and effects text within **Section 17.9** of the 2022 ES **(APP-069)** remains unchanged and valid.

17.10. MITIGATION AND ENHANCEMENT MEASURES

17.10.1. The mitigation and enhancement measures for Traffic and Transport have not changed as a result of the proposed design changes. Therefore, the text within **Section 17.10** of the 2022 ES **(APP-069)** remains unchanged and valid.

17.11. RESIDUAL EFFECTS

17.11.1. The pre-mitigation calculated effect has changed as a result of the extension in construction working hours to include Saturday morning working (PS05) and extension of the Newbuild Infrastructure Boundary to enable access to Ince AGI from the adopted highway (PS06).

17.11.2. The changes are to **Table 17.9** of **Section 17.11** with change in pre-mitigation calculated effect for some of the environmental effects for B5132 Cryers Lane, B5125 1, and Ref 30 Manor Lane.

17.11.3. Therefore, **Table 17.9** of **Section 17.11** of the 2022 ES (APP-069) has changed and should be replaced with **Table 17.3** below.

17.11.4. All other residual effects text within **Section 17.11** of the 2022 ES **(APP-069)** remains unchanged and valid.

Table 17.3 - Summary of Residual Effects

Description of the effect	Pre-mitigation Calculated Effect (Where Significant)	Commentary	Mitigation Measures	Residual effect
Severance	*Major (Significant)* • *B5132 Cryers Lane;* • *Little Stanney Lane;* • *Picton Lane;* • *B5125 (west of Northop Hall Centralised Compound);* • *Lower Aston Hall Lane;* • *Lleprog Lane;* • *Racecourse Lane;* • *Manor Lane;* • *Little Rake Lane; and* • *Brookside.*	*Average month traffic is notably lower than for the DCO Proposed Development Peak Month Appendix 17.8 - Construction Traffic Profiles (Volume III).* *Baseline HGV flows in all of these locations is <30 AADT and represent very low baseline levels of HGV traffic.* *Absolute increases in HGVs - when considered across each day - are modest; a maximum of 28 AADT on Little Rake Lane.* *Total HGV %s remain less than 2% on all links with construction traffic in the future baseline year with construction traffic (2024).* *LGV movements are primarily associated with worker travel which will take place outside of the typical peak hours (0800-0900 and 1700-1800) therefore exposure to increases is anticipated to lower.*	*Mitigation measures on these routes are outlined in the OCTMP (Document Reference: D.6.5.3 Ref. D-TT-002 of the REAC, Document Reference D.6.5.1). In particular B5132 Cryers Lane, Little Stanney Lane, Picton Lane, Lleprog Lane, Racecourse Lane, Manor Lane, Little Rake Lane, and Brookside. Traffic management measures will be implemented to manage construction traffic movements and reduce the potential effect of severance on communities adjacent to these links* *These measures, as outlined within the OCTMP (Document Reference: D.6.5.3), include hazard warning signage (Ref. D-TT-012 of the REAC, Document Reference: D.6.5.1), temporary speed limits (Ref. D-TT-010 of the REAC, Document Reference: D.6.5.1), and community engagement to minimise inconvenience and disruption to road users (Ref. D-TT-009 of the REAC, Document Reference: D.6.5.1).* *A restriction on HGV deliveries will be imposed on Brookside between the hours of 0800-0900 and 1700-1800 respectively (D-TT-007 of the REAC, Document Reference: D.6.5.1).* *A restriction on HGV deliveries will be imposed on the B5125 in Hawarden during the drop off and collections times associated with Hawarden High School to minimise exposure to increases in HGV traffic by vulnerable road users and minimise the potential for Fear and Intimidation (D-TT-007 of the REAC, Document Reference: D.6.5.1).* *These measures will be set out in the full CTMP prepared by the Construction Contractor for approval by FCC and CWCC (D-TT-002 of the REAC, Document Reference: D.6.5.1).*	*Minor (not Significant)*
	Moderate (Significant) • *Rake Lane;* • *B5129;* • *B5125 1 (east of Northop Hall Centralised Compound);* • *Starkey Lane;* • *Alt-Goch Lane;* • *Chorlton Lane;* • *Upper Aston Hall Lane;* • *Bryntyrion Road;* • *The B5125 in Hawarden; and* • *Overwood Lane.*	*Peak Month construction traffic has been assessed. Average month traffic is notably lower than for the DCO Proposed Development Peak Month.* *HGV flows in all of these locations is <50 AADT and represent very low baseline levels of HGV traffic. Absolute increases in HGVs - when considered across each day - are modest; a maximum of 30 AADT on the B5129.* *LGV movements are primarily associated with worker travel which will take place outside of the typical peak hours (0800-0900 and 1700-1800) therefore exposure to increases is anticipated to lower.*	*Rake Lane, B5125 1, and Chorlton Lane all form routes to Centralised Compounds. Traffic management measures will be implemented to manage construction traffic movements and reduce the potential effect of severance on communities adjacent to these links (D-TT-010, D-TT-011, DD-TT-012 of the REAC, Document Reference: D.6.5.1), as outlined within the OCTMP (Document Reference: D.6.5.3).* *Mitigation measures on these routes are outlined in the OCTMP (Document Reference: D.6.5.3). This will be set out in the full CTMP prepared by the Construction Contractor for approval by FCC and CWCC (D-TT-002 of the REAC, Document Reference: D.6.5.1).* *These measures include hazard warning signage, temporary speed limits, and community engagement to minimise inconvenience and disruption to road users (D-TT-009, D-TT-010, D-TT-012 of the REAC, Document Reference: D.6.5.1).*	*Minor (not significant)*

Description of the effect	Pre-mitigation Calculated Effect (Where Significant)	Commentary	Mitigation Measures	Residual effect
Pedestrian Delay	*Major (Significant)* *N/A*			
	Moderate (Significant) • *A5117 2;* • *B5132 Cryers Lane;* • *Little Stanney Lane;* • *A548 Sealand Road;* • *B5125 1;* • *B5125 2;* • *B5126 Connahs Quay Road;* • *A5119 Northop Road 1;* • *Ince Lane;* • *Ash Road;* • *A540;* • *Lower Aston Hall Lane;* • *Upper Aston Hall Lane;* • *Bryn Emlyn;* • *Ffordd Groes;* • *B5121;* • *B5122;* • *A5104;* • *Brookside;* • *A5117 4; and* • *B5125 4*	*Average month traffic is notably lower than for this peak period Appendix 17.8 - Construction Traffic Profiles (Volume III). Medium and High magnitudes of effects can occur for Pedestrian Delay where total AADT > 1400 vehicles. It should be noted that all of these links have flows that exceed a total AADT of 1400 in the future baseline year (2024) and that the impact of the DCO Proposed Development does not cause any links to exceed this threshold.* *Where possible, use of the SRN and higher classification (i.e., A and B roads) has been used. Many links comprising construction traffic routes therefore have AADT > 1400 vehicles.* *LGV movements are primarily associated with worker travel which will take place outside of the typical peak hours (0800-0900 and 1700-1800) therefore exposure to increases at key pedestrian demand times is expected to be lower in reality.*	*No specific mitigation is proposed to address the effect of construction traffic on Pedestrian Delay.*	*Negligible (not significant)*
Pedestrian Amenity	*Major (Significant)* • *Racecourse Lane; and* • *Lleprog Lane*	*Average month traffic is notably lower than for the DCO Proposed Development Peak Month Appendix 17.8 - Construction Traffic Profiles (Volume III).* *Baseline traffic flows on Racecourse Lane and Lleprog Lane are less than 100 AADT and therefore the calculated percentage increases are unrepresentative of a significant effect on Pedestrian Amenity. Pedestrian amenity will not be compromised by the additional traffic*	*Traffic movements will be managed by Traffic Marshals and radio-communications between inbound HGV deliveries and working locations. Pedestrian Amenity will therefore be protected as far as reasonably practicable during the Construction Stage of the DCO Proposed Development (D-TT-012 of the REAC, Document Reference: D.6.5.1). This will be set out in the full CTMP prepared by the Construction Contractor for approval by FCC (D-TT-002 of the REAC, Document Reference: D.6.5.1).*	*Minor (not significant)*

Description of the effect	Pre-mitigation Calculated Effect (Where Significant)	Commentary	Mitigation Measures	Residual effect
		arising from DCO Proposed Development in these locations, where baseline levels of traffic are negligible.		
	Moderate (Significant) *N/A*			
Fear and Intimidation	*Major (Significant)* • *B5132 Cryers Lane;* • *Little Stanney Lane;* • *Picton Lane;* • *B5125 2 (west of Northop Hall Centralised Compound);* • *Lower Aston Hall Lane;* • *Lleprog Lane;* • *Manor Lane;* • *Little Rake Lane; and* • *Brookside; and* • *Racecourse Lane.*	*Average month traffic is notably lower than for the DCO Proposed Development Peak Month Appendix 17.8 - Construction Traffic Profiles (Volume III). All effects arising from additional construction traffic are temporary (16 month duration).* *Baseline HGV flows in all of these locations is <30 AADT and represent very low baseline levels of HGV traffic.* *Absolute increases in HGVs - when considered across each day - are modest; a maximum of 30 AADT on the B5129.* *Total HGV%s remain less than 2% on all links with construction traffic in the future baseline year with construction traffic (2024).* *LGV movements are primarily associated with worker travel which will take place outside of the typical peak hours (0800-0900 and 1700-1800) therefore exposure to increases is anticipated to lower.*	*Mitigation measures on these routes are outlined in the OCTMP (Document reference: D.6.5.3) In particular B5132 Cryers Lane, Little Stanney Lane, Picton Lane, Lleprog Lane, Racecourse Lane, Manor Lane, Little Rake Lane, and Brookside (D-TT-012 of the REAC, Document Reference: D.6.5.1).* *Traffic management measures will be implemented to manage construction traffic movements and reduce the potential effect of Fear and Intimidation experienced by local communities and road users on these links (D-TT-010, D-TT-011, and DD-TT-012 of the REAC, Document Reference: D.6.5.1).* *These measures include temporary speed limits and traffic calming to minimise inconvenience and disruption to road users (D-TT-010 of the REAC, Document Reference: D.6.5.1).* *A restriction on HGV deliveries will be imposed on Brookside between the hours of 0800-0900 and 1700-1800 respectively (D-TT-007 of the REAC, Document Reference: D.6.5.1).* *Specific locations where restrictions on HGV timings are proposed are set out in full within the OCTMP (Document reference: D.6.5.3).* *These measures will be set out in the full CTMP prepared by the Construction Contractor for approval by FCC and CWCC (D-TT-002 of the REAC, Document Reference: D.6.5.1).*	*Minor (not significant)*
	Moderate (Significant) • *Rake Lane;* • *B5125 1;* • *B5129;* • *Starkey Lane;* • *Alt-Goch Lane;* • *Chorlton Lane;* • *Upper Aston Hall Lane;* • *Bryntyrion Road;* • *The B5125 in Hawarden; and* • *Overwood Lane;*	*Average month traffic is notably lower than for the DCO Proposed Development Peak Month.* *HGV flows in all of these locations is <50 AADT and represent very low baseline levels of HGV traffic. Absolute Increases in HGVs - when considered across each day - are modest; a maximum of 30 AADT on the B5129.* *LGV movements are primarily associated with worker travel which will take place outside of the typical peak hours (0800-0900 and 1700-1800) therefore exposure to increases is anticipated to lower.*	*Rake Lane, B5125 1 and Chorlton Lane all form routes to Centralised Compounds. Traffic management measures will be implemented to manage construction traffic movements and reduce the potential effect of Fear and Intimidation experienced by local communities and road users on these links (D-TT-012 of the REAC, Document Reference: D.6.5.1).* *Mitigation measures on all routes are outlined in the OCTMP (Document reference: D.6.5.3).* *These measures include hazard warning signage, temporary speed limits, and community engagement to minimise inconvenience and disruption to road users (D-TT-010, D-TT-012 of the REAC, Document Reference: D.6.5.1).* *A restriction on HGV deliveries will be imposed on the B5125 in Hawarden during the drop off and collections times associated with Hawarden High School to minimise exposure to increases in HGV traffic by vulnerable road users and minimise the potential for Fear and Intimidation (D-TT-007 of the REAC, Document Reference: D.6.5.1).* *These measures will be set out in the full CTMP prepared by the Construction Contractor for approval by FCC and CWCC (D-TT-002 of the REAC, Document Reference: D.6.5.1).*	*Minor (not significant)*
Driver Delay	*Major (Significant)* • *B5132 Cryers Lane;*	*Average month traffic is notably lower than for the DCO Proposed Development*	*Mitigation measures on these routes are outlined in the OCTMP (Document reference: D.6.5.3) In particular B5132 Cryers Lane, Little Stanney Lane,*	*Minor (not significant)*

Description of the effect	Pre-mitigation Calculated Effect (Where Significant)	Commentary	Mitigation Measures	Residual effect
	• *Little Stanney Lane;* • *Picton Lane;* • *B5125 2 (west of Northop Hall Centralised Compound;* • *Lower Aston Hall Lane;* • *Lleprog Lane;* • *Manor Lane;* • *Little Rake Lane;* • *Brookside; and* • *Racecourse Lane;*	*Peak Month Appendix 17.8 - Construction Traffic Profiles (Volume III).* *Baseline HGV flows in all of these locations is <30 AADT and represent very low baseline levels of HGV traffic.* *Absolute Increases in HGVs - when considered across each day - are modest; a maximum of 30 AADT on the B5129.* *Total HGV%s remain less than 2% on all links with construction traffic in the future baseline year with construction traffic (2024).* *LGV movements are primarily associated with worker travel which will take place outside of the typical peak hours (0800-0900 and 1700-1800) therefore exposure to increases is anticipated to lower.*	*Picton Lane, Lleprog Lane, Manor Lane, Racecourse Lane, Little Rake Lane, and Brookside (D-TT-012 of the REAC, Document Reference: D.6.5.1).* *Traffic management measures will be implemented to ensure that construction traffic can safely access working locations (D-TT-010, D-TT-011, and DD-TT-012 of the REAC, Document Reference: D.6.5.1).* *For rural routes where there are geometric constraints (i.e. carriageway widths) that may result in delays arising from increases in HGVs traffic, HGV movements will be restricted during peak periods to reduce the effect of Driver Delay (D-TT-007 of the REAC, Document Reference: D.6.5.1).* *Specific locations where restrictions on HGV timings are proposed are set out in the OCTMP (Document reference: D.6.5.3).* *These measures will be set out in the full CTMP prepared by the Construction Contractor for approval by FCC and CWCC (D-TT-002 of the REAC, Document Reference: D.6.5.1).*	
	<u>Moderate (Significant)</u> • *Rake Lane;* • *B5125 1;* • *B5129;* • *Starkey Lane;* • *Alt-Goch Lane;* • *Chorlton Lane;* • *Upper Aston Hall Lane;* • *Bryntyrion Road;* • *Overwood Lane; and* • *B5125 4 (Hawarden)*	*Average month traffic is notably lower than for the DCO Proposed Development Peak Month Appendix 17.8 - Construction Traffic Profiles (Volume III).* *HGV flows in all of these locations is <50 AADT and represent very low baseline levels of HGV traffic. Absolute Increases in HGVs - when considered across each day - are modest; a maximum of 30 AADT on the B5129.* *LGV movements are primarily associated with worker travel which will take place outside of the typical peak hours (0800-0900 and 1700-1800) therefore exposure to increases is anticipated to lower.*	*Mitigation measures on these routes are outlined in the OCTMP (Document reference: D.6.5.3).* *B5125 1, Rake Lane, and Chorlton Lane all form routes to Centralised Compounds. Traffic management measures are proposed to manage construction traffic movements and reduce the potential effect of Fear and Intimidation experienced by local communities and road users on these links (D-TT-012 of the REAC, Document Reference: D.6.5.1).* *Traffic management measures will be implemented to ensure that construction traffic can safely access working locations (D-TT-010, D-TT-011, and DD-TT-012 of the REAC, Document Reference: D.6.5.1).* *For rural routes where there are geometric constraints (i.e. carriageway widths) that may result in delays arising from increases in HGVs traffic, it is proposed to restrict HGV movements during peak periods to reduce the effect of Driver Delay (D-TT-007 of the of the REAC, Document Reference: D.6.5.1).* *Specific locations where restrictions on HGV timings are proposed are set out in the OCTMP (Document reference: D.6.5.3).* *These measures will be set out in the full CTMP prepared by the Construction Contractor for approval by FCC and CWCC (D-TT-002 of the of the REAC, Document Reference: D.6.5.1).*	*Minor (not significant)*
Highway Safety	*Pre-mitigation significant effects were forecast at four locations located along prescribed construction traffic routes:* • *Cluster Reference 1 – A5117 1/ Rake Lane junction.* • *Construction Traffic Route(s): CTR BVS 1, CTR CC 3.* • *Cluster Reference 2 – Rake Lane/Little Rake Lane Junction.* • *Construction Traffic Route(s): CTR BVS 1, CTR CC 3.* • *Cluster Reference 3 – A540 Parkgate Road.* • *Construction Traffic Route(s): CTR BVS 2.*			*Minor (not significant)*

Description of the effect	Pre-mitigation Calculated Effect (Where Significant)	Commentary	Mitigation Measures	Residual effect
	• *Cluster Reference 4 – A540 Parkgate Road Roundabout.* • *Construction Traffic Route(s): CTR BVS 2.* *The assessment of Highway Safety effects, and mitigation proposed is presented in Appendix 17.3 - PIA Summary (Volume III) and the OCTMP (Document Reference D.6.5.3).*			

17.12. IN-COMBINATION CLIMATE CHANGE IMPACTS

17.12.1. There are no additional in-combination climate change impacts identified for the Traffic and Transport assessment arising from these proposed design changes. Therefore, the text within **Section 17.12** of the 2022 ES **(APP-069)** remains unchanged and valid.

17.13. MONITORING

17.13.1. The additional proposed design changes do not change the requirements for monitoring measures during construction. Therefore, the text within **Section 17.13** of the 2022 ES **(APP-069)** remains unchanged and valid.

17.14. CONCLUSIONS

17.14.1. The proposed design changes as set out in **Table 1.1** do not result in changes to the likely significant effects as reported in the 2022 ES (APP-069) for traffic and transport. The 2022 ES conclusions are therefore not materially changed for this topic.

18. WATER RESOURCES AND FLOOD RISK

18.1. INTRODUCTION

18.1.1. **Chapter 18: Water Resources and Flood Risk** of the 2022 ES **(APP-070)** reports the assessment of the likely significant effects of the DCO Proposed Development on Water Resources and Flood Risk.

18.1.2. This ES Addendum chapter considers only the likely significant effects of the proposed design changes as outlined in **Table 1.1** of **Chapter I** of this ES Addendum. **Table 1.1** indicates the proposed design changes that have been scoped into the assessment of likely significant effects for Water Resources and Flood Risk.

18.1.3. **Appendices 18.1, 18.2, 18.3** and **18.5** of the 2022 ES **(APP-163, APP-164, APP-165, APP-168** and **APP-169)** have also been updated as a result of the proposed design changes. The updated appendices can be found in **Appendix A** of this ES Addendum.

18.1.4. **Appendix 18.4** of the 2022 ES **(APP-166** and **APP-167)** remains unchanged and valid.

18.1.5. Revision A of the **Outline Surface Water Drainage Strategy** (**APP-241** to **APP-245**) has been updated and superseded to Revision B as a result the relocation of Cornist Lane BVS (PS01) and Northop Hall AGI (PS03) and associated changes to the drainage designs for the BVS and AGI.

18.1.6. Revision A of **Figures 18.1** to **18.3** (**APP-218** to **APP-220**) have been updated and superseded by Revision B as a result of the proposed design changes.

18.2. LEGISLATIVE AND POLICY FRAMEWORK

18.2.1. The legislative and policy framework for Land and Soils has not changed due to the proposed design changes. Since the publication of the 2022 ES, the Local Development Plan for Flintshire has been published however there are no specific policies of relevance to this assessment. Therefore, the **Section 18.2** of the 2022 ES **(APP-070)** remains unchanged and valid.

18.3. SCOPING OPINION AND CONSULTATION

18.3.1. The scoping opinion has not changed, and no additional consultation has been undertaken regarding the proposed design changes in relation to the water environment.

18.3.2. No amendments to **Appendix 1.3 – Environmental Statement – Scoping Opinion Responses (APP-076)** are required in relation to the water environment due to the proposed design changes. Therefore, the text within **Section 18.3** of the 2022 ES **(APP-070)** remains unchanged and valid.

18.4. SCOPE OF THE ASSESSMENT

18.4.1. Four additional watercourses are now scoped into the assessment as a result of the proposed design changes. Western Boundary Drain, Goldfinch Meadow Drain and Marsh Lane Drain are scoped into the assessment for the construction phase as a result of the extension of the Newbuild Infrastructure Boundary to enable access to Ince AGI from the adopted highway (PS06). Wepre Brook Tributary 1 in scoped into the assessment for the construction, operation and decommissioning stage as a result of the relocation of Northop Hall AGI (PS03).

18.4.2. Therefore, **paragraphs 18.4.5, 18.4.8** and **18.4.11** of the 2022 ES **(APP-070)** should be replaced with the following text respectively:

Construction Stage

The following surface water receptors have been scoped into the assessment because of their likelihood to interact with the DCO Proposed Development (in order from east to west). They are also shown on ***Figure 18.1 – Watercourses (Volume IV):***

- ***Mersey Estuary Site of Special Interest (including Shellfish Water and Cockle Regulating Order)***
- ***Manchester Ship Canal***
- ***Glass Factory Ditch***
- ***East Central Drain***
- ***Elton Lane Ditch 1***
- ***Elton Lane Ditch 2***
- ***Elton Lane Ditch 4***
- ***Elton Lane Ditch 6***
- ***Elton Lane South Ditch***
- ***Elton Marsh 1***
- ***Elton Marsh 2***
- ***Elton Marsh 3***
- ***Elton Marsh 10***
- ***Elton Marsh 11***
- ***Elton Marsh 12***
- ***Elton Marsh 13***
- ***West Central Drain***
- ***Hapsford Brook***
- ***Elton Brook Tributary 1***
- ***Canal Ditch***
- ***Collinge Wood Brook***
- ***Rake Lane Brook***
- ***Backford brook***
- ***Friars Park Ditch***
- ***Grove Road Ditch***
- ***Gypsy Lane Brook***
- ***Overwood Ditch***
- ***Finchetts Gutter Tributary***
- ***Seahill Tributary 2***
- ***Seahill Drain***
- ***Sealand Main Drain***
- ***River Dee***
- ***Dee Estuary Special Protection Area***
- ***Hawarden Brook***
- ***Railway Ditch 1***
- ***Railway Ditch 2***
- ***Chester Road Drain Tributary 1***
- ***Chester Road Drain Tributary 2***
- ***Mancot Brook***

- ***Gale Brook***
- ***Thornton Uplands***
- ***Halls Green Lane Brook***
- ***Thornton Ditch 4***
- ***Thornton Ditch 5***
- ***Thornton Ditch 6***
- ***Thornton Main Drain***
- ***Thornton Ditch 3***
- ***River Gowy***
- ***Thornton Ditch 1***
- ***Thornton Ditch 2***
- ***Stanney Main Drain***
- ***Stanney Mill Brook***
- ***Gowy Tributary 2***
- ***Wervin Hall Ditch Tributary***
- ***Shropshire Union Canal***
- ***Broughton Brook***
- ***Sandycroft Drain***
- ***Mancot Brook Tributary***
- ***Oakfield Ditch 1***
- ***Oakfield Ditch 3***
- ***Chester Road Drain North***
- ***Willow Park Brook***
- ***Aston Hall Brook Tributary***
- ***Aston Hall Brook***
- ***New Inn Brook***
- ***Alltami Brook***
- ***Wepre Brook***
- ***Northop Brook Tributary 2***
- ***Northop Brook***
- ***Northop Brook Tributary 1***
- ***Little Lead Brook***
- ***Nant-y-Fflint***
- ***Western Boundary Drain***
- ***Goldfinch Meadow Drain***
- ***Marsh Lane Drain***
- ***Wepre Brook Tributary 1***

Operation Stage

The following surface water receptors have been scoped into the assessment:

- *East Central Drain;*
- *Alltami Brook;*
- *Canal Ditch;*
- *Overwood Ditch;*
- *Finchetts Gutter Tributary;*
- *Aston Hall Brook Tributary;*
- *Wepre Brook;*
- *Little Lead Brook;*
- *Nant-y-Fflint;*
- *Backford Brook;*
- *Friars Park Ditch;*
- *Elton Lane Ditch 1; and*
- *Wepre Brook Tributary 1*

Decommissioning Stage

The following surface water receptors have been scoped into the assessment:

- *West Central Drain;*
- *East Central Drain;*
- *Manchester Ship Canal;*
- *Gale Brook;*
- *Little Lead Brook;*
- *River Gowy;*
- *Canal Ditch;*
- *Overwood Ditch;*
- *Aston Hall Brook Tributary;*
- *Wepre Brook;*
- *Nant-y-Fflint;*
- *Dee Estuary Special Protection Area;*
- *Mersey Estuary Site of Special Scientific Interest (including Shellfish Water and Cockle Regulating Order); and*
- *Wepre Brook Tributary 1*

18.4.3. No other text in **Section 18.4** of the 2022 ES **(APP-070)** is affected by the proposed design changes and therefore remains unchanged and valid.

18.5. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

18.5.1. The assessment methodology and significance criteria for the water environment has not changed due to the proposed design changes. Therefore, there text within **Section 18.5** of the 2022 ES **(APP-070)** remains unchanged and valid.

18.6. BASELINE CONDITIONS

18.6.1. The baseline conditions for surface water have changed as a result of the relocation of Northop Hall AGI (PS03) and the extension of the Newbuild Infrastructure Boundary to enable access to Ince AGI from the adopted highway (PS06).

18.6.2. Western Boundary Drain is an additional main river within the Newbuild Infrastructure Boundary. Wepre Brook Tributary 1, Marsh Lane Drain and Goldfinch Meadow Drain are additional ordinary watercourses within the Newbuild Infrastructure Boundary.

18.6.3. Therefore, **paragraphs 18.6.1** and **18.6.3** of the 2022 ES **(APP-070)** should be replaced with the following text respectively:

EXISTING BASELINE

Surface Water

There are 19 main rivers within the Newbuild Infrastructure Boundary, namely:

- *East Central Drain;*
- *West Central Drain;*
- *Hapsford Brook;*
- *Gale Brook;*
- *Thornton Uplands;*
- *Thornton Main Drain;*
- *River Gowy;*
- *Stanney Main Drain;*
- *Stanney Mill Brook;*
- *Backford Brook;*
- *Seahill Drain;*
- *Sealand Main Drain;*
- *River Dee;*
- *Hawarden Brook;*
- *Broughton Brook;*
- *Sandycroft Drain;*
- *Chester Road Drain Tributary 1;*
- *Chester Road Drain North; and*
- *Western Boundary Drain*

In addition, there are 54 ordinary watercourses located within the Newbuild Infrastructure Boundary, including New Inn Brook, Alltami Brook, Wepre Brook, Northop Brook and Nant-y-Fflint.

18.6.4. **Appendix 18.1 - Baseline** of the 2022 ES **(APP-163)** has also been updated to include these watercourses and can be found in **Appendix A** of this ES Addendum. Revision A of **Figure 18.1 (APP-218)** has been updated and superseded by Revision B to show these additional watercourses.

18.6.5. All other existing baseline text within **Section 18.6** of the **2022 ES (APP-070)** remains unchanged and valid.

18.7. SENSITIVE RECEPTORS

18.7.1. Western Boundary Drain, Goldfinch Meadow Drain and Marsh Lane Drain are additional sensitive receptors as a result of the extension of the Newbuild Infrastructure Boundary to enable access to Ince AGI from the adopted highway

(PS06). Wepre Brook Tributary 1 is an additional receptor as a result of the relocation of Northop Hall AGI (PS03).

18.7.2. Therefore, **Table 18.1** includes the four additional receptors, their sensitivity and justification to be added to **Table 18.14** in the 2022 ES **(APP-070)**.

Table 18.1 - Sensitivity of Receptors for the additional four receptors

Sensitivity	*Receptor*	*Justification*
Low	*Wepre Brook Tributary 1*	*This ordinary watercourse has a Q95 < 0.001m^3/s and is not monitored under the WFD.*
Medium	*Western Boundary Drain*	*This main river has a Q95 > 0.001m^3/s and is not monitored under the WFD.*
Low	*Goldfinch Meadow Drain*	*This ordinary watercourse has a Q95 < 0.001m^3/s and is not monitored under the WFD.*
Low	*Marsh Lane Drain*	*This ordinary watercourse has a Q95 < 0.001m^3/s and is not monitored under the WFD.*

18.7.3. All other sensitive receptor text within **Section 18.7** of the **2022 ES (APP-070)** remains unchanged and valid.

18.8. DESIGN DEVELOPMENT, IMPACT AVOIDANCE, AND EMBEDDED MITIGATION

18.8.1. Revision A of the **Outline Surface Water Drainage Strategy** (**APP-241** to **APP-245**) has been updated and superseded to Revision B as a result the relocation of Cornist Lane BVS (PS01) and Northop Hall AGI (PS03) and associated changes to the drainage designs for the BVS and AGI.

18.8.2. All other design development, impact avoidance, and embedded mitigation text within **Section 18.8** of the 2022 ES (**APP-070**) remains unchanged and valid.

18.9. ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

18.9.1. The detailed assessment presented in **Appendix 18.2 – Assessment of Effects** of the 2022 ES (**APP-164**) has been updated to consider the four additional watercourses are now scoped into the assessment as a result of the proposed design changes. The updated **Appendix 18.2** and can be found in **Appendix A** of this ES Addendum.

18.9.2. As the updates to **Appendix 18.2** of the 2022 ES (**APP-070**) do not conclude any significant likely effects the text in **Section 18.9** of the 2022 ES 2022 (**APP-070**) remains valid and unchanged.

18.10. MITIGATION AND ENHANCEMENT MEASURES

18.10.1. The mitigation and enhancement measures for the water environment have not changed due to the proposed design changes. Therefore, the **Section 18.10** of the 2022 ES **(APP-070)** remains unchanged and valid.

18.11. RESIDUAL EFFECTS

18.11.1. The residual effects for the water environment have not changed due to the proposed design changes. Therefore, the **Section 18.11** of the 2022 ES **(APP-070)** remains unchanged and valid.

18.12. IN-COMBINATION CLIMATE CHANGE IMPACTS

18.12.1. There are no additional in-combination climate change impacts identified for the water environment assessment from the proposed design changes. Therefore, the text within **Section 18.12** of the 2022 ES **(APP-070)** remains unchanged and valid.

18.13. MONITORING

18.13.1. The additional proposed design changes do not change the requirements for monitoring measures during construction. Therefore, the text within **Section 18.13** of the 2022 ES **(APP-070)** remains unchanged and valid.

18.14. CONCLUSIONS

18.14.1. The proposed design changes as set out in Table 1.1 do not result in changes to the likely significant effects as reported in the 2022 ES (**APP-070**) for water resources and flood risk. The 2022 ES conclusions are therefore not materially changed for this topic.

19. COMBINED AND CULMULATIVE EFFECTS

19.1. INTRODUCTION

19.1.1. **Chapter 19: Combined and Cumulative Effects** of the 2022 ES **(APP-071)** reports the outcome of the assessment of the likely significant effects of the DCO Proposed Development on Combined and Cumulative Effects.

19.1.2. This ES Addendum chapter considers only the likely significant effects resulting from the proposed design changes as outlined **Table 1.1** of **Chapter I** of this ES Addendum as well as additional errata. **Table 1.1** indicates the proposed design changes that have been scoped into assessment of likely significant effects for Combined and Cumulative Effects.

19.1.3. **Revision A** of **Appendices 19.1** and **19.2 (APP-172 and APP-173)** and **Figure 19.1 (APP-221)** have also been updated and superseded by **Revision B** as a result of the proposed design changes.

19.2. LEGISLATIVE AND POLICY FRAMEWORK

19.2.1. Since the publication of the 2022 ES, there have been no updates to relevant legislation and policy. Therefore, the text within **Section 19.2** of the 2022 ES **(APP-071)** remains unchanged and valid.

19.3. SCOPING OPINION AND CONSULTATION

19.3.1. The scoping opinion has not changed, and no additional consultation has been undertaken regarding the proposed design changes in relation to Combined and Cumulative Effects.

19.3.2. No amendments to **Appendix 1.3 – Environmental Statement – Scoping Opinion Responses (APP-076)** are required in relation to Combined and Cumulative Effects due to the proposed design changes. Therefore, the text within **Section 19.3** of the 2022 ES **(APP-071)** remains unchanged and valid.

19.4. SCOPE OF THE ASSESSMENT

19.4.1. The scope of the assessment for Combined and Cumulative Effects has changed due to the identification of errata. In the 2022 ES, Cultural Heritage was incorrectly scoped into the inter-project effects operation stage assessment and scoped out of the construction stage assessment. Cultural Heritage should be scoped into the construction stage assessment and scoped out of the operation stage assessment. Therefore, **Table 19.2** within the 2022 ES **(APP-071)** should be replaced with **Table 19.1** below:

Table 19.1 – Elements Scoped Out of Inter-Project Effects Assessment

Element Scoped Out	*Justification*
Decommissioning Stage	*Certainty around the date of decommissioning is not clear at the time of this assessment, but it is assumed to be too far in the future for an assessment of inter-project effects to take place. As a result, an assessment of decommissioning inter-project effects is not considered practicable and is scoped out.*
Air Quality – Construction and Operation Stages	*All residual effects in **Chapter 6 - Air Quality (Volume II)** have been found to be negligible. Therefore, an inter-project effect is unlikely.*
Climate Resilience – Construction Stage	*All residual effects in **Chapter 7 - Climate Resilience (Volume II)** have been found to be negligible. Therefore, an inter-project effect is unlikely.*
Cultural Heritage - Below Ground Heritage Assets	*For below ground heritage assets (see **Chapter 8 - Cultural Heritage, Volume II**), it is not feasible to quantify accurately the nature of resources within the Zone Of Influence, which would enable the identification of any inter-project effects during construction. In addition, any effects on assets would already be realised by the operation phase. As a result, below ground heritage assets are excluded from both phases of the Inter-Project Effects Assessment.*
Cultural Heritage – Operation Stage	*All residual effects in **Chapter 8 - Cultural Heritage (Volume II)** in the Operation Stage have been found to be negligible. Therefore, an inter-project effect is unlikely.*
Greenhouse Gas (GHG) Emissions	*The impact of GHG emissions (see **Chapter 10 - Greenhouse Gases, Volume II**), in terms of their contribution to climate change, is global and cumulative in nature, with every tonne contributing to impacts on natural and human systems. As such it is the cumulative effect of all GHG-emitting human activities that cause climate change, and therefore the assessment of the GHGs due to the DCO Proposed Development implicitly assesses the cumulative effect of GHG emissions.* *In addition, the Project as a whole will capture and store CO_2 emissions and contribute to the UK's net zero carbon agenda. Therefore, the cumulative benefits of the DCO Proposed Development combined with the other elements of the Project will lead to a cumulative beneficial effect. Therefore, the assessment of GHGs has been scoped out.*
Biodiversity – Operation Stage	*All Operation Stage residual effects in **Chapter 9 - Biodiversity (Volume II)** have been found to be negligible. Therefore, an inter-project effect is not likely.*
Land and Soils – Operation Stage	*All residual effects in the **Chapter 11 - Land and Soils (Volume II)** Operation Stage have been found to be negligible. Therefore, an inter-project effect is unlikely.*
Landscape and Visual – Year 15 operation effects	*The assessment of year 15 Operation Stage effects in **Chapter 12 - Landscape and Visual (Volume II)** is excluded from the assessment as all significant effects will have been effectively mitigated by this stage. The inter-project effects with other developments are limited to those associated with the construction years and opening year.*
Materials and Waste – Operation Stage	*Operation Stage elements have been scoped out as the impacts of material resource consumption waste generation and disposal at this stage are considered to be minimal and the associated effects, not significant. Therefore, an inter-project effect is unlikely.*
Noise and Vibration – Operation Stage	*All residual effects in the **Chapter 15 - Noise and Vibration (Volume II)** Operation Stage have been found to be negligible (not significant)[1]. Therefore, an inter-project effect is unlikely.*
Traffic and Transport – Operation Stage	*The operation of the DCO Proposed Development will not result in significantly increased traffic flow or changes to traffic composition. Therefore, an inter-project effect is unlikely.*
MA&D	*MA&D is excluded from the assessment as a different assessment approach is used from the other technical chapter assessments within the ES (as detailed in **Chapter 13 - Major Accidents and Disasters (Volume II)**). The vulnerability of the DCO Proposed Development to major events (including those posed by relevant other developments) is assessed rather than effects on sensitive receptors. As a result, an Inter-Project Effects Assessment considering MA&D is not practicable.*

[1] In the Construction Stage all Minor Adverse effects are considered to be *not significant.*

19.5. ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

19.5.1. The assessment methodology and significance criteria for Combined and Cumulative Effects has not changed due to the proposed design changes. Therefore, the text within **Section 19.5** of the 2022 ES **(APP-071)** remains unchanged and valid.

19.6. BASELINE CONDITIONS

19.6.1. The baseline conditions for Combined and Cumulative Effects have not changed due to the proposed design changes. Therefore, the text within **Section 19.6** of the 2022 ES **(APP-071)** remains unchanged and valid.

19.7. SENSITIVE RECEPTORS

19.7.1. The sensitive receptors for the Combined and Cumulative Effects Assessment have not changed for the proposed design changes. Therefore, the text within **Section 19.7** of the 2022 ES **(APP-071)** remains unchanged and valid.

19.8. ASSESSMENT OF LIKELY IMPACTS AND EFFECTS

19.8.1. The assessment of likely impacts and effects for the Combined and Cumulative Effects Assessment as changed as a result of the proposed design changes.

INTER-PROJECT EFFECTS

Construction Phase

19.8.2. **Paragraph 19.8.2** of the 2022 ES **(APP-071)** should be replaced with the following text:

The Inter-Project Effects Assessment for the Construction Stage assessed the potential for inter-project effects for the following topics:

- *Biodiversity;*
- *Land and Soils;*
- *Cultural Heritage;*
- *Landscape and Visual;*
- *Materials and Waste;*
- *Noise and Vibration;*
- *Population and Human Health;*
- *Traffic and Transport; and*
- *Water Resources and Flood Risk.*

19.8.3. **Paragraph 19.8.3** of the 2022 ES (**APP-071**) should be replaced with the following text:

The overall inter-project effects for each of the environmental topics were appraised to be minor adverse, with the exception of cultural heritage, which was appraised as Negligible.

19.8.4. **Table 19.8** of the 2022 ES **(APP-071)** has changed as a result of the proposed design changes and should be replaced with **Table 19.2** below:

Table 19.2 – Overall Inter-Project effects: Construction Phase

Other Development Significance / Key to Effect: Moderate Adverse; Minor Adverse	***Biodiversity***	***Cultural Heritage***	***Land and Soils***	***Landscape and Visual***	***Materials and Waste***	***Noise and Vibration***	***Population and Human Health***	***Traffic and Transport***	***Water Resources and Flood Risk***
1a - Hynet CO2 Pipeline TCPA (Two Applications) - Point of Ayr (PoA) Terminal and Foreshore Works and HyNet Carbon Dioxide Pipeline BVS Site									
1b – Hynet – CO2 Transportation and Storage Project – Offshore									
1c - Hynet - PoA Electricity Capacity Upgrade									
1d - Hynet – BVS and AGI Electrical Connectivity and Fibre Optic Connections									
1ei - CWCC Reference: 21/04091/FUL: Hynet - Vertex Hydrogen Production Plant									
1eii – CWCC Reference: 19/03489/FUL: Hynet – Vertex Hydrogen Production Plant									
1f - Hynet – Hydrogen Production Plant (HPP) – Natural Gas Pipeline									
1g - NSIP – Planning Inspectorate Reference: Hynet North West Hydrogen Pipeline									
5 - FCC Ref. 062255: Demolition and erection of new poultry buildings and associated infrastructure									
9 - FCC Reference: 063496: Demolition of the existing Argoed High School buildings and provision of a new Net Zero Carbon in operation school campus									
21 - CWCC Reference: 19/04561/OUT: Development of up to 500,000sqft (46,450m2) of B2/B8 use class floorspace, with ancillary offices.									
22 - CWCC Reference: 19/03045/FUL: Erection of two industrial units for B1, B2 and B8									
24 - CWCC Reference: 22/01679/S73: Part A - (full permission) for phased development of 483 dwellings and associated infrastructure. Part B - (outline permission - all matters reserved apart from access) for a local centre.									
27 - FCC Ref: 050125: Employment-led mixed-use development, incorporating Logistics and Technology Park (B1, B2, B8) with residential(C3), local retail centre (A1), hotel (C1), training and skills centre (C2, D1) and new parkland.									
35 - CWCC Reference: 20/04152/REM: Erection of 142 dwellings, landscaping, public open space, internal access roads, garages, car parking, pumping stations and associated infrastructure.									
37 - CWCC Reference: 20/02712/OUT: Erection of up to 150 dwellings and demolition of nos. 272, 274, 276 and 278 Sealand Road with all matters reserved except access.									
38 - CWCC Reference: 20/01124/REM: Residential development of up to 190 dwellings with access and associated works (Phase 5 B Rossfield Park).									

Other Development Significance: Moderate Adverse; Minor Adverse Key to Effect	***Biodiversity***	***Cultural Heritage***	***Land and Soils***	***Landscape and Visual***	***Materials and Waste***	***Noise and Vibration***	***Population and Human Health***	***Traffic and Transport***	***Water Resources and Flood Risk***
42 - FCC Reference: 062458: Residential development of up to 140 dwellings, means of access, open space, sustainable drainage infrastructure and all other associated works (outline application including access, with all other matters reserved).									
43 - CWACC Reference: 20/00324/FUL: Demolition of existing buildings and erection of 241 dwellings and apartments with access road and associated external works.									
44 - CWCC Reference: 19/04504/REM: Reserved matters application for 313 dwellings forming part of phases 4 and 5 and associated infrastructure and open space									
45 - CWCC Reference: 19/04389/REM: Reserved Matters application for 256 dwellings forming part of Phase 3 of the development, alongside associated infrastructure and open space									
54 - CWCC Reference: 21/04076/FUL: Materials recycling facility, two plastics recycling facilities, a polymer laminate recycling facility and a hydrogen refuelling station.									
63 - CWCC Reference: 20/04396/FUL: Resource recovery facility (Plastics Recycling Facility).									
70 - CWCC Reference: 19/02298/OUT: Redevelopment of the racecourse land for a new Events Building with undercroft parking area, Pavilion Grandstand and associated works with the retention of car park at Saddlery Way for permanent use as car park.									
82 - FCC Reference: 059663: Repair and refurbishment of vacant historic (listed) former hospital buildings, with associated new build houses/apartments to create a total of 89 dwellings.									
108 - FCC Reference: 058314: An outline permission for residential development of up to 145 dwellings (Use Class C3) and associated works including highways access.									
109 - FCC Reference: 062820: Erection of 130 dwellings comprising bungalows, houses and two storey apartments with own access, new access road, associated external works and landscaping.									

Other Development **Significance** / **Key to Effect** Moderate Adverse Minor Adverse	***Biodiversity***	***Cultural Heritage***	***Land and Soils***	***Landscape and Visual***	***Materials and Waste***	***Noise and Vibration***	***Population and Human Health***	***Traffic and Transport***	***Water Resources and Flood Risk***
120 - FCC Reference: 049320: Outline application for the redevelopment of a strategic brownfield site for an employment led mixed use development with new accesses and associated infrastructure including flood defences and landscaping.									
121 - FCC Reference: 061507: Outline application for approval in principle for residential development (up to 94 dwellings), all matters reserved except for access.									
124 - FCC Reference: 061994: Erection of residential development comprising of a variety of one-, two-, three- and four-bedroom homes (approximately 160 units), together with associated public open space and infrastructure.									

Operation Phase

19.8.5. As noted in the errata, Population and Human Health was incorrectly included in the operation stage summary. Therefore, **Paragraph 19.8.5** of the 2022 ES **(APP-071)** should be replaced with the following text:

The Inter-Project Effects Assessment for the Operation Stage assessed the potential for inter-project effects for the following topics:

- *Climate Resilience;*
- *Landscape and Visual; and*
- *Water Resources and Flood Risk*

19.8.6. **Paragraph 19.8.7** of the 2022 ES **(APP-071)** should be replaced with the following text:

As well as this, the overall inter-project effects for each of the environmental topics were appraised to be Minor Adverse (not significant).

19.8.7. **Table 19.9** of the 2022 ES **(APP-071)** has changed as a result of the proposed design changes and should be replaced with **Table 19.3** below:

Table 19.3 – Overall Inter-Project Effects: Operation Stage

Other Development **Significance** / **Key to Effect** Moderate Adverse Minor Adverse	***Climate Resilience***	***Landscape and Visual***	***Water Resources and Flood Risk***
1c *- Hynet - PoA Electricity Capacity Upgrade*			
1d *- Hynet – BVS and AGI Electrical Connectivity and Fibre Optic Connections*			
1ei *- Hynet - Vertex Hydrogen Production Plant*			
1f *- Hynet – Hydrogen Production Plant (HPP) – Natural Gas Pipeline*			
1g *- NSIP – Planning Inspectorate Reference: Hynet North West Hydrogen Pipeline*			
9 *- FCC Reference: 063496: Demolition of the existing Argoed High School buildings and provision of a new Net Zero Carbon in operation school campus*			
27 *- FCC Ref: 050125: Employment-led mixed-use development, incorporating Logistics and Technology Park (B1, B2, B8) with residential(C3), local retail centre (A1), hotel (C1), training and skills centre (C2, D1) and new parkland.*			
109 *- FCC Reference: 062820: Erection of 130 dwellings comprising bungalows, houses and two storey apartments with own access, new access road, associated external works and landscaping.*			

INTRA-PROJECT EFFECTS

Construction Phase

19.8.8. **Paragraph 19.8.10** of the 2022 ES **(APP-071)** should be replaced with the following:

*Residential receptors are anticipated to see Minor Adverse (not significant) intra-project effects at Sections 1, 3, 4 and 7 of the DCO Proposed Development due to the interaction of effects of visual, noise, traffic and water impacts (as reported in **Chapter 12 – Landscape and Visual**, **Chapter 15 – Noise and Vibration**, **Chapter 16 – Population and Human Health**, **Chapter 17 – Traffic and Transport** and **Chapter 18 – Water Resources and Flood Risk** (**Volume II**). Intra-project effects at Sections 2, 5 and 6 of the DCO Proposed Development were found to be Negligible (not significant).”*

19.9. MITIGATION AND ENHANCEMENT MEASURES

19.9.1. The mitigation and enhancement measures for Combined and Cumulative Effects have not changed due to the proposed design changes. As noted in the errata, it had previously been confirmed with the Welsh Government that the construction of the A55 Red Route would not take place concurrently with the DCO Proposed Development. Therefore, the text within **Section 19.9** of the 2022 ES **(APP-071)** has been updated to reflect the removal of this development from the Combined and Cumulative Effects assessment.

19.9.2. **Paragraphs 19.9.1-19.9.3** of the 2022 ES (**APP-071**) should be replaced with the following:

*The assessment has not identified the need for any additional mitigation requirements beyond that stated in **Technical Chapters 6 – 18 (Volume II)**.*

19.10. RESIDUAL EFFECTS

19.10.1. The residual effect for Combined and Cumulative Effects have not changed due to the proposed design changes. As noted in the errata, it had previously been confirmed with the Welsh Government that the construction of the A55 Red Route would not take place concurrently with the DCO Proposed Development. Therefore, the text within **Section 19.10** of the 2022 ES **(APP-071)** and Appendix 19.1 **(APP-172)** has been updated to reflect the removal of this development.

19.10.2. **Paragraph 19.10.1** of the 2022 ES **(APP-071)** should be replaced with the following:

*No additional mitigation measures have been identified as being required in **Section 19.9**. Therefore, the effects reported in **Section 19.8** are classified as residual effects. No significant residual effects have been identified.*

19.11. MONITORING

19.11.1. The additional proposed design changes do not change the requirements for monitoring measures during construction. Therefore, the text within **Section 19.11** of the 2022 ES **(APP-071)** remains unchanged and valid.

19.12. CONCLUSIONS

19.12.1. The proposed design changes as set out in Table 1.1 and updates due to errata do not result in changes to the residual effects as reported in the 2022 ES **(APP-071)** for combined and cumulative effects. The 2022 ES conclusions are therefore not materially changed for this topic.

20. SUMMARY OF LIKELY SIGNIFICANT EFFECTS

20.1. INTRODUCTION

20.1.1. **Chapter 20 – Summary of Likely Significant Effects** of the 2022 ES **(APP-072)** provides a summary of the likely significant effects reported in the ES.

20.1.2. This ES Addendum chapter updates the summary of significant effects presented within each of the **Technical Chapters 6 to 19** resulting from the proposed design changes as outlined in **Table 1.1** of **Chapter I** of this ES Addendum.

20.1.3. The majority of the text presented within **Chapter 20** of the 2022 ES **(APP-072)** has not changed due to the proposed design changes. However, **Table 20.1 – Summary of Likely Significant Environmental Effects** of the 2022 ES has changed to take account of some changes to likely significant effects as follows:

- In Chapter 12 – Landscape and Visual, the effects for the landscape and visual assessment have changed as a result of a change in construction and operational visual effects associated with the relocation of Northop Hall AGI (PS03) (viewpoints WAG18 and WAG19 updated and WAG18a and WAG19a added) and the relocation of Cornist Lane BVS (PS01) (viewpoints B9 removed and replaced with B8, B9a and B9b). The assessment concluded that construction and operational Year 1 visual effects for new viewpoint WAGI8a and construction visual effects for new viewpoint B9a would be significant. Therefore, **Table 20.1** has been updated to reflect these changes.
- In Chapter 16 – Population and Human Health, the effect of temporary disruption to users of the PRoW route 294/FP2/1 during the construction phase has reduced in significance for pre-mitigation from large adverse to moderate adverse and the residual effect from moderate (significant) to minor adverse (not significant). Therefore, the effect has been removed from **Table 20.1.**
- In Chapter 19 - Combined and Cumulative Effects, it has been confirmed with the Welsh Government that the construction of the A55 Red Route would not take place concurrently with the DCO Proposed Development. Therefore, there will no inter-project cumulative effects associated withi this project and the effect has been removed from **Table 20.1.**

20.1.4. Therefore **Table 20.1** of the 2022 ES **(APP-072)** has changed and should be replaced with **Table 20.1** below:

20.1.5. The remaining text within Chapter 20 of the ES **(APP-072)** remains unchanged and valid.

Table 20.1 - Summary of Likely Significant Environmental Effects

Description of Effect	*Construction / Operation / Decommissioning Stage*	*Significance and Nature of Effects Prior to Mitigation / Enhancement*	*Summary of Mitigation and Enhancement*	*Residual Significant Effects*
Chapter 6: Air Quality				
No significant adverse or beneficial Air Quality residual effects have been identified for the construction, operation, and decommissioning stages of the DCO Proposed Development.				
Chapter 7: Climate Resilience				
No significant adverse or beneficial Climate Resilience residual effects have been identified for the construction, operation, and decommissioning stages of the DCO Proposed Development.				
Chapter 8: Cultural Heritage				
No significant adverse or beneficial Cultural Heritage residual effects have been identified for the operation and decommissioning stages of the DCO Proposed Development.				
Potential for Bronze Age funerary remains	*Construction*	***Large adverse (significant)***	*Mitigation through preservation by record. The controlled and recorded removal of archaeological remains will decrease the magnitude of impact from major to moderate.*	***Moderate adverse (significant)***
Chapter 9: Biodiversity				
No significant adverse or beneficial Biodiversity residual effects have been identified for the construction, operation, and decommissioning stages of the DCO Proposed Development.				
Chapter 10: Greenhouse Gases				
No significant adverse or beneficial GHG residual effects have been identified for the construction and decommissioning stages of the DCO Proposed Development.				
Operational phase GHG emissions	*Operation*	***Beneficial (Significant)*** *including the avoided emissions captured from the plants that feed into the Carbon Dioxide Pipeline system as part of the Project.*	*N/A*	***Beneficial (Significant)*** *including the avoided emissions captured from the plants that feed into the Carbon Dioxide Pipeline system as part of the Project.*
Chapter 11: Land and Soils				
No significant adverse or beneficial GHG residual effects have been identified for the operation and decommissioning stages of the DCO Proposed Development.				
Effects on soil quality – loss of BMV land due to the construction of AGIs and BVSs.	*Construction*	***Moderate adverse (significant)***	*N/A*	***Moderate adverse (significant)***
Chapter 12: Landscape and Visual				
Landscape character receptors				
No significant adverse or beneficial landscape residual effects have been identified for the operation and decommissioning stages of the DCO Proposed Development on Landscape Character Areas.				

Description of Effect	*Construction / Operation / Decommissioning Stage*	*Significance and Nature of Effects Prior to Mitigation / Enhancement*	*Summary of Mitigation and Enhancement*	*Residual Significant Effects*
Dee coastal levels (FLNTVS076) ***Shotton farmland fringe (FLNTVS072)*** ***Estuary Edge and Valleys (FLNTVS014)*** ***Limestone Plateau (FLNTVS004)***	*Construction*	***Moderate adverse (significant)***	*Landscape mitigation proposals to reduce landscape effects, including landscape planting and retention and micro-siting of construction compounds and the detailed design alignment of the pipeline, where relevant and practicable, to reduce the proximity to landscape receptors.* *Refer to the* ***Register of Environmental Actions and Commitments (Document reference: D.6.5.1)*** *for further details.*	***Moderate adverse (significant)***
Visual amenity receptors				
WAGI3 - Recreational users of Public Footpath Flint 66 ***WAGI4 - Residents of Bryn Mawr; Recreational users of Public Footpath Flint 68*** ***WAGI7 - Residents of Tros-y-mynydd, Starkey Lane; Recreational users of Public Footpath Flint 70***	*Construction*	***Moderate adverse (significant)***	*Landscape mitigation proposals to reduce visual effects of the Flint AGI. Refer to the* ***Register of Environmental Actions and Commitments (Document reference: D.6.5.1)*** *for further details.*	***Moderate adverse (significant)***
WAGI8 - Recreational users of Public Footpath Northop 4 ***WAGI8a - Recreational users of Public Footpath Northop 4***	*Construction*	***Moderate adverse (significant)***	*Landscape mitigation proposals to reduce visual effects of the Northop AGI. Refer to the* ***Register of Environmental Actions and Commitments (Document reference: D.6.5.1)*** *for further details.*	***Moderate adverse (significant)***
EAGI5 - Residents within Elton ***EAGI9 - Residents within Yew Tree Close***	*Construction*	***Moderate adverse (significant)***	*Landscape mitigation proposals to reduce visual effects of the Stanlow AGI. Refer to the* ***Register of Environmental Actions and Commitments (Document reference: D.6.5.1)*** *for further details.*	***Moderate adverse (significant)***

P1 - Residents off unnamed road off Connah's Quay Road ***Recreational users of Public Footpath Northop 2*** ***P3* - Residents off Holywell Road*** ***Recreational users of Public Footpath Hawarden 144*** ***P4 - Residents of Aston*** ***Recreational users of Public Footpath Hawarden 31*** ***P4b* - Residents off Old Aston Hill, Ewloe*** ***P6 - Residents of Sandycroft off Chester Road*** ***P7 - Recreational users of the Wales Coastal Path*** ***P8* - Residents at Cop House Farm*** ***Recreational users of Public Footpath East Saltney 2*** ***P9 - Recreational users of the Chester Millennium Greenway*** ***P10 - Residents of Saughall*** ***Recreational users of Public Footpath 263 FP6/2*** ***P12 - Residents off Gypsy Lane*** ***PRoW users Public Footpath 211 FP4/1*** ***P12a - Residents off Station Road*** ***Recreational users of Public Footpath 177 FP2/1*** ***P13a, P13b and P14a - Recreational Users of Shropshire Union Canal towpath*** ***Canal users of the Shropshire Union Canal*** ***P15a - Residents off Picton Lane***	*Construction*	***Moderate adverse (significant)***	*Landscape mitigation proposals to reduce visual effects of the Newbuild Carbon Dioxide Pipeline. Refer to the* ***Register of Environmental Actions and Commitments (Document reference: D.6.5.1)*** *for further details.*	***Moderate adverse (significant)***

Description of Effect	*Construction / Operation / Decommissioning Stage*	*Significance and Nature of Effects Prior to Mitigation / Enhancement*	*Summary of Mitigation and Enhancement*	*Residual Significant Effects*
Recreational users of Public Bridleway 241 BR4/1 ***P16 - Recreational users of Public Footpath 309 FP1/2 (North Cheshire Way)***				
B9a – Users of Cornist Lane ***B12 - Residents off Overlea Drive*** ***B13 - Recreational users of Public Footpaths Harwarden 29 and 34*** ***B14 - Recreational users of Public Footpath 211 FP9/1*** ***B15 - Residents at Mollington***	*Construction*	***Moderate adverse (significant)***	*Landscape mitigation proposals to reduce visual effects of the Cornist Lane, Aston Hill and Mollington BVSs. Refer to the* ***Register of Environmental Actions and Commitments (Document reference: D.6.5.1)*** *for further details.*	***Moderate adverse (significant)***
WAGI3 - Recreational users of Public Footpath Flint 66 ***WAGI4 - Residents of Bryn Mawr*** ***Recreational users of Public Footpath Flint 68***	*Operation*	*Operational Year 1 -* ***Moderate adverse (significant)***	*Landscape mitigation is proposed as embedded mitigation to reduce the effects to not significant at year 15 following vegetation maturity. Therefore, no further mitigation measures are required to reduce effects at operational year 1 at the Flint AGI site. Refer to* ***EN070007-D.2.14-LAY-Sheet 0 Flint AGI Landscape Layout*** *for further details.*	*Operational Year 1 -* ***Moderate adverse (significant)*** *Operational Year 15 – Minor adverse (not significant)*
WAGI8 - Recreational users of Public Footpath Northop 4 ***WAGI8a - Recreational users of Public Footpath Northop 4***	*Operation*	*Operational Year 1 -* ***Moderate adverse (significant)***	*Landscape mitigation is proposed as embedded mitigation to reduce the effects to not significant at year 15 following vegetation maturity. Therefore, no further mitigation measures are required to reduce effects at operational year 1 at the Flint AGI site. Refer to* ***EN070007-D.2.14-LAY-Sheet 1 Northop Hall AGI Landscape Layout*** *for further details.*	*Operational Year 1 -* ***Moderate adverse (significant)*** *Operational Year 15 – Minor adverse (not significant)*

Description of Effect	*Construction / Operation / Decommissioning Stage*	*Significance and Nature of Effects Prior to Mitigation / Enhancement*	*Summary of Mitigation and Enhancement*	*Residual Significant Effects*
B12 - Residents off Overlea Drive ***B13 - Recreational users of Public Footpaths Harwarden 29 and 34***	*Operation*	*Operational Year 1 -* ***Moderate adverse (significant)***	*Landscape mitigation is proposed as embedded mitigation to reduce the effects to not significant at year 15 year following vegetation maturity. Therefore, no further mitigation measures are required to reduce effects at operational year 1 at Aston Hill BVS. Refer to* ***EN070007-D.2.14-LAY-Sheet 3 Aston Hall BVS Landscape Layout*** *for further details.*	*Operational Year 1 -* ***Moderate adverse (significant)*** *Operational Year 15 – Minor adverse (not significant)*
B14 - Recreational users of Public Footpath 211 FP9/1 ***B15 - Residents at Mollington***	*Operation*	*Operational Year 1 -* ***Moderate adverse (significant)***	*Landscape mitigation is proposed as embedded mitigation to reduce the effects to not significant at year 15 following vegetation maturity. Therefore, no further mitigation measures are required to reduce effects at operational year 1 at Mollington BVS. Refer to* ***EN070007-D.2.14-LAY-Sheet 4 Mollington BVS Landscape Layout*** *for further details.*	*Operational Year 1 -* ***Moderate adverse (significant)*** *Operational Year 15 – Minor adverse (not significant)*
WAGI3 - Recreational users of Public Footpath Flint 66 ***WAGI4 - Residents of Bryn Mawr*** ***Recreational users of Public Footpath Flint 68*** ***WAGI7 - Residents of Tros-y-mynydd, Starkey Lane and Recreational users of Public Footpath Flint 70.*** ***WAGI8 - Recreational users of Public Footpath Northop 4*** ***WAGI8a - Recreational users of Public Footpath Northop 4*** ***EAGI5 - Residents within Elton*** ***EAGI9 - Residents within Yew Tree Close***	*Decommissioning*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP), which is a Requirement of the* ***Draft DCO (Document Reference: D.3.1)****.*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*

Description of Effect	*Construction / Operation / Decommissioning Stage*	*Significance and Nature of Effects Prior to Mitigation / Enhancement*	*Summary of Mitigation and Enhancement*	*Residual Significant Effects*
B5 - Residents off Allt Chwiler ***B6 - Residents of dwellings off the B5121*** ***B7 - Residents of Ffordd Babell and the B5121*** ***B9a – Users of Cornist Lane*** ***B12 - Residents off Overlea Drive*** ***B13 - Recreational users of Public Footpaths Harwarden 29 and 34*** ***B14 - Recreational users of Public Footpath 211 FP9/1*** ***B15 - Residents at Mollington***	*Decommissioning*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*	*Significant effects are expected to be short term and temporary during the decommissioning of AGIs and BVSs, reducing to not significant at the end of the Decommissioning Stage. Decommissioning design and works including further mitigation, will be undertaken in compliance with all necessary legislation, permits and best practice at that time. This will be set out in the end of life Decommissioning Environmental Management Plan (DEMP) which is a Requirement of the* ***Draft DCO (Document Reference: D.3.1)****.*	*During decommissioning:* ***Moderate adverse (significant)*** *End of Decommissioning:* *Not significant*
Chapter 13: Major Accidents and Disasters				
Based on the assumptions and mitigation measures presented in other relevant ES Chapters, it is considered that the potential MA&D events identified during the construction and operation stages of the DCO Proposed Development will be managed to be as low as reasonably practicable.				
Chapter 14: Materials and Waste				
No significant adverse or beneficial Materials and Waste residual effects have been identified for the construction, operation and decommissioning stages of the DCO Proposed Development.				
Chapter 15: Noise and Vibration				
No significant adverse or beneficial Noise and Vibration residual effects have been identified for the operation stage of the DCO Proposed Development.				
Likely noise effects arising from the Proposed Development construction and decommissioning activities	*Construction and Decommissioning*	***Significant***	*Best Practicable Means. Temporary noise barriers, programme management of activities.* *Details of mitigation measures will be confirmed in the Noise and Vibration Management Plan. This will be approved by the Local Authorities.* *The Noise and Vibration Management Plan is included as a Requirement of the* ***Draft DCO (Document Reference: D.3.1)***	***Significant****, subject to the implementation of a Noise and Vibration Management Plan.*
Chapter 16: Population and Human Health				
No significant adverse or beneficial Population and Human Health residual effects have been identified for the operation or decommissioning stage of the DCO Proposed Development.				

Description of Effect	*Construction / Operation / Decommissioning Stage*	*Significance and Nature of Effects Prior to Mitigation / Enhancement*	*Summary of Mitigation and Enhancement*	*Residual Significant Effects*
Temporary disruption to users of PRoW route 309/BR4/1	*Construction*	***Large adverse (significant)***	*Clear signage on diversions. Engagement with affected users and local authority.*	***Moderate adverse (Significant)***
Temporary disruption to access and disturbance to residence at Thornton Manor Care Centre and Nursing Home	*Construction*	***Large adverse (significant)***	*Application of detailed Construction Environmental Management Plan (CEMP), Construction Traffic Management Plan (CTMP) and Dust Management Plan (DMP), consultation with affected users, and Mitigation measures as identified in Chapter 15 Noise. These are included as is included as Requirements of the* ***Draft DCO (Document Reference: D.3.1)***	***Moderate adverse (significant)***
Temporary disruption to access to pupils and staff at St Oswald's School and disturbance to users; ***Temporary disruption to access and disturbance of users of Sandycroft County Primary School.***	*Construction*	***Large adverse (Significant)***	*Works carried out outside of term times, consultation with affected users, mitigation measures as identified in Chapter 15 Noise and the application of CTMP.*	***Moderate adverse (significant)***
Temporary loss of land and disruption to access to 2 Sister's Food Group	*Construction*	***Large adverse (Significant)***	*Engagement with affected users and the development of mitigation plan with 2 Sister's Food Group.*	***Moderate adverse (significant)***
Temporary disruption to Greenacres Animal Park	*Construction*	***Large adverse (Significant)***	*Engagement with affected users., undertaking works outside of peak season and the development of mitigation plan with Greenacres Animal Park.*	***Moderate adverse (significant)***
Chapter 17: Traffic and Transport				
No significant adverse or beneficial Traffic and Transport residual effects have been identified for the construction, operation and decommissioning stages of the DCO Proposed Development.				
Chapter 18: Water Resources and Flood Risk				
No significant adverse or beneficial Water Resources and Flood Risk residual effects have been identified for the decommissioning stage of the DCO Proposed Development.				

Description of Effect	*Construction / Operation / Decommissioning Stage*	*Significance and Nature of Effects Prior to Mitigation / Enhancement*	*Summary of Mitigation and Enhancement*	*Residual Significant Effects*
Impacts to hydrological and hydromorphological processes from open cut crossings of Alltami Brook watercourse	*Construction*	***Moderate adverse (Significant)***	*Mitigation includes relevant permits to be obtained for work on ordinary watercourses and main rivers, and channel and banks to be reinstated to mimic the baseline conditions, including reinstatement of an appropriate vegetation assemblage. Further mitigation measures include minimal working width to be adopted as far as practicable (16m maximum working width within the Alltami Brook), detailed design alignment of the pipeline to be determined to minimise potential impacts, and where practicable, removed habitats to be replaced. Refer to the **REAC, Document reference: D.6.5.1)** for further details*	***Moderate adverse (significant)***
Chapter 19: Combined and Cumulative Effects				
No significant adverse or beneficial Combined and Cumulative residual effects have been identified for the construction, operation and decommissioning stages of the DCO Proposed Development.				