

ENVIRONMENTAL STATEMENT (VOLUME III)

Appendix 17.11 Summary of Pre-Mitigation Calculated Effects

HyNet Carbon Dioxide Pipeline DCO

Planning Act 2008

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

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1. INTRODUCTION

- 1.1.1. This Appendix provides a summary of the calculated environmental effects relating to Traffic and Transport for the DCO Proposed Development. It should be noted that these are calculated effects only and do not consider the following matters:
- **Duration** – all effects associated with the DCO Proposed Development would be temporary in nature.
 - **Baseline traffic and HGV volumes** – magnitudes of impacts are calculated based on percentage increases in LGV and HGV traffic. Due to the rural nature of many of the sites for proposed infrastructure associated with the DCO Proposed Development, baseline traffics flows – particularly for HGVs – are very low.
 - **Absolute increases in LGV and HGV traffic** – absolute increases in LGVs and HGVs along construction traffic routes are often low however report high percentage increases when compared to low baselines of traffic.
 - **Reasonable Worst Case Scenario** – The project peak month has been assessed. Traffic flows during this period are often significantly higher than for an average month during the construction programme.
- 1.1.2. The impact of these considerations in reporting final residual effects is provided in **Chapter 17 Traffic and Transport (Volume II)**.

2. SEVERANCE

- 2.1.1. Prior to the consideration of mitigation and enhancement measures, and the impact of duration on residual effects, **Table 1** outlines the significance of effects on Severance that could result from increases in construction traffic arising from the DCO Proposed Development.
- 2.1.2. **Major Significant** effects for Severance are forecast at the following locations:
- Little Stanney Lane;
 - Picton Lane;
 - B5125 (west of Northop Hall AGI centralised compound);
 - Lower Aston Hill BVS Lane;
 - Lleprog Lane;
 - Racecourse Lane;
 - Little Rake Lane; and
 - Brookside.
- 2.1.3. **Moderate Significant** effects for Severance are forecast at the following locations:
- B5132 Cryers Lane;
 - Rake Lane;
 - B5129;
 - Starkey Lane;
 - Alt-Goch Lane;
 - Chorlton Lane;
 - Upper Aston Hill BVS Lane;
 - Bryntyrion Road;
 - The B5125 in Hawarden; and
 - Overwood Lane.

Table 1 - Calculated Effects – Severance

Ref.	Link	Link Sensitivity	Magnitude	Pre-Mitigation Effect
1	A5117 1	Low	Negligible	<i>Negligible – Not significant</i>
2	A5117 2	Medium	Negligible	<i>Negligible – Not significant</i>
3	B5132 Cryers Lane	Medium	Medium	<i>Moderate - Significant</i>
4	Little Stanney Lane	Medium	High	<i>Major - Significant</i>
5	Picton Lane	Medium	High	<i>Major - Significant</i>
6	Rake Lane	Low	High	<i>Moderate - Significant</i>
7	A548 Sealand Road	Medium	Negligible	<i>Negligible – Not significant</i>
8	B5129	Low	High	<i>Moderate - Significant</i>
9	B5125 1	Medium	Low	<i>Minor – Not Significant</i>
10	B5125 2	Medium	High	<i>Major - Significant</i>
11	B5126 Connah’s Quay Road	Medium	Negligible	<i>Negligible – Not significant</i>
12	A5119 Northop Road 1	Medium	Negligible	<i>Negligible – Not significant</i>
13	Ince Lane	Medium	Negligible	<i>Negligible – Not significant</i>
14	Ash Road	Medium	Negligible	<i>Negligible – Not significant</i>
15	Pool Lane	Low	Negligible	<i>Negligible – Not significant</i>
16	Starkey Lane	Low	High	<i>Moderate - Significant</i>
17	Allt-Goch Lane	Low	High	<i>Moderate - Significant</i>
18	Chorlton Lane	Low	High	<i>Moderate - Significant</i>

Ref.	Link	Link Sensitivity	Magnitude	Pre-Mitigation Effect
19	A540	Medium	Negligible	<i>Negligible – Not significant</i>
20	Upper Aston Hill BVS Lane	Low	High	<i>Moderate - Significant</i>
21	Lower Aston Hill BVS Lane	Medium	High	<i>Major - Significant</i>
22	B5123	Medium	Negligible	<i>Negligible – Not significant</i>
23	Bryntyrion Road	Low	High	<i>Moderate - Significant</i>
24	Lleprog Lane	Medium	High	<i>Major - Significant</i>
25	Bryn Emlyn	Medium	Negligible	<i>Negligible – Not significant</i>
26	Ffordd Groes	Medium	Negligible	<i>Negligible – Not significant</i>
27	B5121	Medium	Medium	<i>Moderate - Significant</i>
28	B5122	Medium	Negligible	<i>Negligible – Not significant</i>
29	A5104	Medium	Negligible	<i>Negligible – Not significant</i>
30	Manor Lane	Medium	Negligible	<i>Negligible – Not significant</i>
31	Little Rake Lane	Medium	High	<i>Major - Significant</i>
32	Brookside	Medium	High	<i>Major - Significant</i>
33	A5117 4	Medium	Negligible	<i>Negligible – Not significant</i>
34	Overwood Lane	Low	High	<i>Moderate - Significant</i>
35	Racecourse Lane	Medium	High	<i>Major - Significant</i>
36	B5125 4	Medium	Medium	<i>Moderate - Significant</i>
37	A5119 Northop Road 2	Low	Negligible	<i>Negligible – Not significant</i>

3. FEAR AND INTIMIDATION

- 3.1.1. Prior to the consideration of mitigation and enhancement measures, and the impact of duration on residual effects, **Table 2** outlines the significance of effects on Fear and Intimidation that could result from increases in construction traffic arising from the DCO Proposed Development.
- 3.1.2. **Major Significant** effects for Fear and Intimidation are forecast at the following locations:
- Little Stanney Lane;
 - Picton Lane;
 - B5125 2 (west of Northop Hall AGI centralised compound);
 - Lower Aston Hill BVS Lane;
 - Lleprog Lane;
 - Little Rake Lane;
 - Brookside; and
 - Racecourse Lane.
- 3.1.3. **Moderate Significant** effects for Fear and Intimidation are forecast at the following locations:
- B5132 Cryers Lane;
 - Rake Lane;
 - B5129;
 - Starkey Lane;
 - Alt-Goch Lane;
 - Chorlton Lane;
 - Upper Aston Hill BVS Lane;
 - Bryntyrion Road;
 - The B5125 in Hawarden; and
 - Overwood Lane.

Table 2 - Calculated Effects – Fear and Intimidation

Ref.	Link	Link Sensitivity	Magnitude	Pre-Mitigation Effect
1	A5117 1	Low	Negligible	<i>Negligible – Not significant</i>
2	A5117 2	Medium	Negligible	<i>Negligible – Not significant</i>
3	B5132 Cryers Lane	Medium	Medium	<i>Moderate - Significant</i>
4	Little Stanney Lane	Medium	High	<i>Major - Significant</i>
5	Picton Lane	Medium	High	<i>Major - Significant</i>
6	Rake Lane	Low	High	<i>Moderate - Significant</i>
7	A548 Sealand Road	Medium	Negligible	<i>Negligible – Not significant</i>
8	B5129	Low	High	<i>Moderate - Significant</i>
9	B5125 1	Medium	Low	<i>Minor – Not Significant</i>
10	B5125 2	Medium	High	<i>Major - Significant</i>
11	B5126 Connahs Quay Road	Medium	Negligible	<i>Negligible – Not significant</i>
12	A5119 Northop Road 1	Medium	Negligible	<i>Negligible – Not significant</i>
13	Ince Lane	Medium	Negligible	<i>Negligible – Not significant</i>
14	Ash Road	Medium	Negligible	<i>Negligible – Not significant</i>
15	Pool Lane	Low	Negligible	<i>Negligible – Not significant</i>
16	Starkey Lane	Low	High	<i>Moderate - Significant</i>
17	Allt-Goch Lane	Low	High	<i>Moderate - Significant</i>
18	Chorlton Lane	Low	High	<i>Moderate - Significant</i>
19	A540	Medium	Negligible	<i>Negligible – Not significant</i>

Ref.	Link	Link Sensitivity	Magnitude	Pre-Mitigation Effect
20	Upper Aston Hill BVS Lane	Low	High	Moderate - Significant
21	Lower Aston Hill BVS Lane	Medium	High	Major - Significant
22	B5123	Medium	Negligible	<i>Negligible – Not significant</i>
23	Bryntyrion Road	Low	High	Moderate - Significant
24	Lleprog Lane	Medium	High	Major - Significant
25	Bryn Emlyn	Medium	Negligible	<i>Negligible – Not significant</i>
26	Ffordd Groes	Medium	Negligible	<i>Negligible – Not significant</i>
27	B5121	Medium	Medium	Moderate - Significant
28	B5122	Medium	Negligible	<i>Negligible – Not significant</i>
29	A5104	Medium	Negligible	<i>Negligible – Not significant</i>
30	Manor Lane	Medium	Negligible	<i>Negligible – Not significant</i>
31	Little Rake Lane	Medium	High	Major - Significant
32	Brookside	Medium	High	Major - Significant
33	A5117 4	Medium	Negligible	<i>Negligible – Not significant</i>
34	Overwood Lane	Low	High	Moderate - Significant
35	Racecourse Lane	Medium	High	Major - Significant
36	B5125 4	Medium	Medium	Moderate - Significant
37	A5119 Northop Road 2	Low	Negligible	<i>Negligible – Not significant</i>

4. PEDESTRIAN AMENITY

- 4.1.1. Prior to the consideration of mitigation and enhancement measures, and the impact of duration on residual effects, **Table 3** outlines the significance of effects on Pedestrian Amenity that could result from increases in construction traffic arising from the DCO Proposed Development.
- 4.1.2. **Major Significant** effects for Pedestrian Amenity are forecast at the following locations:
- Little Rake Lane;
 - Racecourse Lane; and
 - Lleprog Lane.
- 4.1.3. No **Moderate Significant** effects for Pedestrian Amenity are forecast.

Table 3 - Calculated Effects – Pedestrian Amenity

Ref.	Link	Link Sensitivity	Magnitude	Pre-Mitigation Effect
1	A5117 1	Low	Negligible	<i>Negligible – Not significant</i>
2	A5117 2	Medium	Negligible	<i>Negligible – Not significant</i>
3	B5132 Cryers Lane	Medium	Negligible	<i>Negligible – Not significant</i>
4	Little Stanney Lane	Medium	Negligible	<i>Negligible – Not significant</i>
5	Picton Lane	Medium	Negligible	<i>Negligible – Not significant</i>
6	Rake Lane	Low	Negligible	<i>Negligible – Not significant</i>
7	A548 Sealand Road	Medium	Negligible	<i>Negligible – Not significant</i>
8	B5129	Low	Negligible	<i>Negligible – Not significant</i>
9	B5125 1	Medium	Negligible	<i>Negligible – Not significant</i>
10	B5125 2	Medium	Negligible	<i>Negligible – Not significant</i>
11	B5126 Connahs Quay Road	Medium	Negligible	<i>Negligible – Not significant</i>
12	A5119 Northop Road 1	Medium	Negligible	<i>Negligible – Not significant</i>
13	Ince Lane	Medium	Negligible	<i>Negligible – Not significant</i>
14	Ash Road	Medium	Negligible	<i>Negligible – Not significant</i>
15	Pool Lane	Low	Negligible	<i>Negligible – Not significant</i>
16	Starkey Lane	Low	Negligible	<i>Negligible – Not significant</i>
17	Allt-Goch Lane	Low	Negligible	<i>Negligible – Not significant</i>
18	Chorlton Lane	Low	Negligible	<i>Negligible – Not significant</i>
19	A540	Medium	Negligible	<i>Negligible – Not significant</i>

Ref.	Link	Link Sensitivity	Magnitude	Pre-Mitigation Effect
20	Upper Aston Hill BVS Lane	Low	Negligible	<i>Negligible – Not significant</i>
21	Lower Aston Hill BVS Lane	Medium	Negligible	<i>Negligible – Not significant</i>
22	B5123	Medium	Negligible	<i>Negligible – Not significant</i>
23	Bryntyrion Road	Low	Negligible	<i>Negligible – Not significant</i>
24	Lleprog Lane	Medium	High	Major - Significant
25	Bryn Emlyn	Medium	Negligible	<i>Negligible – Not significant</i>
26	Ffordd Groes	Medium	Negligible	<i>Negligible – Not significant</i>
27	B5121	Medium	Negligible	<i>Negligible – Not significant</i>
28	B5122	Medium	Negligible	<i>Negligible – Not significant</i>
29	A5104	Medium	Negligible	<i>Negligible – Not significant</i>
30	Manor Lane	Medium	Negligible	<i>Negligible – Not significant</i>
31	Little Rake Lane	Medium	Low	<i>Minor – Not Significant</i>
32	Brookside	Medium	Negligible	<i>Negligible – Not significant</i>
33	A5117 4	Medium	Negligible	<i>Negligible – Not significant</i>
34	Overwood Lane	Low	Negligible	<i>Negligible – Not significant</i>
35	Racecourse Lane	Medium	High	Major - Significant
36	B5125 4	Medium	Negligible	<i>Negligible – Not significant</i>
37	A5119 Northop Road 2	Low	Negligible	<i>Negligible – Not significant</i>

5. DRIVER DELAY

- 5.1.1. Prior to the consideration of mitigation and enhancement measures, and the impact of duration on residual effects, **Table 4** outlines the significance of effects on Driver Delay that could result from increases in construction traffic arising from the DCO Proposed Development.
- 5.1.2. **Major Significant** effects for Driver Delay are forecast at the following locations:
- Little Stanney Lane;
 - Picton Lane;
 - B5125 2 (west of Northop Hall AGI Compound);
 - Lower Aston Hill BVS Lane;
 - Lleprog Lane;
 - Little Rake Lane;
 - Brookside; and
 - Racecourse Lane;
- 5.1.3. **Moderate Significant** effects for Driver Delay are forecast at the following locations:
- B5132 Cryers Lane;
 - Rake Lane;
 - B5129;
 - Starkey Lane;
 - Allt-Goch Lane;
 - Chorlton Lane;
 - Upper Aston Hill BVS Lane;
 - Bryntyrion Road;
 - Overwood Lane; and
 - B5125 4 (Hawarden).

Table 4 - Calculated Effects - Driver Delay

Ref.	Link	Link Sensitivity	Magnitude	Pre-Mitigation Effect
1	A5117 1	Low	Negligible	<i>Negligible – Not significant</i>
2	A5117 2	Medium	Negligible	<i>Negligible – Not significant</i>
3	B5132 Cryers Lane	Medium	Medium	<i>Moderate - Significant</i>
4	Little Stanney Lane	Medium	High	<i>Major - Significant</i>
5	Picton Lane	Medium	High	<i>Major - Significant</i>
6	Rake Lane	Low	High	<i>Moderate - Significant</i>
7	A548 Sealand Road	Medium	Negligible	<i>Negligible – Not significant</i>
8	B5129	Low	High	<i>Moderate - Significant</i>
9	B5125 1	Medium	Low	<i>Minor – Not Significant</i>
10	B5125 2	Medium	High	<i>Major - Significant</i>
11	B5126 Connahs Quay Road	Medium	Negligible	<i>Negligible – Not significant</i>
12	A5119 Northop Road 1	Medium	Negligible	<i>Negligible – Not significant</i>
13	Ince Lane	Medium	Negligible	<i>Negligible – Not significant</i>
14	Ash Road	Medium	Negligible	<i>Negligible – Not significant</i>
15	Pool Lane	Low	Negligible	<i>Negligible – Not significant</i>
16	Starkey Lane	Low	High	<i>Moderate - Significant</i>
17	Allt-Goch Lane	Low	High	<i>Moderate - Significant</i>
18	Chorlton Lane	Low	High	<i>Moderate - Significant</i>

Ref.	Link	Link Sensitivity	Magnitude	Pre-Mitigation Effect
19	A540	Medium	Negligible	<i>Negligible – Not significant</i>
20	Upper Aston Hill BVS Lane	Low	High	Moderate - Significant
21	Lower Aston Hill BVS Lane	Medium	High	Major - Significant
22	B5123	Medium	Negligible	<i>Negligible – Not significant</i>
23	Bryntyrion Road	Low	High	Moderate - Significant
24	Lleprog Lane	Medium	High	Major - Significant
25	Bryn Emlyn	Medium	Negligible	<i>Negligible – Not significant</i>
26	Ffordd Groes	Medium	Negligible	<i>Negligible – Not significant</i>
27	B5121	Medium	Medium	Moderate - Significant
28	B5122	Medium	Negligible	<i>Negligible – Not significant</i>
29	A5104	Medium	Negligible	<i>Negligible – Not significant</i>
30	Manor Lane	Medium	Negligible	<i>Negligible – Not significant</i>
31	Little Rake Lane	Medium	High	Major - Significant
32	Brookside	Medium	High	Major - Significant
33	A5117 4	Medium	Negligible	<i>Negligible – Not significant</i>
34	Overwood Lane	Low	High	Moderate - Significant
35	Racecourse Lane	Medium	High	Major - Significant
36	B5125 4	Medium	Medium	Moderate - Significant
37	A5119 Northop Road 2	Low	Negligible	<i>Negligible – Not significant</i>

6. PEDESTRIAN DELAY

- 6.1.1. Prior to the consideration of mitigation and enhancement measures, and the impact of duration on residual effects, **Table 5** outlines the significance of effects on Pedestrian Delay that could result from increases in construction traffic arising from the DCO Proposed Development.
- 6.1.2. **No Major Significant** effects for Pedestrian Delay are forecast for pedestrian delay.
- 6.1.3. **Moderate Significant** effects for Pedestrian Amenity are forecast at the following locations:
- 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 Hill BVS Lane;
 - Upper Aston Hill BVS Lane;
 - Bryn Emlyn;
 - Ffordd Groes;
 - B5121;
 - B5122;
 - A5104;
 - Manor Lane;
 - Brookside;
 - A5117 4; and
 - B5125 4.

Table 5 - Calculated Effects – Pedestrian Delay

Ref.	Link	Link Sensitivity	Magnitude	Pre-Mitigation Effect
1	A5117 1	Low	Medium	<i>Minor – Not Significant</i>
2	A5117 2	Medium	Medium	<i>Moderate - Significant</i>
3	B5132 Cryers Lane	Medium	Medium	<i>Moderate - Significant</i>
4	Little Stanney Lane	Medium	Medium	<i>Moderate - Significant</i>
5	Picton Lane	Medium	Negligible	<i>Negligible – Not significant</i>
6	Rake Lane	Low	Medium	<i>Minor – Not Significant</i>
7	A548 Sealand Road	Medium	Medium	<i>Moderate - Significant</i>
8	B5129	Low	Medium	<i>Minor – Not Significant</i>
9	B5125 1	Medium	Medium	<i>Moderate - Significant</i>
10	B5125 2	Medium	Medium	<i>Moderate - Significant</i>
11	B5126 Connahs Quay Road	Medium	Medium	<i>Moderate - Significant</i>
12	A5119 Northop Road 1	Medium	Medium	<i>Moderate - Significant</i>
13	Ince Lane	Medium	Medium	<i>Moderate - Significant</i>
14	Ash Road	Medium	Medium	<i>Moderate - Significant</i>
15	Pool Lane	Low	Medium	<i>Minor – Not Significant</i>
16	Starkey Lane	Low	Negligible	<i>Negligible – Not significant</i>
17	Alt-Goch Lane	Low	Negligible	<i>Negligible – Not significant</i>
18	Chorlton Lane	Low	Negligible	<i>Negligible – Not significant</i>

Ref.	Link	Link Sensitivity	Magnitude	Pre-Mitigation Effect
19	A540	Medium	Medium	<i>Moderate - Significant</i>
20	Upper Aston Hill BVS Lane	Low	Medium	<i>Minor – Not Significant</i>
21	Lower Aston Hill BVS Lane	Medium	Medium	<i>Moderate - Significant</i>
22	B5123	Medium	Medium	<i>Moderate - Significant</i>
23	Bryntyrion Road	Low	Medium	<i>Minor – Not Significant</i>
24	Lleprog Lane	Medium	Negligible	<i>Negligible – Not significant</i>
25	Bryn Emlyn	Medium	Medium	<i>Moderate - Significant</i>
26	Ffordd Groes	Medium	Medium	<i>Moderate - Significant</i>
27	B5121	Medium	Medium	<i>Moderate - Significant</i>
28	B5122	Medium	Medium	<i>Moderate - Significant</i>
29	A5104	Medium	Medium	<i>Moderate - Significant</i>
30	Manor Lane	Medium	Medium	<i>Moderate - Significant</i>
31	Little Rake Lane	Medium	Negligible	<i>Negligible – Not significant</i>
32	Brookside	Medium	Medium	<i>Moderate - Significant</i>
33	A5117 4	Medium	Medium	<i>Moderate - Significant</i>
34	Overwood Lane	Low	Negligible	<i>Negligible – Not significant</i>
35	Racecourse Lane	Medium	Negligible	<i>Negligible – Not significant</i>
36	B5125 4	Medium	Medium	<i>Moderate - Significant</i>
37	A5119 Northop Road 2	Low	Medium	<i>Minor – Not Significant</i>

7. HIGHWAY SAFETY

- 7.1.1. An assessment of the impact of additional LGV and HGV traffic associated with the DCO Proposed Development is presented in **Appendix 17.3 PIA Summary (Volume III)**.