



A66 Northern Trans-Pennine

**PEI Report - Appendix 9.1  
Potential Contamination  
Sources and Receptors**

| Document Verification |   |
|-----------------------|---|
| Project Title         | A66 Northern Trans-Pennine  |
| Document Title        | PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors |
| Document Ref          | HE565627-AMY-EGT-S00-RP-LG-000003                                       |

**Note:** The contents of the Cover Page and Document Verification page are managed by ProjectWise. Users should not edit these fields manually.

| Rev | Suit. Code | Suitability            |          | Purpose of Issue |           |            |
|-----|------------|------------------------|----------|------------------|-----------|------------|
| P01 | S4         | Fit for Stage Approval |          |                  |           |            |
|     |            | Created                | Checked  | Reviewed         | Approved  | Authorised |
|     | Name       | K.McClung              | E.Foster | A.Warwick        | K.Whalley | ---        |
|     | Date       | 17/09/21               | 17/09/21 | 17/09/21         | 17/09/21  | ---        |

| Rev | Suit. Code | Suitability |         | Purpose of Issue |          |            |
|-----|------------|-------------|---------|------------------|----------|------------|
| --- | ---        | ---         |         | ---              |          |            |
|     |            | Created     | Checked | Reviewed         | Approved | Authorised |
|     | Name       | ---         | ---     | ---              | ---      | ---        |
|     | Date       | ---         | ---     | ---              | ---      | ---        |

| Rev | Suit. Code | Suitability |         | Purpose of Issue |          |            |
|-----|------------|-------------|---------|------------------|----------|------------|
| --- | ---        | ---         |         | ---              |          |            |
|     |            | Created     | Checked | Reviewed         | Approved | Authorised |
|     | Name       | ---         | ---     | ---              | ---      | ---        |
|     | Date       | ---         | ---     | ---              | ---      | ---        |

**CONTENTS**

|          |   |          |
|----------|---|----------|
| <b>9</b> | <b>Potential Contamination Sources and Receptors.....</b> | <b>1</b> |
| 9.1      | Introduction.....   | 1        |
| 9.2      | Identification of potential contamination sources .....   | 1        |
| 9.3      | Identification of potential receptors.....                | 2        |
| 9.4      | Assessment of potential contamination effects.....        | 2        |

## 9 Potential Contamination Sources and Receptors

### 9.1 Introduction

9.1.1 This document is an Appendix to Chapter 9: Geology and Soils and comprises detailed information on the potential contamination sources and receptors to contamination that have been identified within the study area. It presents qualitative risk assessments for those areas that have the potential to impact and be impacted by, the proposed scheme.

9.1.2 The maps referred to throughout this Appendix are presented in Figures 9.1: Study Area to 9.6: Agricultural Land Classification].

### 9.2 Identification of Potential Contamination Sources

9.2.1 As described in Chapter 9 of the PEI Report, the contamination assessment has considered the presence of potential sources of contamination associated with former and current land uses. Based on the desk study information, potential sources considered include:

- Current and historical landfill sites
- Current and historical mineral extraction sites
- Licensed waste management sites
- Current and historical industrial or commercial sites
- Discharges to surface and ground water
- Foot and mouth disease (FMD) burial sites
- Farmyards
- Operational and disused railway lines and railway land
- Highways.

9.2.2 Each potential contamination source identified has been given its own unique identifier (e.g. CL01-15, where 01 refers to the scheme reference number and 15 refers to a unique potential contaminant source) and has been classified in terms of its likely contamination potential, using guidance published by the Homes and Communities Agency<sup>1</sup>. This guidance assigns a “low, moderate or high” potential for contamination and categorises sites according to their use. Professional judgement has been applied where a potential contamination source has had multiple uses, for example:

- a historical industrial building that had high potential for contamination but has since been converted into a residence and is therefore considered likely to now have a low contamination potential, or
- a former quarry which had low contamination potential was later used as a landfill site and is now likely to have a high contamination potential.

9.2.3 Potential land contamination sites have been identified using the data sources listed in the main report, including historical and current ordnance survey mapping which has been used to identify site such as old quarries, tips and industrial or commercial sites.

9.2.4 A two-stage screening process will be carried out for the identified potential contamination sources. The first stage, which is the stage completed for PEI Report,

<sup>1</sup> Homes and Communities Agency (2013) Guidance on dereliction, demolition and remediation costs (3rd edition), available at: <https://www.gov.uk/government/publications/guidance-on-dereliction-demolition-and-remediation-costs> [accessed 31 August 2021]

Commented [JK1]: Created whilst figures were WIP – check when complete

Commented [SD2]: If already in the main chapter, consider if this is necessary to repeat.

Commented [DH3R2]: ACCEPTED: have left as is, as provides context to the information presented in this appendix without having to cross-refer to the main chapter

involves considering the potential for each source to feasibly be disturbed or mobilised by the project. This has taken into account:

- the location of the source in relation to the draft Development Consent Order (DCO) boundary, with sources within the draft DCO boundary being most likely to be impacted
- the nature of the project in the vicinity of the source, with sources outside the draft DCO boundary only likely to be impacted in areas where groundwater flow may be affected. This may include areas of deep cuttings or groundwater control during construction
- the likely type and form of contaminants present, with less mobile contaminants being less likely to be impacted by any changes to groundwater flow as a result of the project.

Commented [WL4]: Expand on first use

9.2.5 Contamination sources that were not screened out in the first stage move on to the second stage of the screening process, which will be completed and presented in the Environmental Statement, as described in Section 9.3: Identification of Potential Receptors below.

### 9.3 Identification of Potential Receptors

9.3.1 As described in Chapter 9: Geology and Soils, of the PEI Report, the contamination assessment has considered the presence of potential receptors (geodiversity, human, controlled waters) to the identified contamination sources. Potential receptors are defined in *DMRBLA 109 Geology and Soils (DMRBLA 109)* (Highways England, 2019)<sup>2</sup>.

### 9.4 Assessment of Potential Contamination Effects

9.4.1 Where screening has identified the potential for contamination to be disturbed or mobilised by the project, an assessment of potential impacts will be carried out in the Environmental Statement (ES). This second stage of the screening process will involve developing a conceptual model for each contamination source (source-pathway-receptor) at baseline, construction and post-construction. The potential for significant effects will be considered in line with the sensitivity of receptors and magnitude of impacts set out in *DMRBLA 109*.

9.4.2 The construction and post-construction assessments assume that appropriate mitigation has been undertaken and that the operation of the project is in accordance with environmental legislation.

9.4.3 Where sites have a similar use and present a similar contamination risk, they will be grouped and considered together, rather than as a number of individual sources. For example, as the majority of the project is within agricultural land, farms might be grouped together.

<sup>2</sup> Highways England (2019) Design Manual for Roads and Bridges LA 109 Geology and Soils, available at: <https://www.standardsforhighways.co.uk/prod/attachments/adca4c7d-4037-4907-b633-76eaed30b9c0?inline=true> [accessed 31 August 2021]

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-1 Potential contamination sources: M6 Junction 40 to Kemplay Bank (Scheme 0102)

| Site ID | Site name                          | Description                                | Contamination potential | Distance from draft DCO boundary (m) | Proposals in area            | Potential to be impacted | Comments  |
|---------|------------------------------------|--|-------------------------|--------------------------------------|------------------------------|--------------------------|---|
| CL01-02 | Disused quarry                     | Observed on 1967 OS map. Infilled in 1970. | Moderate/Low            | 90                                   | Cutting and attenuation pond | Yes                      | Potential for unknown contaminants to become mobilised during de-watering.  |
| CL01-03 | Dismantled North Eastern Railway   | Dismantled in 1971                         | Moderate/Low            | 55                                   | Cutting and attenuation pond | No                       | Potential for contaminants to become mobilised during de-watering. However, majority of contaminants related to this land use are deemed largely immobile.  |
| CL01-04 | Dismantled Penrith Loop Railway    | Dismantled in 1971                         | Moderate/Low            | 130                                  | Cutting and attenuation pond | No                       | Distance from the proposed scheme<br>There is potential for contaminants to become mobilised during de-watering. However, the majority of contaminants related to land use are deemed largely immobile. |
| CL01-05 | Railway Line                       | Observed on current OS map                 | Moderate/Low            | 0                                    | Cutting and attenuation pond | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction.   |
| CL01-06 | Skirsgill Farm Historical Landfill | EA historical records                      | Moderate/High           | 0                                    | Cutting and embankment       | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                 | Description                | Contamination potential | Distance from draft DCO boundary (m) | Proposals in area       | Potential to be impacted | Comments  |
|---------|---------------------------|----------------------------|-------------------------|--------------------------------------|-------------------------|--------------------------|---|
|         |                           |                            |                         |                                      |                         |                          | contamination during construction.  |
| CL01-07 | Penrith Industrial Estate | Observed on current OS map | Low                     | 15                                   | At-grade and embankment | No                       | Modern industrial estate: potentially contaminative materials stored on site would be subject to current requirements and guidance limiting pollution e.g. bunded tanks. Mobile contaminants are not likely to be present in significant quantities.      |
| CL01-08 | Transport Service Area    | Observed on current OS map | Moderate/High           | 165                                  | At-grade and embankment | No                       | Distance from the proposed scheme<br>Potential for contaminants, particularly hydrocarbon contamination, to become mobilised. However, the scheme comprises embankments at the closest point and so there is limited potential to mobilise contamination. |
| CL01-09 | Historical Railway Line   | Observed on 1996 OS map    | Moderate/Low            | 140                                  | At-grade                | No                       | Distance from the proposed scheme<br>Majority of contaminants related to land use are deemed largely immobile, limiting potential to be   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                          | Description                | Contamination potential | Distance from draft DCO boundary (m) | Proposals in area             | Potential to be impacted | Comments   |
|---------|------------------------------------|----------------------------|-------------------------|--------------------------------------|-------------------------------|--------------------------|--|
|         |                                    |                            |                         |                                      |                               |                          | mobilised as a result of works.  |
| CL01-12 | Historical Railway Sidings         | Removed in 1965            | Moderate/Low            | 195                                  | At-grade                      | No                       | Distance from the proposed scheme<br>The majority of contaminants related to this land use are deemed largely immobile. Limited potential to be mobilised as a result of works.  |
| CL01-13 | Abattoir and tanks                 | Observed on current OS map | Low                     | 80                                   | At-grade and cutting          | Yes                      | Tank contents unknown, assume there is a potential for hydrocarbon contamination and other unknown contamination to become mobilised during de-watering of cutting.              |
| CL01-14 | Depot                              | Observed on current OS map | Low                     | 0                                    | Embankment and cutting        | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction.  |
| CL01-15 | Southwaite Green Mill Country Park | Observed on current OS map | Low                     | 80                                   | At-grade and attenuation pond | No                       | Potential for contaminants to become mobilised during de-watering of excavation. However, site is located on opposite side of River Eamont, so risk is thought to be negligible. |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                              | Description                              | Contamination potential | Distance from draft DCO boundary (m) | Proposals in area      | Potential to be impacted | Comments  |
|---------|--|--|-------------------------|--------------------------------------|------------------------|--------------------------|---|
| CL02-01 | Farm outbuildings                      | Observed on current OS map               | Low                     | 5                                    | Attenuation pond       | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation.  |
| CL02-02 | Happy Horse Riding Centre/Farm         | Farm observed on current OS map          | Low                     | 0                                    | Embankment and cutting | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction.   |
| CL02-03 | Historical Bleach Green bleaching mill | Observed on 1915 OS map. Now residential | Low                     | 30                                   | At-grade               | No                       | Buildings now used as residential property, should not be a significant contamination source. Any mobilisation of potential contamination is not deemed significant. Potential source is also located on opposite side of River Eamont. |
| CL02-04 | Beacon Farm                            | Farm observed on current OS map          | Low                     | 0                                    | Embankment             | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction.   |
| CL02-05 | Depot                                  | Observed on current OS map               | Low                     | 50                                   | At-grade               | No                       | Limited potential for works to cause mobilisation of potential contamination.   |
| CL02-06 | Heap, unknown constituents             | Observed on land use map                 | Low                     | 45                                   | At-grade               | No                       | Limited potential for works to cause mobilisation of potential contamination.   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                              | Description                | Contamination potential | Distance from draft DCO boundary (m) | Proposals in area    | Potential to be impacted | Comments  |
|---------|--|----------------------------|-------------------------|--------------------------------------|----------------------|--------------------------|---|
| CL02-07 | Petrol Filling Station                 | Observed on current OS map | Moderate/Low            | 110                                  | At-grade             | No                       | Distance from the proposed scheme<br>Limited potential for works to cause mobilisation of potential contamination.    |
| CL02-08 | Historical Ambulance Station           | Observed on 1968 OS map    | Low                     | 110                                  | At-grade             | No                       | Distance from the proposed scheme<br>Limited potential for works to cause mobilisation of potential contamination.    |
| CL02-09 | Historical Fire Station                | Observed on 1968 OS map    | Low                     | 90                                   | At-grade             | No                       | Limited potential for works to cause mobilisation of potential contamination.   |
| CL02-10 | Penrith Hospital                       | Observed on current OS map | Low                     | 55                                   | At-grade and cutting | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction. |
| CL02-11 | New Penrith Fire and Ambulance Station | Observed on current OS map | Low                     | 0                                    | At-grade and cutting | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction. |
| CL02-12 | Potential goods/storage yard           | Observed in aerial images  | Low                     | 0                                    | At-grade and cutting | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction. |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name              | Description                       | Contamination potential | Distance from draft DCO boundary (m) | Proposals in area    | Potential to be impacted | Comments  |
|---------|------------------------|-----------------------------------|-------------------------|--------------------------------------|----------------------|--------------------------|---|
| CL02-13 | Eamont Bridge Farm     | Farm observed on current OS map   | Low                     | 0                                    | Cutting              | No                       | Potential for contaminants to become mobilised during de-watering of excavation but potential source is located on opposite side of River Eamont, so linkage is not deemed significant          |
| CL02-14 | Electricity Substation | Observed on current OS map        | Low                     | 15                                   | At-grade and cutting | No                       | The majority of contaminants related to this land use are deemed largely immobile.  |
| CL02-15 | Electricity Substation | Observed on current OS map        | Low                     | 165                                  | Embankment           | No                       | Distance from the proposed scheme<br>Limited potential for works to cause mobilisation of potential contamination.<br>Majority of contaminants related to land use are deemed largely immobile. |
| CL02-16 | Winters Park Landfill  | Local Authority Recorded Landfill | Moderate/Low            | 140                                  | At-grade             | No                       | Distance from proposed scheme.<br>Limited potential for works to cause mobilisation of potential contamination.   |
| CL02-17 | Carleton Hill Farm     | Farm observed on current OS map   | Low                     | 195                                  | Cutting              | Yes                      | Distance from the proposed scheme<br>Potential for contaminants to become mobilised during de-watering of cutting.  |

## A66 Northern Trans-Pennine

### PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-2: Potential contamination receptors: M6 Junction 40 to Kempay Bank (Scheme 0102)

| Receptor                         | Receptor ID | Description              | Distance from draft DCO Boundary (m) | Sensitivity |
|----------------------------------|-------------|--------------------------|--------------------------------------|-------------|
| <b>Human Health</b>              |             |                          |                                      |             |
| Trading Estate including B&B     | HH01-01     | Commercial or industrial | 65                                   | Medium      |
| Trading Estate                   | HH01-02     | Commercial or industrial | 0                                    | Medium      |
| Penrith Cattle Market            | HH01-03     | Commercial or industrial | 0                                    | Medium      |
| Residential (Skirsgill Park)     | HH01-04     | Residential              | 120                                  | Very high   |
| Retail Park                      | HH01-05     | Commercial or industrial | 30                                   | Medium      |
| Trading Estate                   | HH01-06     | Commercial or industrial | 0                                    | Medium      |
| North Lakes Hotel                | HH01-07     | Commercial or industrial | 0                                    | Medium      |
| Residential properties           | HH01-08     | Residential              | 0                                    | Very high   |
| Playing field                    | HH01-09     | Public open space        | 110                                  | High        |
| Industrial estate                | HH01-10     | Commercial or industrial | 170                                  | Medium      |
| Wetheriggs Country Park          | HH01-11     | Public open space        | 0                                    | High        |
| Commercial property              | HH01-12     | Commercial or industrial | 0                                    | Medium      |
| Skirsgill Park                   | HH01-13     | Public open space        | 0                                    | High        |
| Religious Building               | HH01-14     | Commercial or industrial | 0                                    | Medium      |
| Caravan Park                     | HH01-15     | Residential              | 30                                   | Very high   |
| Residential property             | HH01-16     | Residential              | 250                                  | Very high   |
| Bleach Mill (residential)        | HH01-17     | Residential              | 30                                   | Very high   |
| Millstones and Skirsgill Cottage | HH01-18     | Residential              | 85                                   | Very high   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                               | Receptor ID | Description               | Distance from draft DCO Boundary (m) | Sensitivity |
|--|-------------|---------------------------|--------------------------------------|-------------|
| Commercial property                    | HH01-19     | Commercial or industrial  | 5                                    | Medium      |
| Kemplay Bank                           | HH01-20     | Residential               | 0                                    | Very high   |
| Careltonhall Park                      | HH01-21     | Public open space         | 0                                    | High        |
| Penrith RUFC and Tennis Club           | HH01-22     | Public open space         | 5                                    | High        |
| Pategill/Carleton Residential estates  | HH01-23     | Residential               | 5                                    | Very high   |
| Fire Station                           | HH01-24     | Commercial or industrial  | 45                                   | Medium      |
| Penrith Hospital                       | HH01-25     | Commercial or industrial  | 5                                    | Medium      |
| Residential including retirement homes | HH01-26     | Residential               | 5                                    | Very high   |
| Cricket Ground                         | HH01-27     | Recreation                | 75                                   | High        |
| Nine Chimneys (residential)            | HH01-28     | Residential               | 250                                  | Very high   |
| Fire station                           | HH01-29     | Commercial or industrial  | 100                                  | Medium      |
| North Lakes School                     | HH01-30     | School                    | 250                                  | Very high   |
| Trading Estate                         | HH01-31     | Commercial or industrial  | 50                                   | Medium      |
| Fire Station                           | HH01-32     | Commercial or industrial  | 0                                    | Medium      |
| Ullswater High School                  | HH01-33     | School                    | 250                                  | Very high   |
| Low Mill (residential)                 | HH01-34     | Residential               | 25                                   | Very high   |
| Trading Estate                         | HH01-35     | Commercial or industrial  | 25                                   | Medium      |
| Cumbria Police HQ                      | HH01-36     | Commercial or industrial  | 0                                    | Medium      |
| Commercial property                    | HH01-37     | Commercial or industrial  | 0                                    | Medium      |
| Carletonhall Farm                      | HH01-38     | Residential or commercial | 40                                   | Very high   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                        | Receptor ID | Description  | Distance from draft DCO Boundary (m) | Sensitivity     |
|---------------------------------|-------------|--|--------------------------------------|-----------------|
| <b>Groundwater</b>              |             |  |                                      |                 |
| Total Catchment GW SPZ (Zone 3) | -           | General Farming and Domestic   | 0                                    | Medium          |
| Penrith Sandstone Formation     | -           | Principal aquifer providing locally important resource   | 0                                    | High            |
| Stainmore Formation             | -           | Secondary A Aquifer  | 0                                    | Medium          |
| Alston Formation                | -           | Secondary A Aquifer  | 0                                    | Medium          |
| Alluvium                        | -           | Secondary A Aquifer  | 0                                    | Medium          |
| Glaciofluvial deposits          | -           | Secondary A Aquifer  | 0                                    | Medium          |
| Glacial Till                    | -           | Secondary undifferentiated   | 0                                    | Not classified- |
| <b>Surface Water</b>            |             |  |                                      |                 |
| Carlsike Beck                   | -           | Watercourse not classified under Water Framework Directive (WFD). Q95 0.001 to 1m3/s                           | 470                                  | Medium          |
| Myers Beck                      | -           | Watercourse not classified under WFD. Q95 0.001 to 1m3/s   | 610                                  | Medium          |
| Dog Beck                        | -           | Watercourse not classified under WFD. Q95 0.001 to 1m3/s   | 570                                  | Medium          |
| River Eamont                    | -           | WFD classified watercourse<br>River Eden and Tributaries SSSI<br>River Eden Special Area of Conservation (SAC) | 0                                    | Very High       |
| Thacka Beck                     | -           | Watercourse not classified under WFD. Q95 0.001 to 1m3/s   | 0                                    | Medium          |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                              | Receptor ID | Description  | Distance from draft DCO Boundary (m) | Sensitivity |
|---------------------------------------|-------------|--|--------------------------------------|-------------|
| River Lowther                         | -           | WFD classified watercourse.<br>River Eden and Tributaries SSSI.<br>River Eden SAC. | 260                                  | Very High   |
| Unnamed Tributary of River Eamont 3.2 | -           | Watercourse not classified under WFD.<br>Q95 ≤0.001m <sup>3</sup> /s               | 240                                  | Low         |

Table 9-3 Potential contamination sources: Penrith to Temple Sowerby (Scheme 03)

| Site ID | Site name                  | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area            | Potential to be impacted | Comments  |
|---------|----------------------------|---------------------------------|-------------------------|--------------------------------------|------------------------------|--------------------------|---|
| CL03-01 | Brougham Castle Lodge Farm | Farm observed on current OS map | Low                     | 10                                   | At-grade and embankment      | Yes                      | Site is within 10m of draft DCO boundary, therefore there is potential for disturbance of contamination during construction |
| CL03-02 | Flagstaff Rifle Range      | Observed on 1903 OS map         | Moderate/Low            | 80                                   | At-grade and embankment      | No                       | Limited potential for works to cause mobilisation of potential contamination.   |
| CL03-05 | Sewage Works               | Observed on current OS map      | Moderate/Low            | 70                                   | At-grade and settlement pond | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation   |
| CL03-06 | Lightwater Smithy          | Operational until 1963          | Moderate/Low            | 0                                    | At-grade and cutting         | No                       | Site is within draft DCO boundary, therefore  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                       | Description                      | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area       | Potential to be impacted | Comments   |
|---------|---------------------------------|----------------------------------|-------------------------|--------------------------------------|-------------------------|--------------------------|--|
|         |                                 |                                  |                         |                                      |                         |                          | there is potential for disturbance of contamination during construction. However, the majority of contaminants related to land use are deemed largely immobile |
| CL03-07 | Whinfell Park Cottages and Farm | Farm observed on current OS map  | Low                     | 0                                    | At-grade and embankment | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction   |
| CL03-08 | Historical tank (covered)       | Observed on OS maps 1935 to 1965 | Low                     | 5                                    | At-grade and embankment | Yes                      | Site is within 10m of draft DCO boundary, therefore there is potential for disturbance of contamination during construction                                    |
| CL03-09 | Farm outbuilding                | Observed on current OS map       | Low                     | 0                                    | Cutting and embankment  | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction   |
| CL03-10 | Sheep Wash and Silo             | Observed on 1965 to 1996 OS maps | Low                     | 135                                  | Embankment and          | No                       | Distance from proposed Scheme  |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                             | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area       | Potential to be impacted | Comments  |
|---------|---------------------------------------|---------------------------------|-------------------------|--------------------------------------|-------------------------|--------------------------|---|
|         |                                       |                                 |                         |                                      | settlement pond         |                          | Although there is potential for contaminants to become mobilised during de-watering of excavation, contaminant potential is low |
| CL03-11 | High Barn Farm                        | Farm observed on current OS map | Low                     | 0                                    | At-grade and embankment | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction        |
| CL03-15 | Whinfell House Farm                   | Farm observed on current OS map | Low                     | 5                                    | Cutting                 | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation   |
| CL03-16 | Discharge consent (domestic property) | Discharge consents              | Low                     | 30                                   | At-grade and embankment | No                       | Limited potential for works to cause mobilisation of potential contamination.   |
| CL03-17 | Skygarth Farm                         | Farm observed on current OS map | Low                     | 5                                    | Embankment              | Yes                      | Site is within 10m of draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-4 Potential contamination receptors: Penrith to Temple Sowerby (Scheme 03)

| Receptor                        | Receptor ID | Description                          | Distance from draft DCO Boundary (m) | Sensitivity    |
|---------------------------------|-------------|--------------------------------------|--------------------------------------|----------------|
| <b>Human Health</b>             |             |                                      |                                      |                |
| Commercial property             | HH03-01     | Commercial or industrial             | 0                                    | Medium         |
| Whinfell Park Farm              | HH03-02     | Residential                          | 0                                    | Very high      |
| Whinfell House Farm             | HH03-03     | Residential                          | 0                                    | Very high      |
| Winderwath Farm                 | HH03-04     | Residential                          | 5                                    | Very high      |
| Whinfell Farm                   | HH03-05     | Residential                          | 35                                   | Very high      |
| High Barn                       | HH03-06     | Commercial or industrial             | 5                                    | Very high      |
| Whinfell House                  | HH03-07     | Residential                          | 5                                    | Very high      |
| Winderwath Farm                 | HH03-08     | Residential                          | 15                                   | Very high      |
| Ash Hill Cottages               | HH03-09     | Residential                          | 189                                  | Very high      |
| Swine Gill Cottages             | HH03-10     | Residential                          | 30                                   | Very high      |
| Low Woodside                    | HH03-11     | Residential                          | 200                                  | Very high      |
| Unnamed residential             | HH03-12     | Residential                          | 250                                  | Very high      |
| School House                    | HH03-13     | Residential                          | 0                                    | Very high      |
| High Moss Cottages              | HH03-14     | Residential                          | 160                                  | Very high      |
| Unnamed residential             | HH03-15     | Residential                          | 120                                  | Very high      |
| Llama Karma Café and B&B        | HH03-16     | Commercial or industrial             | 0                                    | Medium         |
| Frenchfield Sports Centre       | HH03-17     | Public Open Space                    | 50                                   | High           |
| <b>Groundwater</b>              |             |                                      |                                      |                |
| Total Catchment GW SPZ (Zone 3) | WR01-02     | General Farming and Domestic         | 0                                    | Medium         |
| Penrith Sandstone Member        | -           | Principal Aquifer                    | 0                                    | High           |
| Alluvium                        | -           | Secondary A Aquifer                  | 0                                    | Medium         |
| Glaciofluvial deposits          | -           | Secondary A Aquifer                  | 0                                    | Medium         |
| Glacial Till                    | -           | Secondary (undifferentiated) Aquifer | 0                                    | Not classified |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                              | Receptor ID | Description  | Distance from draft DCO Boundary (m) | Sensitivity |
|---------------------------------------|-------------|--|--------------------------------------|-------------|
| Peat                                  | -           | Unproductive   | 60                                   | Low         |
| <b>Surface Water</b>                  |             |  |                                      |             |
| River Eamont                          | -           | WFD classified watercourse.<br>River Eden and Tributaries SSSI.<br>River Eden SAC. | 0                                    | Very High   |
| River Lowther                         | -           | WFD classified watercourse.<br>River Eden and Tributaries SSSI.<br>River Eden SAC. | 310                                  | Very High   |
| Unnamed Tributary of River Eamont 3.2 | -           | Watercourse not classified under WFD.<br>Q95 ≤0.001m3/s                            | 170                                  | Low         |
| Unnamed Tributary of Light Water 3.1  | -           | Watercourse not classified under WFD.<br>Q95 ≤0.001m3/s                            | 0                                    | Low         |
| Light Water                           | -           | Watercourse not classified under WFD.<br>Q95 0.001 to 1m3/s                        | 0                                    | Medium      |
| Unnamed Tributary of River Eamont 3.3 | -           | Watercourse not classified under WFD.<br>Q95 ≤0.001m3/s                            | 0                                    | Low         |
| Unnamed Tributary of River Eamont 3.5 | -           | Watercourse not classified under WFD.<br>Q95 ≤0.001m3/s                            | 0                                    | Low         |
| Swine Gill                            | -           | Watercourse not classified under WFD.<br>Q95 0.001 to 1m3/s                        | 0                                    | Medium      |
| Unnamed tributary of River Eden 4.5   | -           | Watercourse not classified under WFD.  | 0                                    | Low         |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor | Receptor ID | Description                       | Distance from draft DCO Boundary (m) | Sensitivity |
|----------|-------------|-----------------------------------|--------------------------------------|-------------|
|          |             | Q95 $\leq$ 0.001m <sup>3</sup> /s |                                      |             |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-5: Potential contamination sources: Temple Sowerby to Appleby - Crackenthorpe (Scheme 04/05 – Blue alternative)

| Site ID | Site name            | Description  | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area    | Potential to be impacted | Comments  |
|---------|----------------------|--|-------------------------|--------------------------------------|----------------------|--------------------------|---|
| CL04-01 | Skygarth Farm        | Farm observed on current OS map                          | Low                     | 5                                    | Land take            | Yes                      | Site is within 10m of draft DCO boundary, therefore there is potential for disturbance of contamination during construction |
| CL04-02 | Dismantled railway   | Observed on current OS mapping and historical OS mapping | Moderate/Low            | 0                                    | At-grade             | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction.       |
| CL04-03 | Spitals Farm (Dairy) | Dairy Farm observed on Google Maps                       | Low                     | 0                                    | Cutting and at-grade | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction.   |
| CL04-04 | Infilled ground      | Observed on 1996 OS map                                  | Low                     | 0                                    | Land take            | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction.       |
| CL04-05 | Eden View Farm       | Farm observed on current OS map                          | Low                     | 0                                    | At-grade             | Yes                      | Site is within draft DCO boundary, therefore there is potential for   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                | Description                             | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area             | Potential to be impacted | Comments   |
|---------|--------------------------|---|-------------------------|--------------------------------------|-------------------------------|--------------------------|--|
|         |                          |   |                         |                                      |                               |                          | disturbance of contamination during construction.  |
| CL04-06 | Possible infilled ground | Observed from Google maps               | Moderate/Low            | 120                                  | At-grade                      | No                       | Distance from the proposed scheme. Limited potential for works to cause mobilisation of potential contamination.       |
| CL04-07 | Halefield Farm           | Farm observed on current OS map         | Low                     | 0                                    | At-grade and attenuation pond | Yes                      | Potential for contaminants to become mobilised during de-watering.   |
| CL04-08 | Street House Farm        | Farm observed on current OS map         | Low                     | 5                                    | At-grade                      | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-09 | Sewage Works             | Sewage Works observed on current OS map | Moderate/Low            | 185                                  | At-grade                      | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination. |
| CL04-10 | Garage/Haulage Yard      | Observed on Google Maps                 | Moderate/Low            | 0                                    | At-grade                      | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of                                     |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|--------------------------|---------------------------------|-------------------------|--------------------------------------|-------------------|--------------------------|--|
|         |                          |                                 |                         |                                      |                   |                          | contamination during construction  |
| CL04-11 | Sewage Discharge Consent | Observed on Discharge Consents  | Low                     | 220                                  | At-grade          | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination. |
| CL04-12 | Bridge End Farm          | Farm observed on current OS map | Low                     | 5                                    | At-grade          | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-13 | Sewage Discharge Consent | Observed on Discharge Consents  | Low                     | 25                                   | At-grade          | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-14 | Petrol Filling Station   | Observed on current OS map      | Moderate/Low            | 0                                    | At-grade          | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction   |
| CL04-15 | Rectory Farm             | Farm observed on current OS map | Low                     | 15                                   | Land take         | No                       | Limited potential for works to cause mobilisation of potential contamination.  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                    | Description  | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|------------------------------|--|-------------------------|--------------------------------------|-------------------|--------------------------|--|
| CL04-16 | Crossfell House Farm         | Farm observed on current OS map                                    | Low                     | 15                                   | Land take         | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-17 | Kirby Thore Hall Farm        | Farm observed on current OS map                                    | Low                     | 0                                    | At-grade          | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction   |
| CL04-19 | Artificially modified ground | Observed on BGS 1:50k Artificial Ground                            | Moderate/Low            | 30                                   | At-grade          | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-20 | Gypsum mine conveyor         | Potential contamination sources                                    | Low                     | 214                                  | Land take         | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination. |
| CL04-28 | Wood Processing Works        | Westmorland Woodfuel Wood Processing Works observed on Google Maps | Low                     | 0                                    | Cutting           | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name           | Description   | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments  |
|---------|---------------------|---|-------------------------|--------------------------------------|-------------------|--------------------------|---|
| CL04-29 | British Gypsum Tip  | Observed on historical landfills and artificial ground BGS 1:50,000 map | Moderate/High           | 40                                   | Land take         | Yes                      | Potential for works to cause mobilisation of potential contamination.   |
| CL04-30 | Former Railway Land | Railway shown on maps from 1863 to 1957                                 | Low                     | 0                                    | At-grade          | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction. |
| CL04-31 | Redlands Bank Farm  | Farm observed on current OS map   | Low                     | 0                                    | Land take         | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction. |
| CL04-32 | Powis House Farm    | Farm observed on current OS map   | Low                     | 0                                    | Cutting           | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation                                       |
| CL04-33 | Meadow Ing Farm     | Farm observed on current OS map   | Low                     | 160                                  | Land take         | No                       | Limited potential for works to cause mobilisation of potential contamination.   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                     | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area              | Potential to be impacted | Comments  |
|---------|-------------------------------|---------------------------------|-------------------------|--------------------------------------|--------------------------------|--------------------------|---|
| CL04-34 | Far Broom Lodge Farm          | Farm observed on current OS map | Low                     | 50                                   | Land take and attenuation pond | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation.  |
| CL04-35 | Holme Farm                    | Farm observed on current OS map | Low                     | 65                                   | At-grade                       | No                       | Limited potential for works to cause mobilisation of potential contamination.   |
| CL04-36 | Discharge consent (food)      | Observed on Discharge Consents  | Moderate/Low            | 30                                   | At-grade                       | No                       | Limited potential for works to cause mobilisation of potential contamination.   |
| CL04-37 | Discharge consent (non-water) | Observed on Discharge Consents  | Moderate/Low            | 190                                  | At-grade                       | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination.          |
| CL04-38 | Concrete Supplier             | Google Maps                     | Low                     | 5                                    | At-grade                       | Yes                      | Site is within 10m of draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID    | Site name            | Description                                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|------------|----------------------|--|-------------------------|--------------------------------------|-------------------|--------------------------|--|
| CL04-39    | Roger Head Farm      | Farm observed on current OS map                | Low                     | 80                                   | At-grade          | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-40/41 | Colby Laithes Farm   | Farm and sheep wash observed on current OS map | Low                     | 100                                  | At-grade          | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination. Potential source also located on opposite side of River Eden. |
| CL04-42    | Midland Railway Line | Observed on current OS maps                    | Moderate/Low            | 0                                    | Cutting           | No                       | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction   |
| CL04-43    | Sewage Works         | Observed on current OS maps                    | Moderate/Low            | 200                                  | Land take         | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination.   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name        | Description                            | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|------------------|--|-------------------------|--------------------------------------|-------------------|--------------------------|--|
| CL04-45 | Disused quarry   | Quarry shown on maps from 1903 to 1965 | Moderate/Low            | 0                                    | Cutting           | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction     |
| CL04-46 | Hangingshaw Farm | Farm observed on current OS map        | Low                     | 100                                  | Cutting           | Yes                      | Distance from the proposed scheme<br><br>Low potential for contaminants to become mobilised during de-watering of excavation |
| CL04-47 | Infilled Land    | Observed on OS 1996 map                | Low                     | 220                                  | Cutting           | Yes                      | Distance from the proposed scheme<br><br>Low potential for contaminants to become mobilised during de-watering of excavation |
| CL04-48 | Uptop Farm       | Farm observed on current OS map        | Low                     | 145                                  | Cutting           | Yes                      | Distance from the proposed scheme<br><br>Potential for contaminants to   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                         | Description                        | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area        | Potential to be impacted | Comments   |
|---------|-----------------------------------|------------------------------------|-------------------------|--------------------------------------|--------------------------|--------------------------|--|
|         |                                   |                                    |                         |                                      |                          |                          | become mobilised during de-watering of excavation  |
| CL04-49 | Discharge consent (accommodation) | Observed on Discharge Consents     | Low                     | 185                                  | At-grade                 | No                       | Distance from the proposed scheme<br><br>Mobilisation of any potential contamination is deemed unlikely.                 |
| CL04-50 | Railway and sidings               | Observed on 1:10,000 land use maps | Low                     | 15                                   | Land take and embankment | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-51 | Old Station Yard Farm             | Farm observed on current OS map    | Low                     | 0                                    | At-grade                 | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL04-52 | Discharge consent (accommodation) | Observed on Discharge Consents     | Low                     | 180                                  | Land take                | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination.   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name             | Description                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area       | Potential to be impacted | Comments  |
|---------|-----------------------|--------------------------------|-------------------------|--------------------------------------|-------------------------|--------------------------|---|
| CL04-51 | Depot                 | Observed on aerial photography | Moderate/Low            | 0                                    | At-grade                | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction        |
| CL04-52 | Low Moor Caravan Park | Observed on aerial photography | Low                     | 5                                    | At-grade and embankment | Yes                      | Site is within 10m of draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL04-53 | Slurry storage area   | Observed on aerial photography | Moderate/Low            | 40                                   | At-grade                | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination.          |
| CL04-54 | Slurry storage area   | Observed on aerial photography | Moderate/Low            | 44                                   | At-grade and land take  | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination.          |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                      | Description                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area                         | Potential to be impacted | Comments   |
|---------|--------------------------------|--------------------------------|-------------------------|--------------------------------------|---|--------------------------|--|
| CL04-55 | Roman Vale Farm                | Observed on aerial photography | Low                     | 0                                    | At-grade, embankment and attenuation pond | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation.                                       |
| CL04-56 | Chapel Hill Farm               | Observed on aerial photography | Low                     | 0                                    | Cutting                                   | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |
| CL04-57 | Excavated/ uneven ground       | Observed on aerial photography | Low                     | 20                                   | Land take                                 | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-58 | Appleby scaffold ltd           | Observed on aerial photography | Low                     | 190                                  | Land take                                 | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination. |
| CL04-59 | Kirkby Thore Industrial Estate | Observed on aerial photography | Low                     | 0                                    | Land take and cutting                     | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                | Description                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area      | Potential to be impacted | Comments   |
|---------|--------------------------|--------------------------------|-------------------------|--------------------------------------|------------------------|--------------------------|--|
| CL04-60 | Slurry pond              | Observed on aerial photography | Low                     | 5                                    | Cutting and embankment | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |
| CL04-61 | Slurry pond              | Observed on aerial photography | Low                     | 90                                   | Land take and at-grade | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination. |
| CL04-62 | Houtsay Park Farm        | Observed on aerial photography | Low                     | 80                                   | Land take              | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination. |
| CL04-63 | Farm outbuilding         | Observed on aerial photography | Low                     | 20                                   | Land take              | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-64 | Bolton Mill Caravan Park | Observed on aerial photography | Low                     | 75                                   | Land take              | No                       | Limited potential for works to cause mobilisation of potential contamination.  |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name | Description | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments  |
|---------|-----------|-------------|-------------------------|--------------------------------------|-------------------|--------------------------|---|
|         |           |             |                         |                                      |                   |                          | Park also located on opposite side of River Eden. |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-6: Potential contamination receptors: Temple Sowerby to Appleby (Blue alternative)

| Receptor                        | Site ID | Description              | Distance from draft DCO Boundary | Sensitivity |
|---------------------------------|---------|--------------------------|----------------------------------|-------------|
| <b>Human Health</b>             |         |                          |                                  |             |
| Recreation ground               | HH04-01 | Public Open Space        | 130                              | High        |
| Farm                            | HH04-02 | Residential              | 0                                | Very high   |
| Sleastonhow Farm                | HH04-03 | Residential              | 0                                | Very high   |
| Powis House Farm                | HH04-04 | Residential              | 0                                | Very high   |
| Meadow Ing Farm                 | HH04-05 | Residential              | 190                              | Very high   |
| Roger Head Farm                 | HH04-06 | Residential              | 67                               | Very high   |
| Castrigg                        | HH04-07 | Residential              | 195                              | Very high   |
| Hangingshaw Farm                | HH04-08 | Residential              | 120                              | Very high   |
| Spitals Farm                    | HH04-09 | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore) | HH04-10 | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore) | HH04-11 | Residential              | 0                                | Very high   |
| Kirkby Thore primary school     | HH04-12 | School                   | 0                                | Very high   |
| Farm, Kirkby Thore              | HH04-13 | Commercial or industrial | 0                                | Medium      |
| Residential area (Kirkby Thore) | HH04-14 | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore) | HH04-15 | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore) | HH04-16 | Residential              | 0                                | Very high   |
| Commercial property             | HH04-17 | Commercial or industrial | 0                                | Medium      |
| Residential area (Kirkby Thore) | HH04-18 | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore) | HH04-19 | Residential              | 0                                | Very high   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                         | Site ID | Description              | Distance from draft DCO Boundary | Sensitivity |
|----------------------------------|---------|--------------------------|----------------------------------|-------------|
| Bridge End Farm                  | HH04-20 | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore)  | HH04-21 | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore)  | HH04-22 | Residential              | 0                                | Very high   |
| Kirkby Thore Hall                | HH04-23 | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore)  | HH04-24 | Residential              | 0                                | Very high   |
| Farm                             | HH04-25 | Commercial or industrial | 0                                | Medium      |
| Residential area (Kirkby Thore)  | HH04-26 | Residential              | 10                               | Very high   |
| Residential area (Kirkby Thore)  | HH04-27 | Residential              | 0                                | Very high   |
| Halefield Farm buildings         | HH04-28 | Commercial or industrial | 20                               | Medium      |
| Low Moor Park caravan site       | HH04-29 | Residential              | 0                                | Very high   |
| Priest Lane residential property | HH04-30 | Residential              | 0                                | Very high   |
| The Station House                | HH04-31 | Residential              | 0                                | Very high   |
| Temple Sowerby                   | HH04-32 | Residential              | 0                                | Very high   |
| Roman Way                        | HH04-33 | Residential              | 0                                | Very high   |
| Westmorland Rise                 | HH04-34 | Residential              | 100                              | Very high   |
| Battlebarrow                     | HH04-35 | Residential              | 100                              | Very high   |
| Appleby Grammar School           | HH04-36 | School                   | 0                                | Very high   |
| The Hollies B&B                  | HH04-37 | Residential              | 30                               | Very high   |
| Rising Sun holiday park          | HH04-38 | Commercial or industrial | 230                              | High        |
| B&B Crackenthorpe House          | HH04-39 | Residential              | 0                                | Very high   |
| Crackenthorpe village            | HH04-40 | Residential              | 0                                | Very high   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                    | Site ID | Description  | Distance from draft DCO Boundary | Sensitivity  |
|-----------------------------|---------|--|----------------------------------|--------------|
| Westley Bank Cottages       | HH04-41 | Residential  | 20                               | Very high    |
| Powis Cottages              | HH04-42 | Residential  | 15                               | Very high    |
| Dunelm                      | HH04-43 | Residential  | 0                                | Very High    |
| Cattery and kennels         | HH04-44 | Residential/ commercial  | 230                              | Very High    |
| Brockham Cottages           | HH04-45 | Residential  | 5                                | Very High    |
| Brockholme House            | HH04-46 | Residential  | 2                                | Very High    |
| Various residential housing | HH04-47 | Residential  | 0                                | Very High    |
| Acton Lodge                 | HH04-48 | Residential  | 130                              | Very High    |
| Bolton Mill Caravan Park    | HH04-49 | Residential  | 70                               | Very High    |
| <b>Substrata</b>            |         |  |                                  |              |
| Eden Shale                  |         | Secondary B Aquifer  | 0                                | Not assessed |
| Penrith Sandstone           |         | Principal Aquifer  | 0                                | High         |
| Till                        |         | Secondary (undifferentiated) Aquifer   | 0                                | Medium       |
| Glacio-Fluvial Deposits     |         | Secondary A Aquifer  | 2640                             | Medium       |
| Alluvium                    |         | Secondary A Aquifer  | 0                                | Medium       |
| Peat                        |         | Unproductive   | 0                                | Not assessed |
| <b>Surface water</b>        |         |  |                                  |              |
| Birk Sike                   |         | Watercourse not classified under WFD.<br>Q95 0.001 to 1m³/s                        | 0                                | Medium       |
| Trout Beck                  |         | WFD classified watercourse.<br>River Eden and Tributaries SSSI.<br>River Eden SAC. | 0                                | Very High    |
| Keld Sike (1)               |         | Watercourse not classified under WFD.<br>Q95 0.001 to 1m³/s                        | 0                                | Medium       |
| Keld Sike (2)               |         | Watercourse not classified under WFD.  | 300                              | Medium       |

## A66 Northern Trans-Pennine

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                            | Site ID | Description   | Distance from draft DCO Boundary | Sensitivity |
|-------------------------------------|---------|---|----------------------------------|-------------|
| River Eden                          |         | Q95 0.001 to 1m <sup>3</sup> /s<br>WFD classified watercourse.<br>River Eden and Tributaries SSSI.<br>River Eden SAC. | 60                               | Very High   |
| River Lyvennet                      |         | WFD classified watercourse.<br>River Eden and Tributaries SSSI.<br>River Eden SAC.                                    | 530                              | Very High   |
| Unnamed Tributary of Trout Beck 4.6 |         | Watercourse not classified under WFD.<br>Q95 ≤0.001m <sup>3</sup> /s  | 0                                | Low         |
| Unnamed Tributary of Trout Beck 4.3 |         | Watercourse not classified under WFD.<br>Q95 ≤0.001m <sup>3</sup> /s  | 0                                | Low         |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-7 Potential contamination sources: Temple Sowerby to Appleby - Crackenthorpe (Scheme 04/05 – Red alternative)

| Site ID | Site name            | Description  | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area    | Potential to be impacted | Comments  |
|---------|----------------------|--|-------------------------|--------------------------------------|----------------------|--------------------------|---|
| CL04-01 | Skygarth Farm        | Farm observed on current OS map                          | Low                     | 70                                   | Land take            | No                       | Limited potential for works to cause mobilisation of potential contamination.   |
| CL04-02 | Dismantled railway   | Observed on current OS mapping and historical OS mapping | Moderate/Low            | 0                                    | At-grade             | Yes                      | Site is within draft DCO boundary, therefore there is low potential for disturbance of contamination during construction. |
| CL04-03 | Spitals Farm (Dairy) | Dairy Farm observed on Google Maps                       | Low                     | 0                                    | Cutting and at-grade | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction.     |
| CL04-04 | Infilled ground      | Observed on 1996 OS map                                  | Low                     | 0                                    | Land take            | Yes                      | Site is within draft DCO boundary, therefore there is low potential for disturbance of contamination during construction. |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                | Description                             | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area             | Potential to be impacted | Comments   |
|---------|--------------------------|---|-------------------------|--------------------------------------|-------------------------------|--------------------------|--|
| CL04-05 | Eden View Farm           | Farm observed on current OS map         | Low                     | 0                                    | At-grade                      | Yes                      | Site is within draft DCO boundary, therefore there is low potential for disturbance of contamination during construction.        |
| CL04-06 | Possible infilled ground | Observed from Google maps               | Moderate/Low            | 120                                  | At-grade                      | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-07 | Halefield Farm           | Farm observed on current OS map         | Low                     | 0                                    | At-grade and attenuation pond | Yes                      | Low potential for contaminants to become mobilised during de-watering.   |
| CL04-08 | Street House Farm        | Farm observed on current OS map         | Low                     | 5                                    | At-grade                      | Yes                      | Site is within 10m of draft DCO boundary, therefore there is low potential for disturbance of contamination during construction. |
| CL04-09 | Sewage Works             | Sewage Works observed on current OS map | Moderate/Low            | 200                                  | At-grade                      | No                       | Distance from the proposed scheme. Limited potential for works to cause mobilisation of  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|--------------------------|---------------------------------|-------------------------|--------------------------------------|-------------------|--------------------------|--|
|         |                          |                                 |                         |                                      |                   |                          | potential contamination.   |
| CL04-10 | Garage/Haulage Yard      | Observed on Google Maps         | Low                     | 0                                    | At-grade          | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction   |
| CL04-11 | Sewage Discharge Consent | Observed on Discharge Consents  | Low                     | 220                                  | At-grade          | No                       | Distance from the proposed scheme. Limited potential for works to cause mobilisation of potential contamination.       |
| CL04-12 | Bridge End Farm          | Farm observed on current OS map | Low                     | 5                                    | At-grade          | Yes                      | Site is within 10m of draft DCO boundary, there is low potential for disturbance of contamination during construction. |
| CL04-13 | Sewage Discharge Consent | Observed on Discharge Consents  | Low                     | 25                                   | At-grade          | No                       | Limited potential for works to cause mobilisation of potential contamination.  |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                    | Description                             | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|------------------------------|---|-------------------------|--------------------------------------|-------------------|--------------------------|--|
| CL04-14 | Petrol Filling Station       | Observed on current OS map              | Moderate/Low            | 0                                    | At-grade          | Yes                      | Site is within draft DCO boundary, there is low potential for disturbance of contamination during construction |
| CL04-15 | Rectory Farm                 | Farm observed on current OS map         | Low                     | 15                                   | Land take         | No                       | Limited potential for works to cause mobilisation of potential contamination.                                  |
| CL04-16 | Crossfell House Farm         | Farm observed on current OS map         | Low                     | 15                                   | Land take         | No                       | Limited potential for works to cause mobilisation of potential contamination.                                  |
| CL04-17 | Kirby Thore Hall Farm        | Farm observed on current OS map         | Low                     | 0                                    | At-grade          | Yes                      | Site is within draft DCO boundary, there is potential for disturbance of contamination during construction     |
| CL04-19 | Artificially modified ground | Observed on BGS 1:50k Artificial Ground | Moderate/Low            | 30                                   | At-grade          | No                       | Limited potential for works to cause mobilisation of potential contamination.                                  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name             | Description   | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments  |
|---------|-----------------------|---|-------------------------|--------------------------------------|-------------------|--------------------------|---|
| CL04-20 | Gypsum mine conveyor  | Potential contamination sources   | Low                     | 214                                  | Land take         | No                       | Distance from the proposed scheme. Limited potential for works to cause mobilisation of potential contamination.      |
| CL04-28 | Wood Processing Works | Westmorland Woodfuel Wood Processing Works observed on Google Maps      | Low                     | 0                                    | Cutting           | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation                                       |
| CL04-29 | British Gypsum Tip    | Observed on historical landfills and artificial ground BGS 1:50,000 map | Moderate/High           | 40                                   | Land take         | Yes                      | Limited potential for works to cause mobilisation of potential contamination.   |
| CL04-30 | Former Railway Land   | Railway shown on maps from 1863 to 1957                                 | Low                     | 0                                    | At-grade          | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction. |
| CL04-31 | Redlands Bank Farm    | Farm observed on current OS map   | Low                     | 0                                    | Land take         | Yes                      | Site is within draft DCO boundary, therefore there is potential for   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name            | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|----------------------|---------------------------------|-------------------------|--------------------------------------|-------------------|--------------------------|--|
|         |                      |                                 |                         |                                      |                   |                          | disturbance of contamination during construction.  |
| CL04-32 | Powis House Farm     | Farm observed on current OS map | Low                     | 30                                   | Cutting           | Yes                      | Low potential for contaminants to become mobilised during de-watering of excavation                                    |
| CL04-33 | Meadow Ing Farm      | Farm observed on current OS map | Low                     | 160                                  | Land take         | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination. |
| CL04-34 | Far Broom Lodge Farm | Farm observed on current OS map | Low                     | 50                                   | Land take         | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-35 | Holme Farm           | Farm observed on current OS map | Low                     | 60                                   | At-grade          | No                       | Limited potential for works to cause mobilisation of potential contamination.  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                     | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area       | Potential to be impacted | Comments   |
|---------|-------------------------------|---------------------------------|-------------------------|--------------------------------------|-------------------------|--------------------------|--|
| CL04-36 | Discharge consent (food)      | Observed on Discharge Consents  | Moderate/Low            | 30                                   | At-grade                | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-37 | Discharge consent (non-water) | Observed on Discharge Consents  | Moderate/Low            | 190                                  | At-grade                | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination.       |
| CL04-38 | Concrete Supplier             | Google Maps                     | Low                     | 5                                    | At-grade                | Yes                      | Site is within 10m of draft DCO boundary, therefore there is potential for disturbance of contamination during construction. |
| CL04-39 | Roger Head Farm               | Farm observed on current OS map | Low                     | 80                                   | At-grade and embankment | No                       | Limited potential for works to cause mobilisation of potential contamination.  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID    | Site name            | Description                                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area      | Potential to be impacted | Comments  |
|------------|----------------------|--|-------------------------|--------------------------------------|------------------------|--------------------------|---|
| CL04-40/41 | Colby Laithes Farm   | Farm and sheep wash observed on current OS map | Low                     | 70                                   | Land take and At-grade | No                       | Limited potential for works to cause mobilisation of potential contamination. Potential source also located on opposite side of River Eden. |
| CL04-42    | Midland Railway Line | Observed on current OS maps                    | Moderate/Low            | 0                                    | Cutting                | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction                    |
| CL04-43    | Sewage Works         | Observed on current OS maps                    | Moderate/Low            | 200                                  | Land take              | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination.                      |
| CL04-45    | Disused quarry       | Quarry shown on maps from 1903 to 1965         | Moderate/Low            | 0                                    | At-grade and cutting   | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                         | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|-----------------------------------|---------------------------------|-------------------------|--------------------------------------|-------------------|--------------------------|--|
|         |                                   |                                 |                         |                                      |                   |                          | contamination during construction  |
| CL04-46 | Hangingshaw Farm                  | Farm observed on current OS map | Low                     | 100                                  | Cutting           | Yes                      | Distance from the proposed scheme<br><br>Potential for contaminants to become mobilised during de-watering of excavation |
| CL04-47 | Infilled Land                     | Observed on OS 1996 map         | Low/Moderate            | 220                                  | Cutting           | Yes                      | Distance from the proposed scheme<br>Potential for contaminants to become mobilised during de-watering of excavation     |
| CL04-48 | Uptop Farm                        | Farm observed on current OS map | Low                     | 145                                  | Cutting           | Yes                      | Distance from the proposed scheme<br><br>Potential for contaminants to become mobilised during de-watering of excavation |
| CL04-49 | Discharge consent (accommodation) | Observed on Discharge Consents  | Low                     | 200                                  | At-grade          | No                       | Distance from the proposed scheme and mobilisation of potential  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                         | Description                        | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area        | Potential to be impacted | Comments  |
|---------|-----------------------------------|------------------------------------|-------------------------|--------------------------------------|--------------------------|--------------------------|---|
|         |                                   |                                    |                         |                                      |                          |                          | contamination is deemed unlikely.   |
| CL04-50 | Railway and sidings               | Observed on 1:10,000 land use maps | Low                     | 15                                   | Land take and embankment | No                       | Mobilisation of any potential contamination is deemed unlikely.   |
| CL04-51 | Old Station Yard Farm             | Farm observed on current OS map    | Low                     | 0                                    | At-grade                 | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction            |
| CL04-52 | Discharge consent (accommodation) | Observed on Discharge Consents     | Low                     | 180                                  | Land take                | No                       | Mobilisation of any potential contamination is deemed unlikely.   |
| CL04-51 | Depot                             | Observed on aerial photography     | Moderate/Low            | 0                                    | Cutting and at-grade     | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation.  |
| CL04-52 | Low Moor Caravan Park             | Observed on aerial photography     | Low                     | 5                                    | At-grade and embankment  | Yes                      | Site is within 10m of draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name               | Description                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area             | Potential to be impacted | Comments   |
|---------|-------------------------|--------------------------------|-------------------------|--------------------------------------|-------------------------------|--------------------------|--|
| CL04-53 | Slurry storage area     | Observed on aerial photography | Moderate/Low            | 30                                   | At-grade                      | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-54 | Slurry storage area     | Observed on aerial photography | Moderate/Low            | 40                                   | At-grade                      | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-55 | Roman Vale Farm         | Observed on aerial photography | Low                     | 100                                  | Attenuation pond and at-grade | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation.                                     |
| CL04-56 | Chapel Hill Farm        | Observed on aerial photography | Low                     | 0                                    | At-grade                      | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction |
| CL04-57 | Excavated/uneven ground | Observed on aerial photography | Low                     | 20                                   | Land take                     | No                       | Limited potential for works to cause mobilisation of potential contamination.  |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                      | Description                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area      | Potential to be impacted | Comments   |
|---------|--------------------------------|--------------------------------|-------------------------|--------------------------------------|------------------------|--------------------------|--|
| CL04-58 | Appleby scaffold ltd           | Observed on aerial photography | Low                     | 190                                  | Land take              | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination. |
| CL04-59 | Kirkby Thore Industrial Estate | Observed on aerial photography | Low                     | 0                                    | Cutting                | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |
| CL04-60 | Slurry pond                    | Observed on aerial photography | Low                     | 20                                   | Cutting and embankment | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |
| CL04-61 | Slurry pond                    | Observed on aerial photography | Low                     | 90                                   | Land take and at-grade | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination. |
| CL04-62 | Houtsay Park Farm              | Observed on aerial photography | Low                     | 80                                   | Land take              | No                       | Distance from the proposed scheme  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                | Description                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments  |
|---------|--------------------------|--------------------------------|-------------------------|--------------------------------------|-------------------|--------------------------|---|
|         |                          |                                |                         |                                      |                   |                          | Limited potential for works to cause mobilisation of potential contamination.   |
| CL04-63 | Farm outbuilding         | Observed on aerial photography | Low                     | 20                                   | Land take         | No                       | Limited potential for works to cause mobilisation of potential contamination.   |
| CL04-64 | Bolton Mill Caravan Park | Observed on aerial photography | Low                     | 75                                   | Land take         | No                       | Limited potential for works to cause mobilisation of potential contamination. Park also located on opposite side of River Eden. |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-8: Potential contamination receptors: Temple Sowerby to Appleby (Red alternative)

| Receptor                        | Receptor ID | Description              | Distance from draft DCO Boundary | Sensitivity |
|---------------------------------|-------------|--------------------------|----------------------------------|-------------|
| <b>Human Health</b>             |             |                          |                                  |             |
| Recreation ground               | HH04-01     | Public Open Space        | 130                              | High        |
| Farm                            | HH04-02     | Residential              | 0                                | Very high   |
| Sleastonhow Farm                | HH04-03     | Residential              | 0                                | Very high   |
| Powis House Farm                | HH04-04     | Residential              | 0                                | Very high   |
| Meadow Ing Farm                 | HH04-05     | Residential              | 190                              | Very high   |
| Roger Head Farm                 | HH04-06     | Residential              | 67                               | Very high   |
| Castrigg                        | HH04-07     | Residential              | 195                              | Very high   |
| Hangingshaw Farm                | HH04-08     | Residential              | 120                              | Very high   |
| Spitals Farm                    | HH04-09     | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore) | HH04-10     | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore) | HH04-11     | Residential              | 0                                | Very high   |
| Kirkby Thore primary school     | HH04-12     | School                   | 0                                | Very high   |
| Farm, Kirkby Thore              | HH04-13     | Commercial or industrial | 0                                | Medium      |
| Residential area (Kirkby Thore) | HH04-14     | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore) | HH04-15     | Residential              | 0                                | Very high   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                         | Receptor ID | Description              | Distance from draft DCO Boundary | Sensitivity |
|----------------------------------|-------------|--------------------------|----------------------------------|-------------|
| Residential area (Kirkby Thore)  | HH04-16     | Residential              | 0                                | Very high   |
| Commercial property              | HH04-17     | Commercial or industrial | 0                                | Medium      |
| Residential area (Kirkby Thore)  | HH04-18     | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore)  | HH04-19     | Residential              | 0                                | Very high   |
| Bridge End Farm                  | HH04-20     | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore)  | HH04-21     | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore)  | HH04-22     | Residential              | 0                                | Very high   |
| Kirkby Thore Hall                | HH04-23     | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore)  | HH04-24     | Residential              | 0                                | Very high   |
| Farm                             | HH04-25     | Commercial or industrial | 0                                | Medium      |
| Residential area (Kirkby Thore)  | HH04-26     | Residential              | 10                               | Very high   |
| Residential area (Kirkby Thore)  | HH04-27     | Residential              | 0                                | Very high   |
| Halefield Farm buildings         | HH04-28     | Commercial or industrial | 20                               | Medium      |
| Low Moor Park caravan site       | HH04-29     | Residential              | 0                                | Very high   |
| Priest Lane residential property | HH04-30     | Residential              | 0                                | Very high   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                    | Receptor ID | Description              | Distance from draft DCO Boundary | Sensitivity |
|-----------------------------|-------------|--------------------------|----------------------------------|-------------|
| The Station House           | HH04-31     | Residential              | 0                                | Very high   |
| Temple Sowerby              | HH04-32     | Residential              | 0                                | Very high   |
| Roman Way                   | HH04-33     | Residential              | 0                                | Very high   |
| Westmorland Rise            | HH04-34     | Residential              | 100                              | Very high   |
| Battlebarrow                | HH04-35     | Residential              | 100                              | Very high   |
| Appleby Grammar School      | HH04-36     | School                   | 0                                | Very high   |
| The Hollies B&B             | HH04-37     | Residential              | 30                               | Very high   |
| Rising Sun holiday park     | HH04-38     | Commercial or industrial | 230                              | High        |
| B&B Crackenthorpe House     | HH04-39     | Residential              | 0                                | Very high   |
| Crackenthorpe village       | HH04-40     | Residential              | 0                                | Very high   |
| Westley Bank Cottages       | HH04-41     | Residential              | 20                               | Very high   |
| Powis Cottages              | HH04-42     | Residential              | 15                               | Very high   |
| Dunelm                      | HH04-43     | Residential              | 0                                | Very High   |
| Cattery and kennels         | HH04-44     | Residential/ commercial  | 230                              | Very High   |
| Brockham Cottages           | HH04-45     | Residential              | 5                                | Very High   |
| Brockholme House            | HH04-46     | Residential              | 2                                | Very High   |
| Various residential housing | HH04-47     | Residential              | 0                                | Very High   |
| Acton Lodge                 | HH04-48     | Residential              | 130                              | Very High   |
| Bolton Mill Caravan Park    | HH04-49     | Residential              | 70                               | Very High   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                            | Receptor ID | Description  | Distance from draft DCO Boundary | Sensitivity    |
|-------------------------------------|-------------|--|----------------------------------|----------------|
| <b>Groundwater</b>                  |             |  |                                  |                |
| Eden Shale                          | -           | Secondary B Aquifer  | 0                                | Not classified |
| Penrith Sandstone                   | -           | Principal Aquifer  | 0                                | High           |
| Till                                | -           | Secondary (undifferentiated) Aquifer   | 0                                | Medium         |
| Glacio-Fluvial Deposits             | -           | Secondary A Aquifer  | 2640                             | Medium         |
| Alluvium                            | -           | Secondary A Aquifer  | 0                                | Medium         |
| <b>Surface water</b>                |             |  |                                  |                |
| Birk Sike                           | -           | Watercourse not classified under WFD. Q95 0.001 to 1m³/s                     | 0                                | Medium         |
| Trout Beck                          | -           | WFD classified watercourse. River Eden and Tributaries SSSI. River Eden SAC. | 0                                | Very High      |
| Keld Sike (1)                       | -           | Watercourse not classified under WFD. Q95 0.001 to 1m³/s                     | 0                                | Medium         |
| Keld Sike (2)                       | -           | Watercourse not classified under WFD. Q95 0.001 to 1m³/s                     | 330                              | Medium         |
| River Eden                          | -           | WFD classified watercourse. River Eden and Tributaries SSSI. River Eden SAC. | 20                               | Very High      |
| River Lyvennet                      | -           | WFD classified watercourse. River Eden and Tributaries SSSI. River Eden SAC. | 540                              | Very High      |
| Unnamed Tributary of Trout Beck 4.6 | -           | Watercourse not classified under WFD. Q95 ≤0.001m³/s                         | 0                                | Low            |

## A66 Northern Trans-Pennine

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                            | Receptor ID | Description  | Distance from draft DCO Boundary | Sensitivity |
|-------------------------------------|-------------|--|----------------------------------|-------------|
| Unnamed Tributary of Trout Beck 4.3 | -           | Watercourse not classified under WFD.<br>Q95 $\leq 0.001 \text{ m}^3/\text{s}$ | 0                                | Low         |
| Unnamed Tributary of River Eden 4.3 | -           | Watercourse not classified under WFD.<br>Q95 $\leq 0.001 \text{ m}^3/\text{s}$ | 0                                | Low         |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-9: Potential contamination sources: Temple Sowerby to Appleby - Crackenthorpe (Scheme 04/05 – Orange alternative)

| Site ID | Site name            | Description  | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area        | Potential to be impacted | Comments  |
|---------|----------------------|--|-------------------------|--------------------------------------|--------------------------|--------------------------|---|
| CL04-01 | Skygarth Farm        | Farm observed on current OS map                          | Low                     | 70                                   | Land take                | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction. |
| CL04-02 | Dismantled railway   | Observed on current OS mapping and historical OS mapping | Moderate/Low            | 0                                    | Embankment and at-grade  | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction.     |
| CL04-03 | Spitals Farm (Dairy) | Dairy Farm observed on Google Maps                       | Low                     | 0                                    | At-grade                 | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction.     |
| CL04-04 | Infilled ground      | Observed on 1996 OS map                                  | Low                     | 30                                   | Land take and embankment | No                       | Limited potential for works to cause mobilisation of  |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                | Description                             | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area            | Potential to be impacted | Comments   |
|---------|--------------------------|---|-------------------------|--------------------------------------|------------------------------|--------------------------|--|
|         |                          |   |                         |                                      |                              |                          | potential contamination.   |
| CL04-05 | Eden View Farm           | Farm observed on current OS map         | Low                     | 0                                    | At-grade and settlement pond | Yes                      | Potential for contaminants to become mobilised during de-watering.   |
| CL04-06 | Possible infilled ground | Observed from Google maps               | Moderate/Low            | 30                                   | At-grade and settlement pond | Yes                      | Potential for contaminants to become mobilised during de-watering  |
| CL04-07 | Halefield Farm           | Farm observed on current OS map         | Low                     | 0                                    | Land take and at-grade       | Yes                      | Potential for contaminants to become mobilised during de-watering.   |
| CL04-08 | Street House Farm        | Farm observed on current OS map         | Low                     | 5                                    | At-grade                     | Yes                      | Site is within 10m of draft DCO boundary, therefore there is potential for disturbance of contamination during construction. |
| CL04-09 | Sewage Works             | Sewage Works observed on current OS map | Moderate/Low            | 0                                    | At-grade and settlement pond | Yes                      | Potential for contaminants to become mobilised   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area        | Potential to be impacted | Comments   |
|---------|--------------------------|---------------------------------|-------------------------|--------------------------------------|--------------------------|--------------------------|--|
|         |                          |                                 |                         |                                      |                          |                          | during de-watering.  |
| CL04-10 | Garage/Haulage Yard      | Observed on Google Maps         | Low                     | 0                                    | Land take and embankment | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction     |
| CL04-11 | Sewage Discharge Consent | Observed on Discharge Consents  | Low                     | 45                                   | At-grade                 | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-12 | Bridge End Farm          | Farm observed on current OS map | Low                     | 0                                    | At-grade and embankment  | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL04-13 | Sewage Discharge Consent | Observed on Discharge Consents  | Low                     | 5                                    | At-grade                 | Yes                      | Site is within 10m of draft DCO boundary, therefore there is potential for   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name              | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|------------------------|---------------------------------|-------------------------|--------------------------------------|-------------------|--------------------------|--|
|         |                        |                                 |                         |                                      |                   |                          | disturbance of any contamination during construction.  |
| CL04-14 | Petrol Filling Station | Observed on current OS map      | Moderate/Low            | 0                                    | At-grade          | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL04-15 | Rectory Farm           | Farm observed on current OS map | Low                     | 50                                   | At-grade          | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-16 | Crossfell House Farm   | Farm observed on current OS map | Low                     | 90                                   | Land take         | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL04-17 | Kirby Thore Hall Farm  | Farm observed on current OS map | Low                     | 90                                   | Land take         | No                       | Limited potential for works to cause mobilisation of potential contamination.  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                    | Description   | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area      | Potential to be impacted | Comments  |
|---------|------------------------------|---|-------------------------|--------------------------------------|------------------------|--------------------------|---|
| CL04-19 | Artificially modified ground | Observed on BGS 1:50k Artificial Ground                                 | Moderate/Low            | 35                                   | Land take and at-grade | No                       | Limited potential for works to cause mobilisation of potential contamination.   |
| CL04-20 | Gypsum mine conveyor         | Potential contamination sources   | Low                     | 230                                  | Land take              | No                       | Distance from the proposed scheme and limited potential for works to cause mobilisation of potential contamination.   |
| CL04-29 | British Gypsum Tip           | Observed on historical landfills and artificial ground BGS 1:50,000 map | Moderate/High           | 25                                   | Land take              | No                       | Limited potential for works to cause mobilisation of potential contamination.   |
| CL04-30 | Former Railway Land          | Railway shown on maps from 1863 to 1957                                 | Low                     | 0                                    | Embankment             | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction. |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name            | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area              | Potential to be impacted | Comments  |
|---------|----------------------|---------------------------------|-------------------------|--------------------------------------|--------------------------------|--------------------------|---|
| CL04-31 | Redlands Bank Farm   | Farm observed on current OS map | Low                     | 0                                    | Land take                      | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction. |
| CL04-32 | Powis House Farm     | Farm observed on current OS map | Low                     | 50                                   | Embankment and settlement pond | Yes                      | Low potential for contaminants to become mobilised during de-watering of excavation                                       |
| CL04-33 | Meadow Ing Farm      | Farm observed on current OS map | Low                     | 160                                  | Land take                      | No                       | Distance from the proposed scheme. Limited potential for works to cause mobilisation of potential contamination.          |
| CL04-34 | Far Broom Lodge Farm | Farm observed on current OS map | Low                     | 70                                   | Land take                      | No                       | Limited potential for works to cause mobilisation of potential contamination.   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                     | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments  |
|---------|-------------------------------|---------------------------------|-------------------------|--------------------------------------|-------------------|--------------------------|---|
| CL04-35 | Holme Farm                    | Farm observed on current OS map | Low                     | 60                                   | At-grade          | No                       | Limited potential for works to cause mobilisation of potential contamination.   |
| CL04-36 | Discharge consent (food)      | Observed on Discharge Consents  | Moderate/Low            | 30                                   | At-grade          | No                       | Limited potential for works to cause mobilisation of potential contamination.   |
| CL04-37 | Discharge consent (non-water) | Observed on Discharge Consents  | Moderate/Low            | 190                                  | At-grade          | No                       | Limited potential for works to cause mobilisation of potential contamination.   |
| CL04-38 | Concrete Supplier             | Google Maps                     | Low                     | 5                                    | At-grade          | Yes                      | Site is within 5m of draft DCO boundary, there is low potential for disturbance of contamination during construction. |
| CL04-39 | Roger Head Farm               | Farm observed on current OS map | Low                     | 160                                  | Cutting           | Yes                      | Distance from the proposed scheme   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID    | Site name            | Description                                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area              | Potential to be impacted | Comments  |
|------------|----------------------|--|-------------------------|--------------------------------------|--------------------------------|--------------------------|---|
|            |                      |  |                         |                                      |                                |                          | Potential for contaminants to become mobilised during de-watering of excavation   |
| CL04-40/41 | Colby Laitnes Farm   | Farm and sheep wash observed on current OS map | Low                     | 100                                  | Embankment and at-grade        | No                       | Distance from the proposed scheme Limited potential for works to cause mobilisation of potential contamination As potential source is located on opposite side of River Eden. |
| CL04-42    | Midland Railway Line | Observed on current OS maps                    | Moderate/Low            | 0                                    | At-grade and attenuation ponds | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation.  |
| CL04-43    | Sewage Works         | Observed on current OS maps                    | Moderate/Low            | 200                                  | Land take                      | No                       | Distance from the proposed scheme Limited potential for works to cause mobilisation of  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name        | Description                            | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area    | Potential to be impacted | Comments   |
|---------|------------------|--|-------------------------|--------------------------------------|----------------------|--------------------------|--|
|         |                  |  |                         |                                      |                      |                          | potential contamination.   |
| CL04-45 | Disused quarry   | Quarry shown on maps from 1903 to 1965 | Moderate/Low            | 0                                    | At-grade and cutting | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL04-46 | Hangingshaw Farm | Farm observed on current OS map        | Low                     | 100                                  | Cutting              | Yes                      | Low potential for contaminants to become mobilised during de-watering of excavation                                      |
| CL04-47 | Infilled Land    | Observed on OS 1996 map                | Low/Moderate            | 220                                  | Cutting              | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |
| CL04-48 | Uptop Farm       | Farm observed on current OS map        | Low                     | 170                                  | Cutting              | Yes                      | Distance from the proposed scheme. Potential for contaminants to become mobilised during de-                             |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                         | Description                        | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area                     | Potential to be impacted | Comments  |
|---------|-----------------------------------|------------------------------------|-------------------------|--------------------------------------|---------------------------------------|--------------------------|---|
|         |                                   |                                    |                         |                                      |                                       |                          | watering of excavation.   |
| CL04-49 | Discharge consent (accommodation) | Observed on Discharge Consents     | Low                     | 230                                  | Cutting                               | No                       | Distance from the proposed scheme<br><br>Low potential for contaminants to become mobilised during de-watering of excavation. |
| CL04-50 | Railway and sidings               | Observed on 1:10,000 land use maps | Low                     | 15                                   | At-grade, settlement pond and cutting | Yes                      | Low potential for contaminants to become mobilised during de-watering of excavation.  |
| CL04-51 | Old Station Yard Farm             | Farm observed on current OS map    | Low                     | 0                                    | Embankment                            | Yes                      | Site is within draft DCO boundary, there is low potential for disturbance of contamination during construction                |
| CL04-52 | Discharge consent (accommodation) | Observed on Discharge Consents     | Low                     | 180                                  | Land take                             | No                       | Mobilisation of any potential contamination is deemed unlikely.   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name             | Description                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area       | Potential to be impacted | Comments  |
|---------|-----------------------|--------------------------------|-------------------------|--------------------------------------|-------------------------|--------------------------|---|
| CL04-51 | Depot                 | Observed on aerial photography | Moderate/Low            | 0                                    | At-grade                | Yes                      | Site is within draft DCO boundary, there is low potential for disturbance of contamination during construction                  |
| CL04-52 | Low Moor Caravan Park | Observed on aerial photography | Low                     | 5                                    | At-grade and embankment | Yes                      | Site is within 10m of draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL04-53 | Slurry storage area   | Observed on aerial photography | Moderate/Low            | 0                                    | Embankment              | Yes                      | Site is within draft DCO boundary, there is low potential for disturbance of contamination during construction                  |
| CL04-54 | Slurry storage area   | Observed on aerial photography | Moderate/Low            | 0                                    | At-grade and embankment | Yes                      | Site is within draft DCO boundary, there is low potential for   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                      | Description                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area                        | Potential to be impacted | Comments   |
|---------|--------------------------------|--------------------------------|-------------------------|--------------------------------------|--|--------------------------|--|
|         |                                |                                |                         |                                      |  |                          | disturbance of contamination during construction   |
| CL04-55 | Roman Vale Farm                | Observed on aerial photography | Low                     | 5                                    | Land take, at-grade and attenuation pond | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation.                                     |
| CL04-56 | Chapel Hill Farm               | Observed on aerial photography | Low                     | 0                                    | Land take                                | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction |
| CL04-59 | Kirkby Thore Industrial Estate | Observed on aerial photography | Low                     | 0                                    | Land take and at-grade                   | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction |
| CL04-60 | Slurry pond                    | Observed on aerial photography | Low                     | 0                                    | Cutting and at-grade                     | Yes                      | Potential for contaminants to become mobilised   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                | Description                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area      | Potential to be impacted | Comments  |
|---------|--------------------------|--------------------------------|-------------------------|--------------------------------------|------------------------|--------------------------|---|
|         |                          |                                |                         |                                      |                        |                          | during de-watering of excavation  |
| CL04-61 | Slurry pond              | Observed on aerial photography | Low                     | 90                                   | Land take and at-grade | No                       | Distance from the proposed scheme<br><br>Limited potential for works to cause mobilisation of potential contamination.          |
| CL04-63 | Farm outbuilding         | Observed on aerial photography | Low                     | 135                                  | Land take              | No                       | Limited potential for works to cause mobilisation of potential contamination.   |
| CL04-64 | Bolton Mill Caravan Park | Observed on aerial photography | Low                     | 20                                   | Land take              | No                       | Limited potential for works to cause mobilisation of potential contamination. Park also located on opposite side of River Eden. |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-10: Potential contamination receptors: Temple Sowerby to Appleby (Orange alternative)

| Receptor                        | Receptor ID | Description              | Distance from draft DCO Boundary | Sensitivity |
|---------------------------------|-------------|--------------------------|----------------------------------|-------------|
| <b>Human Health</b>             |             |                          |                                  |             |
| Recreation ground               | HH04-01     | Public Open Space        | 0                                | High        |
| Farm                            | HH04-02     | Residential              | 10                               | Very high   |
| Powis House Farm                | HH04-04     | Residential              | 0                                | Very high   |
| Meadow Ing Farm                 | HH04-05     | Residential              | 170                              | Very high   |
| Roger Head Farm                 | HH04-06     | Residential              | 30                               | Very high   |
| Castrigg                        | HH04-07     | Residential              | 200                              | Very high   |
| Hangingshaw Farm                | HH04-08     | Residential              | 100                              | Very high   |
| Spitals Farm                    | HH04-09     | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore) | HH04-10     | Residential              | 20                               | Very high   |
| Residential area (Kirkby Thore) | HH04-11     | Residential              | 10                               | Very high   |
| Kirkby Thore primary school     | HH04-12     | School                   | 35                               | Very high   |
| Farm, Kirkby Thore              | HH04-13     | Commercial or industrial | 0                                | Medium      |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                        | Receptor ID | Description              | Distance from draft DCO Boundary | Sensitivity |
|---------------------------------|-------------|--------------------------|----------------------------------|-------------|
| Residential area (Kirkby Thore) | HH04-14     | Residential              | 220                              | Very high   |
| Residential area (Kirkby Thore) | HH04-15     | Residential              | 250                              | Very high   |
| Residential area (Kirkby Thore) | HH04-16     | Residential              | 100                              | Very high   |
| Commercial property             | HH04-17     | Commercial or industrial | 0                                | Medium      |
| Residential area (Kirkby Thore) | HH04-18     | Residential              | 10                               | Very high   |
| Residential area (Kirkby Thore) | HH04-19     | Residential              | 10                               | Very high   |
| Bridge End Farm                 | HH04-20     | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore) | HH04-21     | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore) | HH04-22     | Residential              | 80                               | Very high   |
| Kirkby Thore Hall               | HH04-23     | Residential              | 30                               | Very high   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                         | Receptor ID | Description              | Distance from draft DCO Boundary | Sensitivity |
|----------------------------------|-------------|--------------------------|----------------------------------|-------------|
| Residential area (Kirkby Thore)  | HH04-24     | Residential              | 0                                | Very high   |
| Farm                             | HH04-25     | Commercial or industrial | 0                                | Medium      |
| Residential area (Kirkby Thore)  | HH04-26     | Residential              | 0                                | Very high   |
| Residential area (Kirkby Thore)  | HH04-27     | Residential              | 0                                | Very high   |
| Halefield Farm buildings         | HH04-28     | Commercial or industrial | 70                               | Medium      |
| Low Moor Park caravan site       | HH04-29     | Residential              | 0                                | Very high   |
| Priest Lane residential property | HH04-30     | Residential              | 0                                | Very high   |
| The Station House                | HH04-31     | Residential              | 0                                | Very high   |
| Temple Sowerby                   | HH04-32     | Residential              | 0                                | Very high   |
| Roman Way                        | HH04-33     | Residential              | 55                               | Very high   |
| Westmorland Rise                 | HH04-34     | Residential              | 105                              | Very high   |
| Battlebarrow                     | HH04-35     | Residential              | 240                              | Very high   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                    | Receptor ID | Description             | Distance from draft DCO Boundary | Sensitivity |
|-----------------------------|-------------|-------------------------|----------------------------------|-------------|
| Appleby Grammar School      | HH04-36     | School                  | 45                               | Very high   |
| The Hollies B&B             | HH04-37     | Residential             | 30                               | Very high   |
| B&B Crackenthorpe House     | HH04-39     | Residential             | 0                                | Very high   |
| Crackenthorpe village       | HH04-40     | Residential             | 0                                | Very high   |
| Westley Bank Cottages       | HH04-41     | Residential             | 15                               | Very high   |
| Powis Cottages              | HH04-42     | Residential             | 5                                | Very high   |
| Dunelm                      | HH04-43     | Residential             | 0                                | Very High   |
| Cattery and kennels         | HH04-44     | Residential/ commercial | 230                              | Very High   |
| Brockham Cottages           | HH04-45     | Residential             | 5                                | Very High   |
| Brockholme House            | HH04-46     | Residential             | 2                                | Very High   |
| Various residential housing | HH04-47     | Residential             | 0                                | Very High   |
| Acton Lodge                 | HH04-48     | Residential             | 230                              | Very High   |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                | Receptor ID | Description  | Distance from draft DCO Boundary | Sensitivity    |
|-------------------------|-------------|--|----------------------------------|----------------|
| <b>Groundwater</b>      |             |  |                                  |                |
| Eden Shale              | -           | Secondary B Aquifer  | 0                                | Not Classified |
| Penrith Sandstone       | -           | Principal Aquifer  | 0                                | High           |
| Till                    | -           | Secondary (undifferentiated) Aquifer   | 0                                | Medium         |
| Glacio-Fluvial Deposits | -           | Secondary A Aquifer  | 2640                             | Medium         |
| Alluvium                | -           | Secondary A Aquifer  | 0                                | Medium         |
| <b>Surface water</b>    |             |  |                                  |                |
| Birk Sike               | -           | Watercourse not classified under WFD.<br>Q95 0.001 to 1m <sup>3</sup> /s           | 0                                | Medium         |
| Trout Beck              | -           | WFD classified watercourse.<br>River Eden and Tributaries SSSI.<br>River Eden SAC. | 0                                | Very High      |
| Keld Sike (1)           | -           | Watercourse not classified under WFD.<br>Q95 0.001 to 1m <sup>3</sup> /s           | 0                                | Medium         |
| Keld Sike (2)           | -           | Watercourse not classified under WFD.<br>Q95 0.001 to 1m <sup>3</sup> /s           | 330                              | Medium         |
| River Eden              | -           | WFD classified watercourse.  | 10                               | Very High      |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                            | Receptor ID | Description  | Distance from draft DCO Boundary | Sensitivity |
|-------------------------------------|-------------|--|----------------------------------|-------------|
|                                     |             | River Eden and Tributaries SSSI.<br>River Eden SAC.                                |                                  |             |
| River Lyvennet                      | -           | WFD classified watercourse.<br>River Eden and Tributaries SSSI.<br>River Eden SAC. | 40                               | Very High   |
| Unnamed Tributary of Trout Beck 4.6 | -           | Watercourse not classified under WFD.<br>Q95 ≤0.001m³/s                            | 0                                | Low         |
| Unnamed Tributary of Trout Beck 4.3 | -           | Watercourse not classified under WFD.<br>Q95 ≤0.001m³/s                            | 0                                | Low         |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-11: Potential contamination sources: Appleby to Brough Warcop (Scheme 06) Black

| Site ID | Site name             | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area        | Potential to be impacted | Comments   |
|---------|-----------------------|---------------------------------|-------------------------|--------------------------------------|--------------------------|--------------------------|--|
| CL06-01 | Far End Bank          | Farm observed on current OS map | Low                     | 95                                   | Land take                | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL06-02 | New Hall Farm         | Farm observed on current OS map | Low                     | 40                                   | Land take and embankment | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL06-03 | Historical Gravel Pit | Observed on OS map 1933-1964    | Moderate/Low            | 30                                   | Land take and cutting    | Yes                      | Close to DCO boundary and potential for contaminants to become mobilised during de-watering of excavation            |
| CL06-04 | Eden Valley Railway   | Observed on current OS map      | Moderate/Low            | 0                                    | Land take and cutting    | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction |
| CL06-06 | Dike Nook Farm        | Farm observed on current OS map | Low                     | 0                                    | Land take and cutting    | Yes                      | Site is within draft DCO boundary, therefore there is potential for  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                   | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area      | Potential to be impacted | Comments  |
|---------|-----------------------------|---------------------------------|-------------------------|--------------------------------------|------------------------|--------------------------|---|
|         |                             |                                 |                         |                                      |                        |                          | disturbance of contamination during construction  |
| CL06-07 | Platts Farm                 | Farm observed on current OS map | Low                     | 15                                   | Land take and cutting  | Yes                      | Close to DCO boundary and potential for contaminants to become mobilised during de-watering of excavation       |
| CL06-08 | Farm outbuildings           | Observed on current OS map      | Low                     | 235                                  | Land take              | No                       | Distance from the proposed scheme Limited potential for works to cause mobilisation of potential contamination. |
| CL06-10 | Eden Vale Farm              | Farm observed on current OS map | Low                     | 150                                  | Land take and at-grade | No                       | Distance from the proposed scheme Limited potential for works to cause mobilisation of potential contamination. |
| CL06-11 | Eden Vale Farm outbuildings | Observed on current OS map      | Low                     | 230                                  | Land take              | No                       | Distance from the proposed scheme Limited potential for works to cause mobilisation of                          |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                   | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area        | Potential to be impacted | Comments   |
|---------|-----------------------------|---------------------------------|-------------------------|--------------------------------------|--------------------------|--------------------------|--|
|         |                             |                                 |                         |                                      |                          |                          | potential contamination.   |
| CL06-12 | Eden Vale Farm outbuildings | Observed on current OS map      | Low                     | 250                                  | Land take                | No                       | Distance from the proposed scheme Limited potential for works to cause mobilisation of potential contamination.          |
| CL06-13 | Historical tank             | Observed on 1980 OS map         | Moderate/Low            | 0                                    | Cutting                  | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of contamination during construction     |
| CL06-14 | Wheat Sheaf Farm            | Farm observed on current OS map | Low                     | 0                                    | Cutting                  | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-15 | Sewage Discharge Consent    | Discharge consent               | Low                     | 0                                    | Land take and embankment | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any                                   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                  | Description                              | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area        | Potential to be impacted | Comments   |
|---------|----------------------------|--|-------------------------|--------------------------------------|--------------------------|--------------------------|--|
|         |                            |  |                         |                                      |                          |                          | contamination during construction  |
| CL06-16 | Warcop Cemetery            | Observed on current OS map               | Low                     | 0                                    | At-grade                 | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-17 | Military land/coal storage | Observed on map of Warcop training areas | Low                     | 0                                    | Land take and embankment | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-18 | Discharge consent (sport)  | Discharge consent from local sports club | Low                     | 220                                  | Land take                | No                       | Distance from the proposed scheme Limited potential for works to cause mobilisation of potential contamination.          |
| CL06-19 | Former Coal Depot          | Observed on OS maps 1872 to 1965         | Low                     | 0                                    | Land take and cutting    | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any                                   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name           | Description                        | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area     | Potential to be impacted | Comments   |
|---------|---------------------|------------------------------------|-------------------------|--------------------------------------|-----------------------|--------------------------|--|
|         |                     |                                    |                         |                                      |                       |                          | contamination during construction  |
| CL06-20 | Heron's Trucking    | Observed on current aerial imaging | Low                     | 0                                    | Land take and cutting | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-21 | Toddygill Hall Farm | Farm with tank present             | Low                     | 0                                    | Land take and cutting | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-22 | East Field Farm     | Farm and sheep dip                 | Low                     | 0                                    | Cutting               | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-23 | Slurry storage pond | Observed on historical map         | Moderate/Low            | 50                                   | Land take             | No                       | Limited potential for works to cause mobilisation of potential contamination.  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name            | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area      | Potential to be impacted | Comments   |
|---------|----------------------|---------------------------------|-------------------------|--------------------------------------|------------------------|--------------------------|--|
| CL06-24 | Flitholme Farm       | Farm observed on current OS map | Low                     | 0                                    | Land take and at-grade | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-25 | Landrigg Farm        | Farm observed on current OS map | Low                     | 120                                  | Land take              | No                       | Distance from the proposed scheme Limited potential for works to cause mobilisation of potential contamination.          |
| CL06-26 | Landrigg House Farm  | Farm observed on current OS map | Low                     | 220                                  | Land take              | No                       | Distance from the proposed scheme Limited potential for works to cause mobilisation of potential contamination.          |
| CL06-27 | Broomrigg House Farm | Farm observed on current OS map | Low                     | 0                                    | Embankment             | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name            | Description   | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|----------------------|---|-------------------------|--------------------------------------|-------------------|--------------------------|--|
| CL06-28 | Pollution incident   | Significant water pollution incident in 2004 recorded by EA | Low                     | 0                                    | Embankment        | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-29 | Farm outhouses       | Observed on current OS map                                  | Low                     | 0                                    | Settlement pond   | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-30 | Slurry pond          | Observed on historical mapping                              | Moderate/Low            | 65                                   | Settlement pond   | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |
| CL06-32 | Apple Tree Farm      | Farm observed on current OS map                             | Low                     | 0                                    | Cutting           | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-33 | Waste Treatment Site | Currently operational, very small (less than                | Moderate/Low            | 0                                    | Cutting           | Yes                      | Site is within draft DCO boundary, therefore there is  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                     | Description                                       | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|-------------------------------|---|-------------------------|--------------------------------------|-------------------|--------------------------|--|
|         |                               | 10,000 tonnes a year)                             |                         |                                      |                   |                          | potential for disturbance of any contamination during construction   |
| CL06-34 | Grey Horse Farm               | Farm and stables observed on current OS map       | Low                     | 0                                    | Cutting           | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-35 | Landfill                      | Details not supplied (landfill ID 19462637)       | Moderate/Low            | 70                                   | At-grade          | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL06-36 | Sewage Works                  | Observed on current OS map                        | Moderate/Low            | 160                                  | At-grade          | No                       | Distance from the proposed scheme<br>Limited potential for works to cause mobilisation of potential contamination.       |
| CL06-37 | Garage and waste oil transfer | Motor vehicles maintenance and repair, since 1979 | Moderate/High           | 20                                   | Cutting           | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                             | Description   | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area             | Potential to be impacted | Comments   |
|---------|---------------------------------------|---|-------------------------|--------------------------------------|-------------------------------|--------------------------|--|
| CL06-38 | Historic gravel pit                   | Observed on OS map 1934-1965                          | Moderate/Low            | 60                                   | Land take                     | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL06-39 | Brough Mill Landfill                  | Provided by Eden District Council                     | Moderate/Low            | 40                                   | Land take and cutting         | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |
| CL06-40 | Row End Farm                          | Farm observed on current OS map                       | Low                     | 120                                  | Land take                     | No                       | Distance from the proposed scheme Limited potential for works to cause mobilisation of potential contamination.          |
| CL06-42 | Historic sewage works                 | Observed on historic maps                             | Moderate/Low            | 0                                    | Land take and settlement pond | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-43 | MoD Diesel Tanks and Maintenance Yard | Observed in current aerial photography and site visit | Moderate/High           | 0                                    | Embankment                    | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any                                   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                     | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|-------------------------------|---------------------------------|-------------------------|--------------------------------------|-------------------|--------------------------|--|
|         |                               |                                 |                         |                                      |                   |                          | contamination during construction  |
| CL06-44 | Moorhouse Farm                | Farm observed on current OS map | Low                     | 0                                    | Land take         | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-45 | Former goods shed             | Observed on OS maps 1934-1964   | Low                     | 0                                    | Settlement pond   | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-46 | Hayber Gill discharge consent | Discharge consent               | Low                     | 230                                  | Land take         | No                       | Distance from the proposed scheme Limited potential for works to cause mobilisation of potential contamination.          |
| CL06-47 | Walk Mill historic sawmill    | Observed on historical map      | Low                     | 0                                    | Cutting           | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any                                   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID  | Site name             | Description  | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area            | Potential to be impacted | Comments   |
|----------|-----------------------|--|-------------------------|--------------------------------------|------------------------------|--------------------------|--|
|          |                       |  |                         |                                      |                              |                          | contamination during construction  |
| CL06-48  | Sewage Works          | Observed on current OS map   | Moderate/Low            | 0                                    | Land take                    | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06 -50 | MOD land (unknown)    | Observed on aerial photography; indicates hummocky and modified ground with small structures on site | Low                     | 0                                    | Cutting and attenuation pond | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |
| CL06-51  | MOD land (depot)      | Observed on aerial photography   | Moderate/High           | 0                                    | Cutting and attenuation pond | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |
| CL06-52  | Air Ambulance Helipad | Observed on aerial photography   | Moderate/Low            | 0                                    | Embankment and at-grade      | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-53  | The Warren (Farm)     | Observed on aerial photography   | Low                     | 30                                   | At-grade and cutting         | Yes                      | Potential for contaminants to  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                | Description                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area                | Potential to be impacted | Comments  |
|---------|--------------------------|--------------------------------|-------------------------|--------------------------------------|----------------------------------|--------------------------|---|
|         |                          |                                |                         |                                      |                                  |                          | become mobilised during de-watering of excavation                               |
| CL06-54 | Brough Industrial Estate | Observed on aerial photography | Moderate/Low            | 150                                  | At-grade and cutting             | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation |
| CL06-55 | Orchard                  | Observed on aerial photography | Low                     | 0                                    | -Embankment and attenuation pond | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation |
| CL06-56 | Depot and silos          | Observed on aerial photography | Moderate/Low            | 5                                    | At-grade and cutting             | Yes                      | Observed on aerial photography  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-12: Potential contamination receptors: Appleby to Brough (Black route)

| Receptor                    | Receptor ID | Description              | Distance from draft DCO Boundary | Sensitivity |
|-----------------------------|-------------|--------------------------|----------------------------------|-------------|
| <b>Human Health</b>         |             |                          |                                  |             |
| Dike Nook                   | HH06-01     | Commercial or industrial | 0                                | Medium      |
| Residential property        | HH06-02     | Residential              | 0                                | Very high   |
| Wheat Sheaf Farm            | HH06-03     | Residential              | 0                                | Very high   |
| Warcop Camp                 | HH06-04     | Commercial or industrial | 0                                | Medium      |
| Residential property        | HH06-05     | Residential              | 5                                | Very high   |
| Commercial property         | HH06-06     | Commercial or industrial | 0                                | Medium      |
| Flitholme residential area  | HH06-07     | Residential              | 0                                | Very high   |
| Broom Rigg Residential area | HH06-08     | Residential              | 0                                | Very high   |
| West View                   | HH06-09     | Commercial or industrial | 0                                | Medium      |
| Mains House                 | HH06-10     | Residential              | 0                                | Very high   |
| Residential area            | HH06-11     | Residential              | 190                              | Very high   |
| Ketland Common              | HH06-12     | Public open space        | 0                                | High        |
| Sandfore Mire Common        | HH06-13     | Public open space        | 0                                | High        |
| Platts Green                | HH06-14     | Public open space        | 0                                | High        |
| Hayber Gill                 | HH06-15     | Residential              | 240                              | Very high   |
| Warcop Village              | HH06-16     | Residential              | 40                               | Very high   |
| Residential property        | HH06-17     | Residential              | 0                                | Very high   |
| Brough village              | HH06-18     | Residential              | 15                               | Very high   |
| Residential property        | HH06-19     | Residential              | 65                               | Very high   |
| Residential property        | HH06-20     | Residential              | 30                               | Very high   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                           | Receptor ID | Description   | Distance from draft DCO Boundary | Sensitivity |
|------------------------------------|-------------|---|----------------------------------|-------------|
| Police station                     | HH06-21     | Commercial or industrial  | 0                                | Medium      |
| <b>Groundwater</b>                 |             |   |                                  |             |
| Glaciofluvial deposits             | -           | Secondary A Aquifer   | 0                                | Medium      |
| Alluvium                           | -           | Secondary A Aquifer   | 0                                | Medium      |
| Glacial Till                       | -           | Secondary undifferentiated  | 0                                | Medium      |
| Eden Shale                         | -           |   | 50                               |             |
| Penrith Sandstone                  | -           | Principal aquifer providing locally important resource                            | 0                                | High        |
| Stainmore Formation                | -           | Secondary A Aquifer   | 0                                | Medium      |
| <b>Surface Watercourses</b>        |             |   |                                  |             |
| George Gill                        | -           | Watercourse not classified under WFD. Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 480                              | Medium      |
| Coupland Beck                      | -           | Watercourse not classified under WFD.   | 840                              | Low         |
| Lycum Beck                         | -           | Watercourse not classified under WFD. Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 610                              | Medium      |
| River Eden                         | -           | WFD classified watercourse. River Eden and Tributaries SSSI. River Eden SAC.      | 410                              | Very High   |
| Unnamed Tributary of Mire Sike 6.1 | -           | Watercourse not classified under WFD. Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 100                              | Low         |
| Unnamed Tributary of Mire Sike 6.4 | -           | Watercourse not classified under WFD. Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 0                                | Low         |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                              | Receptor ID | Description  | Distance from draft DCO Boundary | Sensitivity |
|---------------------------------------|-------------|--|----------------------------------|-------------|
| Unnamed Tributary of Mire Sike 6.8    | -           | Watercourse not classified under WFD. Q <sup>95</sup> ≤0.001m <sup>3</sup> /s                        | 90                               | Low         |
| Unnamed Tributary of Mire Sike 6.12   | -           | Watercourse not classified under WFD. Q <sup>95</sup> ≤0.001m <sup>3</sup> /s                        | 0                                | Low         |
| Mire Sike                             | -           | Watercourse not classified under WFD. Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s                    | 190                              | Medium      |
| Unnamed Tributary of Cringle Beck 6.1 | -           | Watercourse not classified under WFD. Q <sup>95</sup> ≤0.001m <sup>3</sup> /s                        | 0                                | Low         |
| Cringle Beck                          | -           | Watercourse not classified under WFD. Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s                    | 0                                | Medium      |
| Hayber Beck                           | -           | Watercourse is functionally linked to the River Eden SAC   | 0                                | Very High   |
| Moor Beck                             | -           | Watercourse is functionally linked to the River Eden SAC   | 0                                | Very High   |
| Eastfield Sike                        | -           | Watercourse is functionally linked to the River Eden SAC   | 0                                | Very High   |
| Crooks Beck                           | -           | Watercourse is functionally linked to the River Eden SAC. WFD classified watercourse.                | 0                                | Very High   |
| Lowgill Beck                          | -           | WFD classified watercourse. Assumed Q <sub>95</sub> <1.0m <sup>3</sup> /s as precautionary approach. | 0                                | Medium      |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                              | Receptor ID | Description   | Distance from draft DCO Boundary | Sensitivity |
|---------------------------------------|-------------|---|----------------------------------|-------------|
| Unnamed Tributary of Lowgill Beck 6.1 | -           | Watercourse not classified under WFD. Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 0                                | Low         |
| Woodend Sike                          | -           | Watercourse not classified under WFD. Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 0                                | Medium      |
| Yosgill Sike                          | -           | Watercourse not classified under WFD. Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 0                                | Medium      |
| Unnamed Tributary of Lowgill Beck 6.7 | -           | Watercourse not classified under WFD. Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 0                                | Low         |
| Unnamed Tributary of Lowgill Beck 6.3 | -           | Watercourse not classified under WFD. Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 0                                | Low         |
| Swindale Beck                         | -           | Watercourse not classified under WFD. Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 200                              | Medium      |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-13: Potential contamination sources: Appleby to Brough (Warcop) (Scheme 06) Blue

| Site ID | Site name             | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area        | Potential to be impacted | Comments   |
|---------|-----------------------|---------------------------------|-------------------------|--------------------------------------|--------------------------|--------------------------|--|
| CL06-01 | Far End Bank          | Farm observed on current OS map | Low                     | 90                                   | Land take                | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL06-02 | New Hall Farm         | Farm observed on current OS map | Low                     | 40                                   | Land take and embankment | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL06-03 | Historical Gravel Pit | Observed on OS map 1933-1964    | Moderate/Low            | 0                                    | Land take                | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-04 | Eden Valley Railway   | Observed on current OS map      | Moderate/Low            | 0                                    | Land take and cutting    | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-06 | Dike Nook Farm        | Farm observed on current OS map | Low                     | 0                                    | Land take and cutting    | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                   | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|-----------------------------|---------------------------------|-------------------------|--------------------------------------|-------------------|--------------------------|--|
| CL06-07 | Platts Farm                 | Farm observed on current OS map | Low                     | 25                                   | Land take         | No                       | Limited potential for works to cause mobilisation of potential contamination.                                      |
| CL06-08 | Farm outbuildings           | Observed on current OS map      | Low                     | 235                                  | Land take         | No                       | Distance from the proposed scheme<br>Limited potential for works to cause mobilisation of potential contamination. |
| CL06-10 | Eden Vale Farm              | Farm observed on current OS map | Low                     | 190                                  | Land take         | No                       | Distance from the proposed scheme<br>Limited potential for works to cause mobilisation of potential contamination. |
| CL06-11 | Eden Vale Farm outbuildings | Observed on current OS map      | Low                     | 240                                  | Land take         | No                       | Distance from the proposed scheme<br>Limited potential for works to cause mobilisation of potential contamination. |
| CL06-12 | Eden Vale Farm outbuildings | Observed on current OS map      | Low                     | 250                                  | Land take         | No                       | Distance from the proposed scheme<br>Limited potential for works to cause mobilisation of potential contamination. |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                  | Description                              | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area        | Potential to be impacted | Comments   |
|---------|----------------------------|--|-------------------------|--------------------------------------|--------------------------|--------------------------|--|
| CL06-13 | Historical tank            | Observed on 1980 OS map                  | Moderate/Low            | 0                                    | Embankment               | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-14 | Wheat Sheaf Farm           | Farm observed on current OS map          | Low                     | 0                                    | Embankment               | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-15 | Sewage Discharge Consent   | Discharge consent                        | Low                     | 0                                    | Land take                | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-16 | Warcop Cemetery            | Observed on current OS map               | Low                     | 0                                    | Land take                | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-17 | Military land/coal storage | Observed on map of Warcop training areas | Low                     | 0                                    | Land take and embankment | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any                                   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                 | Description                              | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area        | Potential to be impacted | Comments   |
|---------|---------------------------|--|-------------------------|--------------------------------------|--------------------------|--------------------------|--|
|         |                           |  |                         |                                      |                          |                          | contamination during construction  |
| CL06-18 | Discharge consent (sport) | Discharge consent from local sports club | Low                     | 220                                  | Land take                | No                       | Distance from the proposed scheme Limited potential for works to cause mobilisation of potential contamination.          |
| CL06-19 | Former Coal Depot         | Observed on OS maps 1872-1965            | Low                     | 0                                    | Land take and embankment | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-20 | Heron's Trucking          | Observed on current aerial imaging       | Low                     | 0                                    | Land take and embankment | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-21 | Toddygill Hall Farm       | Farm with tank present                   | Low                     | 0                                    | Land take and at-grade   | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-22 | East Field Farm           | Farm and sheep dip                       | Low                     | 0                                    | Embankment               | Yes                      | Site is within draft DCO boundary, therefore   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name           | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area     | Potential to be impacted | Comments   |
|---------|---------------------|---------------------------------|-------------------------|--------------------------------------|-----------------------|--------------------------|--|
|         |                     |                                 |                         |                                      |                       |                          | there is potential for disturbance of any contamination during construction  |
| CL06-23 | Slurry storage pond | Observed on historical map      | Moderate/Low            | 45                                   | Land take             | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL06-24 | Flitholme Farm      | Farm observed on current OS map | Low                     | 0                                    | Land take and cutting | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-25 | Landrigg Farm       | Farm observed on current OS map | Low                     | 120                                  | Land take             | No                       | Distance from the proposed scheme. Limited potential for works to cause mobilisation of potential contamination.         |
| CL06-26 | Landrigg House Farm | Farm observed on current OS map | Low                     | 220                                  | Land take             | No                       | Distance from the proposed scheme Limited potential for works to cause mobilisation of potential contamination.          |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name            | Description   | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|----------------------|---|-------------------------|--------------------------------------|-------------------|--------------------------|--|
| CL06-27 | Broomrigg House Farm | Farm observed on current OS map                             | Low                     | 0                                    | Embankment        | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-28 | Pollution incident   | Significant water pollution incident in 2004 recorded by EA | Low                     | 0                                    | Embankment        | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-29 | Farm outhouses       | Observed on current OS map                                  | Low                     | 0                                    | Cutting           | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-30 | Slurry pond          | Observed on historical mapping                              | Moderate/Low            | 65                                   | Cutting           | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |
| CL06-32 | Apple Tree Farm      | Farm observed on current OS map                             | Low                     | 0                                    | Cutting           | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                     | Description  | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments  |
|---------|-------------------------------|--|-------------------------|--------------------------------------|-------------------|--------------------------|---|
| CL06-33 | Waste Treatment Site          | Currently operational, very small (less than 10,000 tonnes a year) | Moderate/Low            | 30                                   | Cutting           | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation   |
| CL06-34 | Grey Horse Farm               | Farm and stables observed on current OS map                        | Low                     | 0                                    | Cutting           | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction              |
| CL06-35 | Landfill                      | Details not supplied (landfill ID 19462637)                        | Moderate/Low            | 80                                   | Cutting           | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation   |
| CL06-36 | Sewage Works                  | Observed on current OS map   | Moderate/Low            | 150                                  | Cutting           | Yes                      | Site is distant from the proposed scheme but there is potential for contaminants to become mobilised during de-watering of excavation |
| CL06-37 | Garage and waste oil transfer | Motor vehicles maintenance and repair, since 1979                  | Moderate/High           | 15                                   | At-grade          | No                       | Limited potential for works to cause mobilisation of potential contamination.   |
| CL06-38 | Historic gravel pit           | Observed on OS map 1934-1965                                       | Moderate/Low            | 20                                   | Land take         | No                       | Limited potential for works to cause  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                             | Description   | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|---------------------------------------|---|-------------------------|--------------------------------------|-------------------|--------------------------|--|
|         |                                       |   |                         |                                      |                   |                          | mobilisation of potential contamination.   |
| CL06-39 | Brough Mill Landfill                  | Provided by Eden District Council                     | Moderate/Low            | 0                                    | Embankment        | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-40 | Row End Farm                          | Farm observed on current OS map                       | Low                     | 100                                  | Land take         | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL06-41 | Warcop Range                          | Observed on current OS map                            | Moderate/Low            | 70                                   | Land take         | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL06-42 | Historic sewage works                 | Observed on historic maps                             | Moderate/Low            | 10                                   | Land take         | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-43 | MoD Diesel Tanks and Maintenance Yard | Observed in current aerial photography and site visit | Moderate/High           | 0                                    | Cutting           | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                     | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|-------------------------------|---------------------------------|-------------------------|--------------------------------------|-------------------|--------------------------|--|
| CL06-44 | Moorhouse Farm                | Farm observed on current OS map | Low                     | 10                                   | Land take         | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-45 | Former goods shed             | Observed on OS maps 1934-1964   | Low                     | 0                                    | Embankment        | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-46 | Hayber Gill discharge consent | Discharge consent               | Low                     | 220                                  | Land take         | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL06-47 | Walk Mill historical sawmill  | Observed on historic map        | Low                     | 0                                    | Embankment        | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-48 | Sewage Works                  | Observed on current OS map      | Moderate/Low            | 0                                    | Land take         | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                | Description  | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area                | Potential to be impacted | Comments   |
|---------|--------------------------|--|-------------------------|--------------------------------------|----------------------------------|--------------------------|--|
| CL06-50 | MOD land (unknown)       | Observed on aerial photography; indicates hummocky and modified ground with small structures on site | Low                     | 0                                    | Embankment and at-grade          | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-51 | MOD land (depot)         | Observed on aerial photography   | Moderate/High           | 0                                    | Embankment and at-grade          | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-52 | Air Ambulance Helipad    | Observed on aerial photography   | Moderate/Low            | 0                                    | At-grade, cutting and embankment | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |
| CL06-53 | The Warren (Farm)        | Observed on aerial photography   | Low                     | 70                                   | At-grade and cutting             | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |
| CL06-54 | Brough Industrial Estate | Observed on aerial photography   | Moderate/Low            | 140                                  | At-grade and cutting             | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |
| CL06-55 | Orchard                  | Observed on aerial photography   | Low                     | 0                                    | - Embankment and cutting         | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name       | Description                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area    | Potential to be impacted | Comments                       |
|---------|-----------------|--------------------------------|-------------------------|--------------------------------------|----------------------|--------------------------|--------------------------------|
| CL06-56 | Depot and silos | Observed on aerial photography | Moderate/Low            | 5                                    | At-grade and cutting | Yes                      | Observed on aerial photography |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-14: Potential contamination receptors: Appleby to Brough (Warcop) (Blue alternative)

| Receptor                    | Receptor ID | Description              | Distance from draft DCO Boundary | Sensitivity |
|-----------------------------|-------------|--------------------------|----------------------------------|-------------|
| <b>Human Health</b>         |             |                          |                                  |             |
| Dike Nook                   | HH06-01     | Commercial or industrial | 0                                | Medium      |
| Residential property        | HH06-02     | Residential              | 0                                | Very high   |
| Wheat Sheaf Farm            | HH06-03     | Residential              | 0                                | Very high   |
| Warcop Camp                 | HH06-04     | Commercial or industrial | 0                                | Medium      |
| Residential property        | HH06-05     | Residential              | 5                                | Very high   |
| Commercial property         | HH06-06     | Commercial or industrial | 0                                | Medium      |
| Flitholme Residential area  | HH06-07     | Residential              | 0                                | Very high   |
| Broom Rigg Residential area | HH06-08     | Residential              | 0                                | Very high   |
| West View                   | HH06-09     | Commercial or industrial | 0                                | Medium      |
| Mains House                 | HH06-10     | Residential              | 0                                | Very high   |
| Residential area            | HH06-11     | Residential              | 185                              | Very high   |
| Ketland Common              | HH06-12     | Public open space        | 0                                | High        |
| Sandford Mire Common        | HH06-13     | Public open space        | 25                               | High        |
| Platts Green Common         | HH06-14     | Public open space        | 0                                | High        |
| Hayber Gill                 | HH06-15     | Residential              | 225                              | Very high   |
| Warcop Village              | HH06-16     | Residential              | 45                               | Very high   |
| Residential property        | HH06-17     | Residential              | 0                                | Very high   |
| Brough village              | HH06-18     | Residential              | 20                               | Very high   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                                  | Receptor ID                     | Description  | Distance from draft DCO Boundary | Sensitivity    |
|---|---------------------------------|--|----------------------------------|----------------|
| Residential property                      | HH06-19                         | Residential  | 0                                | Very high      |
| Residential property                      | HH06-20                         | Residential  | 0                                | Very high      |
| Police Station                            | HH06-21                         | Commercial or industrial   | 0                                | Medium         |
| <b>Groundwater</b>                        |                                 |  |                                  |                |
| Till                                      | -                               | Secondary (undifferentiated) Aquifer   | 0                                | Not classified |
| Glacio-Fluvial Deposits (Sand and Gravel) | -                               | Secondary A Aquifer  | 0                                | Medium         |
| Alluvium                                  | -                               | Secondary A Aquifer  | 0                                | Medium         |
| Peat                                      | -                               | Unproductive   | 0                                | Not classified |
| Eden Shale                                | -                               | Secondary B Aquifer  | 40                               | Not classified |
| Eastfield Farm abstraction well           | Licence Number: NW/076/0001/009 | General Farming and Domestic   | 45                               | Medium         |
| West View                                 | Licence number: 2776001135/R01  | General Farming and Domestic   | 40                               | Medium         |
| <b>Surface water</b>                      |                                 |  |                                  |                |
| Lowgill Beck                              | -                               | WFD classified watercourse.  | 0                                | High           |
| Unnamed Tributary of Lowgill Beck 6.1     | -                               | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤ 0.001m <sup>3</sup> /s    | 0                                | Low            |
| Woodend Sike                              | -                               | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 60                               | Medium         |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                              | Receptor ID | Description  | Distance from draft DCO Boundary | Sensitivity |
|---------------------------------------|-------------|--|----------------------------------|-------------|
| Yosgill Sike                          | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 60                               | Medium      |
| Unnamed Tributary of Lowgill Beck 6.7 | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 0                                | Low         |
| Unnamed Tributary of Lowgill Beck 6.3 | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 0                                | Low         |
| Swindale Beck                         | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 185                              | Medium      |
| Augill Beck                           | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 280                              | Medium      |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-15: Potential contamination sources: Appleby to Brough (Warcop) Orange alternative

| Site ID | Site name           | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area             | Potential to be impacted | Comments   |
|---------|---------------------|---------------------------------|-------------------------|--------------------------------------|-------------------------------|--------------------------|--|
| CL06-01 | Far End Bank        | Farm observed on current OS map | Low                     | 80                                   | Land take                     | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL06-02 | New Hall Farm       | Farm observed on current OS map | Low                     | 40                                   | Land take and settlement pond | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL06-03 | Historic Gravel Pit | Observed on OS map 1933-1964    | Moderate/Low            | 30                                   | Settlement pond               | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |
| CL06-04 | Eden Valley Railway | Observed on current OS map      | Moderate/Low            | 0                                    | Land take and settlement pond | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-06 | Dike Nook Farm      | Farm observed on current OS map | Low                     | 0                                    | Settlement pond               | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-07 | Platts Farm         | Farm observed on current OS map | Low                     | 25                                   | At-grade                      | No                       | Limited potential for works to cause mobilisation of potential contamination.  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                   | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|-----------------------------|---------------------------------|-------------------------|--------------------------------------|-------------------|--------------------------|--|
| CL06-08 | Farm outbuildings           | Observed on current OS map      | Low                     | 235                                  | At-grade          | No                       | Distance from the proposed scheme. Limited potential for works to cause mobilisation of potential contamination. |
| CL06-10 | Eden Vale Farm              | Farm observed on current OS map | Low                     | 155                                  | Land take         | No                       | Distance from the proposed scheme. Limited potential for works to cause mobilisation of potential contamination. |
| CL06-11 | Eden Vale Farm outbuildings | Observed on current OS map      | Low                     | 240                                  | Land take         | No                       | Distance from the proposed scheme. Limited potential for works to cause mobilisation of potential contamination. |
| CL06-12 | Eden Vale Farm outbuildings | Observed on current OS map      | Low                     | 250                                  | Land take         | No                       | Distance from the proposed scheme. Limited potential for works to cause mobilisation of potential contamination. |
| CL06-13 | Historical tank             | Observed on 1980 OS map         | Moderate/Low            | 0                                    | Embankment        | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any                           |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                  | Description                              | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|----------------------------|--|-------------------------|--------------------------------------|-------------------|--------------------------|--|
|         |                            |  |                         |                                      |                   |                          | contamination during construction  |
| CL06-14 | Wheat Sheaf Farm           | Farm observed on current OS map          | Low                     | 0                                    | Embankment        | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-15 | Sewage Discharge Consent   | Discharge consent                        | Low                     | 0                                    | Land take         | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-16 | Warcop Cemetery            | Observed on current OS map               | Low                     | 0                                    | Land take         | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-17 | Military land/coal storage | Observed on map of Warcop training areas | Low                     | 0                                    | Embankment        | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-18 | Discharge consent (sport)  | Discharge consent from local sports club | Low                     | 220                                  | Land take         | No                       | Distance from the proposed scheme.   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name           | Description                        | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|---------------------|------------------------------------|-------------------------|--------------------------------------|-------------------|--------------------------|--|
|         |                     |                                    |                         |                                      |                   |                          | Limited potential for works to cause mobilisation of potential contamination.  |
| CL06-19 | Former Coal Depot   | Observed on OS maps 1872-1965      | Low                     | 0                                    | Settlement pond   | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-20 | Heron's Trucking    | Observed on current aerial imaging | Low                     | 0                                    | Settlement pond   | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-21 | Toddygill Hall Farm | Farm with tank present             | Low                     | 0                                    | Land take         | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-22 | East Field Farm     | Farm and sheep dip                 | Low                     | 0                                    | Settlement pond   | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name            | Description                             | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area             | Potential to be impacted | Comments   |
|---------|----------------------|---|-------------------------|--------------------------------------|-------------------------------|--------------------------|--|
| CL06-23 | Slurry storage pond  | Observed on historic map                | Moderate/Low            | 50                                   | Land take                     | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL06-24 | Flitholme Farm       | Farm observed on current OS map         | Low                     | 0                                    | Land take and settlement pond | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-25 | Landrigg Farm        | Farm observed on current OS map         | Low                     | 120                                  | Embankment                    | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL06-26 | Landrigg House Farm  | Farm observed on current OS map         | Low                     | 220                                  | Land take                     | No                       | Distance from the proposed scheme. Limited potential for works to cause mobilisation of potential contamination.         |
| CL06-27 | Broomrigg House Farm | Farm observed on current OS map         | Low                     | 0                                    | Cutting                       | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-28 | Pollution incident   | Significant water pollution incident in | Low                     | 0                                    | Cutting                       | Yes                      | Site is within draft DCO boundary, therefore there is potential for  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name            | Description  | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|----------------------|--|-------------------------|--------------------------------------|-------------------|--------------------------|--|
|         |                      | 2004 recorded by EA  |                         |                                      |                   |                          | disturbance of any contamination during construction   |
| CL06-29 | Farm outhouses       | Observed on current OS map   | Low                     | 0                                    | Cutting           | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-30 | Slurry pond          | Observed on historic mapping                                       | Moderate/Low            | 65                                   | Cutting           | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation  |
| CL06-32 | Apple Tree Farm      | Farm observed on current OS map                                    | Low                     | 0                                    | Embankment        | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-33 | Waste Treatment Site | Currently operational, very small (less than 10,000 tonnes a year) | Moderate/Low            | 0                                    | Embankment        | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-34 | Grey Horse Farm      | Farm and stables observed on current OS map                        | Low                     | 0                                    | Cutting           | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any                                   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                     | Description                                       | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|-------------------------------|---|-------------------------|--------------------------------------|-------------------|--------------------------|--|
|         |                               |   |                         |                                      |                   |                          | contamination during construction  |
| CL06-35 | Landfill                      | Details not supplied (landfill ID 19462637)       | Moderate/Low            | 100                                  | Cutting           | Yes                      | Distance from the proposed scheme. Potential for contaminants to become mobilised during de-watering of excavation |
| CL06-36 | Sewage Works                  | Observed on current OS map                        | Moderate/Low            | 190                                  | Cutting           | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation                                    |
| CL06-37 | Garage and waste oil transfer | Motor vehicles maintenance and repair, since 1979 | Moderate/High           | 20                                   | Cutting           | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation                                    |
| CL06-38 | Historic gravel pit           | Observed on OS map 1934-1965                      | Moderate/Low            | 50                                   | Land take         | No                       | Limited potential for works to cause mobilisation of potential contamination.                                      |
| CL06-39 | Brough Mill Landfill          | Provided by Eden District Council                 | Moderate/Low            | 40                                   | Cutting           | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation                                    |
| CL06-40 | Row End Farm                  | Farm observed on current OS map                   | Low                     | 100                                  | Land take         | No                       | Distance from the proposed scheme. Limited potential for works to cause  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                             | Description   | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|---------------------------------------|---|-------------------------|--------------------------------------|-------------------|--------------------------|--|
|         |                                       |   |                         |                                      |                   |                          | mobilisation of potential contamination.   |
| CL06-42 | Historical sewage works               | Observed on historic maps                             | Moderate/Low            | 0                                    | Embankment        | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-43 | MoD Diesel Tanks and Maintenance Yard | Observed in current aerial photography and site visit | Moderate/High           | 0                                    | Embankment        | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-44 | Moorhouse Farm                        | Farm observed on current OS map                       | Low                     | 0                                    | Land take         | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-45 | Former goods shed                     | Observed on OS maps 1934-1964                         | Low                     | 0                                    | Settlement pond   | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-46 | Hayber Gill discharge consent         | Discharge consent                                     | Low                     | 230                                  | Land take         | No                       | Distance from the proposed scheme.   |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID  | Site name                          | Description  | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|----------|------------------------------------|--|-------------------------|--------------------------------------|-------------------|--------------------------|--|
|          |                                    |  |                         |                                      |                   |                          | Limited potential for works to cause mobilisation of potential contamination.  |
| CL06-47  | Walk Mill historical sawmill       | Observed on historic map   | Low                     | 0                                    | Embankment        | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-48  | Sewage Works                       | Observed on current OS map   | Moderate/Low            | 0                                    | Land take         | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-49  | Coltsford Common historic landfill | Observed on historical map   | Moderate/Low            | 140                                  | At-grade          | No                       | Distance from the proposed scheme. Limited potential for works to cause mobilisation of potential contamination.         |
| CL06 -50 | MOD land (unknown)                 | Observed on aerial photography; indicates hummocky and modified ground with small structures on site | Low                     | 0                                    | Embankment        | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                | Description                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area       | Potential to be impacted | Comments   |
|---------|--------------------------|--------------------------------|-------------------------|--------------------------------------|-------------------------|--------------------------|--|
| CL06-51 | MOD land (depot)         | Observed on aerial photography | Moderate/High           | 0                                    | Embankment              | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-52 | Air Ambulance Helipad    | Observed on aerial photography | Moderate/Low            | 0                                    | Embankment and at-grade | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-53 | The Warren (Farm)        | Observed on aerial photography | Low                     | 0                                    | Cutting                 | Yes                      | Potential for contaminants to become mobilised during dewatering of excavation   |
| CL06-54 | Brough Industrial Estate | Observed on aerial photography | Moderate/Low            | 75                                   | Cutting                 | Yes                      | Potential for contaminants to become mobilised during dewatering of excavation   |
| CL06-55 | Orchard                  | Observed on aerial photography | Low                     | 0                                    | - Embankment            | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL06-56 | Depot and silos          | Observed on aerial photography | Moderate/Low            | 5                                    | At-grade and cutting    | Yes                      | Observed on aerial photography   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-16: Potential contamination receptors: Appleby to Brough (Orange alternative)

| Receptor                    | Receptor ID | Description              | Distance from draft DCO Boundary | Sensitivity |
|-----------------------------|-------------|--------------------------|----------------------------------|-------------|
| <b>Human Health</b>         |             |                          |                                  |             |
| Dike Nook                   | HH06-01     | Commercial or industrial | 0                                | Medium      |
| Residential property        | HH06-02     | Residential              | 0                                | Very high   |
| Wheat Sheaf Farm            | HH06-03     | Residential              | 0                                | Very high   |
| Warcop Camp                 | HH06-04     | Commercial or industrial | 0                                | Medium      |
| Residential property        | HH06-05     | Residential              | 5                                | Very high   |
| Commercial property         | HH06-06     | Commercial or industrial | 0                                | Medium      |
| Flitholme Residential area  | HH06-07     | Residential              | 0                                | Very high   |
| Broom Rigg Residential area | HH06-08     | Residential              | 0                                | Very high   |
| West View                   | HH06-09     | Commercial or industrial | 0                                | Medium      |
| Mains House                 | HH06-10     | Residential              | 0                                | Very high   |
| Residential area            | HH06-11     | Residential              | 185                              | Very high   |
| Ketland Common              | HH06-12     | Public open space        | 0                                | High        |
| Sandford Mire Common        | HH06-13     | Public open space        | 25                               | High        |
| Platts Green Common         | HH06-14     | Public open space        | 0                                | High        |
| Hayber Gill                 | HH06-15     | Residential              | 225                              | Very high   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                        | Receptor ID                     | Description  | Distance from draft DCO Boundary | Sensitivity |
|---------------------------------|---------------------------------|--|----------------------------------|-------------|
| Warcop Village                  | HH06-16                         | Residential  | 45                               | Very high   |
| Residential property            | HH06-17                         | Residential  | 0                                | Very high   |
| Brough village                  | HH06-18                         | Residential  | 20                               | Very high   |
| Residential property            | HH06-19                         | Residential  | 0                                | Very high   |
| Residential property            | HH06-20                         | Residential  | 0                                | Very high   |
| Police Station                  | HH06-21                         | Commercial or industrial                                 | 0                                | Medium      |
| <b>Groundwater</b>              |                                 |  |                                  |             |
| Till                            | -                               | Secondary (undifferentiated) Aquifer                     | 0                                | Medium      |
| Glacio-Fluvial Deposits         | -                               | Secondary A Aquifer                                      | 0                                | Medium      |
| Alluvium                        | -                               | Secondary A Aquifer                                      | 0                                | Medium      |
| Peat                            | -                               | Unproductive   | 0                                | -           |
| Eden Shale                      | -                               | Secondary B Aquifer                                      | 40                               | Low         |
| Penrith Sandstone Formation     | -                               | Principal Aquifer  | 0                                | High        |
| Eastfield Farm abstraction well | Licence Number: NW/076/0001/009 | General Farming and Domestic                             | 45                               | High        |
| West View                       | Licence number: 2776001135/R01  | General Farming and Domestic                             | 40                               | High        |
| General domestic Water supplies | -                               | Small private domestic and agricultural supplies <20m³/d |                                  | Medium      |
| <b>Surface water</b>            |                                 |  |                                  |             |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                              | Receptor ID | Description  | Distance from draft DCO Boundary | Sensitivity |
|---------------------------------------|-------------|--|----------------------------------|-------------|
| Lowgill Beck                          | -           | WFD classified watercourse.  | 0                                | High        |
| Unnamed Tributary of Lowgill Beck 6.1 | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤ 0.001m <sup>3</sup> /s    | 0                                | Low         |
| Woodend Sike                          | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 60                               | Medium      |
| Yosgill Sike                          | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 60                               | Medium      |
| Unnamed Tributary of Lowgill Beck 6.7 | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤ 0.001m <sup>3</sup> /s    | 0                                | Low         |
| Unnamed Tributary of Lowgill Beck 6.3 | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤ 0.001m <sup>3</sup> /s    | 0                                | Low         |
| Swindale Beck                         | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 185                              | Medium      |
| Augill Beck                           | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 280                              | Medium      |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-17 Potential contamination sources: Bowes Bypass (Scheme 07)

| Site ID | Site name                                       | Description                            | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area               | Potential to be impacted | Comments   |
|---------|---|--|-------------------------|--------------------------------------|---------------------------------|--------------------------|--|
| CL07-02 | Clint Quarry                                    | Operational from 1800s until 1970s     | Moderate/Low            | 0                                    | Land take and cutting           | Yes                      | Potential for unknown contaminants to become mobilised during de-watering.   |
| CL07-03 | Garage  | Observed on historical map             | Moderate/Low            | 150                                  | Land take                       | No                       | Distance from the Proposed Scheme<br>Limited potential for works to cause mobilisation of potential contamination. |
| CL07-04 | Cemetery  | Cemetery observed on current OS map    | Low                     | 60                                   | Cutting                         | Yes                      | Potential for unknown contaminants to become mobilised during de-watering.   |
| CL07-05 | Disused transport depot                         | Depot built in 1980s.                  | Moderate/Low            | 0                                    | Attenuation pond and embankment | Yes                      | Potential for unknown contaminants to become mobilised during de-watering.   |
| CL07-06 | Disused South Durham & Lancashire Union Railway | Closed in 1962                         | Moderate/Low            | 0                                    | Cutting and land take           | Yes                      | Potential for unknown contaminants to become mobilised during de-watering.   |
| CL07-07 | Disused train station                           | Station closed in 1962. The station is | Moderate/Low            | 0                                    | Cutting and land take           | Yes                      | Potential for unknown contaminants to become mobilised during de-watering.   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name         | Description  | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area               | Potential to be impacted | Comments  |
|---------|-------------------|--|-------------------------|--------------------------------------|---------------------------------|--------------------------|---|
|         |                   | currently covered by a large farm shed               |                         |                                      |                                 |                          |   |
| CL07-08 | Barf Hill Quarry  | Disused  | Moderate/Low            | 0                                    | Cutting and attenuation pond    | Yes                      | Potential for unknown contaminants to become mobilised during de-watering.    |
| CL07-09 | Myre Keld Farm    | Farm observed on current OS map                      | Low                     | 70                                   | Land take and attenuation pond  | Yes                      | Potential for unknown contaminants to become mobilised during de-watering.    |
| CL07-10 | Low Field Farm    | Farm observed on current OS map                      | Low                     | 115                                  | Land take and embankment        | No                       | Limited potential for works to cause mobilisation of potential contamination. |
| CL07-11 | Stone Bridge Farm | Farmhouse and buildings were Grade II Listed in 1986 | Low                     | 0                                    | Embankment and attenuation pond | Yes                      | Potential for unknown contaminants to become mobilised during de-watering.    |
| CL07-12 | Low Broats Farm   | Farm observed on current OS map                      | Low                     | 0                                    | Embankment and attenuation pond | Yes                      | Potential for unknown contaminants to become mobilised during de-watering.    |
| CL07-13 | High Broats Farm  | Farm observed on                                     | Low                     | 195                                  | Land take and at-grade          | No                       | Distance from the proposed scheme.  |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name          | Description   | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area       | Potential to be impacted | Comments  |
|---------|--------------------|---|-------------------------|--------------------------------------|-------------------------|--------------------------|---|
|         |                    | current OS map  |                         |                                      |                         |                          | Limited potential for works to cause mobilisation of potential contamination.   |
| CL07-14 | East Lowfield Farm | Farm observed on current OS map   | Low                     | 220                                  | Land take               | No                       | Distance from the proposed scheme<br>Limited potential for works to cause mobilisation of potential contamination.        |
| CL07-15 | Hulands quarry     | Active quarry observed on current OS map  | Moderate/Low            | 110                                  | At-grade and embankment | No                       | Distance from the proposed scheme<br>Limited potential for works to cause mobilisation of potential contamination.        |
| CL07-16 | Hulands landfill   | General quarrying since from 1895. Landfill input of inert (non-biodegradable) waste from March 1991 to December 1992. Very large (>= 250,000 | Moderate/Low            | 0                                    | At-grade and embankment | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction. |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                        | Description   | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area               | Potential to be impacted | Comments   |
|---------|----------------------------------|---|-------------------------|--------------------------------------|---------------------------------|--------------------------|--|
|         |                                  | tonnes per year)                                    |                         |                                      |                                 |                          |  |
| CL07-17 | The Old Armoury and outbuildings | Observed on aerial photography                      | Low                     | 0                                    | At-grade and cutting            | Yes                      | Potential for unknown contaminants to become mobilised during de-watering.   |
| CL07-18 | Black Lodge Farm                 | Observed on aerial photography                      | Low                     | 60                                   | Land take, at-grade and cutting | Yes                      | Potential for unknown contaminants to become mobilised during de-watering.   |
| CL07-19 | High Barn Farm                   | Observed on aerial photography                      | Low                     | 190                                  | Land take                       | No                       | Distance from the proposed scheme<br>Limited potential for works to cause mobilisation of potential contamination. |
| CL07-20 | Lyndale House Farm               | Observed on aerial photography                      | Low                     | 5                                    | Land take and cutting           | Yes                      | Potential for unknown contaminants to become mobilised during de-watering.   |
| CL07-21 | West End Farm                    | Observed on aerial photography                      | Low                     | 5                                    | Land take, at-grade and cutting | Yes                      | Potential for unknown contaminants to become mobilised during de-watering.   |
| CL07-22 | Custom Paint                     | Paint depot/workshop observed on aerial photography | Low                     | 0                                    | At-grade and cutting            | Yes                      | Potential for unknown contaminants to become mobilised during de-watering.   |

## A66 Northern Trans-Pennine

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name      | Description                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area              | Potential to be impacted | Comments   |
|---------|----------------|--------------------------------|-------------------------|--------------------------------------|--------------------------------|--------------------------|--|
| CL07-23 | Swinholme Farm | Observed on aerial photography | Low                     | 100                                  | Land take and attenuation pond | Yes                      | Potential for unknown contaminants to become mobilised during de-watering. |

Table 9-18: Potential contamination receptors: Bowes Bypass

| Receptor                             | Receptor ID   | Description                         | Distance from draft DCO Boundary | Sensitivity |
|--------------------------------------|---|-------------------------------------|----------------------------------|-------------|
| <b>Human Health</b>                  |   |                                     |                                  |             |
| Clint Gardens                        | HH07-01   | Allotments                          | 0                                | Very High   |
| Bowes Hutchinson CofE Primary School | HH07-02   | School                              | 0                                | Very High   |
| Residents                            | HH07-03<br>HH07-04<br>HH07-05<br>HH07-06<br>HH07-07<br>HH07-08<br>HH07-09<br>HH07-10<br>HH07-11<br>HH07-12<br>HH07-13<br>HH07-14<br>HH07-15<br>HH07-16<br>HH07-17<br>HH07-18<br>HH07-19 | Properties on The Street, Back Lane | 0                                | Very High   |
| Allotments                           | HH07-20   | Allotments                          | 0                                | Very High   |
| <b>Groundwater</b>                   |   |                                     |                                  |             |
| Glacial Till                         | -   | Secondary Undifferentiated Aquifer  | 0                                | Medium      |
| Stainmore Formation                  | -   | Secondary A Aquifer                 | 0                                | Medium      |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                             | Receptor ID | Description  | Distance from draft DCO Boundary | Sensitivity |
|--------------------------------------|-------------|--|----------------------------------|-------------|
| Great Limestone Member               | -           | Secondary A Aquifer                                      | 0                                | Medium      |
| Four Fathom Limestone Member         | -           | Secondary A Aquifer                                      |                                  | Medium      |
| Alston Formation                     | -           | Secondary A Aquifer                                      | 0                                | Medium      |
| General domestic Water supplies      | -           | Small private domestic and agricultural supplies <20m³/d |                                  | Medium      |
| <b>Surface water</b>                 |             |  |                                  |             |
| Bessy Sike                           | -           | Watercourse not classified under WFD. Q95 0.001 to 1m³/s | 440                              | Medium      |
| Unnamed Tributary of River Greta 7.7 | -           | Watercourse not classified under WFD. Q95 ≤0.001m³/s     | 530                              | Low         |
| Unnamed Tributary of River Greta 7.1 | -           | Watercourse not classified under WFD. Q95 ≤0.001m³/s     | 0                                | Low         |
| Unnamed Tributary of River Greta 7.3 | -           | Watercourse not classified under WFD. Q95 ≤0.001m³/s     | 0                                | Low         |
| Chert Gill                           | -           | Watercourse not classified under WFD. Q95 0.001 to 1m³/s | 120                              | Medium      |
| How Low Gill                         | -           | Watercourse not classified under WFD. Q95 0.001 to 1m³/s | 540                              | Medium      |
| Unnamed Tributary of River Greta 7.5 | -           | Watercourse not classified under WFD. Q95 ≤0.001m³/s     | 0                                | Low         |
| Unnamed Tributary of River Greta 7.6 | -           | Watercourse not classified under WFD. Q95 ≤0.001m³/s     | 0                                | Low         |
| River Greta                          | -           | WFD classified. Q95 <1.0m³/s                             | 0                                | High        |

## A66 Northern Trans-Pennine

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor       | Receptor ID | Description  | Distance from draft DCO Boundary | Sensitivity |
|----------------|-------------|--|----------------------------------|-------------|
| Thorsgill Beck | -           | Watercourse not classified under WFD.<br>Q95 0.001 to 1m <sup>3</sup> /s | 460                              | Medium      |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-19: Potential contamination sources: Cross Lanes to Rokeby (Scheme 08)( Black + Black, Blue + Black, Black + Red)

| Site ID | Site name                  | Description  | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area                                     | Potential to be impacted | Comments  |
|---------|----------------------------|--|-------------------------|--------------------------------------|---|--------------------------|---|
| CL08-01 | Potential fly tipping site | Fly tipping observed in aerial images and site walkover  | Moderate/Low            | 0                                    | At-grade (Blue/Black)                                 | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction. |
| CL08-02 | Poultry house              | Poultry house observed on current OS map   | Low                     | 0                                    | At-grade (Blue/Black)                                 | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction. |
| CL08-03 | Discharge consents (food)  | Cross Lanes Organic Farm food and beverage services. In effect since September 2015. Consent number EPRCB3393 WJ | Low                     | 0                                    | At-grade (Blue/Black)                                 | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction. |
| CL08-04 | Street Side Farm           | Farm observed on current OS map  | Low                     | 0                                    | At-grade and attenuation pond (Black) at-grade (Blue) | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                     | Description                     | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area   | Potential to be impacted | Comments  |
|---------|-------------------------------|---------------------------------|-------------------------|--------------------------------------|---|--------------------------|---|
| CL08-05 | Birk House Farm               | Farm observed on current OS map | Low                     | 0                                    | At-grade and attenuation pond (Black) at-grade (Blue)         | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation   |
| CL08-06 | Tutta Beck Farm               | Farm observed on current OS map | Low                     | 5                                    | Land take and at-grade (Black/Red)                            | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation   |
| CL08-07 | Rokeyby Grange Farm           | Farm observed on current OS map | Low                     | 0                                    | Land take and at-grade (Black/Red)                            | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction. |
| CL08-08 | Cemetery                      | Churchyard on current OS map    | Low                     | 0                                    | At-grade (Blue Red) and at-grade and attenuation pond (Black) | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation   |
| CL08-09 | Ewebank Farm                  | Farm observed on current OS map | Low                     | 90                                   | Cutting (Red) and land take (back/Blue)                       | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation   |
| CL08-10 | Potential scrapyard and tanks | Observed in aerial images       | Low                     | 5                                    | Cutting (Red) and land take (back/Blue)                       | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation   |
| CL08-11 | Electricity substation        | Substation observed on          | Low                     | 60                                   | Land take, attenuation pond (Black)                           | Yes                      | Potential for contaminants to become mobilised during de-watering of excavation   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                 | Description  | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area   | Potential to be impacted | Comments   |
|---------|---------------------------|--|-------------------------|--------------------------------------|---|--------------------------|--|
|         |                           | current OS map   |                         |                                      | and at-grade (Red/Blue)                                     |                          |  |
| CL08-12 | Discharge consents (food) | Morritt Arms Hotel food and beverage services. In effect since October 2012. Consent number 252/1024 | Low                     | 80                                   | Land take, attenuation pond (Black) and at-grade (Red/Blue) | Yes                      | Potential for contaminants to become mobilised during dewatering of excavation   |
| CL08-13 | North Bitts Farm          | Observed on aerial photography   | Low                     | 5                                    | Land take (Red), at-grade (Black/Blue) and embankment       | Yes                      | Site is within 10m of draft DCO boundary, therefore there is potential for disturbance of any contamination during construction. |
| CL08-14 | Farm outbuildings         | Observed on aerial photography   | Low                     | 5                                    | Land take (Red), at-grade (Black/Blue) and embankment       | Yes                      | Site is within 10m of draft DCO boundary, therefore there is potential for disturbance of any contamination during construction. |
| CL08-15 | North Bitts Farm          | Observed on aerial photography   | Low                     | 120                                  | Land take (Red), at-grade                                   | No                       | Distance from the proposed scheme  |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                    | Description                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area                           | Potential to be impacted | Comments  |
|---------|------------------------------|--------------------------------|-------------------------|--------------------------------------|---|--------------------------|---|
|         |                              |                                |                         |                                      | (Black/Blue) and embankment                 |                          | Limited potential for works to cause mobilisation of potential contamination.   |
| CL08-16 | The Cottage (potential Farm) | Observed on aerial photography | Low                     | 10                                   | Embankment and at-grade (Black/Blue/Red )   | No                       | Limited potential for works to cause mobilisation of potential contamination. Site is located on opposite side of Tutta Beck. |
| CL08-17 | Slurry Pond                  | Observed on aerial photography | Low                     | 55                                   | At-grade (Black/Blue/Red )                  | No                       | Limited potential for works to cause mobilisation of potential contamination.   |
| CL08-18 | Dent House Farm              | Observed on aerial photography | Low                     | 0                                    | Embankment (Black/Blue) and land take (Red) | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction.     |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-20 Potential contamination receptors: Cross Lanes to Rokeby (Black + Black, Blue + Black, Black + Red)

| Receptor                        | Receptor ID | Description   | Distance from draft DCO Boundary | Sensitivity |
|---------------------------------|-------------|---|----------------------------------|-------------|
| <b>Human Health</b>             |             |   |                                  |             |
| Rokeby Park                     | HH08-01     | Public open space   | 0                                | High        |
| Residents                       | HH08-02     | Various residential farms within the 250m buffer                                  | 0                                | Very high   |
|                                 | HH08-03     |   |                                  |             |
|                                 | HH08-04     |   |                                  |             |
|                                 | HH08-05     |   |                                  |             |
|                                 | HH08-06     |   |                                  |             |
|                                 | HH08-07     |   |                                  |             |
|                                 | HH08-08     |   |                                  |             |
|                                 | HH08-09     |   |                                  |             |
|                                 | HH08-10     |   |                                  |             |
|                                 | HH08-11     |   |                                  |             |
| <b>Groundwater</b>              |             |   |                                  |             |
| Glacial Till                    | -           | Secondary Undifferentiated Aquifer  | 0                                | Medium      |
| Stainmore Formation             | -           | Secondary A Aquifer   | 0                                | Medium      |
| Great Limestone Member          | -           | Secondary A Aquifer   | 0                                | Medium      |
| Four Fathom Limestone Member    | -           | Secondary A Aquifer   | 0                                | Medium      |
| Alston Formation                | -           | Secondary A Aquifer   | 0                                | Medium      |
| General domestic Water supplies | -           | Small private domestic and agricultural supplies <20m <sup>3</sup> /d             |                                  | Medium      |
| <b>Surface water</b>            |             |   |                                  |             |
| Thorsgill Beck                  | -           | Watercourse not classified under WFD. Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 490                              | Medium      |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                               | Receptor ID | Description  | Distance from draft DCO Boundary | Sensitivity |
|--|-------------|--|----------------------------------|-------------|
| Punder Gill                            | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 0                                | Medium      |
| Unnamed Tributary of Punder Gill 8.1   | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 0                                | Low         |
| Unnamed Tributary of Tutta Beck 8.1    | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 0                                | Low         |
| Tutta Beck                             | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 0                                | Medium      |
| New Cut                                | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 350                              | Medium      |
| Unnamed Tributary of Tutta Beck 8.2    | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 0                                | Low         |
| Unnamed Tributary of Tutta Beck 8.3    | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 40                               | Low         |
| Partridge Gill                         | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s |                                  | Medium      |
| Wellfield Strand                       | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 280                              | Medium      |
| Manyfold Beck                          | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 0                                | Medium      |
| Unnamed Tributary of Manyfold Beck 8.3 | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 0                                | Low         |
| Unnamed Tributary of Manyfold Beck 8.1 | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 0                                | Low         |
| River Greta                            | -           | WFD classified.  | 230                              | High        |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor   | Receptor ID | Description  | Distance from draft DCO Boundary | Sensitivity |
|------------|-------------|--|----------------------------------|-------------|
|            |             | Q <sup>95</sup> <1.0m <sup>3</sup> /s                    |                                  |             |
| River Tees | -           | WFD classified.<br>Q <sup>95</sup> ≥1.0m <sup>3</sup> /s | 150                              | Very High   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-21: Potential contamination sources: Stephen Bank to Carkin Moor

| Site ID | Site name         | Description                            | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area                | Potential to be impacted | Comments   |
|---------|-------------------|--|-------------------------|--------------------------------------|----------------------------------|--------------------------|--|
| CL09-01 | Disused quarry    | Quarry decommissioned by 1898          | Moderate/Low            | 0                                    | At-grade                         | Yes                      | Site is within draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL09-02 | Disused quarry    | Quarry decommissioned by 1898          | Moderate/Low            | 0                                    | Cutting                          | Yes                      | Potential for contaminants to become mobilised during de-watering.   |
| CL09-03 | Browson Bank Farm | Farm observed on current OS map        | Low                     | 80                                   | Embankment and attenuation ponds | Yes                      | Potential for contaminants to become mobilised during de-watering.   |
| CL09-05 | Disused quarry    | Quarry observed on 1913 historical map | Moderate/Low            | 90                                   | Land take                        | No                       | Limited potential for works to cause mobilisation of potential contamination.  |
| CL09-06 | Disused quarry    | Quarry decommissioned by 1898          | Moderate/Low            | 15                                   | Cutting and at-grade             | Yes                      | Potential for contaminants to become mobilised during de-watering.   |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                    | Description   | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area                        | Potential to be impacted | Comments  |
|---------|------------------------------|---|-------------------------|--------------------------------------|--|--------------------------|---|
| CL09-07 | Disused quarry               | Quarry shown on maps from 1857 to 1954                                | Moderate/Low            | 40                                   | Cutting                                  | Yes                      | Potential for contaminants to become mobilised during de-watering.                                      |
| CL09-08 | Disused quarry               | Quarry decommissioned by 1898   | Moderate/Low            | 15                                   | Cutting and at-grade                     | Yes                      | Potential for contaminants to become mobilised during de-watering.                                      |
| CL09-09 | Anaerobic digestion facility | Operated by AWSM Recycling Limited. <75,000 tonnes per year capacity. | Moderate/Low            | 0                                    | Cutting and at-grade                     | Yes                      | Potential for contaminants to become mobilised during de-watering.                                      |
| CL09-11 | Tank                         | Observed on 1913 OS map   | Moderate/Low            | 40                                   | Cutting                                  | Yes                      | Potential for contaminants to become mobilised during de-watering.                                      |
| CL09-12 | Fox Grove Farm               | Farm observed on current OS map                                       | Low                     | 145                                  | Land take, at-grade and attenuation pond | Yes                      | Distance from the proposed scheme<br>Potential for contaminants to become mobilised during de-watering. |
| CL09-13 | Monks Rest Farm              | Farm observed on current OS map                                       | Low                     | 0                                    | At-grade and cutting                     | Yes                      | Potential for contaminants to become mobilised during de-watering.                                      |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                | Description                            | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area              | Potential to be impacted | Comments   |
|---------|--------------------------|--|-------------------------|--------------------------------------|--------------------------------|--------------------------|--|
| CL09-14 | Mainsgill Farm           | Farm observed on current OS map        | Low                     | 0                                    | Land take and attenuation pond | Yes                      | Potential for contaminants to become mobilised during de-watering.   |
| CL09-15 | Carkin Moor Farm         | Farm observed on current OS map        | Low                     | 80                                   | Cuttings                       | Yes                      | Potential for contaminants to become mobilised during de-watering.   |
| CL09-16 | Disused quarry           | Quarry shown on maps from 1857 to 1919 | Moderate/Low            | 135                                  | Cuttings                       | Yes                      | Site is distant from the proposed scheme but there is potential for contaminants to become mobilised during de-watering. |
| CL09-17 | Disused limestone quarry | Quarry observed on 1957 OS map         | Moderate/Low            | 240                                  | Land take                      | No                       | Distance from the proposed scheme<br>Limited potential for works to cause mobilisation of potential contamination.       |
| CL09-18 | Tank                     | Observed on 1976 OS map                | Moderate/Low            | 180                                  | Embankment and cutting         | Yes                      | Site is distant from the proposed scheme but there is potential for contaminants to                                      |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                                      | Description                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area     | Potential to be impacted | Comments  |
|---------|--|--------------------------------|-------------------------|--------------------------------------|-----------------------|--------------------------|---|
|         |  |                                |                         |                                      |                       |                          | become mobilised during de-watering.  |
| CL09-19 | Unnamed depot                                  | Observed on aerial photography | Low                     | 5                                    | Land take             | Yes                      | Site is within 10m of draft DCO boundary, therefore there is potential for disturbance of any contamination during construction |
| CL09-20 | Unnamed depot                                  | Observed on aerial photography | Low                     | 205                                  | Land take and cutting | Yes                      | Site is distant from the proposed scheme but there is potential for contaminants to become mobilised during de-watering.        |
| CL09-21 | Foxhill Caravan Park                           | Observed on aerial photography | Low                     | 200                                  | Land take             | No                       | Distance from the proposed scheme Limited potential for works to cause mobilisation of potential contamination.                 |
| CL09-22 | Polly tunnels and possible fly tipped material | Observed on aerial photography | Low                     | 130                                  | Land take             | No                       | Distance from the proposed scheme   |



**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name      | Description                    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area              | Potential to be impacted | Comments   |
|---------|----------------|--------------------------------|-------------------------|--------------------------------------|--------------------------------|--------------------------|--|
|         |                |                                |                         |                                      |                                |                          | Limited potential for works to cause mobilisation of potential contamination.  |
| CL09-23 | Greenbank Farm | Observed on aerial photography | Low                     | 160                                  | Attenuation pond and land take | Yes                      | Site is distant from the proposed scheme but there is potential for contaminants to become mobilised during de-watering. |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-22: Potential contamination receptors: Stephen Bank to Carkin Moor

| Receptor                     | Receptor ID   | Description  | Distance from draft DCO Boundary | Sensitivity  |
|------------------------------|---|--|----------------------------------|--------------|
| <b>Human Health</b>          |   |  |                                  |              |
| Residents                    | HH09-01<br>HH09-02<br>HH09-03<br>HH09-04<br>HH09-05<br>HH09-06<br>HH09-07<br>HH09-08<br>HH09-09 | Properties on Browson Bank, West Layton, Ravensworth Lodge, Fox Grove, Monks Rest Farm, Mainsgill, Carkin Moor | 0                                | Very high    |
| Foxhall Caravan Park         | HH09-10   | Observed on aerial photography   | 200                              | High         |
| <b>Groundwater</b>           |   |  |                                  |              |
| Alluvium                     | -   | Secondary A Aquifer  | 0                                | Medium       |
| Glacial Till                 | -   | Secondary Undifferentiated Aquifer   | 0                                | Not Assessed |
| Great Limestone Member       | -   | Secondary A Aquifer  | 660                              | Medium       |
| Four Fathom Limestone Member | -   | Secondary A Aquifer  | 0                                | Medium       |
| Alston Formation             | -   | Secondary A Aquifer  | 0                                | Medium       |
| Pond Dale abstraction well   | License number: 2/27/23/661/R01   | General Farming and Domestic   | 170                              | Medium       |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                                 | Receptor ID       | Description  | Distance from draft DCO Boundary | Sensitivity |
|--|-------------------|--|----------------------------------|-------------|
| Blackhill Farm abstraction well          | No licence number | General Farming and Domestic   | 510                              | Medium      |
| General domestic Water supplies          | -                 | Small private domestic and agricultural supplies <20m <sup>3</sup> /d                |                                  | Medium      |
| <b>Surface water</b>                     |                   |  |                                  |             |
| Dyson Beck                               | -                 | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 650                              | Medium      |
| Smallways Beck                           | -                 | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 880                              | Medium      |
| Unnamed Tributary of Smallways Beck 9.1  | -                 | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 200                              | Low         |
| Unnamed Tributary of Smallways Beck 9.4  | -                 | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 100                              | Low         |
| Cottonmill Beck                          | -                 | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 0                                | Medium      |
| Unnamed Tributary of Cottonmill Beck 9.3 | -                 | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 0                                | Low         |
| Browson Beck                             | -                 | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 0                                | Medium      |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                             | Receptor ID | Description  | Distance from draft DCO Boundary | Sensitivity |
|--------------------------------------|-------------|--|----------------------------------|-------------|
| Stalwath Beck                        | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 930                              | Medium      |
| Holme Beck                           | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 290                              | Medium      |
| Unnamed Tributary of Dalton Beck 9.1 | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     |                                  | Low         |
| Unnamed Tributary of Holme Beck 9.3  | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 0                                | Low         |
| Unnamed Tributary of Holme Beck 9.4  | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 45                               | Low         |
| Unnamed Tributary of Mains Gill 9.1  | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 0                                | Low         |
| Unnamed Tributary of Mains Gill 9.3  | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> ≤0.001m <sup>3</sup> /s     | 0                                | Low         |
| Mains Gill                           | -           | Watercourse not classified under WFD.<br>Q <sup>95</sup> 0.001 to 1m <sup>3</sup> /s | 0                                | Medium      |
| Unnamed Tributary of Holme Beck 9.1  | -           | Watercourse not classified under WFD.  | 0                                | Low         |

## A66 Northern Trans-Pennine

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Receptor                            | Receptor ID | Description   | Distance from draft DCO Boundary | Sensitivity |
|-------------------------------------|-------------|---|----------------------------------|-------------|
|                                     |             | $Q^{95} \leq 0.001 \text{m}^3/\text{s}$   |                                  |             |
| Unnamed Tributary of Holme Beck 9.2 | -           | Watercourse not classified under WFD.<br>$Q^{95} \leq 0.001 \text{m}^3/\text{s}$          | 0                                | Low         |
| Hartforth Beck                      | -           | Watercourse not classified under WFD.<br>$Q^{95} 0.001 \text{ to } 1 \text{m}^3/\text{s}$ | 1000                             | Medium      |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-23: Potential contamination sources: A1(M) Junction 53 Scotch Corner

| Site ID | Site name                           | Description | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments   |
|---------|-------------------------------------|-------------|-------------------------|--------------------------------------|-------------------|--------------------------|--|
| CL11-01 | Scotch Corner Autos                 | Google Maps | Moderate/Low            | 110                                  | At-grade          | No                       | Distance from the proposed scheme<br>Limited potential for works to cause mobilisation of potential contamination. |
| CL11-02 | Farm/outbuildings                   | Google Maps | Low                     | 140                                  | At-grade          | No                       | Distance from the proposed scheme<br>Limited potential for works to cause mobilisation of potential contamination. |
| CL11-03 | Trailer Storage Yard (SDC Trailers) | Google Maps | Low                     | 250                                  | At-grade          | No                       | Distance from the proposed scheme<br>Limited potential for works to cause mobilisation of potential contamination. |
| CL11-04 | Potential Scrap Yard                | Google Maps | Moderate/Low            | 210                                  | At-grade          | No                       | Distance from the proposed scheme<br>Limited potential for works to cause mobilisation of potential contamination. |
| CL11-05 | Petrol Filling Station (ESSO)       | Google Maps | Moderate/Low            | 40                                   | At-grade          | No                       | Limited potential for works to cause mobilisation of potential contamination.                                      |

## A66 Northern Trans-Pennine

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



| Site ID | Site name                  | Description    | Contamination potential | Distance from Draft DCO boundary (m) | Proposals in area | Potential to be impacted | Comments  |
|---------|----------------------------|----------------|-------------------------|--------------------------------------|-------------------|--------------------------|---|
| CL11-06 | Electrical Sub Station     | Current OS Map | Moderate/Low            | 90                                   | At-grade          | No                       | Limited potential for works to cause mobilisation of potential contamination. |
| CL11-07 | Scotch Corner Caravan Park | Current OS Map | Low                     | 100                                  | Land take         | No                       | Limited potential for works to cause mobilisation of potential contamination. |

**A66 Northern Trans-Pennine**

PEI Report - Appendix 9.1 Potential Contamination Sources and Receptors



Table 9-24: Potential contamination receptors: A1(M) Junction 53 Scotch Corner

| Receptor   | Receptor ID | Description  | Distance from draft DCO Boundary | Sensitivity |
|--|-------------|--|----------------------------------|-------------|
| <b>Human Health</b>                              |             |  |                                  |             |
| Scotch Corner Caravan Park                       | HH11-01     | Residential or commercial  | 90                               | High        |
| Residents, Middleton Tyas Lane                   | HH11-02     | Residential  | 30                               | Very high   |
| Trading Complex (leisure centre and Holiday Inn) | HH11-03     | Commercial   | 0                                | Medium      |
| <b>Groundwater</b>                               |             |  |                                  |             |
| Glacial Till                                     | -           | Secondary Undifferentiated Aquifer                                       | 0                                | Medium      |
| Great Limestone Member                           | -           | Secondary A Aquifer  | 470                              | Medium      |
| Four Fathom Limestone Member                     | -           | Secondary A Aquifer  | 0                                | Medium      |
| Alston Formation                                 | -           | Secondary A Aquifer  | 180                              | Medium      |
| Landteam Farm abstraction well                   | -           | Licence reference 2/27/23/702/R01  | 850                              | Medium      |
| General domestic Water supplies                  | -           | Small private domestic and agricultural supplies <20m <sup>3</sup> /d    |                                  | Medium      |
| <b>Surface water</b>                             |             |  |                                  |             |
| Ludburn Beck                                     | -           | Watercourse not classified under WFD.<br>Q95 0.001 to 1m <sup>3</sup> /s | 650                              | Medium      |