Heanings Water Supply Connection Environmental Impact Assessment Screening Report

United Utilities Water Limited

April 14, 2025

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Environmental Impact Assessment Screening Report

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Contents

Acronyms and Abbreviations

AMS	Arboricultural method statement
AOD	Above Ordnance Datum
AONB	Area of Outstanding Natural Beauty
BGS	British Geological Survey
BHS	Biological Heritage Site
BS	British Standards
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
EU	European Union
HARP	Haweswater Aqueduct Resilience Programme
HER	Historic Environment Record
LCTs	Landscape Character Types
NCA	National Character Area
NGR	National Grid Reference
PRoW	Public Right of Way
PRV	Pressure Release Valve
SOAEL	Significant Observed Adverse Effect Level
SSSI	Site of Special Scientific Interest
TN	Target Note
TPP	Tree protection plan
WFD	Water Framework Directive

1. Introduction

1.1 Project Background

1) Jacobs UK Limited ('Jacobs') has been appointed by United Utilities Water Limited ('United Utilities') to prepare an Environmental Impact Assessment (EIA) Screening Request for submission to the local planning authority, Ribble Valley Borough Council. This document is an EIA screening report to support the screening request.

2) United Utilities wishes to request a formal Screening Opinion under the Town and Country Planning (Environmental Impact Assessment) Regulations[1] (hereafter referred to as the 'EIA Regulations') for the Heanings Water Supply Connection Project (hereafter referred to as 'the proposed water supply connection'). The site of the proposed water supply connection is located approximately one kilometre (km) to the west of Newton-in-Bowland, along the Newton-in-Bowland to Dunsop Bridge road[2] (see Figure 1 at the end of this report). The proposed water supply connection, when constructed, would comprise a small (up to 90 millimetre (mm) internal diameter) pipe buried entirely below ground level at a depth of around one metre (m). A pump would be required to convey treated water up the hillside towards customers' properties. The pump would be permanently located at United Utilities' existing Fober Barn facility off the Dunsop Bridge road.

3) The proposed water supply connection would occupy an area of 0.826 hectares (ha) during its construction phase, to include a temporary construction compound adjacent to Fober Barn.

4) The proposed water supply connection is located entirely within Ribble Valley Borough Council's administrative area.

1.2 The Need for the Proposed Water Supply Connection

5) There are seven properties - five residential and two farms - which are currently supplied from a combination of a borehole and a spring supply on land which is now owned by United Utilities. To ensure a safe and reliable supply of drinking water into the future, United Utilities are required under drinking water regulations to connect these properties into a new treated water supply which itself will be connected to existing potable water infrastructure.

1.3 Consideration of Alternatives

6) In evaluating options to connect these properties to United Utilities existing network of water mains, technical as well as environmental solutions were considered.

7) One technical consideration was the need to deliver water at suitable mains pressure to each of the properties. It was noted that there is a considerable difference in elevation (50m) between the potential connection points on the existing mains in the lower reaches of the Hodder valley and the highest and furthest properties (Gamble Hole Farm and Gamble Hole Barn) which are 190 m Above Ordnance Datum (AOD)) at the end of the proposed connection. To achieve acceptable water pressure at the properties, the proposed water supply connection needs to be pumped because normal mains pressure would not be sufficient to deliver water over this distance and elevation.

8) A further technical consideration was the need to connect to a phosphate-dosed source, to protect the water supply from the potential risks posed by lead piping. The nearest existing asset from which a phosphate-dosed supply could be taken is the Hodder Aqueduct, and a suitable connection is available at United Utilities Fober Barn facility off the Dunsop Bridge road.

[1] *The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 UK Statutory Instruments 2017 No. 571*

[2] Referred to as the Dunsop Bridge road in this report

9) In summary, a suitable location is therefore needed for a pump to deliver the new supply at suitable pressure to all properties, including the highest and furthest dwellings at Gamble Hole Farm and Gamble Hole Barn. Additionally, a phosphate-dosed source is required. While there is an option to connect to the existing mains at Newton-in-Bowland, this would offer no benefit in environmental terms and would still require a site to locate a new pumping facility. United Utilities' existing facility at Fober Barn is the only location where a new pump can be installed without the need to acquire land to build it, and where it is possible to readily connect to the Hodder Aqueduct which offers a phosphate-dosed supply.

1.4 Purpose of the Screening Request

10) The purpose of this screening request is to seek Ribble Valley Borough Council's opinion as to whether the proposed water supply connection constitutes EIA development under the EIA Regulations.

11) This screening report describes the nature and scope of the proposed water supply connection, the baseline environmental conditions in which the connection would be constructed and operated, an appraisal of how the connection may impact the baseline environment, and how mitigation measures can be deployed to avoid, reduce or offset adverse environmental effects.

12) It is important to note that the proposed water supply connection, once constructed and in operation, would be located entirely below ground level and out of sight, with the exception of the new pump at Fober Barn which would be an above-ground structure but located within the existing buildings.

1.5 Report Structure

13) This EIA Screening Request comprises the following sections:

- Description of the proposed water supply connection - summary of the proposed development including construction and operational activities
- Overview of the EIA Regulations and the EIA screening process
- Consideration of relevant environmental effects
- Consideration of the potential for significant cumulative effects to arise
- Screening conclusions – summary of findings from the EIA screening exercise
- Consideration of cumulative effects
- Figure 1 – site location and environmental constraints plan.

2. Description of the Proposed Water Supply Connection

2.1 Site Location and Context

14) The proposed water supply connection would be located approximately 1 km to the west of the village of Newton-in-Bowland. The water supply connection would originate at Fober Barn, an existing United Utilities facility (approximately 140 m AOD), at National Grid Reference (NGR) SD689499), from where it would rise in a generally north-westerly direction, connecting into residential properties at the Heanings (SD685504), before rising further in a northerly direction to its termination point at Gamble Hole Farm (approximately 190 m AOD, at SD686509). Access to the proposed connection would be gained from the Dunsop Bridge road (see Figure 1 at the end of this report).

15) The surrounding land predominantly features pastures and hay meadows with field boundaries comprising dry stone walls, hedgerows and post and wire fences. Pockets of woodland, tree groups and specimen trees are distributed throughout the pastoral landscape. The River Hodder to the south flows in a westerly direction at this location. Heaning Brook (a tributary of the Hodder) flows approximately north-south through the general area of the proposed water supply connection, and at one location crosses the proposed alignment of the connection itself. Local residential properties include the Heanings, a group of properties which would connect to the new supply, in addition to Gamble Hole Farm and Gamble Hole Barn, where the proposed connection would terminate.

2.2 Key Scheme Components

16) The key components of the proposed water supply connection are:

- Flexible polypropylene pipes of 63 mm and 90 mm diameters
- Installation of pressure release valves (PRVs) at each take off location
- An above-ground pump, located within a building at United Utilities' existing Fober Barn facility
- Crossing of three Public Rights of Way[3] (PRoW), a watercourse (Heaning Brook) and Dunsop Bridge road
- Land to the north of the existing Fober Barn facility to be used as a temporary construction compound.

2.2.1 The Proposed Water Supply Connection – Construction and Commissioning

17) The pipeline would be installed by open cut[4] over 1.84 km of which:

- 723 m of 90 mm diameter pipe would be in agricultural land
- Approximately 10 m of 90 mm diameter pipe would be in road crossing (Dunsop Bridge road)
- 1,096 m of 63 mm diameter pipe would be in agricultural land
- 7m of 63 mm diameter pipe would be in an existing driveway.

18) Seven properties require a new domestic connection, and pipes would be connected to the properties' existing inlet pipe. Two connections are required at the top section of the route – the Gamble Hole Farm connection would be into their existing private water supply pipework, whereas Gamble Hole Barn would require a new connection into the property.

[3] Footpaths FP0329015, FP0329031 and FP0329009. Available online from: https://mario-lancashirecounty.hub.arcgis.com/ [Accessed April 2025]

[4] Open cut is a construction term used to describe the excavation of a trench into which the pipe would be installed. The pipe is covered by excavated material once it is in position, and the disturbed ground is reinstated to previous levels.

19) The depth of the open cut trench would be approximately 1.3 m to 1.4 m, and the depth of cover to pipes of about 1 m. The working width for pipe installation would be 4 m along its full length to allow for construction plant movements, top- and sub-soil storage, and demarcation / post and rail fencing alongside the working area boundary.

20) Excavated soil would be stored adjacent to the trench and backfilled as construction progresses. At any given location, the trench would be open for a maximum duration of one week but would typically be backfilled and reinstated on the same day it is excavated.

21) Bedding material is expected to comprise Class S3 as excavated material, where possible. The total excavated volume is estimated to be approximately. 663 m3. Unsuitable material would be replaced with imported granular bedding (for example Class S1/S2) sourced, where possible, from a local supplier.

22) A slightly larger trench (2 m x 2 m x 3 m) would be required at each of the 15 locations where a Pressure Release Valve (PRV), ferrule, and valve and hydrant arrangement is required. Each of these trenches would also be backfilled and reinstated on completion and commissioning of the PRV. The PRVs, on completion, would be flush with the surrounding ground level.

23) A new pump is to be installed within the Fober Barn building.

24) A short-term, reversible closure would be required for PRoWs that cross the proposed water supply connection (i.e. FP0329015, FP0329031 and FP0329009) whilst the pipe is laid with a possible small diversion.

25) An open cut crossing of Heaning Brook would be achieved by a pipe flume over the pipe route or by diverting the stream and then the stream bed being open cut approximately 900 mm below the bed and backfilled with the dug material and a protective surround to the pipe.

26) An open-cut road crossing would be constructed across the Dunsop Bridge road. This would be a short-term (one day), temporary and reversible activity, comprising a small contraflow arrangement controlled by temporary traffic lights. The road would be reinstated immediately on completion of the pipelaying.

27) A 20mx20m compound in the vicinity of United Utilities' existing Fober Barn site would accommodate parking for four to six vehicles and machinery, when not within the construction easement, a temporary portacabin providing a welfare facility and office and material stockpiles. The compound area would be permeable (crushed stone) and temporarily fenced with Heras around its perimeter. On completion of the works the compound would be decommissioned, the crushed stone and fencing removed, and the land reinstated to agriculture.

28) Given the limited amount of construction, the proposed new connection would be undertaken by two teams of eight workers. The largest plant to be used would be a 4-8 tonne excavator (height 3 m) and a 3 tonne dumper.

29) Water and power supplies for welfare facilities would be provided by a bowser and a diesel-powered generator respectively.

30) Construction hours would be 07:00 – 18:00, from Monday to Friday. There would be no night-time working (i.e. after 18:00) and lighting at the compound would be required for safety reasons during shorter daylight hours. Construction and reinstatement are expected to take six to nine months. Commissioning activities would involve open excavations to test for leaks and testing of power connections to the new pump at Fober Barn.

31) Vehicles would park on the existing hardstanding at United Utilities' Fober Barn site or in the temporary compound. It is assumed that only six HGVs per day for a week would be needed at the start and end of construction for site establishment and demobilisation. During the main construction period approximately four HGV movements a week and a combination of 32 light goods vehicles (vans etc.) and car movements per day are expected.

32) Traffic accessing the proposed water supply connection would use the existing local road network, primarily the B6478 and the Dunsop Bridge road.

33) Limited waste would be produced during construction, consisting non-hazardous materials and packaging waste during construction, and liquid and solid wastes from welfare facilities. Where practicable, such wastes would be recycled or used in other developments, before being considered for disposal at landfill as per the waste hierarchy. Due to both the small volume and inert nature of the waste material, it is not expected that any wastes or residues would give rise to likely significant effects.

34) The proposed water supply connection would comply with relevant waste management regulations. Material storage (including construction materials, fuel and oils) would comply with good practice.

2.2.2 The Proposed Water Supply Connection – Operation

35) The proposed water supply connection would provide the same function as other existing water supply systems operated by United Utilities. The new connection, being a buried asset, would not be visible in the surrounding landscape and the new pump would be installed in the existing Fober Barn building.

2.2.3 The Proposed Water Supply Connection – Decommissioning

36) Construction of the proposed water supply connection is estimated to start in the autumn of 2025 and be completed in the summer of 2026. There are no plans for decommissioning activities, except for removal and reinstatement of the temporary compound at Fober Barn on completion of the construction works. There are no plans to decommission the proposed water supply connection once it is operational.

3. EIA Screening

3.1 Introduction

37) This section outlines the application of the EIA Regulations with regards to the proposed water supply connection.

38) A request for a screening opinion is being made to Ribble Valley Borough Council under Regulation 6 of the EIA Regulations.

39) The EIA Regulations form the legislative framework for undertaking EIA for certain projects and define an 'EIA project' as either a 'Schedule 1 works; or Schedule 2 works likely to have significant effects on the environment by virtue of factors such as its nature, size or location.' Schedule 3 of the EIA Regulations provides guidance on selection criteria to be applied for screening Schedule 2 developments.

3.2 Schedule 1

40) The proposed water supply connection does not meet any of the categories of development or thresholds listed in Schedule 1 of the EIA Regulations. As a result, it is not EIA development under Schedule 1 of the Regulations and should, therefore, next be considered under Schedule 2.

3.3 Schedule 2

41) Schedule 2 EIA development is of a type listed in Column 1 of Schedule 2 to the EIA Regulations which:

- a) exceeds one of the relevant thresholds listed in the second column of the table in Schedule 2, or
- b) is located in a 'sensitive area', as referred to in Regulation 2(1).

42) For all Schedule 2 development (including that which would otherwise benefit from permitted development rights), the local planning authority must make its own formal determination of whether or not EIA is required. In making this determination the local planning authority must take into account the relevant 'selection criteria' in Schedule 3 to the Regulations.

43) It is noted that Item 10 (infrastructure projects) paragraph (l) of Schedule 2 makes reference to *installations of long-distance aqueducts* and that the proposed water supply connection is located within a National Landscape (previously Area of Outstanding Natural Beauty), a 'sensitive area'. United Utilities has therefore chosen to adopt a precautionary approach and is taking the proposed water supply connection through a formal EIA screening process. In turn, this requires testing of the environmental effects of the proposed water supply connection against the criteria presented in Schedule 3 of the EIA Regulations.

44) A water supply connection of this relatively small size and short length is normally delivered by United Utilities under its permitted development rights. It is noted that the proposed water supply connection does not fall under the relevant threshold listed in Schedule 2 (i.e. the area of the development is 0.8257 ha and so does not exceed the 1 ha threshold).

3.4 Schedule 3

45) Schedule 3 provides criteria to assist in determining whether a Schedule 2 development constitutes EIA development. These criteria include the characteristics and location of development, and the nature and scope of likely significant effects.

46) In this case, the proposed water supply connection lies within a National Landscape and is, therefore, covered under Schedule 3, paragraph 2c(v) '…other areas classified or protected under national legislation'.

47) The environmental constraints and considerations that have been taken into account in determining the potential for likely significant effects are outlined in Section 4 of this report, cumulative effects in Section 5 and the EIA screening is concluded in Section 6.

4. Environmental Considerations for EIA Screening

4.1 Introduction

48) A screening opinion is a formal position from a local planning authority which advises whether a proposed development is EIA development under the EIA Regulations. A local planning authority will provide an EIA screening opinion in response to an EIA screening opinion request from a developer. The minimum requirements for an EIA screening opinion request comprise:

- A plan sufficient to identify the land
- A description of the development and its characteristics, and the environmental sensitivity of geographical areas that could be affected
- A description of the development's likely significant environmental effects
- Other relevant information that the developer may wish to provide, including mitigation measures or features of the development to avoid or prevent otherwise likely significant environmental effects.

4.2 Environmental Aspects

49) Table 4.1 sets out a series of environmental aspects which can fall within the scope of an EIA. The table summarises whether a particular environmental aspect is relevant in the context of the proposed water supply connection and provides a justification for discounting certain aspects from the screening process. In cases where an environmental aspect has been considered further in the screening report, the reader is referred to the relevant section where further information is provided.

Table 4.1 Environmental Aspects

Environmental Aspect	Relevant to the Proposed Water Supply Connection (Yes/No)	Justification
Air Quality	No	▪ Construction dust would be a temporary effect readily controllable using standard good practice measures ▪ Emissions to air from construction plant, diesel generators and construction vehicles would be negligible and highly unlikely to contribute to a breach of any relevant air quality standards.
Carbon and Climate Change	No	▪ The proposals are very limited in scale and would use small – environmentally insignificant – amounts of imported materials such as imported crushed stone for pipe bedding and compound formation. Plant and construction traffic would be negligible, and associated carbon dioxide emissions would not be significant ▪ The proposed water supply connection is not at risk of flooding and there is no requirement to incorporate climate-resilient features into either the construction or design of the new connection.
Noise and Vibration	Yes	See section 4.3
Ecology and Biodiversity	Yes	See section 4.4
Water Environment	Yes	See section 4.5
Geology and Soils	Yes	See section 4.6
Cultural Heritage	Yes	See section 4.7
Landscape and Visual	Yes	See section 4.8.1

Environmental Aspect	Relevant to the Proposed Water Supply Connection (Yes/No)	Justification
Arboriculture	Yes	See section 4.8.2
Materials and Waste	No	The proposals are very limited in scale and would use small quantities of imported materials. Similarly waste generation is expected to be minimal given the small scale of development and the use of established construction waste management practices. Wastes produced are expected to include pipe fitting plastic/cardboard packaging, wooden pallets, used aggregate bags and general non-hazardous office waste/food waste. All waste material that is unavoidably generated would be taken off-site and recycled or disposed of at suitably licensed facilities using the principles of the waste hierarchy.
Traffic and Transport	No	Approximately 32 light commercial vehicles and cars per day, in addition to four heavy goods vehicles per week, are expected to use the local road network during the construction phase. Six heavy goods vehicles per day would be required to deliver and remove plant and machinery over the course of approximately a week at the start and end of the construction works. Such low traffic levels are not considered to be significant. The pipe would be installed in a trench across the Dunsop Bridge road resulting in minor, temporary (a day or so) and reversible disturbance to road users.
Communities and local businesses	No	The construction site is in a sparsely populated rural area. The residential / farm properties potentially affected would benefit from the new water connection. At these locations, there would be some construction-related disturbance which would, however, be temporary and reversible. The proposed water supply connection crosses land that is mainly farmed by the owners of Fober Farm. United Utilities would liaise directly with affected landowners to minimise disruption to farming operations and allow ongoing access to their land. There would be limited construction vehicle movements on the local road network, but these would not be at a scale to pose the risk of adverse effects on the local community or nearby businesses. United Utilities would liaise directly with locally affected enterprises or residents in the unlikely event that adverse effects arose. The Dunsop Bridge would remain open during construction of the crossing from Fober Barn to the north side of the road.
Human Health	No	The scale and nature of the proposed water supply connection is such that no adverse health effects are expected from any source. During its operational phase the new connection would provide a supply of clean, potable water to local residents benefitting from the connection.
Major Accidents and Disasters	No	The proposed location for the water supply connection is not located within an area subject to natural disasters or extreme events. Construction workers would be protected under the Health and Safety at Work Act 1974. No COMAH[5] major accident installation or other potentially hazardous operations are undertaken nearby. The proposed works are minor and similar to other small scale domestic water mains connections carried out as permitted development. There is no greater risk to people or property compared with other minor pipelaying activities in a rural setting.

[5] Control of Major Accident Hazards - COMAH. In the United Kingdom the COMAH Regulations (2015) apply to prescribed establishments storing or handling large quantities of industrial chemicals of a hazardous nature.

4.3 Noise and Vibration

4.3.1 Baseline

50) The closest noise and vibration sensitive properties to the proposed water supply connection are presented in Table 4.2 below and shown in Figure 1 at the end of this report. Open-cut trenching activities would be required in proximity to Fober Farm, properties at the Heanings, Gamble Hole Farm and Gamble Hole Barn.

Table 4.2 Noise and Vibration Sensitive Properties

ID	Address
R01	Fober Farm - Dunsop Bridge road, Newton in Bowland
R02	The Heaning, The Coach House, The Barn, The Bungalow: Newton-in-Bowland - Dunsop Bridge road, Newton-in-Bowland
R03	Gamble Hole Barn and Gamble Hole Farm, Back Lane, Newton-in-Bowland

51) Baseline noise and vibration levels in the vicinity of the receptors identified in Table 4.2 have previously been measured at Fober Farm[6]. A baseline daytime free field noise level of 49 dB LAeq, 1 hr was recorded, with the dominant source of noise being road traffic, farming machinery, human noise, farm animals (mainly cows) and dogs barking.

52) Round 4 strategic noise mapping datasets for England were published in late October 2024.[7] This noise mapping shows predicted daytime road noise levels at Fober Farm of 50 to <55 dB LAeq,16 hr. This is broadly consistent with the measured baseline noise level presented above. Baseline noise levels at the properties north of the Dunsop Bridge road (R02 and R03) are anticipated to be lower than those at Fober Farm.

4.3.2 Potential Impacts

53) A construction noise model was created to predict construction noise impacts at sensitive receptors during daytime open-cut construction activities. For construction vibration, a qualitative assessment has been undertaken to determine the potential for adverse impacts.

54) The open-cut works progression rate is assumed to be 10 m per day.

55) The construction noise and vibration assessment for the proposed connection adopted the prediction and assessment guidance presented in BS 5228 parts 1[8] and 2[9].

Construction noise

56) Short-term construction noise levels are predicted in excess of the Significant Observed Adverse Effect Level (SOAEL)[10] (65 dB LAeq,T), despite the use of appropriate mitigation to minimise noise emissions. However, noise impacts at this level are not predicted to occur for 10 or more days (or nights) in any 15 consecutive days and significant construction noise effects are, therefore, not anticipated.

Construction vibration

[6] United Utilities. Haweswater Aqueduct Resilience Programme – Proposed Bowland Section, Environmental Statement, Volume 2, Chapter 17: Noise and Vibration (June 2021)

[7] Defra. Road Noise - All Metrics - England Round 4. Retrieved from Defra Data Services Platform, Available online from: https://environment.data.gov.uk/dataset/ 562c9d56-7c2d-4d42-83bb-578d6e97a517 [Accessed March 2025]

[8] British Standard (BS) 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise

[9] British Standard (BS) 5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration

[10] Noise Policy Statement for England, Defra, 2010

57) There is some potential for adverse construction vibration effects during rock breaking. This construction technique may be required should rock be encountered at shallow depth along the alignment of the trench for the supply pipe. It is anticipated that rock is most likely to be encountered above the Heanings properties, as far as Gamble Hole Farm. Vibration effects would be most pronounced when undertaken in close proximity to sensitive properties (for example Gamble Hole Farm and Gamble Hole Barn).

58) Vibration calculation methods for rock breaking works are not available within BS 5228-2. However, based on the distance from potential rock breaking works and sensitive receptors, vibration levels could be elevated at Gamble Hole Farm and Gamble Hole Barn. There is a low likelihood for significant effects to occur on building occupants because the SOAEL value (1.0 mm/s) is unlikely to be exceeded for a period of ten or more days in any 15 consecutive days. It is expected that significant structural responses, such as cosmetic building damage, would be avoided through effective vibration mitigation measures. This is because the impacts would remain below the criterion for preventing cosmetic damage to buildings (6.0 mm/s).

59) This adverse, temporary and reversible vibration effect is contingent upon encountering rock which requires excavation at Gamble Hole Farm and Gamble Hole Barn.

4.3.3 Mitigation

60) The works would be carried out in accordance with Best Practicable Means as defined in Section 72 of the Control of Pollution Act 1974 and in accordance with BS 5228 part 1 and part 2. Additionally, noise and vibration mitigation would be adopted during rock breaking – should this be required - in proximity to Gamble Hole Farm and Gamble Hole Barn. The contractor would work to a noise and vibration control technical specification to be agreed with Ribble Valley Borough Council. This would set out a schedule of mitigation which would be communicated to local residents and would include:

- Partial enclosure of the opencut works (where rock breaking is required)
- Installation of temporary acoustic fencing around the working area when working in proximity to residential properties, including partial enclosures at Gamble Hole Farm and Gamble Hole Barn
- Use of, for example, non-hydraulic rock breaking methods
- Use of lower vibration emitting breakers when working in close proximity to the two sensitive locations. This would normally be identified by a lower maximum hydraulic input power rating but would be confirmed through discussion with the supplier prior to works commencing
- Construction vibration monitoring would be undertaken where rock breaking occurs in close proximity to sensitive properties (namely Gamble Hole Farm and Barn).

61) A vibration limit would be established and incorporated into the contract documents and in the event of an exceedance, works would be halted and alternative work methods identified.

4.3.4 Conclusion

62) Likely significant noise and vibration effects are not anticipated, but mitigation measures would be required through the adoption of best practicable means to be agreed with Ribble Valley Borough Council.

4.4 Ecology and Biodiversity

4.4.1 Baseline

Designated Sites

63) The Bowland Fells Special Protection Area and the associated Bowland Fells Site of Special Scientific Interest (SSSI) are located approximately 1.5 km north of the proposed water supply connection. The North Pennine Dales Meadows Special Area of Conservation is located 2.2 km north-east of the compound area along with the component Myttons Meadows SSSI, Bell Sykes Meadow SSSI and Langcliff Cross Meadow SSSI. Four other SSSIs are located within 5 km to the north-east.

64) No National Nature Reserves lie within 5 km and no Local Nature Reserves lie within 2 km.

65) No other statutory wildlife site was identified within 5 km.

66) The proposed water supply connection overlies SSSI Impact Risk Zones (IRZ) for Bowland Fells SSSI, Myttons Meadows SSSI, Bell Sykes Meadow SSSI and Langcliff Cross Meadow SSSI. The IRZs identify risk categories relating to air pollution, combustion and waste processes as well as aviation infrastructure. The Bowland Fells SSSI risk zones include risks from pipelines.

67) Gamble Hole Farm Pastures Biological Heritage Site (BHS), located east of the proposed water supply connection, is listed on the Priority Habitat Inventory.[11] This BHS comprises wet, semi-natural, neutral grassland with springs and flushes. It lies on the lower slopes of a pasture adjoining Heaning Brook and supports a rich variety of plants characteristic of unimproved ancient grassland and flush systems. Lowland hay meadow (including species-rich neutral grassland) and swamp and fen priority habitats are key habitat types. Its location is shown on Figure 1 at the end of this report and is listed as lowland fen.

68) Dan Clough ancient woodland is located to the east of the proposed water supply connection, approximately 30 m from the construction easement at its closest point (see Figure 1 at the end of this report).

69) Beyond the ancient woodland, there are areas of deciduous woodland that are listed on the Priority Habitat Inventory and which are immediately adjacent to the proposed water supply connection (refer to Target Note (TN) TN2 and TN3 in Table 4.5 and in Figure 1 at the end of this report).

70) Newton West Roadside Verge BHS is located approximately 300 m east of the point at which the proposed water supply connection crosses the Dunsop Bridge road. This BHS comprises artificial roadside verge habitats. Although construction vehicles would pass this location en route to the construction area, there would be no direct or indirect adverse effects on this roadside habitat.

Protected Species

71) A list of protected and notable species[12] within 2 km of the proposed water supply connection obtained from the Lancashire Environmental Records Network (LERN)[13] is provided in Table 4.3. These records were used to inform the ecology surveys and site assessment described below in the Ecology Surveys section.

[11] https://naturalengland-defra.opendata.arcgis.com/datasets/Defra::priority-habitats-inventory-england/explore [Accessed April 2024]

[12] The Conservation of Habitats and Species Regulations 2017 (as amended) Including by: The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

[13] https://www.lancashire.gov.uk/lern/ (Accessed December 2024)

Table 4.3 Summary of Protected and Notable Species Records

Species group	Species	Relevant legislation and conservation policies*
Terrestrial Invertebrates	Various notable butterfly and moth species	S41[14], LBAP
Birds	Various notable bird species including curlew (*Numenius arquata*), oystercatcher (*Haematopus ostralegus*), brambling (Fringilla montifringilla) and meadow pipit (*Anthus pratensis*), barn owl (*Tyto alba*) and peregrine (*Falco peregrinus*)	Birds Directive 1 & 2, WCA1[15]; WCA9, S41, LBAP; Red and Amber List (Birds of Conservation Concern, BoCC)
Bats	Common pipistrelle (*Pipistrellus pipistrellus*)	HabRegs2, WCA5, S41; LBAP
Other terrestrial mammals	Hedgehog (*Erinaceus europaeus*)	S41; LBAP
	Brown hare (*Lepus europaeus*)	S41; LBAP
Fish	Atlantic salmon (*Salmo salar*)	HabRegs2; S41; LBAP
	Brown/Sea trout (*Salmo trutta*)	HabRegs2; S41; LBAP
	European eel (*Anguilla anguilla*)	HabRegs2; S41; LBAP

*HabRegs2 = Section 2 of the Conservation of Habitats and Species Regulations 2017; LBAP = Local Biodiversity Action Plan; S41 = Section 41 of the Natural Environment and Rural Communities Act 2006; WCA1 = Schedule 1 of the Wildlife and Countryside Act 1981 (as amended); WCA5 = Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); WCA9 = Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Ecology Surveys

72) Bowland Ecology undertook a preliminary ecological assessment and detailed ecological surveys of land that included the construction easement of the proposed water supply connection in 2024. A summary of the findings is detailed below.

73) An environmental DNA (eDNA) survey of ponds within 250 m of the construction easement was undertaken for great crested newt (Triturus cristatus) (GCN) on 24 April 2024. All GCN eDNA results came back negative indicating the likely absence of this species.

74) Five buildings within the ecological survey area were assessed externally for bat potential; all were considered to have low suitability for roosting bats. Four of the buildings would not be impacted by the proposed water supply connection. A fifth building, Gamble Hole Barn, may require an internal connection.

75) There are 43 individual trees, nine tree groups, five lines of trees and four woodlands within the ecological survey area which provide bat roosting potential. No trees would require felling during construction, but a further survey may be required for trees at risk of indirect disturbance from the work. The habitats through which the construction easement passes offer potential for foraging and commuting bats. Section 4.8.2 addresses the arboricultural effects of the proposed water supply connection.

76) The majority of grassland within the construction easement is either sheep-grazed modified grassland or other neutral grassland in moderate condition. Woodland classified as 'other woodland' comprising a mixed species composition, and categorised as in 'poor' condition, is present within the survey area.

77) No evidence of badger was identified, although suitable sett building and foraging habitat is present.

[14] Natural Environment and Rural Communities Act 2006 (NERC)

[15] Wildlife and Countryside Act 1981 as amended

78) Brown hares were seen within the ecological survey area and are therefore present and active locally. The temporary loss of habitat within the construction easement is unlikely to cause a significant effect.

79) The vegetation within the construction easement offers potential for ground nesting and passerine birds.

80) There is also potential for common amphibians, reptiles, foraging raptors, otter and water vole within the construction easement (although no evidence was found at the time of the 2024 survey).

4.4.2 Potential Impacts

81) The construction footprint is relatively narrow (4 m in width along much of its length), and construction activities would be planned to minimise adverse effects. The construction activities would result in a temporary loss of sheep-grazed modified grassland and other neutral grassland, which is in moderate condition. These habitats would be fully reinstated on completion of the construction works. Important habitats such as the adjacent ancient woodland and Gamble Hole Farm Pastures BHS would be avoided, and other designated sites, priority habitats and BHS are too distant from the construction works to be affected by direct or indirect effects.

82) The habitats within and adjacent to the proposed water supply connection have potential to support protected species and species of conservation concern. However, standard construction practice would be put in place to avoid direct impacts to species.

83) Overall, given the limited scale of the proposed water supply connection, that ecological effects are expected during construction only, and habitats would be restored to their original state on completion, no significant effects are expected. Nevertheless, mitigation is proposed to reduce impacts as far as practicable.

4.4.3 Mitigation

84) To avoid the potential risk of significant effects, the following would be implemented in the interests of good construction practice and to avoid adverse impacts or reduce them to reasonable acceptable levels which do not trigger a significant effect:

- Provision of an Ecological Clerk of Works (ECoW) during construction
- Immediately prior to construction the presence of otter and water vole would be checked by the ECoW and, if present, agreement on mitigation and a protected species licence would be sought from Natural England to undertake the work
- Immediately prior to construction the presence of bat roosts would be checked by the ECoW and, if present, agreement on mitigation and a protected species licence would be sought from Natural England to undertake the work
- Where practicable, minimise vegetation removal and provide appropriate offsets from existing tree, woodland and hedgerows as advised by the ECoW to reduce disturbance or loss to these features
- Provide an offset from the ancient woodland, Gamble Hole Farm Pasture BHS and Newton West Roadside Verge BHS, noting that no adverse effects on these features are envisaged
- Install temporary drainage to prevent site run-off into the ancient woodland and Priority Habitat Inventory sites, as required
- Restrict construction working hours to daylight hours wherever practicable. Minimise night-time lighting or use sensitive lighting to avoid impacts to mammal foraging and commuting habitats i.e. tree canopies and watercourses
- Include Reasonable Avoidance Measures as advised by the ECoW to protect mammals, reptiles and amphibians (for example use of ramps to allow any animals that fall into excavations to escape)

- Include biosecurity and pollution prevention control, including protection of watercourses and careful soil stripping, storage and reinstatement.

4.4.4 Conclusion

85) No likely significant ecological effects are anticipated and proposed mitigation would be applied to further reduce any adverse effects on species and habitats as far as reasonably practicable.

4.5 Water Environment

4.5.1 Baseline

86) The main watercourse on the proposed water supply connection site is Heaning Brook, which is a tributary to the River Hodder to the south. There is a secondary tributary/ditch that runs from the north via a piped outfall into Heaning Brook. In addition, there are two (ornamental / landscaped) ponds that are situated immediately to the south of the proposed water supply connection where it approaches the Heanings properties.

87) Secondary A (solid and superficial) and secondary undifferentiated (superficial) aquifers underlie the site.

88) The baseline conditions of the proposed water supply connection and the likely value/importance of the receptors are set out in Table 4.4.

Table 4.4 Value/Importance of Water Features

Resource	Feature	Indicator of quality	Value / Importance	Comment[16]
Watercourse	Heaning Brook	Biodiversity	Medium	Contributing to the River Hodder (Water Framework Directive (WFD) reference: GB112071065560) Good ecological status.
	Tributary to Heaning Brook	Biodiversity	Medium	Contributing to the River Hodder (WFD GB112071065560) Good ecological status.
		Water supply	Low	-
Floodplain	Heaning Brook		Low	Limited flood risk area either side of the brook as shown on Environment Agency flood maps.
	Tributary to Heaning Brook		Low	Not shown as at risk of flooding on Environment Agency flood maps.
Groundwater	Local Springs – water supply (abstractions)		Medium	Secondary A and secondary undifferentiated aquifers. Solid geology aquifer – Ribble Carboniferous Limestone (WFD. GB41202G103000) poor chemical rating, good quantitative rating. Size and volume of springs unknown. Known local abstractions for drinking water and agriculture
	Groundwater flooding		N/A	Area at low risk of groundwater flooding
	Groundwater Vulnerability		Low-Medium	Low to medium vulnerability indicated by Groundsure report
Lakes and Ponds		Conservation Value	Low	No formal designation supporting ornamental / landscaped ponds

4.5.2 Potential Impacts

89) Potential impacts on water resources and features may arise as follows:

- General construction activities adjacent to and within Heaning Brook, an ordinary watercourse
- Surface and groundwater quality - Both surface and groundwater quality can be affected by chemical pollution from spillages or mobilisation of existing contamination during construction. However, this is very unlikely for the proposed water supply connection as there is no evidence of contaminated ground or historical polluting activities at this location, and standard good practice pollution control measures during the construction phase would avoid the release of contaminants into the water environment
- Hydrology and geomorphology – Open-cut pipelaying across Heaning Brook could potentially result in minor changes to the river cross section and flows. However, this would be avoided by piping flow in the brook around the construction works area, from the upstream end to the downstream end. This construction technique is frequently used in the construction industry for watercourse crossings. It allows for the bed of the watercourse to be excavated, the pipe to be installed, and the trench to be reinstated under 'no-flow' conditions. As such, significant

[16] Commercially and publicly available records relating to hydrology, hydrogeology, water flooding (Groundsure Enviro + Geo Insight Report Ref: GS-67Q-XWZ-ZOP-TGV and Groundsure Map Insight Ref: GS-3AY-3NK-U46-6FM)

effects are not expected. Potential temporary adverse effects on benthic fauna would be short-term (days) and reversible

- Flood risk – Heaning Brook and the secondary tributary ditch both have narrow flood risk zones and the wider area lies in a low groundwater flood risk zone. There is very little temporary hardstanding required during construction and operation and downstream flood risks on the River Hodder would be inconsequential and temporary
- Groundwater flow – As the pipeline is expected to require excavation to around only 1m depth, and would be laid within generally permeable materials, significant groundwater flow disruption is not expected. There is a possibility of minor impacts on local spring flows due to interception of groundwater by the pipe trench. There is the potential that excavations may require dewatering during construction. The volumes involved are unlikely to be large and can be discharged over ground to seep back into the soil.

4.5.3 Mitigation

90) The following mitigation measures are proposed to mitigate potential impacts:

- Construction of the proposed water supply connection in sections and cessation of construction in periods of extreme rainfall to reduce the potential for major dewatering requirements
- Oils, fuels and other liquids required to support construction operations would be appropriately stored away from watercourses
- Excavated earth and rock would be temporarily (days rather than weeks) stored appropriate distances from Heaning Brook and the two ornamental ponds to minimise the risk of sediment being eroded into the water bodies
- An 'over-pumping' construction technique at the trench crossing of Heaning Brook
- Relevant discharge licences and an ordinary watercourse consent would be obtained from the Environment Agency and Lead Local Flood Authority, respectively, in relation to any construction within or discharges to Heaning Brook.

4.5.4 Conclusion

91) Good practice mitigation measures are available to avoid or minimise any adverse effects. Construction at any one location is likely to take days rather than weeks, and excavated trenches would be reinstated as soon as practicable after pipelaying to prevent ingress or overland flows, should they occur. Groundwater pathways would not be disrupted. Likely significant effects on the water environment are therefore not anticipated.

4.6 Geology and Soils (Including Contaminated Land)

4.6.1 Baseline

Historical Land Use Review

92) The proposed new water supply connection is located within a greenfield agricultural area. A review of historical mapping indicates that this location and the surrounding area have largely remained in agricultural use since the earliest available map dated 1847. There is no evidence of polluting industrial activity in the local area with the exception of a former limestone quarry on site, located to the north-east of the Heanings, between 1847 and 1981. The quarry is no longer identified on more

recent maps (1994 onwards). A lime kiln is also mapped adjacent to the quarry in 1847 but not subsequently.[17]

Drift Geology and Soil

93) Superficial deposits underlying the proposed water supply connection area predominantly comprise Devensian Till, a glacial era deposit. A band of alluvium, described as clay, silt, sand and gravel is identified either side of Heaning Brook.[18]

94) Agricultural Land Classification within the proposed water supply connection area is predominantly Grade 4 (poor quality), with a small portion of Grade 3 (good to moderate quality) land around the southern portion of the pipeline route.

95) Soilscapes[19] identify the following soil types within the proposed water supply connection area:

- 17 – Slowly permeable seasonally wet acid loamy and clayey soils across the majority of the area
- 20 – Loamy and clayey floodplain soils with naturally high groundwater within the southern part of the pipeline route.

96) No peat or peaty soils have been identified along the route of the proposed new connection.[20]

Solid Geology

97) Bedrock deposits consist of:

- Chatburn Limestone Formation beneath the northern section of the proposed water supply connection area
- Hodder Mudstone Formation beneath the southern and south-eastern section of the proposed water supply connection area
- A short, narrow section of the Thornton Limestone Member along the western boundary of the proposed water supply connection.

98) No geological Sites of Special Scientific Interest (SSSIs) or sites with other geological designations have been identified within the proposed water supply connection area.

Hydrogeology

99) The proposed water supply connection lies over Secondary A and Secondary Undifferentiated aquifers of low to medium vulnerability.

Land Contamination

100) Whilst the proposed water supply connection area appears to have been predominantly in agricultural use, the Groundsure report and historical maps identify a former limestone quarry on site, located to the north-east of Heanings, between 1847 and 1981. The quarry is no longer identified on more recent maps (1994 onwards). A lime kiln is also mapped adjacent to the quarry in 1847 but not subsequently.

[17] Commercially and publicly available records relating to current and historical land uses, pollution incidents, waste management and environmental permitting (Groundsure Enviro + Geo Insight Report Ref: GS-67Q-XWZ-ZOP-TGV and Groundsure Map Insight Ref: GS-3AY-3NK-U46-6FM).

[18] British Geological Survey (BGS) online mapping, Available online from: https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/ [Accessed December 2024]

[19] LandIS Soilscapes Viewer, Available online from: https://www.landis.org.uk/soilscapes/ [Accessed December 2024]

[20] Natural England Open Data Geoportal, Available online from: https://naturalengland-defra.opendata.arcgis.com/ [Accessed December 2024]

101) In addition, the Groundsure report and historical maps identify a tank (contents unknown and presumably above ground) within a field on site, approximately 100 m north-west of Heanings Farm between 1894 and 1994.

102) No landfills have been identified within 250m of the proposed water supply connection. However, waste exemption licenses have been registered to local agricultural enterprises in relation to their ongoing farming activities.

103) Based on the above the potential risks from land contamination are considered to be low given the current and historical agricultural setting of the proposed water supply connection area and surrounding land.

4.6.2 Potential Impacts

104) Whilst the construction footprint of the proposed water supply connection is relatively small and lies predominantly within poor quality (Agricultural Land Classification – Grade 4) agricultural land, construction activities have the potential to result in reduction of soil function due to contamination and, soil structure degradation.

105) Given the agricultural setting, the potential risks from historic land contamination are considered to be low.

106) Overall, given the limited scale of the proposed water supply connection and that any effects are expected only during construction, no significant effects are expected. Nevertheless, mitigation is proposed to reduce impacts as far as practicable.

4.6.3 Mitigation

107) The following mitigation measures are proposed:

- Minimising the footprint of temporary works to reduce the degradation of soil functions and soil sealing
- Rapid reinstatement of excavated soils
- Adoption of the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites[21], or an updated version of this guidance if applicable.

4.6.4 Conclusion

108) The land on which the new pipe connection is to be constructed comprises previously undeveloped agricultural land. There is no evidence of ground contamination within the construction area. Soil would be excavated to form a trench and then reinstated very shortly after, so any risk to soil as a resource, or agricultural land quality, is reversible and of negligible or low significance. With the implementation of simple good practice measures, no likely significant effects are anticipated in relation to soils, geology or agricultural land.

4.7 Cultural Heritage

4.7.1 Baseline

Heritage Designations

109) There are no designated heritage assets such as Scheduled Monuments, Registered Parks and Gardens, Registered Battlefields, World Heritage Sites, Conservation Areas, or Listed Buildings within the

[21] Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (Department for Environment, Food and Rural Affairs (2009)

proposed water supply connection boundary. However, there are Listed Buildings (NHLE 1072212, 1072253) nearby and Listed Buildings in Newton-in-Bowland Conservation Area.

110) In total, three non-designated cultural heritage assets were identified within the footprint of the proposed water supply connection comprising one archaeological asset and two historic landscape types, as detailed below.[22] Archaeological remains located adjacent to the proposed water supply connection, although not within its footprint, have also been considered.

Archaeological Remains

111) Two archaeological remains in the footprint of or adjacent to the proposed water supply connection relate to Roman activity:

- The route of a Roman road (MLA26083) between Ribchester and Tebay runs on a broadly north to south alignment through the centre of the proposed water supply connection. This asset is considered to be of medium value due to the potential to provide evidence on the construction of the road and the potential for associated roadside settlement or activity
- The possible site of a Roman earthwork or settlement (MLA20284) was recorded adjacent to the Roman road outside the central section of the proposed water supply connection. This asset is of medium value based upon its proximity to the Roman road and potential to contribute towards regional research on the character of Roman rural settlement sites and pattern.

112) In addition, the location of a post medieval limestone quarry and lime kiln (MLA31708) is recorded to the north-east of the Heanings. The proposed feature survives only as a horseshoe shaped depression and some scattered burnt stones and would not be directly impacted by the water supply connection. This asset is well understood and poorly preserved and is, therefore, of low archaeological value.

Historic Landscape Types

113) Two historic landscape types are represented in the local area. The majority of the proposed water supply connection is characterised as Ancient Enclosure, while the landscape towards the centre and north is characterised as Post-Medieval Enclosure. Both are widespread and common historic landscape types in Lancashire and are, therefore, of low value.

Previous Archaeological Investigations

114) Two previous archaeological investigations undertaken in the local area are recorded as events within the Lancashire HER comprising one watching brief and one geophysical survey.

115) A watching brief (ELA1602; Baldwin 2009[23]) was carried out in 2009 south of the Heanings, adjacent to the central area of the proposed water supply connection. The works intersected the predicted line of the Roman road (MLA26083) and possible earthwork or settlement (MLA20284) but did not reveal the Roman road. A thin, hard clayey sand surface was uncovered towards the eastern side of the field and interpreted as potentially Roman, based on the stratigraphic position and location near to the predicted line of the road. A drystone wall, likely a post medieval field boundary, was found towards the west of the field, as well as post medieval pottery and medieval pottery in low quantities.

116) A geophysical survey[24] was undertaken in 2020 to assess the subsurface archaeological potential of approximately 14.6 ha of land (ELA3663; Magnitude Surveys, 2020). This investigation was associated with a proposed construction compound associated with United Utilities' Haweswater Aqueduct

[22] Lancashire County Council, 2017, Lancashire Historic Landscape Characterisation (HLC) [dataset], Available online from: Archaeology Data Service https://doi.org/10.5284/1041581

[23] Baldwin, S. J., 2009, The Heaning, Dunsop Bridge road, Newton in Bowland, Lancashire, Archaeological Watching Brief Report No. 10/09. Unpublished

[24] Magnitude Surveys, 2020, Geophysical Survey of Proposed Newton-in-Bowland Compound. Unpublished

Resilience Programme (HARP). The 2020 works overlapped with the south-east section of the proposed water supply connection. No anomalies suggesting significant archaeological features were identified. More recently, further archaeological investigations in the form of trial trenching have taken place on the same land previously investigated in 2020. The report into this trial trenching[25] has been reviewed by Lancashire County Council and this has confirmed that no further investigations are required in the HARP compound area.

4.7.2 Potential Impacts

117) There are areas of archaeological interest present on land through, or close to, where the proposed water supply connection would be constructed. These relate to the non-designated features of the Roman road (MLA26083) and possible roadside earthwork (MLA20284). No surface remains were observed during a site walkover; however, there is potential for the survival of below-ground features.

118) There is high potential for previously unknown archaeological remains to be present close to the predicted route of the Roman road where there has been no previous development or quarrying. It is possible that the proposed water supply connection may encounter the Roman road. Evidence of activity associated with the Roman road may also survive and could be encountered during the construction phase. Nevertheless, it is unlikely significant effects would arise on the Roman road (MLA26083) since any removal of the asset would be limited to the 4 m width of the construction easement, which would comprise a very small portion of the approximate 48 km length of the road.

119) There is potential for impacts upon the setting of nearby Listed Buildings (NHLE 1072212, 1072253 and Listed Buildings in Newton-in-Bowland Conservation Area) during construction. However, the impacts would be temporary and occur at distance (approximately 500 m from NHLE 1072253 and ~1 km from other Listed Buildings), and therefore would not substantially intrude upon the immediate setting of these assets in visual or audible terms. In consideration of this, any impacts are unlikely to be significant.

120) Overall, given the limited scale of the proposed water supply connection, the area's generally low archaeological sensitivity, minimal direct effects on known archaeological features and minor temporary effects on the setting of Listed Buildings and the Newton-in-Bowland Conservation Area, no significant effects are expected. Nevertheless, mitigation is proposed to reduce impacts as far as practicable.

4.7.3 Mitigation

121) Following discussion with the County Archaeologist, it is recommended that an archaeological watching brief should be maintained during topsoil stripping until either the natural geology or archaeological remains/deposits are reached, whichever is first, for the length of the proposed water supply connection and over the width of the construction easement.

122) The above would be agreed with the County Archaeologist via a Written Scheme of Investigation.

4.7.4 Conclusion

123) There are features of low archaeological value within the local area, including the alignment of a Roman road. Newton-in-Bowland is a designated Conservation Area, containing various Listed Buildings. No significant effects are anticipated during the construction of the new water supply connection, and any effects on Listed Buildings and the Conservation Area would be short-term (months), reversible and not significant. In common with other construction schemes, an archaeological watching brief would be maintained to enable the identification and investigation of any archaeological remains that are uncovered during the construction phase.

[25] RSK ADAS Ltd. (2024) HARP Newton-in-Bowland Compound, Newton, Ribble Valley, Lancashire: Archaeological Evaluation Report No. 08(01). Unpublished

4.8 Landscape, Visual and Arboriculture

4.8.1 Landscape and Visual

4.8.1.1 Baseline

Landscape Designations

124) The proposed water supply connection is located within the Forest of Bowland National Landscape. The designation[26] highlights attributes contributing to its natural beauty:

- The grandeur and isolation of the upland core
- The steep escarpments of the moorland hills
- The undulating lowlands
- The visual contrasts between each element of the overall landscape
- The serenity and tranquillity of the area
- The distinctive pattern of settlements
- The wildlife and the landscape's historic and cultural associations.

Landscape Context and Character

125) The proposed water supply connection is in an area of lowland farmland within the Upper River Hodder valley that is enclosed by the elevated Bowland Fells.

126) The settlement of Newton-in-Bowland, a designated Conservation Area approximately 1 km to the east, is connected to surrounding areas by a network of local roads (for example, the Dunsop Bridge road and Back Lane). Away from this settlement are isolated farmsteads and building groups often constructed using local limestone (for example, Gamble Hole Farm). A network of PRoWs and long-distance paths (for example, Pendle Witches Way) connect the village with the surrounding countryside and areas of Open Access Land on the elevated fells.

127) The valley landscape is well vegetated with hedgerows, hedgerow trees and some small woodland blocks, which often extend up the valley side along stream valleys (Heaning Brook, a tributary to the River Hodder, is the main watercourse within the site). There are frequent trees along the River Hodder and dispersed, small areas of ancient woodland. The field pattern is varied and bounded by a mixture of hedgerows, tree belts, limestone drystone walls and post and wire fences.

128) Traffic noise has little influence on the tranquillity of the surrounding countryside and there are few visual detractors noticeable in the landscape (for example, pylons and overhead lines). Within the site, the land rises to the north from approximately 140 m AOD near the River Hodder floodplain to 190 m AOD at Gamble Hole Farm. There are extensive views from these elevated areas across the valley, with the hills providing a scenic backdrop to views from within the valley. Wooded reef knolls (small limestone rocky outcrops) are a notable feature of the landscape such as those at Knoll Wood.

129) The proposed water supply connection is located within National Character Area (NCA) 34: Bowland Fells[27], described as:

- "a distinctive upland block on the boundary between north Lancashire and the Yorkshire Dales. The landscape is wild and windswept, with steep escarpments, upland pasture and expansive

[26] Forest of Bowland Area of Outstanding Natural Beauty. Available online from: https://www.bowland.vs.mythic-beasts.com/what-aonb [Accessed December 2024]

[27] Natural England, National Character Area 34 Bowland Fells, Available online from: https://nationalcharacterareas.co.uk/bowland-fells/ [Accessed March 2025]

> open moorland. The NCA is within the Forest of Bowland Area of Outstanding Natural Beauty and also contains areas of moorland [...] High-quality species-rich meadows can be found in the limestone areas to the east. There are also a large number of important waterbodies throughout the area. Extensive conifer plantations occur to the south-east and east [...]., with fragmented broadleaved woodland largely in the cloughs."

130) At the local level, *A Landscape Strategy for Lancashire* (2000)[28] and *Forest of Bowland AONB Landscape Character Assessment* (2009)[29] divide the landscape into a series Landscape Character Types (LCTs) and Landscape Character Areas (LCAs). The proposed water supply connection site is located within the following LCTs/LCAs:

- 05. Undulating Lowland Farmland LCT and 5a. Upper Hodder Valley LCA
- D. Moorland Fringe LCT and D5. Beatrix to Collyholme LCA
- G. Undulating Lowland Farmland with Parkland LCT and G3. Upper Hodder LCA.

Views and Visual Amenity

131) The rural landscape rises from the River Hodder towards the fells, in the north and south. Areas of Open Access Land are located on the higher elevations, which have unobstructed long-distance views towards the surrounding fells and across the Upper River Hodder valley below. Views from within Newton-in-Bowland along the valley are mostly contained by surrounding buildings and vegetation, although the rising high fells to the south are apparent. Views from the western edge of the village are more open, although there is unlikely to be inter-visibility with the proposed water supply connection due to intervening topography and vegetation.

132) Farmsteads and individual properties near the proposed water supply connection (for example, Gamble Hole Farm and the Heanings) generally have short-distance views that, depending on the location, are partially obstructed by the locally undulating topography and intervening vegetation. More distant farmsteads, such as those on the elevated land of the fells to the south, typically have open, long-distance views.

133) Views from the network of footpaths, including the long-distance paths to the south, are predominantly extensive and open from elevated land, and often allow long-distance views across the valley and towards the surrounding fells. Occasionally, views from the lowlands are partially obscured by intervening vegetation and rural development.

134) The nearby roads of Back Lane and the Dunsop Bridge road have variable views (open and enclosed), depending on the section of the route. However, glimpsed long-distance views across the valley and towards the Bowland Fells are a common feature of these sequential views.

135) There are few visual detractors in the landscape, although there is some disturbance from moving vehicles along the Dunsop Bridge road between the villages of Dunsop Bridge and Newton-in-Bowland. There are also views to the existing United Utilities facility at Fober Barn, although this has been constructed with stone cladding in the local vernacular.

136) Visual receptors likely to experience views of the proposed water supply connection include the following:

- Recreational users of footpaths that cross the proposed water supply connection (FP0329009, FP0329015and FP0329031)
- Recreational users of the wider, surrounding PRoW network (for example, FP0329011, FP0329014, FP0329032etc.)
- Recreational users of long-distance paths (Clitheroe 60K and Pendle Witches Way)

[28] A Landscape Strategy for Lancashire (2000)

[29] Forest of Bowland AONB Landscape Character Assessment (2009)

- Residents of farmsteads and rural properties within the surrounding landscape
- Recreational users of the Bowland Fells to the south
- Recreational users of the elevated land at Beatrix Fell and Burn Fell to the north-west
- Transient users of the local road network
- Users of neighbouring lowland agricultural land.

137) Residents of nearby properties such as the Heanings, Gamble Hole Barn, Gamble Hole Farm and Fober Farm are likely to experience views of the proposed water supply connection. It is noted, however, that residents at these properties are directly associated with the proposed new water supply connection as they would benefit from the new supply.

Night-time Context

138) Campaign to Protect Rural England (CPRE) has mapped dark skies and light pollution in England. The proposed water supply connection is in a rural area within the two darkest night sky categories and is, therefore, sensitive to light pollution. The proposed water supply connection is not, however, located within a designated Dark Sky Discovery Site or International Dark Sky Place, although the Clerk Laithe Lodge Dark Sky Discovery Site (Milky Way Class Location) is located north of Newton-in-Bowland, approximately 1.2 km to the east of the connection.

4.8.1.2 Potential Impacts

Landscape

139) The landscape is sensitive because it is located within the Forest of Bowland National Landscape. It also contains notable features (ancient woodland and possible veteran trees – see Section 4.8.2, stone field barns and grassy limestone knolls), BHS and dramatic elevated views to the surrounding fells, which further contribute to its landscape value. Its condition is generally well-preserved with a strong network of hedgerows and limestone drystone walls. The proposed water supply connection is, therefore, likely to result in a temporary adverse effect on the landscape during the construction phase and the initial stages of operation as the construction easement revegetates. However, on completion of the construction works and following successful establishment of the reinstated grass sward, these adverse effects would be completely reversed.

Visual

140) Users of the PRoW (FPP0329031) located near to the proposed compound at Fober Barn are likely to experience a visual change during the construction period. However, these changes would be reversed once the construction works are completed, and the land is reinstated at the compound.

141) The users of other PRoWs crossed by the proposed water supply connection are likely to experience a visual change over only a very short duration, due to the phasing of the open cut trenching works and ongoing backfilling. Other visual receptors are unlikely to experience notable impacts as the proposed water supply connection is unlikely to be the primary focus of their attention (for example, transient users of Back Lane) or when viewed from further away and therefore representing a smaller change across the wider Hodder valley.

142) Nearby residents (for example, the residents of the Heanings and Gamble Hole Farm) would also likely experience a noticeable visual change during the construction period. However, these residents are benefitting directly from the proposed water supply connection and would be in direct contact with United Utilities' contractor during the construction phase.

143) The proposed water supply connection sits within the darker night sky categories and close to a designated Dark Sky Discovery Site. However, there will be no night-time working outside the normal working day of 0700 – 1800. There is, therefore, only the potential for brief limited night-time effects during winter mornings and evenings.

144) Overall, given the limited scale of the proposed water supply connection and that the landscape would be restored to its original state on completion, there are unlikely to be significant effects as a result of the proposals. Nevertheless, given the sensitive location of the works within the Forest of Bowland National Landscape mitigation is proposed to reduce impacts as far as practicable.

4.8.1.3 Mitigation

145) The following mitigation measures would be implemented:

- The chosen route would provide appropriate offsets from existing tree and shrub vegetation, including hedgerows, hedgerow trees, field trees and tree belts, copses and woodland, where practicable, to reduce disturbance to or loss of these features (see Section 4.8.2)
- The pipeline trench would be reinstated and reseeded or returfed as soon as reasonably practical after completion of each section
- Provision of adequate construction hoarding for security fencing around the perimeter of the compound at Fober Barn to provide temporary screening during construction
- Provision of appropriate construction lighting such as directional luminaires with appropriate backlight shields and cowls, to prevent light spill. Where needed, security lighting would be of the lowest luminosity and activated by motion sensors.

4.8.1.4 Conclusions

146) Through embedded design, the potential adverse landscape and visual effects of the proposed new water supply connection have been materially reduced. When design outcomes are coupled with the proposed good practice mitigation measures – including construction techniques and construction phasing – it is concluded that there are unlikely to be significant landscape or visual effects associated with the proposed new water supply connection.

4.8.2 Arboriculture

4.8.2.1 Baseline

147) An arboricultural constraints survey has been conducted along the alignment of the proposed water supply connection. There are potential arboricultural constraints on site including individual trees, groups of trees and Category A (high value) woodland,[30] as well as other notable assets such as veteran/ancient trees.

148) Ribble Valley Borough Council confirmed on the 19 June 2024 that no trees in the immediate area are protected by Tree Preservation Orders and that the proposed water supply connection is not located within a Conservation Area.

149) No verified veteran/ancient trees along the pipe route are noted on the Ancient Tree Inventory (Woodland Trust, 2021). However, it should be noted that the register is continually updated and may not be fully comprehensive at any given location.

150) Jacobs arboriculturalists base their identification of potential veteran, ancient and notable trees on guidance provided by the Ancient Tree Forum and the Woodland Trust, specifically the document *Practical Guidance, Ancient Tree Guide 4: What are ancient, veteran, and other trees of special interest,*[31] *Ancient and other veteran trees: further guidance on management,*[32] and species-specific guidance on

[30] BS5837:2012 Trees in Relation to Design, Demolition and Construction - Recommendations British Standards Institution (2012)

[31] Woodland Trust https://www.woodlandtrust.org.uk/media/1836/what-are-ancient-trees.pdf [Accessed March 2025]

[32] Ancient and other veteran trees: further guidance: https://ancienttreeforum.co.uk/wp-content/uploads/2015/02/ATF_book.pdf [Accessed March 2025]

the Ancient Tree Inventory website.[33] No ancient, veteran or notable trees were noted based on these criteria.

151) The proposed water supply connection passes through a landscape which contains a considerable number of trees present in woodlands, tree groups and as individuals within farmland and boundary features at lower levels, with higher ground supporting fewer trees.

152) Ash trees are a common feature in the general area; the majority are suffering from advanced ash die back which is significantly limiting the trees' remaining useful contribution. Even large mature ash trees (such as those present in TN 1, TN5 and TN6) are in the latter stages of infection with significant canopy decline and an estimated remaining lifespan of fewer than ten years.

153) Survey observations are presented in Table 4.5 below, and Figure 1 at the end of this report shows the locations where the observations were made.

Table 4.5 Site observations

Target Note	Observation
TN1	Two groups of mature trees flanking entrance to the Heanings access track. Ash trees in decline, but oaks (800 mm diameter at breast height (dbh)) of Category A status.
TN2	Group of mature trees at the entrance to Heanings manor house. Large mature sweet chestnut (1 m+ dbh) with veteran features, plus a large mature yew tree and various other species. Collectively Category A, with many of the trees individually category A. Appears as Deciduous Woodland on the Priority Habitat Inventory.
TN3	Woodland belt of collectively category A mature trees. Appears as Deciduous Woodland on the Priority Habitat Inventory.
TN4	Group of mature trees on the north side of buildings. A few large mature Category A specimens, including some significant lime trees.
TN5	Row of significant mature trees including a moribund beech tree and a few sycamore trees with veteran features running parallel to the field boundary. Other large scattered mature trees along the northern boundary of the same field. Majority of these trees are Category A.
TN6	Dan Clough Category A woodland. Appears as ancient and semi-natural woodland on the Ancient Woodland Inventory.

4.8.2.2 Potential Impacts

154) Construction works can affect trees principally by damaging tree roots through excavation and soil compaction along with damage to above surface features by machinery. However, due to the relatively minor works involved in installing the pipe, its route has been chosen such that it can avoid causing any significant effects on the higher quality trees identified. Further mitigation is also proposed to reduce any effects on trees.

4.8.2.3 Mitigation

155) The following mitigation measures are proposed:

- If works are required in proximity[34] to mature trees, then specialist tree protection measures would be developed in consultation with an arboriculturalist
- A full BS5837:2012 tree survey is to be undertaken along the development area to form the basis of an arboricultural method statement (AMS) and tree protection plan (TPP) for the contractor to protect retained trees.

[33]Ancient Tree Inventory: https://ati.woodlandtrust.org.uk/how-to-record/species-guides/, [Accessed March 2025]

[34]It is recommended - as a precautionary approach - that a 30m protective buffer zone be established around larger, mature trees inside which no construction activities would occur without the advice of a suitably qualified arboriculturalist.

4.8.2.4 Conclusions

156) The proposed water supply connection has been routed to avoid individual specimen trees and tree groups. Therefore, no trees would be felled during the construction phase. The contractor would prepare an AMS and TPP in advance of the works commencing, based on an up-to-date survey to be undertaken in accordance with BS5837. No likely significant effects are anticipated.

5. Cumulative Effects

157) Part 5 of Schedule 4 of the EIA Regulations requires that, among other matters, the cumulative effects of an EIA development should be considered as part of the EIA process. Cumulative effects assessment is based on the principle that environmental impacts can act together in an additive way to result in cumulative effects, i.e. impacts may overlap or act in combination with each other, leading to more significant environmental effects than if the impacts were considered in isolation.

158) Cumulative effects can take the form of the same type of impact arising from different proposed schemes (inter-project effects), or different types of impact from the same proposal acting in combination at a particular location (intra-project effects).

159) The potential cumulative effects of the water supply connection have been considered, based on the environmental effects described in this screening report. While it is reasonably foreseeable that cumulative effects may occur, for example, residents may experience both noise and visual intrusion, it is not considered that these intra-project effects would be significant in the context of the EIA Regulations when taking account of their nature, scope, reversibility and duration.

160) It is noted that construction activities associated with the proposed Newton-in-Bowland compound, associated with the consented Bowland section of HARP, and construction activities on the Marl Hill section of HARP, are due to start during 2026. There is potential, therefore, for the construction programme of the proposed water supply connection to overlap by some months with the early stages of the HARP construction programme. It is noted, however, that the early stages of the HARP construction programme centre on delivery of the Hodder Crossing at Newton-in-Bowland, approximately 1 km to the east. On completion of the Hodder Crossing, plant and machinery will be able to access the Newton-in-Bowland compound to commence enabling works.

161) It is noted that the proposed water supply connection would not give rise to any likely significant environmental effects. Taking account of the potential timing of construction activities for HARP and the proposed water supply connection, and the distance between the respective locations of the construction works potentially falling in the same part of 2026, it is considered unlikely that any new or additional likely significant cumulative effects would occur.

162) Similarly, it is not anticipated that any likely significant indirect, secondary, transboundary, short-term, medium-term or long-term environmental effects would occur.

6. EIA Screening Conclusions

163) Ordinarily, United Utilities would deliver a water supply connection of this relatively short length and minor scale under permitted development rights as it is not a long-distance aqueduct under Schedule 2 of the EIA Regulations, and it is less than 1 ha in area (i.e. below the threshold for long-distance aqueducts).

164) The proposed water supply connection is not Schedule 1 EIA Development as it does not meet any of the descriptions of development defined in Schedule 1 of the EIA Regulations.

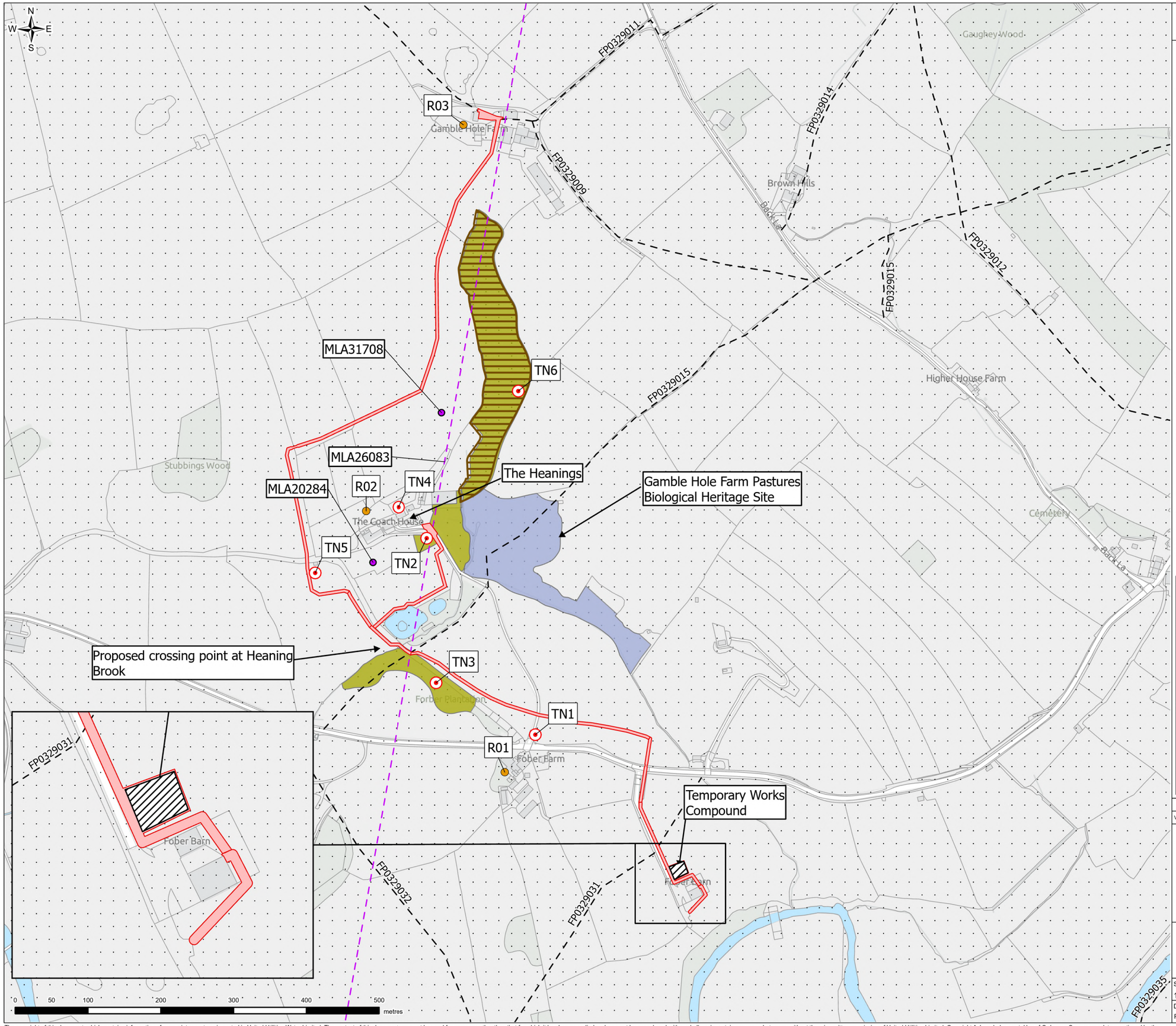
165) Similarly, the proposed water supply connection is not Schedule 2 EIA Development as it does not meet any of the descriptions of development, or the applicable thresholds and criteria, listed in Schedule 2 of the EIA Regulations. Even if the proposed water supply connection were categorised as a 'long-distance aqueduct' under Item 10(l) of Schedule 2, the total area of the construction easement and construction compound does not exceed the 1 ha area threshold.

166) When considering the criteria listed under the location of development, the proposed new water supply connection meets the criteria relating to Regulation 2(1) (f), specifically an area of outstanding natural beauty designated (now known as national landscapes) as such by an order made by Natural England under section 82(1) (areas of outstanding natural beauty) of the Countryside and Rights of Way Act 2000 as confirmed by the Secretary of State.

167) This has led to an evaluation of the types and characteristics of the potential impacts against criteria listed under Schedule 3, including: the magnitude and spatial extent of the impact; the transboundary nature of the impact; the intensity and complexity of the impact; the expected onset, duration, frequency and reversibility of the impact; the cumulation of the impact with the impact of other existing and / or approved development; and possibility of effectively reducing the impact.

168) Having considered these Schedule 3 criteria against the environmental features, resources and assets described in this EIA Screening Report, it is concluded that the proposed water supply connection would not give rise to likely significant effects and is, therefore, not EIA development under the EIA Regulations.

FIGURE 1



Legend

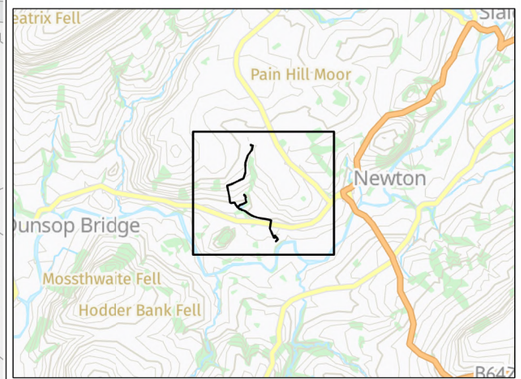
- Proposed Water Supply Connection and Construction Easement
- Temporary Works Compound
- Tree Survey Observation
- Noise and Vibration Receptor
- Public Rights of Way
- Forest of Bowland National Landscape
- Ancient Woodland

Heritage Assets

- Lancashire County Council - Historic Environment Record Point
- Lancashire County Council - Historic Environment Record Line

Priority Habitat Inventory

- Deciduous woodland
- Lowland fens



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United Utilities

Water for the North West

UNITED UTILITIES WATER LIMITED
HEANINGS WATER SUPPLY CONNECTION PROJECT
ENVIRONMENTAL IMPACT ASSESSMENT SCREENING REQUEST
SITE LAYOUT PLAN AND ENVIRONMENTAL CONSTRAINTS
PAGE 1 OF 1

SCALE	SHEET SIZE
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