

Technical Note: Ecology

Project	10480 – Hallgates to Elms Farm Pipeline			Purpose	To provide a summary of the ecological information available of the route to support an EIA screening opinion		
Location	Leicestershire						
Client	Severn Trent Water						
Doc Ref		Version	Date	Authored	Checked	Approved	
10480.016		2.0	September 2025	CC	ACP	ACP	

1.0 Introduction

- 1.1 The Environment Partnership (TEP) Ltd was commissioned in October 2024 by Severn Trent Water (STW) to provide an Ecological Technical Note to support an EIA screening opinion for the proposed Hallgates to Elms Farm water pipeline route in Leicestershire.

Site Location and Description

- 1.2 The proposed pipeline route is approximately 9.4 km in length and will run from an existing outlet main located to the north of Roecliffe Road (NGR: SK 54145 11582) to the Brickyard (NGR: SK 52657 05963), where it will join into the existing network. The route is currently split into two sections.
- 1.3 Section 1-E is situated between Roecliffe Road and Bradgate Road, Anstey. The pipeline will initially run eastwards from Roecliffe Road before turning north then south. It will cross Bradgate Road, Cropston and run in a south-westerly direction on the south side of Cropston Reservoir before crossing Bradgate Road, Anstey.
- 1.4 Section 2-A is located between Bradgate Road, Anstey and the village of Groby. In this section the pipeline will initially run south-eastwards towards the main A46 road. It will then cross this road, turn southwards and cross the main A50 road. The pipe will then turn westwards to skirt the edge of the village of Groby, cross the main A46 road again and turn southward again, running parallel to this road before it terminates at the Brickyard.
- 1.5 An additional cross-connection between existing pipelines is also included within the project scope. This comprises Section 3 of the scheme and is located to the south of

Ratby (NGR: SK 52174 05480), outside of the main pipeline route. The Section 3 site is bordered by the M1 to the east, agricultural fields to the south, Tavener Drive to the west and the Ivanhoe Trail to the north.

Proposals

- 1.6 The proposed pipeline in Sections 1 and 2 will connect the existing pipeline at Roecliffe Road to the Brickyard via a new 9.4 km long, 1000 mm nominal bore trunk main.
- 1.7 Detailed proposals for the pipeline route are not currently known, however it is understood that the majority of the pipeline will be installed via an open cut method. Details of construction methods at watercourse and road crossings are still to be confirmed. It is anticipated the construction working width will be approximately 40 m along the length of the pipeline route, with a narrower working width used at hedgerow crossings.
- 1.8 The proposed cross-connection site in Ratby will comprise a 0.2 km, 200 mm nominal bore cross-connection between existing pipelines..

Ecology Works Undertaken to Date (2024 Surveys)

- 1.9 TEP prepared two Preliminary Ecological Assessments for the scheme in 2024. The first report (TEP Ref: 10480.001, July 2024) covered the main proposed pipeline route within three route options:
 - Section 1-C: This broadly followed the same path as Section 1-E but crossed through Bradgate Park itself rather than Hallgates Hill Spinney Woodland. This route option was superseded by Section 1-E in February 2025.
 - Section 1-D: An alternative route option which branched off from Section 1-C to the north of Bradgate Road, Cropston. This route headed eastwards around the village of Cropston before turning south-westwards and meeting the pipeline route at Bradgate Road, Anstey. This route option was omitted from the proposals in late 2024.
 - Section 2-A: A previous iteration of the current Section 2-A route between Bradgate Road, Anstey and the Brickyard, with a slightly different route alignment. The key differences are this version of the route crossed Rothley Brook in two locations, and had a slightly more southerly trajectory compared to the current route option before crossing the A46 road.
- 1.10 The second PEA focussed on a proposed realignment of the Section 2-A route to the south of the main A50 Groby Road, which was designed to avoid the pipeline route crossing Rothley Brook in two places (TEP Ref: 10480.008, November 2024).
- 1.11 The following works were undertaken to inform the PEA reports:

- Desk study including a review of data held within the Multi-Agency Geographic Information for the Countryside (MAGIC) maps database; and data requested from and the Leicestershire and Rutland Environmental Records Centre (LRERC);
- Extended UKHAB habitat surveys; and
- Habitat condition assessment.

1.12 Following confirmation that Section 1-D was being omitted, the following surveys were additionally undertaken in Sections 1-C and 2-A to inform the design of the pipeline route:

- NVC survey of potential lowland meadow habitats (TEP Ref: 10480.006);
- Great crested newt Habitat Suitability Index (HSI) and eDNA surveys of ponds within 300 m of the pipeline route (TEP Report Ref: 10480.004);
- Badger surveys of the proposed GI and SI locations (TEP Report Ref: 10480.013);
- Otter and water vole surveys of watercourses to be crossed by the pipeline route (TEP Report Ref: 10480.009);
- White clawed crayfish surveys of watercourses to be crossed by the pipeline route (TEP Report Ref: 10480.014); and
- Winter bird habitat suitability assessment (TEP Report Ref: 10480.010).

Ongoing or Proposed Ecology Works (2025 Surveys)

1.13 Several changes to the pipeline route and project scope have been made since the 2024 surveys were completed, such as the incorporation of the Section 3 cross-connection site. Additional ecological surveys have therefore been undertaken in 2025 along the latest proposed route alignments in Section 1-E, Section 2-A and Section 3.

1.14 At the time of writing, additional surveys that have been completed include:

- UKHAB and habitat condition assessment surveys of the latest pipeline route alignment;
- River Condition Assessment surveys of watercourses crossed by the latest pipeline route alignment;
- Hedgerow surveys;
- Bluebell surveys;
- Great crested newt HSI and eDNA surveys of ponds that fall within 300 m of the latest proposed route alignment;
- Great crested newt traditional surveys of ponds that returned a positive eDNA result in 2024;
- Ground-level tree assessments for roosting bats;

- Badger surveys of the full pipeline route;
- Winter bird surveys of suitable habitats along the pipeline route;
- Breeding bird surveys of the full pipeline route; and
- White clawed crayfish surveys of watercourses crossed by the latest pipeline route alignment.

1.15 Data analysis and reporting for these surveys is currently ongoing.

1.16 Other ongoing ecological surveys include:

- Automated Static Bat Detector Surveys (Summer visit completed; Autumn visits ongoing; Spring visits scheduled for April/May 2026); and
- Otter and water vole surveys of watercourses crossed by the latest pipeline route alignment (expected completion: September 2025).

1.17 The following further surveys may also be required:

- Waxcap survey of suitable grassland habitats;
- Aerial tree surveys for bats, of any trees with bat roost suitability that will be impacted by the proposals;
- Potential Roost Feature inspection surveys, or nocturnal bat emergence surveys, of any trees with bat roost habitat suitability that will be impacted by the proposals; and
- Great crested newt traditional surveys of ponds that returned a positive eDNA result in 2025.

1.18 The requirement for these further surveys will be reviewed following analysis of data collected during the surveys listed in paragraphs 1.13 and 1.15 and following receipt of detailed proposals.

2.0 Summary of Ecological Baseline

2.1 A summary of the ecological baseline available for the site¹ based on the work completed to date is provided below. This primarily summarises the results of the surveys completed in 2024 for Sections 1-C and 2-A however, high-level results of surveys undertaken in 2025 for Sections 1-E, 2-A and 3 have also been provided where this is available. Information related to specific ecological features are provided under the relevant headings.

¹ For the purposes of this Technical Note, the 'site' is taken to be the proposed pipeline route and a 50 m buffer. The current pipeline route, which this Note has been based on, is shown in Severn Trent Water files S1-04-07-25; S2-24_06_25; S3-27-02-25; and Elms Farm X-Connection.

Designated Sites

Statutory Sites

International Designations

- 2.2 There are no statutory internationally designated sites (Ramsar, Special Protection Areas (SPA), Special Areas of Conservation (SAC)) within 10 km of the site.

National Designations

- 2.3 There are 14 statutory nationally designated sites (Sites of Special Scientific Interest (SSSI) or National Nature Reserves (NNR)) within 5 km of the site.
- 2.4 Swithland Wood and The Brand SSSI, which is designated for its woodland habitat, is located approximately 0.08 km to the north of Section 1-E of the pipeline route.
- 2.5 Bradgate Park and Cropston Reservoir SSSI, which is designated for its ancient parkland, wet heath and aquatic habitats, as well as its geological interest, is located approximately 0.22km to the south-west of the pipeline route.
- 2.6 Bradgate Park was additionally designated a National Nature Reserve (NNR) in 2024 for its geological interest.
- 2.7 Other SSSI's located within 1 km of the site include Sheet Hedges Wood SSSI, which is situated approximately 0.24 km to the west of the site in Section 2-A and designated for its woodland habitat.
- 2.8 Buddon Wood and Swithland Reservoir SSSI, Groby Pool and Wood SSSI, Roecliffe Manor Lawns SSSI, Benscliffe Wood SSSI, Ulverscroft Valley SSSI, Main Quarry, Mountsorrel SSSI, Johnsons' Meadows SSSI, Beacon Hill, Hangingstone and Out Woods SSSI, Botcheston Bog SSSI and Barrow Gravel Pits SSSI are all located over 1 km from the site.
- 2.9 The site is intersected by multiple Natural England SSSI Impact Risk Zones. The proposed pipeline development is listed as a category of concern in several of these zones.

Local Designations

- 2.10 There are two statutory locally designated sites within 2 km of the site. Goss Meadows Local Nature Reserve (LNR) is located approximately 1.70 km to the east of the site, while

Kirby Frith LNR is located approximately 1.92 km to the south-east of Section 3, beyond the M1 motorway.

Non-Statutory Sites

- 2.11 Information relating to non-statutory designations is based on the original desk-based assessment undertaken by TEP in July 2024 and has not been updated.

Local Designations

- 2.12 There are eight notified non-statutory locally designated wildlife sites within 1 km of the site.
- 2.13 Hallgates Covered Reservoirs LWS is located approximately 0.04 km to the north-west of the site and is designated for its acid grassland habitats.
- 2.14 Rothley Brook in Charnwood Borough LWS is located approximately 0.07 km to the east of the proposed pipeline route in Section 1-D and approximately 0.2 km to the east of the route in Section 2-A. It is designated for its aquatic and mature tree habitat.
- 2.15 Swithland Hall Estate LWS is located approximately 0.07 km to the north of the site and is designated for its mesotrophic grassland, wet grassland, wet woodland and stream habitats.
- 2.16 Puddledyeke Wood LWS is located approximately 0.09 km to the south of the proposed route and is associated with Bradgate Park and Cropston Reservoir SSSI. Woodland is the qualifying feature of the designation.
- 2.17 Crow Wood LWS, Great Central Railway, Thurcaston to Birstall LWS, The County Hall Oak LWS or Groby Nature Area and Gun Club LWS are also located within 1 km of the site.
- 2.18 There are nine candidate LWS's and eleven potential LWS's within 1 km of the site. While these are not current designations, these sites contain features that could enable them to qualify as LWS's in the future. Three potential LWS's cross the proposed pipeline route in Section 2-A: Groby/Glenfield Parish Boundary Hedge potential LWS; Groby, Rothley Brook tributary potential LWS; and Groby, Anstey Lane hedge (south) potential LWS. Glenfield, 15 Groby Rd Trees candidate LWS also falls within 30 m of the proposed pipeline route in Section 2-A.

Habitats

- 2.19 Habitats within the site were surveyed as part of the PEA. Area-based habitats along the current proposed route alignment in Sections 1-E, 2-A and 3 include woodland, grassland, scrub, ponds, cropland, developed land and individual trees. Linear habitats along the route include hedgerows, lines of trees, streams and ditches.
- 2.20 The habitats along the route with the greatest relative ecological value are:
- Lowland mixed deciduous woodland;
 - Other neutral grassland;
 - Ponds;
 - Individual trees;
 - Hedgerows;
 - Lines of trees; and
 - Streams.
- 2.21 In the PEA, the following notable habitats and habitats of principal importance² were identified as occurring within the site on MAGIC Maps:
- Ancient woodland;
 - Lowland mixed deciduous woodland;
 - Lowland heathland;
 - Lowland fens;
 - Purple moor grass and rush pastures; and
 - Hedgerows.
- 2.22 NVC surveys of two areas of potential lowland meadow identified in Section 2-A were undertaken in September 2024. None of the grasslands surveyed were found to qualify as priority habitat (TEP Report Ref: 10480.006). Following a change to this route option in November 2024, these grasslands are no longer crossed by the pipeline.
- 2.23 None of the notable habitats listed within paragraph 2.21 are crossed by the current pipeline route alignment, although Section 1-E of the route is in close proximity to several areas identified as deciduous woodland and lowland fen priority habitat. An area of

² Listed on Section 41 of the Natural Environmental and Rural Communities (NERC) Act, 2006

identified deciduous woodland priority habitat is also located immediately to the east of the Section 3 site.

- 2.24 The hedgerows and lines of trees to be crossed by the pipeline route may qualify as 'Important' under the Hedgerow Regulations 1997. Hedgerow Regulations Assessments were carried out on all hedgerows along the proposed pipeline route in Sections 1-E, 2-A and 3 in April and May 2025. 107 hedgerows were recorded across the current route alignment; the results of these surveys are still being reviewed at the time of writing.
- 2.25 None of the watercourses crossed by the current pipeline route are identified as statutory main rivers³.

Biodiversity Net Gain

- 2.26 If the proposals are to be delivered under permitted development, they will be exempt from mandatory Biodiversity Net Gain (BNG) requirements.
- 2.27 As part of the UKHAB habitat survey, condition assessment information for the habitats along the route were recorded, with the exception of streams, for which a separate River Condition Assessment (RCA) has been undertaken. The results of these surveys are in the process of being reviewed to determine a baseline biodiversity value for the site.
- 2.28 Planning applications, such as for temporary accesses to facilitate construction, may be required to demonstrate statutory 10% BNG, depending on the impacts. These will be reviewed on a case-by-case basis and appropriate BNG work undertaken as necessary.

Protected and Notable Species

Badger

- 2.29 Multiple records of badger *Meles meles* were returned by LRERC within 1 km of the site.
- 2.30 Evidence of badger activity has been recorded within the site during the 2024 and 2025 surveys. Badger individuals have also been incidentally observed.
- 2.31 The habitats within the site, namely the woodland, scrub, hedgerow and cropland habitats, all offer suitable foraging, commuting and sett-building habitat for badger.

³ <https://www.arcgis.com/apps/webappviewer/index.html?id=17cd53dfc524433980cc333726a56386>

Otter, Water Vole and White-Clawed Crayfish

Otter

- 2.32 Several records of otter *Lutra lutra* were returned within the 1 km data search from LRERC.
- 2.33 All three watercourses crossed by the original pipeline route were assessed to provide suitable foraging and commuting habitat for otter, with limited opportunities for otter resting places to be present. Evidence of otter commuting and foraging was found on these watercourses during detailed otter surveys undertaken in September 2024 (TEP Report Ref: 10480.009).
- 2.34 Following changes to the pipeline route, only one watercourse subject to detailed otter survey in 2024 will still be crossed by the pipeline route. An additional three watercourses will now be crossed by the pipeline route. Surveys of these watercourses are ongoing at the time of writing; evidence of otter activity has been identified on one of these additional watercourses in surveys completed to date.

Water vole

- 2.35 No records of water vole *Arvicola amphibius* were returned for within 1 km of the Site.
- 2.36 These watercourses were generally considered to be unsuitable for supporting water voles, given their open nature, fast flow and limited foraging and sheltering opportunities. Although there may be areas within each watercourse that offer suitable water vole habitat, no evidence of water vole activity was found during detailed water vole surveys of these watercourses in September 2024 (TEP Report Ref: 10480.009).
- 2.37 Following changes to the pipeline route, only one watercourse subject to detailed water vole survey in 2024 will still be crossed by the pipeline route. An additional three watercourses will now be crossed by the pipeline route. Surveys of these watercourses are ongoing at the time of writing; no evidence of water vole activity has been identified during the surveys completed to date.

White-clawed crayfish

- 2.38 Two records of white-clawed crayfish *Austropotamobius pallipes* were returned within 1 km of the site. These records are all from 2014. Three more recent records of the invasive non-native species signal crayfish *Pacifastacus leniusculus* were also returned in the dataset.

- 2.39 The three watercourses crossed by the original pipeline route were assessed to provide suitable habitat for white-clawed crayfish, owing to the presence of flowing, oxygenated water, earth banks for burrowing, stones, rocks and debris which provide refugia, and a moderate water quality. However, no evidence of this species was found during manual surveys of these watercourses in September 2024 and eDNA testing at each watercourse crossing point returned a negative result (white clawed crayfish absent) (TEP Report Ref: 10480.014).
- 2.40 Following changes to the pipeline route, only one watercourse subject to detailed white-clawed crayfish survey in 2024 will still be crossed by the pipeline route. An additional three watercourses will now be crossed by the pipeline route. White-clawed crayfish eDNA surveys were undertaken on these watercourses in July 2025 and a negative result was obtained, indicating this species is absent from all three watercourses.

Bats

- 2.41 Multiple records of bats were returned by LRERC within the 1 km data search. Common pipistrelle *Pipistrellus pipistrellus*, brown long-eared bat *Plecotus auritus*, *Myotis* bat species, noctule *Nyctalus noctula* and soprano pipistrelle *Pipistrellus pygmaeus* have all been recorded within 0.1 km of the site.
- 2.42 A detailed Ground Level Tree Assessment (GLTA) was undertaken in 2025 to assess the suitability of trees within the site to support roosting bats. 72 trees with bat roost habitat suitability were identified during these surveys; detailed results of the survey and an assessment of potential impacts on these trees are still pending at the time of writing.
- 2.43 The arable and grassland fields, hedgerows, lines of trees, watercourses, ditches and woodland edge habitats on site offer suitable foraging and commuting habitat for bats. The site was therefore assessed to have Moderate to High suitability for supporting foraging and commuting bats. Seasonal automated static bat detector surveys are being undertaken to monitor bat activity at key hedgerow crossings. At the time of writing only the summer surveys have been completed; these results will be analysed following completion of the autumn surveys in October 2025.

Other Mammals

Brown Hare

- 2.44 Several records of brown hare *Lepus europaeus* were returned within the 1 km data search and an individual brown hare was sited within Section 2-A during UKHAB habitat surveys in 2024.

- 2.45 The agricultural and grassland fields within the site offer suitable foraging, commuting and sheltering habitat for brown hare.

Hedgehog

- 2.46 Multiple records of hedgehog *Erinaceus europaeus* have been returned within the 1 km data search.
- 2.47 The woodland, scrub, hedgerows and grassland within the site offer suitable sheltering, foraging and ranging habitat for hedgehogs. There may also be hibernation opportunities for hedgehog within the woodland and scrub habitats.

Polecat

- 2.48 One record of polecat *Mustela putorius* was returned within the 1 km data search, within allotments to the east of Cropston Reservoir.
- 2.49 No evidence of polecat was recorded on site. Polecat are found across a range of habitats, including farmland and woodland, and populations have been recorded in central and southern England. As such, the farmland and woodland habitats within the site offer potential foraging and denning habitat for this species.

Hazel Dormouse

- 2.50 No records of hazel dormouse *Muscardinus avellanarius* were returned within the 1 km data search. However, it is understood a small population of hazel dormice were released into an area of ancient woodland within Bradgate Park in June 2025⁴. It is anticipated the dormice will initially remain within their woodland release site, before eventually spreading into nearby woodlands and hedgerows.
- 2.51 Although the exact release location is unknown, and the woodland and hedgerows that will be crossed by the pipeline route nearest to Bradgate Park are likely to be suitable for supporting hazel dormouse, no impacts on this species are anticipated to occur as a result of the proposals given the time it will likely take for dormice to disperse from the release site into the wider environment. However, this conclusion will be kept under review as the project develops and as further updates on the release project become available.

⁴ Peoples Trust for Endangered Species (2025). Returning dormice to Leicestershire. [Online] Available at: <https://ptes.org/leicestershire-welcomes-countys-only-known-population-of-rare-hazel-dormice/> [Accessed 09.07.25].

Birds

- 2.52 Numerous bird species were returned within the 1 km data search by LRERC. Notable bird species observed on site during the UKHAB surveys in 2024 include mistle thrush *Turdus viscivorus*, blackcap *Sylvia atricapilla*, dunnoek *Prunella modularis*, wren *Troglodytes troglodytes*, chiffchaff *Phylloscopus collybita*, buzzard *Buteo buteo*, whitethroat *Sylvia communis*, greenfinch *Chloris chloris*, swallow *Hirundo rustica*.

Breeding Birds

- 2.53 The woodland, scrub, hedgerow and individual trees within the site provide suitable nesting and foraging habitat for a range of common and widespread bird species. Some of the longer grassland swards within fields or on the edge of arable fields may also offer suitable nesting habitat for ground-nesting birds. The large arable and grassland fields and associated field margins along the route are suitable for foraging Schedule 1 bird species including barn owl *Tyto alba*. Mature trees and farm outbuildings along or near the route are also suitable for supporting nesting barn owl.
- 2.54 Breeding bird surveys of the pipeline route were undertaken between March and July 2025. The results of these surveys are still being processed at the time of writing.

Wintering Birds

- 2.55 A winter bird survey scoping assessment of the pipeline route was undertaken in September 2024 (TEP Report Ref: 10480.010). The assessment found that the majority of the pipeline route had low value for wintering birds owing to a combination of factors including disturbance from roads and footpaths, a lack of open sightlines and the low suitability of the agricultural land across the route. The potential for seed eating birds was found to be restricted to narrow field margins.
- 2.56 Cropston Reservoir and adjacent fields to the south which will be crossed by the pipeline route in Section 2-A was found to have the greatest value for wintering birds due to its openness and more favourable land use (mainly stubble). Monthly winter bird surveys of the reservoir and this part of the proposed pipeline route were undertaken between October 2024 and March 2025. The results of these surveys are being analysed at the time of writing.

Amphibians

- 2.57 Leicestershire and Rutland Environmental Records Centre (LRERC) returned several records of great crested newt (GCN) *Triturus cristatus* within 1 km of the survey area.

Records of common toad *Bufo bufo*, common frog *Rana temporaria* and smooth newt *Lissotriton vulgaris* were also returned.

- 2.58 GCN HSI and eDNA surveys were undertaken of ponds within 250m of the site (50 m either side of the pipeline route) in 2024 and 2025. A positive eDNA result (GCN Present) was returned on two ponds in 2024 and traditional surveys of these ponds were undertaken in 2025.
- 2.59 Following changes to the pipeline route, seventeen additional ponds were included in the 2025 eDNA survey scope. Four of these ponds returned a positive eDNA result (GCN Present), six ponds returned a negative result (GCN Absent); and six ponds were found to be dry or no longer existed. Access was refused to one of the ponds.
- 2.60 Terrestrial habitat within the site, including woodland, hedgerows, grassland, tall forb and scrub, provides suitable foraging, sheltering, commuting and hibernation opportunities for GCN and other common amphibians. Amphibians may also use less suitable habitat within the site for dispersal, such as arable fields.

Reptiles

- 2.61 LRERC returned records of adder *Viperia berus*, slow-worm *Anguis fragilis*, grass snake *Natrix helvetica*, and common lizard *Zootoca vivipara* within the 1 km data search.
- 2.62 The woodland, scrub, hedgerow, grassland and arable field margin habitats on site were found to offer suitable foraging, commuting and sheltering habitat for a range of common reptile species. Habitats adjacent to watercourses also provide potential reptile habitat, whilst areas of bare ground and ephemeral/short perennial may offer basking opportunities.
- 2.63 No detailed reptile surveys have been undertaken along the pipeline route, as the majority of habitats that are expected to be impacted by the proposals are likely to be sub-optimal for supporting reptile species.

Fish

- 2.64 Three records of brown/sea trout *Salmo trutta* were returned within 1 km of the site, all from watercourses within Bradgate Park close to the start of the proposed pipeline route. No fish records were returned for any watercourses that will be crossed by Section 1-E or Section 2-A. Section 3 was not included within the scope of the desk-based assessment.

Invertebrates

- 2.65 The majority of the route comprises habitats which are common and widespread and are therefore unlikely to support notable invertebrate assemblages.

Notable and Invasive Non-native Plants

Notable and Protected Plant Species

- 2.66 Records of the protected and notable plant species bluebell *Hyacinthoides non-scripta* were returned within the 1 km data search. The woodland and hedgerow habitats within the site have potential to support this species.
- 2.67 Native bluebell was recorded in various locations across the site during the UKHAB habitat surveys in 2024. Detailed bluebell surveys were undertaken in April and May 2025 to identify whether any native bluebell will be impacted by the proposals. The results of these surveys are still to be analysed at the time of writing.
- 2.68 Records of the Local Biodiversity Action Plan species violet helleborine *Epipactis purpurata* were also returned within the 1 km data search. Violet helleborine has not been recorded within the site during any of the habitat surveys undertaken to date.

Invasive Non-Native Plant Species

- 2.69 LRERC recorded records of various Schedule 9 and IAS species within 1 km of the site, including Himalayan balsam *Impatiens glandulifera*, Japanese knotweed *Reynoutria japonica*, Japanese rose *Rosa rugosa*, montbretia *Crocasmia × crocosmiiflora*, New Zealand pygmyweed *Crassula helmsii*, rhododendron *Rhododendron ponticum*, three-cornered garlic *Allium triquetrum*, wall cotoneaster *Cotoneaster horizontalis* and variegated yellow archangel *Lamium galeobdolon subsp. argentatum*.
- 2.70 Two stands of Japanese knotweed were recorded within the site, on a parcel of land immediately to the south of the main A50 Groby Road in Section 2-A. Following changes to the pipeline route, this habitat will no longer be impacted by the proposals.
- 2.71 The presence of any invasive non-native species within the site will be identified during the UKHAB habitat surveys.

3.0 Potential Impacts and Mitigation

- 3.1 Potential impacts and proposed mitigation relating to ecological features are provided below. Where mitigation will be informed by the results of further surveys, this is highlighted with potential mitigation measures provided.

Designated Sites

- 3.2 Natural England will be consulted with regards to potential impacts on the SSSIs within the vicinity of the route. A Discretionary Advice Service (DAS) agreement has been set up with Natural England to allow consultation.
- 3.3 Impacts within the non-statutory sites will be kept to a minimum, with habitats retained as far as possible. Habitats will be reinstated to like-for-like condition in these areas once works are complete.
- 3.4 Once detailed proposals are known, potential impacts on non-statutory designated sites will be reviewed, with additional mitigation such as changing the route or narrowing the working width discussed as necessary.

Habitats

Woodland

- 3.5 Every effort has been made during pipeline route design to avoid crossing through areas of woodland. If the crossing of small sections of woodland cannot be avoided, a restricted working width will be utilised with specific reinstatement measures implemented.

Hedgerows

- 3.6 Hedgerow removal will be kept to a minimum, nominally 25m, and retained as far as possible. Hedgerows will be reinstated, using a diverse native species mix, once works are complete.
- 3.7 Should any important hedgerows be identified, additional mitigation may be required. This may include, further minimising crossing point lengths, and additional hedgerow planting or enhancements.

Watercourses

- 3.8 Watercourses are proposed to be crossed using open cut methods. Crossing widths will be kept to a minimum, and a method statement will be produced detailing measures to prevent pollution of the watercourse.

Other Habitats

- 3.9 Habitat impacts will be minimised, with tree removal avoided as far as possible. The route design team have worked closely with TEP ecologists and arboriculturists to minimise impacts on trees and only remove trees where absolutely unavoidable.
- 3.10 Upon completion of the works, habitats will be reinstated, or where this is not possible, compensatory planting and habitat creation will be undertaken. Native tree planting will be undertaken along the route where trees are required to be removed, taking into account planting distances in relation to the installed pipeline. Requirements for replacement tree planting will be determined through consultation with an arboricultural consultant. The number of compensatory trees required will depend on the size of the tree to be lost.

Biodiversity Net Gain

- 3.11 Opportunities for the proposals to deliver a net gain in biodiversity are to be explored by undertaking a BNG assessment. Habitats to be lost will be reinstated. Where possible, these will be reinstated in a higher condition than baseline to deliver net gains for biodiversity across the route.

Protected and Notable Species

Badger

- 3.12 The route design team have worked closely with TEP ecologists to avoid impacts upon badger setts as far as possible, particularly with respect to main setts. This is because closure of a main sett requires creation of a replacement artificial sett near to the location of the main sett, prior to closure. The route will be amended to avoid badger setts and surrounding 30m buffer to avoid impacts, including one main sett in the north of the route. Where impacts are unavoidable, due to other non-ecological constraints, a Natural England badger licence will be obtained prior to setts being closed.

Otter, Water vole and White-clawed crayfish

- 3.13 Further otter and water vole surveys are currently ongoing. All watercourses which are to be impacted will be surveyed.
- 3.14 Mitigation would be informed by the results of further survey but could include adjustment of the route, crossing of watercourses by HDD or sensitive clearance measures undertaken under supervision of an ecologist.
- 3.15 If water vole are found to be present and there are potential impacts identified, a Natural England water vole licence will be required to be obtained.
- 3.16 If any otter holts are proposed to be impacted, a Natural England otter licence would be required to be obtained.
- 3.17 The white-clawed crayfish surveys that have been completed on watercourses crossed by the current route alignment have identified that this species is absent from these watercourses. Biosecurity measures are required when undertaking works within each watercourse, however, to prevent the spread of zoonotic diseases and the accidental spread of signal crayfish.

Bats

- 3.18 Following completion of the Ground Level Tree Assessment (GLTA), trees with bat roost habitat suitability along the pipeline route have been classified as PRF-I or PRF-M. Trees with bat suitability which may be impacted will be identified through discussions with STW.
- 3.19 Trees classified as PRF-I will require no further survey, but will be required to be soft-felled under supervision of a bat licenced ecologist when removal is undertaken. Trees classified as having suitability of PRF-M for roosting bats will require further survey. This would comprise aerial inspection visits, or nocturnal emergence surveys.
- 3.20 Following these surveys, should any trees with confirmed bat roosts be required to be impacted, a Natural England bat licence will be required to be obtained prior to their removal.
- 3.21 As the impacts proposed are to be temporary with habitats reinstated on completion of the works, standard bat activity surveys have not been undertaken. Instead, targeted seasonal static detector surveys are being undertaken to monitor bat activity at key hedgerow crossings.

- 3.22 Mitigation would be informed by the results of these surveys, but may include further reduction in width of hedgerow crossings, sensitive lighting strategy, and implementation of temporary bat crossings across hedgerow gaps.

Other Mammals

- 3.23 Site clearance works will be undertaken following a sensitive and staged approach under supervision of an ecologist to avoid harm to brown hare, hedgehog and polecat.

Birds

- 3.24 Mitigation for breeding birds will be informed by the results of the breeding bird survey, but may include sensitive timings of works, exclusion zones during the breeding period, and compensatory habitat creation.
- 3.25 Removal of woody vegetation will be undertaken outside of the nesting bird season of March to August inclusive to avoid impacts to nesting birds. Removal of small, isolated areas of woody vegetation may be undertaken during the nesting bird season, but only after a nesting bird check by a suitably qualified ecologist has been completed immediately prior to removal. Additionally, areas of arable or long grassland should not be cleared during the nesting bird season where possible, to avoid impacts on ground nesting birds. Where removal of these areas is required during the nesting bird season, a nesting bird check will be required.
- 3.26 With respect to wintering birds, there is the potential for disturbance to birds where the pipeline passes in close proximity to the eastern extent of the reservoir. Mitigation may take the form of sensitive timings of works and a watching brief.

Amphibians

- 3.27 While Leicestershire has a District Level Licencing (DLL) scheme for GCN, it is understood that there is a lack of ponds available meaning it may not be possible to use this approach to mitigate for the presence of GCN along the pipeline route. Traditional population size class surveys have been undertaken in 2025 and further surveys will be undertaken in 2026. Following the further surveys, if DLL is not possible, a traditional Natural England GCN licence will be required to be obtained.
- 3.28 Mitigation will be informed by the results of further surveys but may include measures such as installation of GCN fencing and a trapping and translocation exercise. If a translocation is required, a GCN receptor site may be required, depending on extent of impacts.

- 3.29 Consultation with Natural England will be with respect to the availability of DLL and optimal mitigation approach.

Reptiles

- 3.30 The majority of habitats to be impacted by pipeline construction are sub-optimal for reptiles. There is only a low likelihood of small numbers of reptiles being present.
- 3.31 Therefore, mitigation will comprise precautionary working measures which should be undertaken following a sensitive and staged approach under supervision of an ecologist to avoid harm to reptiles.

Fish

- 3.32 Precautionary working methods will be required when crossing watercourses using open-cut techniques to ensure water quality is maintained and fish are protected from injury.

Invertebrates

- 3.33 Given the low likelihood of the presence of notable invertebrate assemblages along the pipeline route, no specific mitigation is proposed. Works will be temporary and habitats will be reinstated to their pre-existing condition.

Notable and Invasive Non-native Plants

- 3.34 Following completion of the bluebell survey, if large areas of habitats supporting native bluebell are to be removed, it is recommended that a bluebell translocation is undertaken prior to their removal. This is best undertaken when bluebells are visible between April and May.
- 3.35 If any invasive non-native species (INNS) are identified within the site, an INNS method statement will be required to outline the approach for dealing with these species. This may include on-site treatment, burial or off-site disposal.

4.0 Conclusions

Key Ecological Constraints

- 4.1 The key ecological constraints along the route are considered to be:
- Potential LWSs crossed by the pipeline route;

- Hedgerows;
- Badger;
- Bats (potential); and
- GCN.

Next Steps

4.2 The proposed next steps relating to ecology are as follows:

- Complete further surveys;
- Once the results of further surveys are available and detailed proposals are known, review potential impacts and design detailed protected species mitigation;
- Continue to consult with Natural England as necessary regarding issues such as GCN; and
- Discuss BNG approach with STW ecology team and undertake a BNG Feasibility Assessment, with a view to achieving an overall net gain.