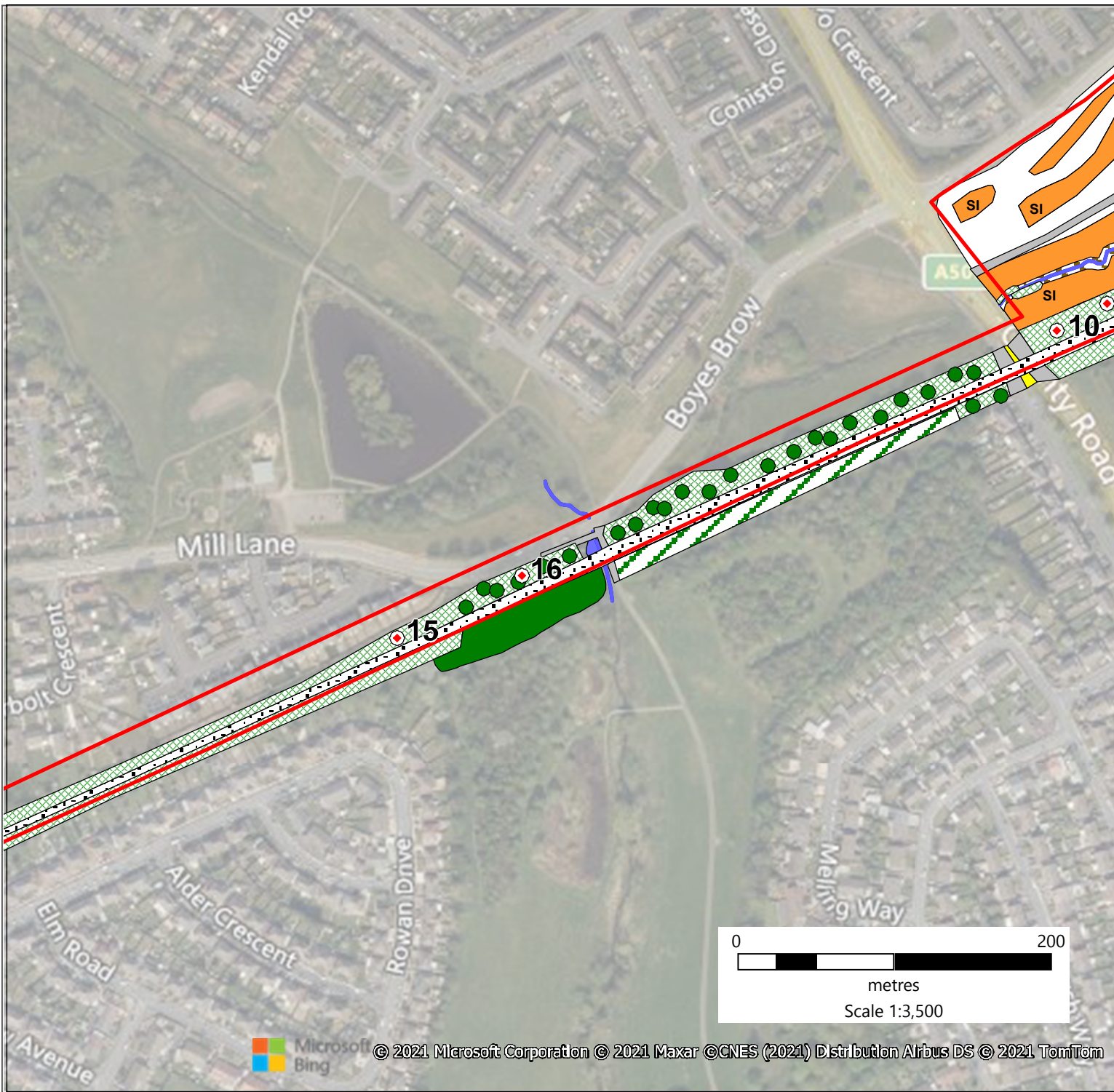




Key

- Semi-natural broadleaved woodland
- Broadleaved plantation woodland
- Dense scrub
- Scattered broadleaved trees
- Semi-improved neutral grassland
- Poor-quality semi-improved grassland
- Tall ruderal
- Watercourse
- Open water
- Amenity grassland
- Building
- Bare ground
- Proposed Red Line Boundary
- Target note

Headbolt Lane

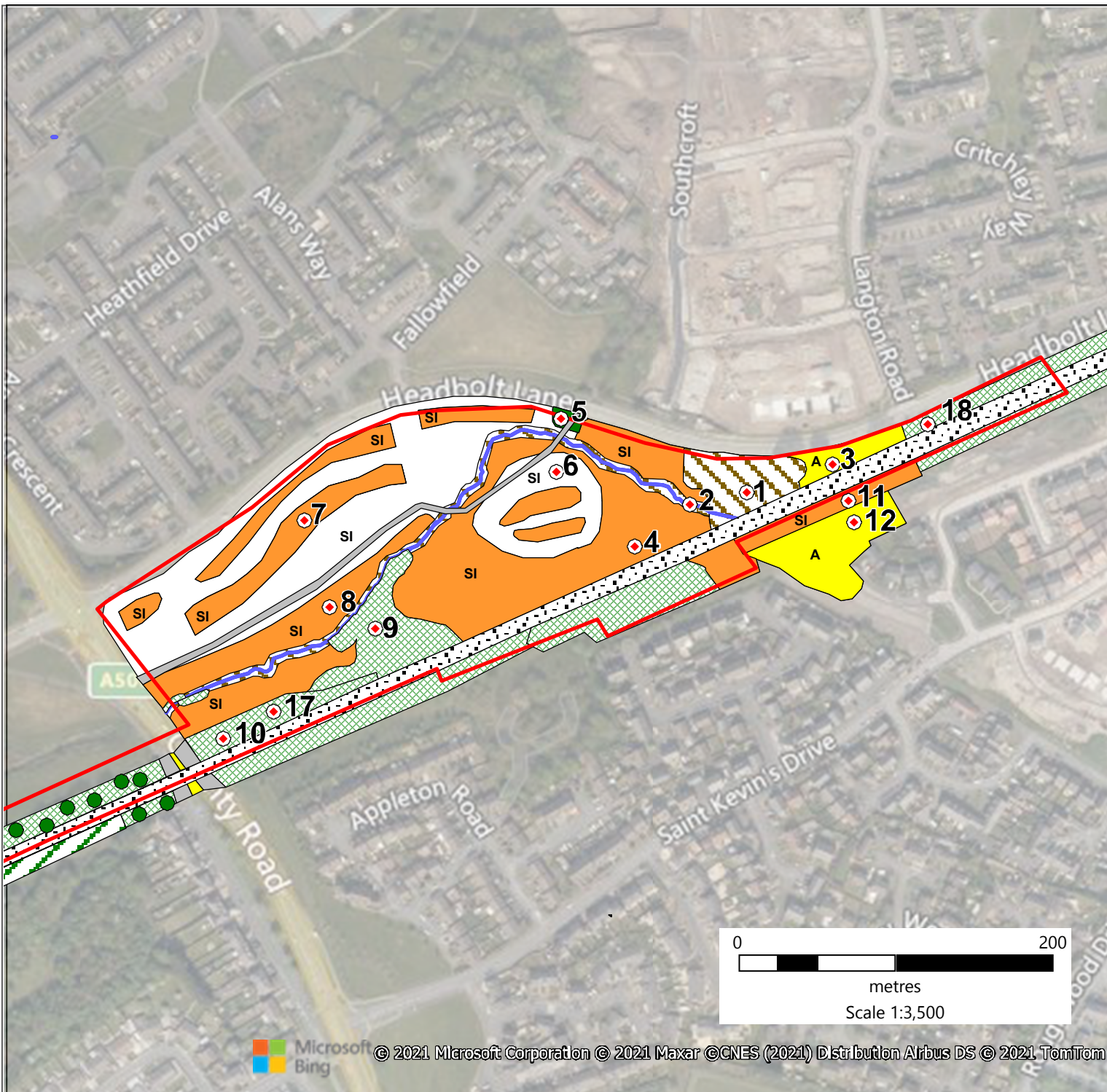
Figure 1.2: Extended Phase 1 Habitat Plan

01	02/08/2021	LK + LF	SC	NLG
Rev	Date	Drawn	Checked	Approved

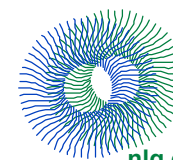
0%

Scale at A4
1:3500

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Key				
	Semi-natural broadleaved woodland			
	Broadleaved plantation woodland			
	Dense scrub			
	Scattered broadleaved trees			
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	Poor-quality semi-improved grassland			
	Tall ruderal			
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	Open water			
	Amenity grassland			
	Building			
	Bare ground			
	Proposed Red Line Boundary			
	Target note			



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Headbolt Lane

Figure 1.3: Extended Phase 1 Habitat Plan

01	02/08/2021	LK + LF	SC	NLG
Rev	Date	Drawn	Checked	Approved
0%	Scale at A4 1:3500	Contains ordnance survey data © Crown copyright and database right 2021		

APPENDIX 2: TARGET NOTES

Target note (TN)	Description
1	Mown amenity grassland with Lombardy poplars (<i>Populus nigra 'Italica'</i>), one with a broken knot hole with low bat roosting potential.
2	Very slow flowing stream emerging from two culverts under the rail track, with a depth of 50cm and a width of 1.5m. Some glossy film was observed on the water's surface, and large pieces of litter were observed on the bed. Bankside vegetation included rosebay willowherb (<i>Chamaenerion angustifolium</i>), Himalayan balsam (<i>Impatiens glandulifera</i>), thistle (<i>Cirsium arvense</i>), nettle (<i>Urtica dioica</i>), horsetail (<i>Equisetum</i> sp.), cleavers (<i>Galium aparine</i>), bindweed (<i>Convolvulus arvensis</i>), Yorkshire fog (<i>Holcus lanatus</i>), bramble (<i>Rubus fruticosus</i>), cow parsley (<i>Anthriscus sylvestris</i>) and common reed (<i>Phragmites australis</i>), with immature oak (<i>Quercus robur</i>).
3	Tall ruderal grassland with ragwort (<i>Jacobaea vulgaris</i>), red campion (<i>Silene dioica</i>), immature silver birch (<i>Betula pendula</i>), immature oak, nettle, Himalayan balsam, rosebay willowherb, cow parsley, hogweed (<i>Heracleum spondylium</i>) and rapeseed (<i>Brassica napus</i>).
4	Semi-improved neutral grassland, with lesser stitchwort (<i>Stellaria graminea</i>), great willowherb (<i>Epilobium hirsutum</i>), ragwort, sorrel (<i>Rumex acetosa</i>), thistle, nettle, yarrow (<i>Achillea millefolium</i>), sweet vernal grass (<i>Anthoxanthum odoratum</i>), cocksfoot (<i>Dactylis glomerata</i>), ribwort plantain (<i>Plantago lanceolata</i>), dandelion (<i>Taraxacum</i> sp.), hogweed (<i>Heracleum spondylium</i>), creeping buttercup (<i>Ranunculus repens</i>), cleavers, dock (<i>Rumex</i> sp.), rosebay willowherb, white dead-nettle (<i>Lamium album</i>), hawkbit (<i>Leontodon</i> sp.), bindweed, borage (<i>Borago officinalis</i>) and garlic mustard (<i>Alliaria petiolata</i>), with two ash (<i>Fraxinus excelsior</i>) trees.
5	Small cluster of immature trees within semi-improved neutral grassland, including sycamore (<i>Acer pseudoplatanus</i>), beech (<i>Fagus sylvatica</i>) and elm (<i>Ulmus procera</i>), with an understorey of Yorkshire fog, meadow cranesbill (<i>Geranium pratense</i>), nettle, ragwort, ribwort plantain, mallow (<i>Malva sylvestris</i>), herb Robert (<i>Geranium robertianum</i>) and hawkbit.
6	Mown amenity grassland with white clover (<i>Trifolium repens</i>), ragwort, ribwort plantain, dandelion, Yorkshire fog, creeping buttercup, black medick (<i>Medicago lupulina</i>) and shining cranesbill (<i>Geranium lucidum</i>).
7	Unmown areas of semi-improved neutral grassland, with hawkbit, sweet vernal grass, sorrel, white clover, Yorkshire fog, thistle, dock, ribwort plantain, creeping buttercup, ragwort, weld (<i>Reseda luteola</i>), yarrow, bird's foot trefoil (<i>Lotus corniculatus</i>) and selfheal (<i>Prunella vulgaris</i>).
8	A generally slow-flowing stream, at a width of 1m or more, and a depth of 30cm. Some shallower sections have a faster current. The bed is silty, and banks varying between a height of 20cm to 1m, and heavily vegetated. Some undercutting of river banks from current present at points, but no mammal or crayfish holes visible. Bankside vegetation includes Himalayan balsam, rosebay willowherb, ragwort, thistle, nettle, common reed, yarrow, sorrel, cocksfoot (<i>Dactylis glomerata</i>) and creeping buttercup, with areas of bare ground.
9	Dense scrub dominated by bramble, with Himalayan balsam, nettle and sweet vernal grasses at edges. A fly-tipped shed underneath an English elm may provide cover for reptiles or amphibians.
10	Very dense scrub along the railway boundary. Species include hawthorn (<i>Crataegus monagyna</i>), cherry (<i>Prunus</i> sp.), elder (<i>Sambucus nigra</i>), ash, field rose (<i>Rosa arvensis</i>) and oak, with an understorey of bird's foot trefoil, bindweed, bramble, nettle, creeping buttercup, cocksfoot, rosebay willowherb, raspberry (<i>Rubus idaeus</i>), hogweed, ragwort, and dock.
11	Semi-improved neutral grassland sloping down to embankment. Species include garlic mustard, thistle, feverfew (<i>Tanacetum parthenium</i>), rosebay willowherb, dock, sweet vernal grass, chickweed (<i>Stellaria media</i>), horsetail, poppy (<i>Papaver somniferum</i>), great willowherb, bramble, ribwort plantain, hawkbit, common vetch (<i>Vicia sativa</i>), bindweed, red fescue (<i>Festuca rubra</i>), pineappleweed (<i>Matricaria discoidea</i>) and creeping buttercup.
12	Mown amenity grassland, with infrequent thistle, ribwort plantain, Yorkshire fog, garlic mustard, feverfew, horsetail, white clover, greater plantain (<i>Plantago major</i>) and areas of bare ground.
13	An area of bare ground, with buddleja (<i>Buddleja davidii</i>), bramble, dock, rosebay willowherb, hop (<i>Humulus lupulus</i>) and Japanese knotweed (<i>Fallopia japonica</i>) present at security fence alongside track. Trees include field rose, sycamore, silver birch, hawthorn and cherry.
14	Railway embankment scrub vegetation opposite the Merseyrail Kirkby station platform, includes bramble, hawthorn, cleavers, rosebay willowherb, buddleja, elder, ragwort, bracken, nettle, raspberry, dogwood (<i>Cornus sanguinea</i>) and ash. The platform is a mixture of planted and seeded species, including hart's tongue fern (<i>Asplenium scolopendrium</i>), ribwort plantain, nettle, ivy, sycamore, hawthorn, dogwood,

	laurel, field rose, horsetail, St John's wort (<i>Hypericum perforatum</i>), dandelion and cotoneaster.
15	Railway embankment scrub vegetation east of Kirkby station, with species including oak, goat willow (<i>Salix caprea</i>), sycamore, silver birch, elder, common lime (<i>Tilia x europaea</i>), Lombardy poplar, field maple (<i>Acer campestre</i>), cherry, privet (<i>Ligustrum vulgare</i>), field rose, hawthorn, gooseberry (<i>Ribes uva-crispa</i>), cotoneaster (<i>Cotoneaster horizontalis</i>) and Leyland cypress (<i>Cupressus x leylandii</i>). Behind the northern platform, trees include laburnum (<i>Laburnum anagyroides</i>), sycamore, elder and laurel (<i>Laurus nobilis</i>). Ground flora includes horsetail, bramble, ragwort, cocksfoot, red fescue, rosebay willowherb, bindweed, nettle, cleavers, old man's beard (<i>Clematis vitalba</i>), bracken (<i>Pteridium aquilinum</i>), thistle, hawkbit, ivy (<i>Hedera helix</i>), yellow flag iris (<i>Iris pseudacorus</i>), goldenrod (<i>Solidago virgaurea</i>), raspberry, yarrow, variegated yellow archangel (<i>Lamium galeobdolon</i> subsp. <i>argentatum</i>), foxglove (<i>Digitalis purpurea</i>), common vetch, buddleja, groundsel (<i>Senecio vulgaris</i>) and herb Robert.
16	Along the railway embankment from Millbrook Bridge, species include ash, sycamore, hawthorn, oak, osier (<i>Salix viminalis</i>), ivy, cherry species, elder, field rose, Himalayan balsam, ragwort, rosebay willowherb, bracken, bramble, horsetail, nettle, greater willowherb and common toadflax (<i>Linaria vulgaris</i>), the last found above County Road Bridge WKL2 55.
17	Railway embankment species adjacent to Headbolt Lane include goat willow, bracken, tormentil (<i>Potentilla erecta</i>), yarrow, hawkbit, bindweed, sage (<i>Salvia officinalis</i>), common vetch, cherry species, apple species (<i>Malus</i> sp.), and wood forget-me-not (<i>Myosotis sylvatica</i>). A large mammal run was observed partway down the track on the southern embankment.
18	Himalayan balsam present extensively within rail embankments, to the east of Headbolt Lane development, rail embankment is dominated by extensive bramble scrub with herb species present such as willowherb and rough grasses such as false oat grass
19	Mature oak within woodland to east of Kirkby station with small knot hole feature; low bat roosting potential. Oak tree is within broad-leaved deciduous woodland which is a mixture of semi-mature oak and sycamore on the northern cutting, the cutting is a mixture of woodland and bramble scrub.

APPENDIX 3: PHOTOGRAPHIC PLATES

Photograph 1. Mature Lombardy poplar trees (TN1); tree with knot hole seen to left hand side.



Photograph 2. Knot hole in Lombardy poplar with moderate bat roosting potential (TN1).



Photograph 3. Slow-flowing culverted stream (TN2) – Kirkby Brook which runs through the proposed Headbolt Lane station site.



Photograph 4. Tall ruderal (TN3) with potential for herptiles.



Photograph 5. Semi-improved neutral grassland (TN4) looking west.



Photograph 6. Mosaic of semi-neutral grassland (left side, TN4), small cluster of immature trees (background left side, TN5), mown amenity grassland (foreground, TN6) and unmown grassland (right side, TN7).



Photograph 7. Undercutting of stream banks (TN8).



Photograph 8. Thick bramble scrub outside of railway embankment (TN10).



Photograph 9. Scrub and semi-improved neutral grassland sloping down to culvert under railway embankment (TN11). Mown grassland (TN12) present to far right.



Photograph 10. Japanese knotweed present on bare ground for proposed substation (TN13).



Photograph 11. Northern platform of Kirkby (TN15), with bankside vegetation opposite including Japanese knotweed at base of bare ground for substation (TN13).



Photograph 12. Embankment vegetation (TN15), large numbers of garden escape shrubs are present between Kirkby Station and the Mill Brook crossing (bridge 56).



Photograph 13. Mammal path (TN17) at SJ 41275 99709.



Photograph 14. Shallow mammal holes (TN17) at SJ 41369 99759.



Photograph 15. Glovers Brow Bridge (eastern elevation) with crack to left and pockmark to right highlighted (red circles).



Photograph 16. Metal plate underneath Glovers Brow Bridge with low bat potential.

