



Environmental Statement

Chapter 6: Ecology & Arboriculture
Appendix 6.2: Ardley Cutting and Quarry SSSI Botanical Survey

Document 6.6B

On behalf of
Oxfordshire Railfreight Limited

Prepared by FPCR Ltd.
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Oxfordshire Railfreight Ltd.

Oxfordshire Strategic Rail Freight Interchange

ARDLEY CUTTING & QUARRY SSSI BOTANICAL SURVEY

REPORT

July 2025

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8308-E-SSSI 01-05: Ardley Cutting & Quarry Botanical Survey 2020 - Habitats

1.0 INTRODUCTION

- 1.1 This report details the results of a walkover botanical survey of part of Ardley Cutting & Quarry SSSI. The object of the survey was to provide baseline information to inform the Environmental Statement for the proposed Oxfordshire Strategic Rail Freight Interchange.

2.0 METHODOLOGY

- 2.1 The survey involved a general walkover of the survey area, the extent of which runs 3km from The Raghouse Lane Bridge to the M40 Bridge.
- 2.2 The survey was undertaken by the author, Ian Hunter – Associate Ecologist (Botanical Society of Britain and Ireland's (BSBI) Field Identification Skills Competency (FISC) Level 5) on 3rd and 4th July 2025.
- 2.3 The survey comprised a walkover of the site, mapping the principal habitat types present and compiling an as comprehensive species list as possible for each community. Field notes were compiled to provide short descriptions of different communities. Habitats were classified and mapped principally following the UKHab Classification system, with minor departures from this methodology to allow for compatibility with the Defra metric where applicable. Habitat classification, particularly of the grassland habitats also considered the National Vegetation Classification (NVC) system developed by the Joint Nature Conservation Committee (JNCC), with the relevant volume dealing with grasslands being British Plant Communities Volume 3 ¹.
- 2.4 Vascular plant nomenclature followed Stace (2019) ². When referred to in the text species common names are used, with the scientific names provided in the associated habitat species lists. Assessment of abundance for plants was made using the DAFOR scale:
- D - Dominant
- A - Abundant
- F - Frequent
- O - Occasional
- R - Rare
- L - Locally (e.g. LF = Locally Frequent or LA = Locally Abundant).
- 2.5 Classification of grassland NVC communities during the survey was undertaken based on surveyor experience, comparison of the surveyed stands to the published floristic tables for NVC communities and through the use of the published community keys within British Plant Communities Volume 3.
- 2.6 The report structure is a summary overview of the area surveyed followed by the detailed habitat descriptions with photographs. Species lists, including a DAFOR scale of abundance can be found in Appendix A. Where a species is referred to in the text, the accepted common name is used, with corresponding scientific names found in Appendix A.

¹ Rodwell, J S (ed.) 1992. British Plant Communities, Vol.3: Grasslands and Montane Communities. Cambridge University Press, Cambridge.

² Stace, C. 2019. *New Flora of the British Isles – Fourth Edition*. Middlewood Green: C & M Floristics.

3.0 RESULTS SUMMARY

Background

- 3.1 The SSSI has been notified for its geological and biological interest. The SSSI citation³ notes that the main biological interest is the limestone grassland on the steep railway embankments and in the adjacent quarry. The grassland is noted as being tall-sward grassland dominated by Upright Brome or a mixture of brome and Tor-grass, which supports a range of calcareous forbs. Reference is also made to the woodland habitat that is also present.

Overview Description

- 3.2 The habitats present within the boundary of the SSSI, predominantly on the banks of the railway cutting and extending within the former quarry area to the south comprised of a number of communities of lowland calcareous grassland, lowland meadow, significant areas of encroaching mixed scrub and centrally an area of other broadleaved woodland. The SSSI is subject to irregular management, limited to scrub clearance and a mowing regime for the grassland habitats, however no evidence of recent management was noted during the survey, with the exception of localised rabbit grazing.
- 3.3 Generally, on the flatter embankment tops the most common habitat was a tall unmanaged grassland characterised by false oat-grass, but featuring a number of calcareous grassland indicators, representative of NVC community MG1d *Arrhenatherum elatius* grassland: *Pastinaca sativa* subcommunity. False oat-grass was constant within the sward, generally growing together with a mixture of tor-grass, upright brome and yellow oat grass. Tall bulky indicators were well represented throughout, particularly wild parsnip, greater knapweed, woolly thistle, oxeye daisy and lady's bedstraw and field scabious. Although broadly speaking, MG1 is a neutral grassland type, the *Pastinaca* sub-community generally develops from calcareous grassland when they become unmanaged. Under UKHab, stands with a close correspondence with MG1d which meet the broad habitat definition, such as the ones recorded within the SSSI should be recorded as Lowland meadow, rather than lowland calcareous grassland.
- 3.4 The steeper mid-slopes were characterised generally by a mixture of upright brome dominated grassland, broadly representative of NVC community CG3 *Bromus erectus* grassland, and a upright brome / tor-grass community representative of NVC community CG5 *Bromus erectus* - *Brachypodium pinnatum* grassland. These communities were characterised by salad burnet, glaucous sedge, greater knapweed, common bird's-foot-trefoil, dwarf thistle and oxeye daisy, along with a varied mix of calcareous associates at lower frequencies, notably horseshoe vetch, wild liquorice, sainfoin, common rock-rose and dropwort. In a very small number of locations a short tight sward was present, which had resulted from localised rabbit grazing and here species-richness was very high with 21-27 species/m² noted. These areas represent exceptionally species-rich limestone grassland are of considerable significance and indicative of the conservation benefits of regular management of these habitat types.
- 3.5 Locally where the gradients of the lower slopes of the embankment were reduced, most extensively to the north-west, a lowland calcareous grassland consistent with NVC community CG4 *Brachypodium pinnatum* grassland was recorded. Here tor-grass formed dense tussocks, with

³ English Nature. 1999. *Ardley Cutting and Quarry SSSI Citation*.
<https://designatedsites.naturalengland.org.uk/PDFsForWeb/Citation/1000903.pdf>

greater knapweed, field scabious, oxeye daisy, woolly thistle, glaucous sedge and lady's bedstraw generally occasional to frequent associates. Species richness in this community was generally lower, owing to the tussocky nature of the sward.



View From Quarry Cottages Bridge of Northern Bank, showing typical transition between CG4 on the lower slopes CG3 on the steeper mid-slopes and MG1d on the slope tops.

- 3.6 A notable feature of the surveyed area was the extent of encroaching scrub noted throughout, which in many areas formed dense stands, but was also noted as scattered scrub within the vast majority of the grassland communities. Whilst many of the species forming the scrub and woodland elements occur on a range of soil type, the calcareous conditions were marked by the presence of species such as whitebeam, buckthorn and Wayfaring-tree.
- 3.7 Whilst the scrub and other broadleaved woodland habitats are only of Local level importance the CG3, CG4, CG5 and MG1d grasslands, are grasslands of high botanical nature conservation value with CG3 – CG5 corresponding to 'Lowland Calcareous Grassland' Habitat of Principal Importance, and MG1d corresponding to 'Lowland Meadows' Habitat of Principal Importance⁴ and are considered to be of **National level importance**.

⁴ Jefferson, R.G., Smith, S.L.N., & MacKintosh, E.J. 2019. *Guidelines for the Selection of Biological SSSIs Part 2: Detailed Guidelines for Habitats and Species Groups Chapter 3 Lowland Grasslands*. Peterborough: Joint Nature Conservation Committee. <https://data.incc.gov.uk/data/cf50f420-1b38-4253-89f8-1cb7ba010f27/SSSI-Guidelines-3-LowlandGrasslands-2019.pdf>

Current Condition and Management

- 3.8 The overall character of the surveyed section of SSSI was one of undermanagement. Succession to scrub and secondary semi-natural woodland, resulting from the undermanagement of the Site represents the main threat to the priority grassland habitats within the surveyed section of the SSSI. The lack of regular management is also reducing the conservation value of the Site by increasing the frequency and cover tall tussocky grass species, which significantly reduces both the overall diversity of these types of communities, but also the frequency of positive indicator species.
- 3.9 Significant sections of the area were comprised of dense and scattered scrub species, with an increase in scrub cover evident from previous survey undertaken by FPCR in 2020. The most notable example of this was on the southern bank of section 2, where a number of localised species rich calcareous grassland communities, noted as being of particular interest have now been lost to encroaching scrub.
- 3.10 The latest Common Standards Monitoring (CSM) survey undertaken on the site by Natural England was in 2012 and assessed the railway cutting (unit 2) to be in 'Unfavourable – Recovering' Condition, noting:
- The scrub clearance and grass cutting that has taken place over the last few years has greatly increased the area of quality grassland habitat. The priority areas identified in the management plan are now moving towards favourable condition, rank grass growth has reduced and positive indicator species are frequent. For all SSSI interest features the condition was favourable and/or management is in place to move the features towards favourable condition.*⁵
- 3.11 FPCR's previous survey of the Site in 2020 noted at that time that management was ongoing, with cut and chipped scrub recorded. No recent scrub clearance was noted during the 2025 survey and the resumption of this management would be an important action to restore the former extent and condition of the Nationally important grassland communities.
- 3.12 However, the 2020 survey highlighted that where scrub removal had taken place, that the chipped material had been left in situ, and this dense layer of chippings would be, (in the then author's opinion) as detrimental as the un-managed scrub. This is because this will effectively prevent any potential re-generation of calcareous grassland. This situation most likely reflects the difficulty of managing these areas of the SSSI effectively, given the steep nature of the embankment and difficulties with accessing the area. However, if a practical solution exists to remove the wood chippings from site then this would be of great benefit to the Sites designated features.
- 3.13 CSM monitoring from 2012 references grass cutting in key areas. This was not evident during the survey and the overall character of the grasslands were tall and tussocky. The exception to this were some localised short rabbit grazed communities, which are of particular note, as these were the most species-rich areas recorded during the survey. The species richness of these areas are an indication of how at least parts of the grassland in the surveyed area could be enhanced to transition towards a shorter sward, and more diverse calcareous grassland through management.
- 3.14 Traditionally these types of grassland would be managed through grazing, historically by sheep, but increasingly by cattle. The topography and live rail line are not considered conducive to grazing, but the re-introduction of a mowing regime would have a positive effect on the grassland condition. The greatest benefit from a mowing regime would be achieved by the removal of any arisings resulting from the management, and not left to rot down in situ.

⁵ <https://designatedsites.naturalengland.org.uk/UnitDetail.aspx?UnitId=1022421>

4.0 RESULTS

Section 1: Raghose Lane Bridge to Sommerton Road Bridge.

Southern Bank

- 4.1 On the Southern bank immediately south-east of the Raghose Lane bridge and continuing almost uninterrupted to Sommerton Road bridge was a mixed scrub community (S78). The scrub was characterised by hawthorn, with locally frequent stands of blackthorn and dogwood, interspersed by dense bramble thickets. Mature standard trees of grey poplar, field maple and pedunculate oak were scattered through the scrub.
- 4.2 Locally along the fence line to the south and towards the trackside, small glades of species poor MG1 *Arrhenatherum elatius* grassland were noted. Here false oat was abundant in a tussocky sward with cock's-foot Yorkshire fog and tor-grass. Although some species preferential to the *Pastinaca* and *Centaurea* MG1 sub-communities were present, such as common knapweed, field scabious and salad burnet, these were at most occasional and the overall character of the grassland was of the typical non-priority habitat MG1 type. In the section before Sommerton Road an access track runs down to the trackside.



View SE from Raghose Lane Bridge. Scrub S78 to right of frame, Grassland G38 to left. Bramble thicket centrally within scrub S78.

Northern Bank

- 4.3 On the Northern bank immediately south-east of the bridge, after a small area of mixed scrub with scattered field maple standards, the vegetation opens out and a community of CG5 *Bromus erectus* - *Brachypodium pinnatum* grassland was recorded (G38). Upright brome and downy oat-grass characterised the sward, with tor-grass yellow oat-grass red fescue and quaking grass common associates in a moderately tall sward. Forbs with tall leafy stems were common particularly greater knapweed, Imperforate st john's-wort, woolly thistle, field scabious and wild carrot, as well as species with bulky or sprawling foliage such as dwarf thistle, ribwort plantain, glaucous sedge, cowslip and common bird's-foot-trefoil. Locally in association with anthills and other shorter areas species such as common thyme, fairy flax and horseshoe vetch were noted.
- 4.4 After approximately 85m, the scattered scrub present through the grassland becomes continuous, particularly on the slope top (S78), with bramble forming extensive patches, with scattered hawthorn, blackthorn and gorse.



G38 - CG3 *Bromus erectus* grassland, with scrub S79 in background. G39 - CG4 *Brachypodium pinnatum* grassland

- 4.5 On the mid-slopes to slope bottom in this area, conditions remain open with tor-grass increasing in abundance to form a stand of relatively species poor CG4 *Brachypodium pinnatum* grassland (G39). Here only greater knapweed was recorded as frequent, with oxeye daisy, field scabious common bird's-foot-trefoil, hedge bedstraw and meadow vetchling occasional associates.
- 4.6 After 90m Scrub community s78 encroaches further down the slope, with blackthorn being dominant in this section. After a further 40m scrub cover reduces on the mid-lower slopes opening up into a false oat dominated grassland (g40), with the blackthorn scrub continuing on the slope top for 65m. Grassland G40 is representative of NVC community MG1d *Arrhenatherum elatius* grassland: *Pastinaca sativa* subcommunity, with the typical tall grasses false oat-grass and cock's-foot being joined in the sward by occasional tor-grass. Greater knapweed remained frequent, being joined by wild parsnip, field scabious, meadow vetchling, hedge bedstraw and lady's bedstraw. Just prior to the Sommerton Road Bridge, the scrub thickens up again, this time with hawthorn being the dominant.

5.0 SECTION 2: SOMMERTON ROAD BRIDGE TO QUARRY COTTAGES BRIDGE

Southern Bank

- 5.1 Immediately south east from Sommerton Road Bridge a dense scrub community was recorded (S21). Hawthorn and dogwood were dominants within this section along with occasional elder. Previous surveys had noted that the scrub had been coppiced and chipped in this area during winter 2019/20 and it appeared that no further management had been undertaken since.
- 5.2 Scrub community S21 continues for 215m along the southern bank and across this length blackthorn and bramble become increasingly frequent, with wild privet, English elm and guelder rose common associates.
- 5.3 Locally where, the embankment is free of scrub the open grassland in the glades is characteristic of MG1 *Arrhenatherum elatius* grassland (G41), with the abundant false oat-grass supplemented by occasional rough meadow-grass and tor-grass. Oxeye daisy, meadow vetchling and tufted vetch were occasional, but otherwise the grassland was tussocky and herb poor.



View SE from Sommerton Road Bridge. Scrub S21 to G41: MG1 *Arrhenatherum elatius* grassland right of frame

- 5.4 This run of scrub S21 ends where there a recently cleared area of vegetation associated with an open brick chamber connected to a drainage ditch. Conditions then open out down the bank into a typical example of MG1d *Arrhenatherum elatius* grassland: *Pastinaca sativa* subcommunity (G42). Here greater knapweed, wild parsnip, lady's bedstraw, meadow vetchling and oxeye daisy were well represented. Common gromwell was also as a rarity within the community. After 20m the slopes scrub up again, in the first instance with dense bramble before a short section of mixed scrub.
- 5.5 Grassland G42 continues on the slope top for the remainder of the section, before a patch of dense bramble scrub encroaches near Quarry Cottages Bridge. Following the scrub described above the embankment slopes feature a tussocky CG4 *Brachypodium pinnatum* grassland community (G43). Tor-grass was abundant, with occasional upright brome and false oat-grass and one patch of false brome. A diverse mix of calcareous indicators were noted occasionally including filed scabious, salad burnet, hairy st john's-wort, woolly thistle and wild basil. A locally frequent patch of hemp agrimony was recorded at the slope bottom and notably dropwort was recorded as a rarity. Scrub was encroaching across the community, typically bramble, blackthorn and hawthorn.
- 5.6 At the end of the section scrub community S21 returns up to Quarry Cottages Bridge, here characterised by high canopy dense hawthorn, field maple and wild privet.



G43:CG4 *Brachypodium pinnatum* grassland community



Scrub S21 at end of section, viewed NW from Quarry cottages bridge.

Northern Bank.

- 5.7 From the start of the section immediately southeast of Sommerton Road bridge, continuing for approximately 185m, an area of dense young mixed scrub was recorded (S80N). Hawthorn, blackthorn and dogwood were all frequent components, along with occasional elder and locally English elm. Locally along this length on the mid to lower slopes the scrub canopy was more open and tussocky CG4 *Brachypodium pinnatum* grassland community (G47) was recorded. This community was then the principal habitat recorded along the lower to mid slopes, along the entire section. Tor-grass was abundant, in a mixed sward also featuring lower amounts of false oat-grass, downy oat-grass and upright brome. Greater knapweed, lady's bedstraw and oxeye daisy were the most frequently recorded herbs, recorded with occasional woolly thistle, wild basil, meadow vetchling and field scabious. Scrub cover was high through the community, particularly at the slope bottom, with small saplings including frequent hawthorn, occasional blackthorn and wayfaring-tree encroaching. Notable in this community was Dragon's-teeth, which was locally frequent to the south-east. This species is a non-native neophyte, which is listed on the SSSI site designation.



Scrub S80N at start of section, viewed SE from Sommerton Road bridge.



G48 - MG1 *Arrhenatherum elatius* grassland on right of frame. G47 - CG4 *Brachypodium pinnatum* grassland community left of frame

- 5.8 On the level ground of the embankment, following the scrub community S80N0, a species poor MG1 *Arrhenatherum elatius* grassland was recorded (G48). Along with the dominant false oat-grass, the sward also supported Yorkshire-fog, tufted hair-grass, hairy sedge and Hungarian brome. Herbaceous diversity was limited to locally frequent field horsetail, yarrow, hairy ragwort and field bindweed.
- 5.9 After 90m the grassland on the slope top grades into a more species rich grassland which was intermediate between MG1d *Arrhenatherum elatius* grassland: *Pastinaca sativa* sub-community and CG5 *Bromus erectus* - *Brachypodium pinnatum* grassland (G45). Here tor-grass, upright brome, downy oat-grass and yellow oat-grass increased in abundance, to form a mixed sward with frequent false oat-grass. Greater knapweed, meadow vetchling, woolly thistle, lady's bedstraw and field scabious comprised the bulk of the herb cover along with salad burnet, glaucous sedge, wild parsnip, common gromwell and germander speedwell as typical associates.
- 5.10 In the final 175m of the section, leading up to Quarry Cottages Bridge, the upper section of the embankment slope increases in gradient and a good example of CG3 *Bromus erectus* grassland community was recorded (G46). At the time of the survey this community was very dry and parched, with a high proportion of bare ground resulting from both the steep gradient and the anthills present throughout. Upright brome was characteristic, with quaking grass, sheep's-fescue and glaucous sedge all frequent components of a stressed sward. Salad burnet, lady's bedstraw, dwarf thistle and thyme were all constant, with the latter generally associated with the ant hills, noted along with fairy flax, common toadflax, mouse-ear hawkweed and crested hair-grass. Infrequent associates included common bird's-foot-trefoil, common centaury, dropwort, cowslip, ribwort plantain and burnet-saxifrage.



Grassland G45 – Intermediate between MG1d *Arrhenatherum elatius* grassland: *Pastinaca sativa* sub-community and CG5 *Bromus erectus* - *Brachypodium pinnatum* grassland.



Grassland G46 – Parched CG3 *Bromus erectus* grassland community

- 5.11 At the end of the Section, just before Quarry Cottages bridge, a patch of dense scrub was noted (S80) which featured dense bramble with young hawthorn, dog rose ash saplings and wild privet.

6.0 SECTION 3: QUARRY COTTAGES BRIDGE TO B430 BRIDGE

Southern Bank

- 6.1 To the southeast of Quarry Cottages bridge the lower and middle slope of the embankment features a secondary, semi-mature woodland community (W70). The woodland featured a mixed somewhat scattered upper canopy ash, pedunculate oak, field maple goat willow and whitebeam. The understorey shrub and tree species then often form a thick and impenetrable layer and includes frequent hazel, hawthorn and blackthorn, along with a good population of way-faring tree, particularly at the scrubby edges of the woodland. Where access into the woodland was possible, the associated field layer was very sparse, dominated by bramble, but with locally frequent dog's-mercury with small amounts of wild strawberry, wood avens and wood-sedge.



Woodland W70 – Internal section



Scrub S79

- 6.2 The flatter upper slopes of the embankment in this section, in the previous survey of 2020 featured a relatively species rich tall grassland community recorded in mosaic with encroaching mixed scrub. During the 2025 survey, this area had now succeeded almost completely to dense scrub (S79), with thick bramble and travellers joy patches now present interspersed by hawthorn, blackthorn and dogwood. Where remnant small patches of tall grassland persisted these remained herb rich, with Hairy St John's-wort, wild basil, agrimony, common gromwell, common valerian, stinking iris and wild parsnip all noted.
- 6.3 140m into the section, the scrub opens up along a narrow ridge where a short, species-rich calcareous grassland was recorded (G44). This area represented one of the more diverse areas of grassland within the scope of the survey. The slopes of the ridge were short, facilitated by intensive rabbit grazing. Two 1x1m quadrats were along the ridge, with 27 and 21 species per m² recorded. Grass cover was generally low with the sward characterised generally by upright brome, along with downy oat-grass, sheep's-fescue and quaking grass at lower cover. Dwarf thistle, glaucous sedge and thyme constituted the bulk of the herbaceous cover, along with a diverse mix of associates including common bird's-foot-trefoil, hairy violet, burnet-saxifrage, lesser hawkbit, fairy flax, hoary plantain, common rock-rose, mouse-ear hawkweed and common centaury. Away from the slopes, the community graded into the tall grassland associated with the scrub edge habitat and featured a taller sward and was characterised by tall perennials such as agrimony, wild parsnip, greater knapweed, hoary ragwort and common valerian.



Grassland G44 – Recorded along narrow rabbit grazed ridge



Example Quadrat Q1 Recorded within Grassland G44.

- 6.4 The woodland community W70 and scrub community S79 continue on the lower and upper slopes respectively until the end of the section. The scrub up to the end of the section was broadly as described above, with two stands of Rose-of-sharon, a non native shrub noted, as well as extensive stands of bramble scrub. Due to the dense scrub bordering it the majority of the woodland W70 towards the end of the section could not be accessed fully.

Northern Bank

- 6.5 The northern bank of the SSSI between Quarry Cottages Bridge to the B430 Bridge could not be accessed for the survey.

7.0 SECTION 4: B430 BRIDGE TO THE VALENCIA QUARRY BRIDGE

Southern Bank

- 7.1 At the start of the section dense mixed scrub dominates (S68) formed by blackthorn, field maple, hawthorn, dogwood and wild privet with frequent bramble and more rarely some spindle, buckthorn and wayfaring-tree. Pedunculate oak standards were occasional within the scrub together with rare field maple standards.
- 7.2 50m into the section the area opens to a small clearing within the scrub where a tussocky upright brome dominated grassland was recorded. Further glades and clearings were noted within this scrub, until more open conditions were recorded more consistently on the mid to lower slopes up to the section end. All these areas were mapped under grassland community G52, which was representative of CG3 *Bromus erectus* grassland community, due to the limited cover of tor-grass within the sward. Oxeye daisy was abundant within this community which together with the frequent yarrow and cowslip, gave the community a distinct mesotrophic influence. However, the constancy of glaucous sedge, salad burnet and common bird's-foot-trefoil characterised the community as CG3. These species were supplemented by frequent agrimony and greater knapweed, with occasional wild parsnip and wild teasel highlighting the tussocky tall nature of the sward. Bramble scrub was encroaching throughout this habitat both as trailing stems and dense stands.



Dense scrub community S68



Grassland G52 – Showing tussocky nature and encroaching bramble scrub

- 7.3 170m into the section, the SSSI boundary extends into the Valencia Quarry land and an exposed geological feature was noted. At the base of the exposure there is a large depression which at the time of the survey was dry and dominated by common spike-rush with local patches of hairy sedge and nettle leaved goosefoot.
- 7.4 To the south-east the above community grades into a species poor MG1 *Arrhenatherum elatius* grassland (G30b). False oat-grass was dominant forming a tall even sward, with occasional Yorkshire fog. The only herbs noted within the community were occasional common nettle and creeping thistle as a rarity.
- 7.5 The slope top between the geological feature and the railway embankment featured a mosaic of MG1d *Arrhenatherum elatius* grassland: *Pastinaca sativa* sub-community and CG3 *Bromus erectus* grassland (G30a). False oat-grass was locally abundant, particularly along the boundary fence to the railway embankment where blackthorn suckers were encroaching. Here the tall herbs woolly thistle, greater knapweed and wild parsnip were common. On the exposure top and sides upright brome and downy oat-grass increased in abundance, along with salad burnet, mouse-ear hawkweed and common bird's-foot-trefoil.



Geological Exposure, with dry depression. CG3 grassland is visible to the right of frame.



Grassland G30b – Species Poor MG1 *Arrhenatherum elatius* grassland

- 7.6 Within the embankment Grassland G52 continues along the mid and lower slopes to the section end, with Scrub S68 continuing similarly on the slope top.

Northern Bank

- 7.7 At the start of the section on the slope top another example of MG1d *Arrhenatherum elatius* grassland: *Pastinaca sativa* sub-community was recorded (G131). Initially the community is recorded in mosaic with scrub comprising of hawthorn and field maple. Abundant false oat-grass is joined by occasional yellow oat-grass along with tufted hair-grass, tall fescue and downy oat-grass at lower frequencies. Greater knapweed and oxeye daisy form the bulk of the herbaceous cover, recorded with occasional field scabious, woolly thistle and imperforate st john's-wort. Common restharrow and wild liquorice were noted within this community.
- 7.8 The steep slopes of the embankment in this section featured a species rich example of CG3 *Bromus erectus* grassland (G132). Typically, upright brome dominated the sward, recorded in association with both downy and meadow oat-grass and sweet vernal grass. The CG3 constants salad burnet, glaucous sedge and common bird's-foot-trefoil were all at least occasional, with greater knapweed and oxeye daisy remaining frequent. Wild liquorice was locally frequent, and a good population of kidney vetch noted locally.
- 7.9 The very bottom of the slope initially featured young hawthorn, blackthorn and dog-rose scrub, before opening out into a short rock face. After 120m denser scrub develops on the slope top, and from then it is present in mosaic with the MG1d grassland community described above (S38). Initially this comprises stands of hawthorn and blackthorn interspersed by bramble thickets. Further south-east towards the centre of the section, the scrub is taller and interspersed by mature specimens of field maple and pedunculate oak. Hawthorn and blackthorn remain frequent but are joined by grey willow, wayfaring-tree, hazel and buckthorn.



Grassland G132 - CG3 grassland



Grassland G131 – of MG1d *Arrhenatherum elatius* grassland: *Pastinaca sativa* sub-community

- 7.10 In the final 100m of the section, the CG3 grassland (G132) continues on the steeper mid-slope, with the MG1d community(G131) continuing on the flatter slope top in mosaic with scattered scrub comprised of predominantly hawthorn. At the end of the section on the slope top the scrub thickens again to the bridge.

8.0 SECTION 5: VALENCIA QUARRY BRIDGE TO M40 BRIDGE.

Southern Bank

- 8.1 Immediately south-east of the Valencia Quarry Bridge the profile of the cutting comprised a narrow flat upper slope with a steep face down to the tracks. This extended for 325m and featured a dense mixed scrub community (S13) consistently on the face, with localised open sections on the top. Within the community a scattered upper canopy was formed by frequent goats willow with rare sycamore, silver birch and ash. This was interspersed with frequent hawthorn and bramble, locally frequent blackthorn, together with occasional dogwood and dog rose. Where conditions became more open on the slope top and on the upper face, an example of CG3: *Bromus erectus* grassland was recorded (G16), which at the time of the survey was suffering from drought stress. Along with the abundant upright brome, sheep's-fescue was frequent, with yellow oat-grass and false oat-grass occasional in a short sward with a high proportion of bare ground. Salad burnet and mouse-ear hawkweed were the most frequently recorded herbs, noted with occasional dwarf thistle common bird's-foot-trefoil, field scabious, lesser hawkbit and common centaury. Sainfoin and blue fleabane were noted in the grassland as rarities.



Grassland G16 - CG3 grassland glade within Mixed scrub S13



Grassland G16 - CG3 grassland along fence line, with mixed scrub S13 on slope face

- 8.2 Following the above, a neutral grassland community (G11) was recorded outside the embankment boundary, but within the SSSI boundary. The grassland was present on sloping ground adjacent the railway cutting as well as a small bund, with the sward featuring frequent common bent, with false oat-grass and Yorkshire-fog. Creeping cinquefoil was abundant throughout, with oxeye daisy, creeping thistle and wild parsnip frequent, particularly to the north. Bramble scrub was encroaching, forming a dense thicket on the small bund present to the southern extent. A stand of non-native plantation woodland was then recorded, with the canopy dominated by Italian Alder (W53).
- 8.3 After the Public Right of Way, which crosses the railway line, the woodland grades again into a dense scrub community (S52) characterised by blackthorn. After 40m and on the slope tops, either side of the fence line, another example of CG3: *Bromus erectus* grassland was recorded (G48). In this stand oxeye daisy increased in abundance, with greater knapweed, salad burnet, common bird's-foot-trefoil, cowslip, glaucous sedge and agrimony all frequent in a herb rich sward. Bramble was frequent throughout, generally trailing through the habitat, but thickening up toward the section end into a mixed scrub community recorded along with a small thicket of wild cherry. At the end of the section a gravel footpath runs under the M40.

Northern Bank

- 8.4 Immediately south-east of the Valencia Quarry Bridge on the northern bank, the grassland community G131 MG1d *Arrhenatherum elatius* grassland: *Pastinaca sativa* sub-community was recorded, described above continues on the flat embankment top. On the steeper mid-slopes an example of NVC community CG5 *Bromus erectus* - *Brachypodium pinnatum* grassland was recorded (G51), featuring abundant upright brome, with tor-grass only occasionally noted. The typical associates of salad burnet, dwarf thistle sheep's fescue and mouse-ear hawkweed were well represented, as well as species such as ploughman's-spikenard, kidney vetch sainfoin and great mullein occurring at low frequencies and providing a minor point of difference to the wider site.



Grassland G51 - CG5 *Bromus erectus* - *Brachypodium pinnatum* grassland, with scrub S81 to right of frame



CG5 grassland G51 continuing on midslopes, with scrub S81 on upper slope.

- 8.5 After 104m dense scrub begins to dominate the embankment top, present initially on the embankment land before extending over a large bund into the Valencia land. The scrub community (S81) featured dense blackthorn and bramble thickets interspersed by frequent hawthorn and a scattering of apple trees. Following this, grassland G51 continues for a further 85m, before Mixed scrub develops again leading up to the Public Right of Way crossing.
- 8.6 Following the crossing conditions become more open for 120m and a CG3 community is again recorded (G133). Here the community features encroaching scrub, particularly bramble, dog rose and hawthorn, but with way-faring tree also noted. The sward was notably rough and tussocky, with occasional false oat-grass indicative of a move towards a more mesotrophic MG1d community. However, the constancy of upright brome, together with lady's bedstraw, salad burnet, bird's-foot-trefoil, ploughman's-spikenard and greater knapweed was more consistent with a calcareous community. Towards the end of the section a dense stand of blackthorn dominates the upper and mid-slopes.



Grassland G133 – CG3 *Bromus erectus* grassland, with encroaching scrub



Blackthorn Scrub at end of section.

9.0 APPENDIX A: SPECIES LISTS

Sections 1 & 2

Sections 1 and 2: Grassland

Common Name	Scientific Name	G38 CG5	G39 CG4	G40 MG1d	G41 MG1	G42 MG1d slope top	G43 slope CG4	G45 slope top MG1d/CG5	G47 CG4	G46 dry CG3
Grasses and Rushes										
False oat-grass	<i>Arrhenatherum elatius</i>	R LF edges	O F	A	A	A	O	F	O	R
Tor-grass	<i>Brachypodium pinnatum</i>	O	A	O LF	O	O	A	O	A	R
Upright Brome	<i>Bromopsis erecta</i>	F	O				O	O	O	F
Downy oat-grass	<i>Helictotrichon pubescens</i>	F				R	R LO	O	O	O
Cock's-foot	<i>Dactylis glomerata</i>			O	R	R		R	R	R
Yellow oat-grass	<i>Trisetum flavescens</i>	O				R	R	O	R	O
Rough meadow-grass	<i>Poa trivialis</i>	R	R	O	O	O				
Smooth meadow-grass	<i>Poa pratensis</i>	O	O					R	R	
Red fescue	<i>Festuca rubra</i>	O	R		R			R		
Quaking-grass	<i>Briza media</i>	O						R	R	F
Yorkshire-fog	<i>Holcus lanatus</i>					R	R	R	R	
Creeping bent	<i>Agrostis stolonifera</i>					R	R			
Sheep's-fescue	<i>Festuca ovina</i>									F
Crested hair-grass	<i>Koeleria macrantha</i>									R
Perennial rye-grass	<i>Lolium perenne</i>			R						
False brome	<i>Brachypodium sylvaticum</i>						LO			
Wildflowers and Sedges										
Field bindweed	<i>Convolvulus arvensis</i>	O	O	O	O	O	R O	O	O	R
Meadow vetchling	<i>Lathyrus pratensis</i>	R	O	O	O	O	R	O	O	R
Greater knapweed	<i>Centaurea scabiosa</i>	F	O F	F		R LO	R	F	O F	R
Imperforate st john's-wort	<i>Hypericum maculatum</i>	O	R	R	R		O	R	O	O
Oxeye daisy	<i>Leucanthemum vulgare</i>	R	O	R	O	O	O		F	

Common Name	Scientific Name	G38 CG5	G39 CG4	G40 MG1d	G41 MG1	G42 MG1d slope top	G43 slope CG4	G45 slope top MG1d/CG5	G47 CG4	G46 dry CG3
Salad burnet	<i>Poterium sanguisorba</i>	R LO	R			R	O	R	R	F
Field scabious	<i>Knautia arvensis</i>	O	O	O		R	O	O	O	
Lady's bedstraw	<i>Galium verum</i>	O		LO		O	O	O	O F	F O
Woolly thistle	<i>Cirsium eriophorum</i>	O F	R O	R		R	O	R O	O	
Common knapweed	<i>Centaurea nigra</i>	O	R	R		O	R	R	R	
Glaucous sedge	<i>Carex flacca</i>	R LO	O				O	R	O	F
Wild carrot	<i>Daucus carota</i>	O	R LO			R	R	R	R	
Wild parsnip	<i>Pastinaca sativa</i>		R	O		R LO	R	R	R	
Common bird's-foot-trefoil	<i>Lotus corniculatus</i>	O	O		R		RLF			O
Ribwort plantain	<i>Plantago lanceolata</i>	O					R	R	R	R
Burnet-saxifrage	<i>Pimpinella saxifraga</i>	R					R		R	R
Wild basil	<i>Clinopodium vulgare</i>						O	R	O	R
Common gromwell	<i>Lithospermum officinale</i>					R	R	R	R	
Cowslip	<i>Primula veris</i>	O					R			R
Dragon's-teeth	<i>Lotus maritimus</i>							LO	LF	R
Germander speedwell	<i>Veronica chamaedrys</i>							R	R	O
Hedge bedstraw	<i>Galium album</i>	R	O	O						
Ribbed melilot	<i>Melilotus officinalis</i>		R					R	R	
Tufted vetch	<i>Vicia cracca</i>			R	O					
Dwarf thistle	<i>Cirsium acaule</i>	F								O LF
Common centaury	<i>Centaureum erythraea</i>		R							O
Hairy violet	<i>Viola hirta</i>	O	R							
Wild garden thymme	<i>Thymus drucei</i>	LF Ant Hills								F
Common sorrel	<i>Rumex acetosa</i>					R	R			
Fairy flax	<i>Linum catharticum</i>	O								O
Field horsetail	<i>Equisetum arvense</i>		R					LO		
Rough hawkbit	<i>Leontodon hispidus</i>	R	R							

Common Name	Scientific Name	G38 CG5	G39 CG4	G40 MG1d	G41 MG1	G42 MG1d slope top	G43 slope CG4	G45 slope top MG1d/CG5	G47 CG4	G46 dry CG3
Zigzag clover	<i>Trifolium medium</i>	R				R				
Goat's-beard	<i>Tragopogon pratensis</i>		R	R						
Dropwort	<i>Filipendula vulgaris</i>						R			R
Common spotted-orchid	<i>Dactylorhiza fuchsii</i>						R		R	
Mouse-ear-hawkweed	<i>Pilosella officinarum</i>	R								
Agrimony	<i>Agrimonia eupatoria</i>			R						
Hairy st john's-wort	<i>Hypericum hirsutum</i>						O			
Black medick	<i>Medicago lupulina</i>	R								
Kidney vetch	<i>Anthyllis vulneraria</i>								R	
Creeping cinquefoil	<i>Potentilla reptans</i>					O				
Common toadflax	<i>Linaria vulgaris</i>									R
Common hogweed	<i>Heracleum sphondylium</i>			O						
Wild teasel	<i>Dipsacus fullonum</i>					R				
Common rock-rose	<i>Helianthemum nummularium</i>	LO								
Horseshow vetch	<i>Hippocrepis comosa</i>	R								
Pyramidal orchid	<i>Anacamptis pyramidalis</i>	R								
White campion	<i>Silene latifolia</i>			O						
Bittersweet	<i>Solanum dulcamara</i>					R				
Dog's mercury	<i>Mercurialis perennis</i>						LO			
Hemp-agrimony	<i>Eupatorium cannabinum</i>						R LF			
Male-fern	<i>Dryopteris filix-mas</i>						R			
Scrub										
Bramble	<i>Rubus fruticosus agg.</i>	O			O	O	O	O	O	
Hawthorn	<i>Crataegus monogyna</i>		O	O	R		O	O	F	
Blackthorn	<i>Prunus spinosa</i>		O				O	O	O	
Dog rose	<i>Rosa canina</i>			R					R	R
Wild privet	<i>Ligustrum vulgare</i>		R						R	

Common Name	Scientific Name	G38 CG5	G39 CG4	G40 MG1d	G41 MG1	G42 MG1d slope top	G43 slope CG4	G45 slope top MG1d/CG5	G47 CG4	G46 dry CG3
Wayfaring-tree	<i>Viburnum lantana</i>								R	
ash	<i>Fraxinus excelsior</i>						R			
Field maple	<i>Acer campestre</i>								R	
Undesirables										
Creeping Thistle	<i>Cirsium arvense</i>			R		R				
Common Nettle	<i>Urtica dioica</i>				R	R				
Curled Dock	<i>Rumex crispus</i>					R				
Common Ragwort	<i>Jacobaea vulgaris</i>									
White Clover	<i>Trifolium repens</i>									
Spear Thistle	<i>Cirsium vulgare</i>									
Seedlings										
Pedunculate oak	<i>Quercus robur</i>	R								
Blackthorn	<i>Prunus spinosa</i>	R								
Hawthorn	<i>Crataegus monogyna</i>									R

Sections 1 and 2: Scrub

Common Name	Scientific Name	Upper canopy	understory	Ground Flora Dafor	Upper canopy	understory	Ground Flora Dafor	Upper canopy	understory	Ground Flora Dafor	Upper canopy	understory	Ground Flora Dafor	Upper canopy	understory	Ground Flora Dafor
		S78			S21			S79			S80			S80N		
Canopy																
Hawthorn	<i>Crataegus monogyna</i>		F			F			F			F			F	
Dog rose	<i>Rosa canina</i>		O			R			O			R			R	
Dogwood	<i>Cornus sanguinea</i>		LF			O LF			LF			R			F	
Blackthorn	<i>Prunus spinosa</i>		LF			F			FA						F	
Bramble	<i>Rubus fruticosus agg.</i>		A			FA			FA			F				
Elder	<i>Sambucus nigra</i>		R			O			O						O	
Field maple	<i>Acer campestre</i>	R				R		R							O	
Grey poplar	<i>Populus x canescens</i>	R	R			R										
ash	<i>Fraxinus excelsior</i>					R						R				
hazel	<i>Corylus avellana</i>		R						R							
Wild privet	<i>Ligustrum vulgare</i>					R						R				
English elm	<i>Ulmus procera</i>					R									R LO	
Sycamore	<i>Acer pseudoplatanus</i>		R													
Honeysuckle	<i>Lonicera periclymenum</i>		O													
Pedunculate oak	<i>Quercus robur</i>	R														
Wayfaring-tree	<i>Viburnum lantana</i>								O							
Grey willow	<i>Salix cinerea</i>								R							
Spindle	<i>Euonymus europaeus</i>								R							
Lilac	<i>Syringa vulgaris</i>								R							
Rose-of-sharon	<i>Hypericum calycinum</i>								LF							
Guelder-rose	<i>Viburnum opulus</i>					O										
Ground Flora																
False oat-grass	<i>Arrhenatherum elatius</i>			FA			F			A			O			F
Traveller's-joy	<i>Clematis vitalba</i>			LF			LF			F						LF
Cock's-foot	<i>Dactylis glomerata</i>			O			R			O						R

Common Name	Scientific Name	Upper canopy	understory	Ground Flora Dafor	Upper canopy	understory	Ground Flora Dafor	Upper canopy	understory	Ground Flora Dafor	Upper canopy	understory	Ground Flora Dafor	Upper canopy	understory	Ground Flora Dafor
		S78			S21			S79			S80			S80N		
Tor-grass	<i>Brachypodium pinnatum</i>			O			O			O			F			
Woolly thistle	<i>Cirsium eriophorum</i>			O LF			R			R						O
Yorkshire-fog	<i>Holcus lanatus</i>			O						R			O			O
Black bryony	<i>Dioscorea communis</i>			O			R									O
Creeping thistle	<i>Cirsium arvense</i>			R						R			R			
Oxeye daisy	<i>Leucanthemum vulgare</i>						O			R			O			
White bryony	<i>Bryonia dioica</i>						R			R						R
Greater knapweed	<i>Centaurea scabiosa</i>						O			R			O			
Common ivy	<i>Hedera helix</i>			LF SCRUB			R									
Lesser burdock	<i>Arctium minus</i>			R						R						
Salad burnet	<i>Poterium sanguisorba</i>			R						R						
Common hogweed	<i>Heracleum sphondylium</i>			O						R						
Field scabious	<i>Knautia arvensis</i>			R						R						
Tufted hair-grass	<i>Deschampsia caespitosa</i>			R						R						
White campion	<i>Silene latifolia</i>			R						R						
Common nettle	<i>Urtica dioica</i>			O						O						
Cow parsley	<i>Anthriscus sylvestris</i>			R						R						
Bittersweet	<i>Solanum dulcamara</i>						R			R						
Hairy st john's-wort	<i>Hypericum hirsutum</i>									R			O			
Common gromwell	<i>Lithospermum officinale</i>									R						
Common knapweed	<i>Centaurea nigra</i>			O												
Smooth meadow-grass	<i>Poa pratensis</i>			O												
Barren brome	<i>Anisantha sterilis</i>			R												
Field bindweed	<i>Convolvulus arvensis</i>						R									
Wild parsnip	<i>Pastinaca sativa</i>									O						
Imperforate st john's-wort	<i>Hypericum maculatum</i>									O						
Wild basil	<i>Clinopodium vulgare</i>									R						

Common Name	Scientific Name	Upper canopy	understorey	Ground Flora Dafor	Upper canopy	understorey	Ground Flora Dafor	Upper canopy	understorey	Ground Flora Dafor	Upper canopy	understorey	Ground Flora Dafor	Upper canopy	understorey	Ground Flora Dafor
		S78			S21			S79			S80			S80N		
Agrimony	<i>Agrimonia eupatoria</i>									R LO						
Common figwort	<i>Scrophularia nodosa</i>									R						
Wild strawberry	<i>Fragaria vesca</i>									O						
Germander speedwell	<i>Veronica chamaedrys</i>									R						
Lords-and-ladies	<i>Arum maculatum</i>									R						
Stinking iris	<i>Iris foetidissima</i>									R						
Common valerian	<i>Valeriana officinalis</i>									LO						
Common toadflax	<i>Linaria vulgaris</i>									RQ						
Garlic mustard	<i>Alliaria petiolata</i>															O
Broad-leaved everlasting pea	<i>Lathyrus latifolius</i>															R

Section 3**Section 3 Grassland**

Common Name	Scientific Name	Q1	Q2	G44 Cg3 ridge
	Bare Ground	1	5	
Undesirables				
Common Ragwort	<i>Jacobaea vulgaris</i>	1		R
White Clover	<i>Trifolium repens</i>	1		R
Seedlings				
Hawthorn	<i>Crataegus monogyna</i>	1	1.0	R
Grasses and Rushes				
Upright Brome	<i>Bromopsis erecta</i>	10	10.0	OF
Sheep's-fescue	<i>Festuca ovina</i>	5	3.0	O
Quaking-grass	<i>Briza media</i>	5	2.0	O
Tor-grass	<i>Brachypodium pinnatum</i>	5		R
Downy oat-grass	<i>Helictotrichon pubescens</i>	2		R
Cock's-foot	<i>Dactylis glomerata</i>		1.0	R
Smooth meadow-grass	<i>Poa pratensis</i>		1.0	R
Red fescue	<i>Festuca rubra</i>	2		R
Yellow oat-grass	<i>Trisetum flavescens</i>			R
Rough meadow-grass	<i>Poa trivialis</i>			R
Wildflowers and Sedges				
Common bird's-foot-trefoil	<i>Lotus corniculatus</i>	2	1.0	OF
Glaucous sedge	<i>Carex flacca</i>	20	15.0	F
Dwarf thistle	<i>Cirsium acaule</i>	20	10.0	OF
Common centaury	<i>Centaurium erythraea</i>	1	1.0	O
Burnet-saxifrage	<i>Pimpinella saxifraga</i>	2	2.0	LO
Hairy violet	<i>Viola hirta</i>	3	3.0	O
Wild garden thymme	<i>Thymus drucei</i>	2	25.0	O

Common Name	Scientific Name	Q1	Q2	G44 Cg3 ridge
Fairy flax	<i>Linum catharticum</i>	1	1.0	LO
Wild strawberry	<i>Fragaria vesca</i>	3	2.0	R
Greater knapweed	<i>Centaurea scabiosa</i>		2.0	O
Oxeye daisy	<i>Leucanthemum vulgare</i>		1.0	R
Imperforate st john's-wort	<i>Hypericum maculatum</i>	2		O
Salad burnet	<i>Poterium sanguisorba</i>	2		O
Lady's bedstraw	<i>Galium verum</i>	3		O
Mouse-ear-hawkweed	<i>Pilosella officinarum</i>		3.0	O
Ribwort plantain	<i>Plantago lanceolata</i>	1		R LO
Common sorrel	<i>Rumex acetosa</i>	1		R
Germander speedwell	<i>Veronica chamaedrys</i>	2		R
Lesser hawkbit	<i>Leontodon saxatilis</i>	5		R
Field forget-me-not	<i>Myosotis arvensis</i>	2		R
Hoary plantain	<i>Plantago media</i>		1.0	R
Field scabious	<i>Knautia arvensis</i>			O
Wild parsnip	<i>Pastinaca sativa</i>			R
Cowslip	<i>Primula veris</i>			R
Wild basil	<i>Clinopodium vulgare</i>			R
Agrimony	<i>Agrimonia eupatoria</i>			O
Hairy st john's-wort	<i>Hypericum hirsutum</i>			R
Smooth hawk's-beard	<i>Crepis capillaris</i>			R
Hop trefoil	<i>Trifolium campestre</i>			R
Common rock-rose	<i>Helianthemum nummularium</i>			R
Common valerian	<i>Valeriana officinalis</i>			LO
Scrub and Lower Plants				
Wayfaring-tree	<i>Viburnum lantana</i>			
Neat Feathermoss	<i>Pseudoscleropodium purum</i>		20.0	O
A Cladonia Lichen	<i>Cladonia sp.</i>			LO

Common Name	Scientific Name	Q1	Q2	G44 Cg3 ridge
Bramble	<i>Rubus fruticosus</i> agg.	2		
Dog rose	<i>Rosa canina</i>		1.0	
		Q1	Q2	Average per m2
	GRASSLAND LOW Species/m2	27	21	24
	Grassland LOW number of Forbs	20	15	18
	GRASSLAND MED+Species/m2 exc. Undesirables	24	20	22
	% cover rye-grass & white clover	10	10	10
	% cover Undesirables	2	0.0	1
	% cover grasses	29	17	23
	% cover wildflowers exc. Undesirables	74	88	81
	Bare Ground			3

Section 3 Woodland W70

Common Name	Scientific Name	Upper canopy	understory	young tree	Ground Flora Dafor
Woody Species					
ash	<i>Fraxinus excelsior</i>	F		O	
Hawthorn	<i>Crataegus monogyna</i>		F		
Blackthorn	<i>Prunus spinosa</i>		F		
Crab apple	<i>Malus sylvestris</i>		R		
Dog rose	<i>Rosa canina</i>		O		
Elder	<i>Sambucus nigra</i>		O		
Pedunculate oak	<i>Quercus robur</i>	O		O	
Goat willow	<i>Salix caprea</i>	R			
Hazel	<i>Corylus avellana</i>		F		
Grey willow	<i>Salix cinerea</i>		R		
Wayfaring-tree	<i>Viburnum lantana</i>		O		
Whitebeam	<i>Sorbus anglica</i>	O			
Field maple	<i>Acer campestre</i>	R LO			
Ground FLora					
Bramble	<i>Rubus fruticosus agg.</i>				F
Perforate st john's-wort	<i>Hypericum perforatum</i>				R
Wild strawberry	<i>Fragaria vesca</i>				R
Dog's mercury	<i>Mercurialis perennis</i>				LF
Black bryony	<i>Dioscorea communis</i>				R
Tor-grass	<i>Brachypodium pinnatum</i>				R
-	<i>a violet</i>				O
Wood-sedge	<i>Carex sylvatica</i>				LO
Wood avens	<i>Geum urbanum</i>				O

Section 3 Scrub S79

Common Name	Scientific Name	Upper canopy	understory	Seeding	Ground Flora Dafor
Woody Species					
Hawthorn	<i>Crataegus monogyna</i>		F		
Blackthorn	<i>Prunus spinosa</i>		F A		
Bramble	<i>Rubus fruticosus agg.</i>		F A		
Dogwood	<i>Cornus sanguinea</i>		LF		
Rose-of-sharon	<i>Hypericum calycinum</i>		LF		
Dog rose	<i>Rosa canina</i>		O		
Elder	<i>Sambucus nigra</i>		O		
Wayfaring-tree	<i>Viburnum lantana</i>		O		
hazel	<i>Corylus avellana</i>		R		
Grey willow	<i>Salix cinerea</i>		R		
Spindle	<i>Euonymus europaeus</i>		R		
Lilac	<i>Syringa vulgaris</i>		R		
Field maple	<i>Acer campestre</i>	R			
Ground Flora					
False oat-grass	<i>Arrhenatherum elatius</i>				A
Traveller's-joy	<i>Clematis vitalba</i>				F
Common valerian	<i>Valeriana officinalis</i>				LO
Cock's-foot	<i>Dactylis glomerata</i>				O
Tor-grass	<i>Brachypodium pinnatum</i>				O
Common nettle	<i>Urtica dioica</i>				O
Wild parsnip	<i>Pastinaca sativa</i>				O
Imperforate st john's-wort	<i>Hypericum maculatum</i>				O
Wild strawberry	<i>Fragaria vesca</i>				O
Lesser burdock	<i>Arctium minus</i>				R
Salad burnet	<i>Poterium sanguisorba</i>				R

Common Name	Scientific Name	Upper canopy	understory	Seeding	Ground Flora Dafor
Common hogweed	<i>Heracleum sphondylium</i>				R
Field scabious	<i>Knautia arvensis</i>				R
Woolly thistle	<i>Cirsium eriophorum</i>				R
Tufted hair-grass	<i>Deschampsia caespitosa</i>				R
White campion	<i>Silene latifolia</i>				R
Cow parsley	<i>Anthriscus sylvestris</i>				R
Yorkshire-fog	<i>Holcus lanatus</i>				R
Creeping thistle	<i>Cirsium arvense</i>				R
Bittersweet	<i>Solanum dulcamara</i>				R
Oxeye daisy	<i>Leucanthemum vulgare</i>				R
White bryony	<i>Bryonia dioica</i>				R
Greater knapweed	<i>Centaurea scabiosa</i>				R
Hairy st john's-wort	<i>Hypericum hirsutum</i>				R
Wild basil	<i>Clinopodium vulgare</i>				R
Common gromwell	<i>Lithospermum officinale</i>				R
Common figwort	<i>Scrophularia nodosa</i>				R
Germander speedwell	<i>Veronica chamaedrys</i>				R
Lords-and-ladies	<i>Arum maculatum</i>				R
Stinking iris	<i>Iris foetidissima</i>				R
Agrimony	<i>Agrimonia eupatoria</i>				R LO
Common toadflax	<i>Linaria vulgaris</i>				RQ

Sections 4 & 5

Sections 4 and 5 Grasslands

Common Name	Scientific Name	G131 MG1d	G132 slope CG3	G51 CG5	G133 CG3	G48 CG3	G11 ong	G16 CG3	G52 CG3 tussocky	G30b lower MG1	G30a top CG3/MG1d
Grasses and Rushes											
False oat-grass	<i>Arrhenatherum elatius</i>	A	R	O	O	O	OF	RO	RO	D	LA
Upright Brome	<i>Bromopsis erecta</i>	R LF EAST	A	A	A	A	R	AF	A		OLF
Downy oat-grass	<i>Helictotrichon pubescens</i>	R TO O EAST	F	F	O	O		R	O		O
Cock's-foot	<i>Dactylis glomerata</i>		R	R	R		R		R	R	R
Yellow oat-grass	<i>Trisetum flavescens</i>	O	O	O	O			O	O		
Tor-grass	<i>Brachypodium pinnatum</i>	R LO		O	R	R		R	R		
Sheep's-fescue	<i>Festuca ovina</i>			F	OF	O		F	F		
Common bent	<i>Agrostis capillaris</i>			R	RO	O	F				
Smooth meadow-grass	<i>Poa pratensis</i>		O		R		R		R		
Red fescue	<i>Festuca rubra</i>					O			R		
Yorkshire-fog	<i>Holcus lanatus</i>		O				OLF			O	
Quaking-grass	<i>Briza media</i>		R	R							
Hungarian brome	<i>Bromopsis inermis</i>	LO							R		
Meadow oat-grass	<i>Helictochloa pratensis</i>		O	R							
Tufted hair-grass	<i>Deschampsia caespitosa</i>	R									
Crested hair-grass	<i>Koeleria macrantha</i>				R						
Tall fescue	<i>Schedonorus arundinaceus</i>	R									
Sweet vernal-grass	<i>Anthoxanthum odoratum</i>		LO								
Phleum bertolonii	<i>Small Cat's-tail</i>										
Common couch	<i>Elytrigia repens</i>									LF	
Hard rush	<i>Juncus inflexus</i>										
Wildflowers and Sedges											

Common Name	Scientific Name	G131 MG1d	G132 slope CG3	G51 CG5	G133 CG3	G48 CG3	G11 ong	G16 CG3	G52 CG3 tussock y	G30b lower MG1	G30a top CG3/MG1 d
Greater knapweed	<i>Centaurea scabiosa</i>	F	F	FO	F	F		R	R		O
Oxeye daisy	<i>Leucanthemum vulgare</i>	F	F	F	O	A	F	R	O		
Wild parsnip	<i>Pastinaca sativa</i>	R		RLO	R	O	F	R	O		O
Imperforate st john's-wort	<i>Hypericum maculatum</i>	RLO	O	O	O	O	O	O			O
Field scabious	<i>Knautia arvensis</i>	O	O	O	O	R		O	O		R
Common bird's-foot-trefoil	<i>Lotus corniculatus</i>		O	R	F	F		O	R		O
Salad burnet	<i>Poterium sanguisorba</i>		O	F	O	F		F	F		OLF
Wild carrot	<i>Daucus carota</i>		O	O	O	R		R			R
Mouse-ear-hawkweed	<i>Pilosella officinarum</i>		R	O	O	R		F			LF
Lady's bedstraw	<i>Galium verum</i>		O	OR	OF	O		R	R		
Dwarf thistle	<i>Cirsium acaule</i>			O	O	R		O	R		
Hoary ragwort	<i>Jacobaea aquatica</i>	R			R	R	O	R	R		
Glaucous sedge	<i>Carex flacca</i>		OF	O	R	F					LO
Common centaury	<i>Centaurium erythraea</i>		R	R				O	RO		
Yarrow	<i>Achillea millefolium</i>	R	R	R		F					O
Cowslip	<i>Primula veris</i>			OLF	F	F			O		
Woolly thistle	<i>Cirsium eriophorum</i>	O	R						R		O
Smooth hawk's-beard	<i>Crepis capillaris</i>				O						O
Field bindweed	<i>Convolvulus arvensis</i>	O	R						R		
Common knapweed	<i>Centaurea nigra</i>	R	R						R		
Ribwort plantain	<i>Plantago lanceolata</i>		R								
Burnet-saxifrage	<i>Pimpinella saxifraga</i>			R				R	R		
Agrimony	<i>Agrimonia eupatoria</i>				OLF	F			O		
Hairy st john's-wort	<i>Hypericum hirsutum</i>			R	R				O		
Black medick	<i>Medicago lupulina</i>							R			
Lesser hawkbit	<i>Leontodon saxatilis</i>							O	O		

Common Name	Scientific Name	G131 MG1d	G132 slope CG3	G51 CG5	G133 CG3	G48 CG3	G11 ong	G16 CG3	G52 CG3 tussocky	G30b lower MG1	G30a top CG3/MG1d
Kidney vetch	<i>Anthyllis vulneraria</i>		LO	R							
Bladder campion	<i>Silene vulgaris</i>		O		R						
Common restharrow	<i>Ononis repens</i>	R	R						R		
Ploughman's-spikenard	<i>Inula conyzae</i>			R	O		R				
Wild basil	<i>Clinopodium vulgare</i>				R	R					
Common sorrel	<i>Rumex acetosa</i>	R									
Creeping cinquefoil	<i>Potentilla reptans</i>						A				
Common toadflax	<i>Linaria vulgaris</i>	R	R								
Sainfoin	<i>Onobrychis viciifolia</i>			R				R			
Wild liquorice	<i>Astragalus glycyphyllos</i>	O	O LF								
Blue fleabane	<i>Erigeron acris</i>							R			
Hairy violet	<i>Viola hirta</i>							R			
Wild garden thymme	<i>Thymus drucei</i>		R								
Common hogweed	<i>Heracleum sphondylium</i>					R					
Wild teasel	<i>Dipsacus fullonum</i>					O					
Field forget-me-not	<i>Myosotis arvensis</i>					R					
Hop trefoil	<i>Trifolium campestre</i>							R			
A Hawkweed	<i>Hieracium sp.</i>							R			
Great mullein	<i>Verbascum thapsus</i>			R							
Selfheal	<i>Prunella vulgaris</i>					R					
Beaked hawk's-beard	<i>Crepis vesicaria</i>								R		
Scrub											
Bramble	<i>Rubus fruticosus agg.</i>				F	F	O	O	LF		
Hawthorn	<i>Crataegus monogyna</i>	O		O	O				O		
Dog rose	<i>Rosa canina</i>			R	O				R		
Blackthorn	<i>Prunus spinosa</i>			O					LF		LO
Field maple	<i>Acer campestre</i>			R	R						

Common Name	Scientific Name	G131 MG1d	G132 slope CG3	G51 CG5	G133 CG3	G48 CG3	G11 ong	G16 CG3	G52 CG3 tussocky	G30b lower MG1	G30a top CG3/MG1d
Wild privet	<i>Ligustrum vulgare</i>			R					R		
Wayfaring-tree	<i>Viburnum lantana</i>				R						
Apple	<i>Malus domestica</i>					R					
Undesirables											
Creeping Thistle	<i>Cirsium arvense</i>					O	OF			R	O
Common Nettle	<i>Urtica dioica</i>									O	
Common Ragwort	<i>Jacobaea vulgaris</i>										
Spear Thistle	<i>Cirsium vulgare</i>										
Seedlings											
Blackthorn	<i>Prunus spinosa</i>							R			
Hawthorn	<i>Crataegus monogyna</i>	O				O		R			

Sections 4 Scrub

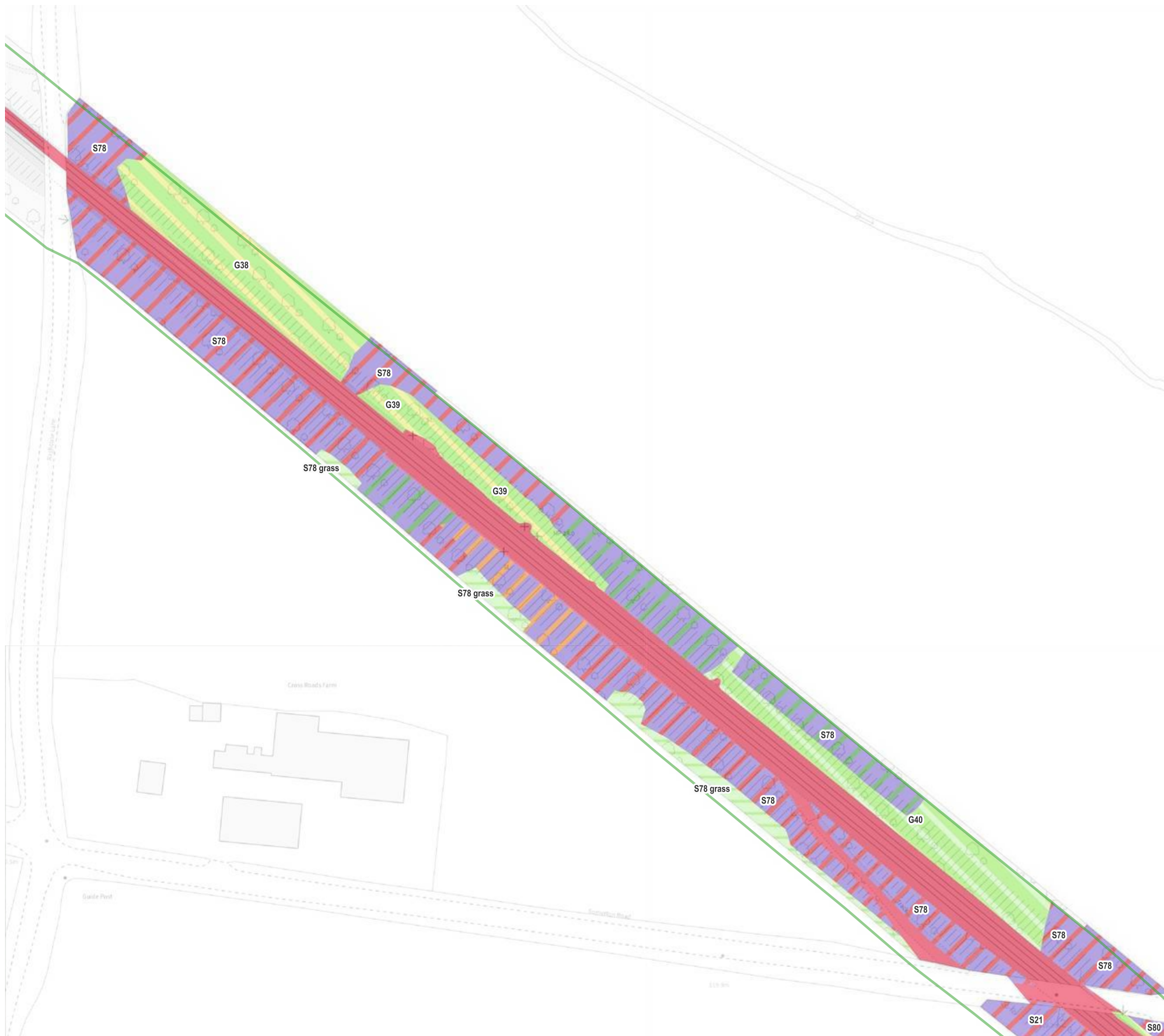
Common Name	Scientific Name	Upper canopy	understory	Ground Flora Dafor	Upper canopy	understory	Ground Flora Dafor	Upper canopy	understory	Seeding	Ground Flora Dafor	
		S38			S68			S72				
Hawthorn	<i>Crataegus monogyna</i>		A			F			O			
Blackthorn	<i>Prunus spinosa</i>		F			F			A	F		
Bramble	<i>Rubus fruticosus</i> agg.		F LA			F			F			
Dogwood	<i>Cornus sanguinea</i>		O						O			
Buckthorn	<i>Rhamnus cathartica</i>		O						O			
Dog rose	<i>Rosa canina</i>		O						R			
Elder	<i>Sambucus nigra</i>		R			O			R			
Field maple	<i>Acer campestre</i>	F	R					R	O			
Wild privet	<i>Ligustrum vulgare</i>		R						O			
Crab apple	<i>Malus sylvestris</i>		R						R			
Wayfaring-tree	<i>Viburnum lantana</i>		R						R			
Spindle	<i>Euonymus europaeus</i>		R						R			
Sycamore	<i>Acer pseudoplatanus</i>		R									
hazel	<i>Corylus avellana</i>		R									
Grey willow	<i>Salix cinerea</i>		R									
English elm	<i>Ulmus procera</i>				R	R			R			
ash	<i>Fraxinus excelsior</i>					R						
Goat willow	<i>Salix caprea</i>								R			
Grey poplar	<i>Populus x canescens</i>											
Honeysuckle	<i>Lonicera periclymenum</i>											
Pedunculate oak	<i>Quercus robur</i>	O						O				
False oat-grass	<i>Arrhenatherum elatius</i>			F							O	
Garlic mustard	<i>Alliaria petiolata</i>			LF							LF High canopy	
Traveller's-joy	<i>Clematis vitalba</i>			LF								

Common Name	Scientific Name	Upper canopy	understory	Ground Flora Dafor	Upper canopy	understory	Ground Flora Dafor	Upper canopy	understory	Seeding	Ground Flora Dafor
Rosebay willowherb	<i>Chamaenerion angustifolium</i>			LF							
Oxeye daisy	<i>Leucanthemum vulgare</i>			O							O
Yorkshire-fog	<i>Holcus lanatus</i>			O							
Smooth meadow-grass	<i>Poa pratensis</i>			O							
Field bindweed	<i>Convolvulus arvensis</i>			O							
Common nettle	<i>Urtica dioica</i>			R							LF
Wild parsnip	<i>Pastinaca sativa</i>			R							O
Common ivy	<i>Hedera helix</i>			R							R
Stinking iris	<i>Iris foetidissima</i>			R							R
Lesser burdock	<i>Arctium minus</i>			R							
Tor-grass	<i>Brachypodium pinnatum</i>			R							
Woolly thistle	<i>Cirsium eriophorum</i>			R							
White campion	<i>Silene latifolia</i>			R							
Bittersweet	<i>Solanum dulcamara</i>			R							
Hemlock	<i>Conium maculatum</i>			R							
Cock's-foot	<i>Dactylis glomerata</i>										O
Common hogweed	<i>Heracleum sphondylium</i>										O
Imperforate st john's-wort	<i>Hypericum maculatum</i>										O
Black bryony	<i>Dioscorea communis</i>										R
Creeping thistle	<i>Cirsium arvense</i>										R
White bryony	<i>Bryonia dioica</i>										R
Salad burnet	<i>Poterium sanguisorba</i>										R
Lords-and-ladies	<i>Arum maculatum</i>										R
Male-fern	<i>Dryopteris filix-mas</i>										R

Section 5 – Scrub

Common Name	Scientific Name	Upper canopy	understory	Ground Flora Dafor	Upper canopy	understory	Ground Flora Dafor	Upper canopy	understory	Ground Flora Dafor
		S81			S52			S13		
Bramble	<i>Rubus fruticosus agg.</i>		F			F A			F A	
Hawthorn	<i>Crataegus monogyna</i>		F						F	
Blackthorn	<i>Prunus spinosa</i>		F LA			F			O LF	
Elder	<i>Sambucus nigra</i>		O			R				
ash	<i>Fraxinus excelsior</i>		R			R		R		
Crab apple	<i>Malus sylvestris</i>		R							
Dogwood	<i>Cornus sanguinea</i>					O			O	
Dog rose	<i>Rosa canina</i>								O	
Honeysuckle	<i>Lonicera periclymenum</i>								R	
Spindle	<i>Euonymus europaeus</i>								R	
Apple	<i>Malus domestica</i>	O							R	
Sycamore	<i>Acer pseudoplatanus</i>							R		
Goat willow	<i>Salix caprea</i>							F		
Silver birch	<i>Betula pendula</i>							R		
Ground Flora										
False oat-grass	<i>Arrhenatherum elatius</i>			F						O
Common nettle	<i>Urtica dioica</i>			LA						
Cock's-foot	<i>Dactylis glomerata</i>			O						
Yorkshire-fog	<i>Holcus lanatus</i>			O						
Oxeye daisy	<i>Leucanthemum vulgare</i>			O						
Wild parsnip	<i>Pastinaca sativa</i>			O						
Stinking iris	<i>Iris foetidissima</i>			R						O
Rough meadow-grass	<i>Poa trivialis</i>			R						O
Woolly thistle	<i>Cirsium eriophorum</i>			R						
Tufted hair-grass	<i>Deschampsia caespitosa</i>			R						
Wetted thistle	<i>Carduus crispus</i>			R						
Greater knapweed	<i>Centaurea scabiosa</i>			R						
Hairy st john's-wort	<i>Hypericum hirsutum</i>			R						
Traveller's-joy	<i>Clematis vitalba</i>									LF
Rosebay willowherb	<i>Chamaenerion angustifolium</i>									LF

Common Name	Scientific Name	Upper canopy	understory	Ground Flora Dafor	Upper canopy	understory	Ground Flora Dafor	Upper canopy	understory	Ground Flora Dafor
		S81			S52			S13		
Salad burnet	<i>Poterium sanguisorba</i>									LO
Common ivy	<i>Hedera helix</i>									R
Male-fern	<i>Dryopteris filix-mas</i>									R



Baseline Habitats

- Blackthorn scrub
- Bramble scrub
- Built linear features
- Hawthorn scrub
- Lowland calcareous grassland
- Lowland meadows
- Mixed scrub
- Other neutral grassland
- Bare ground

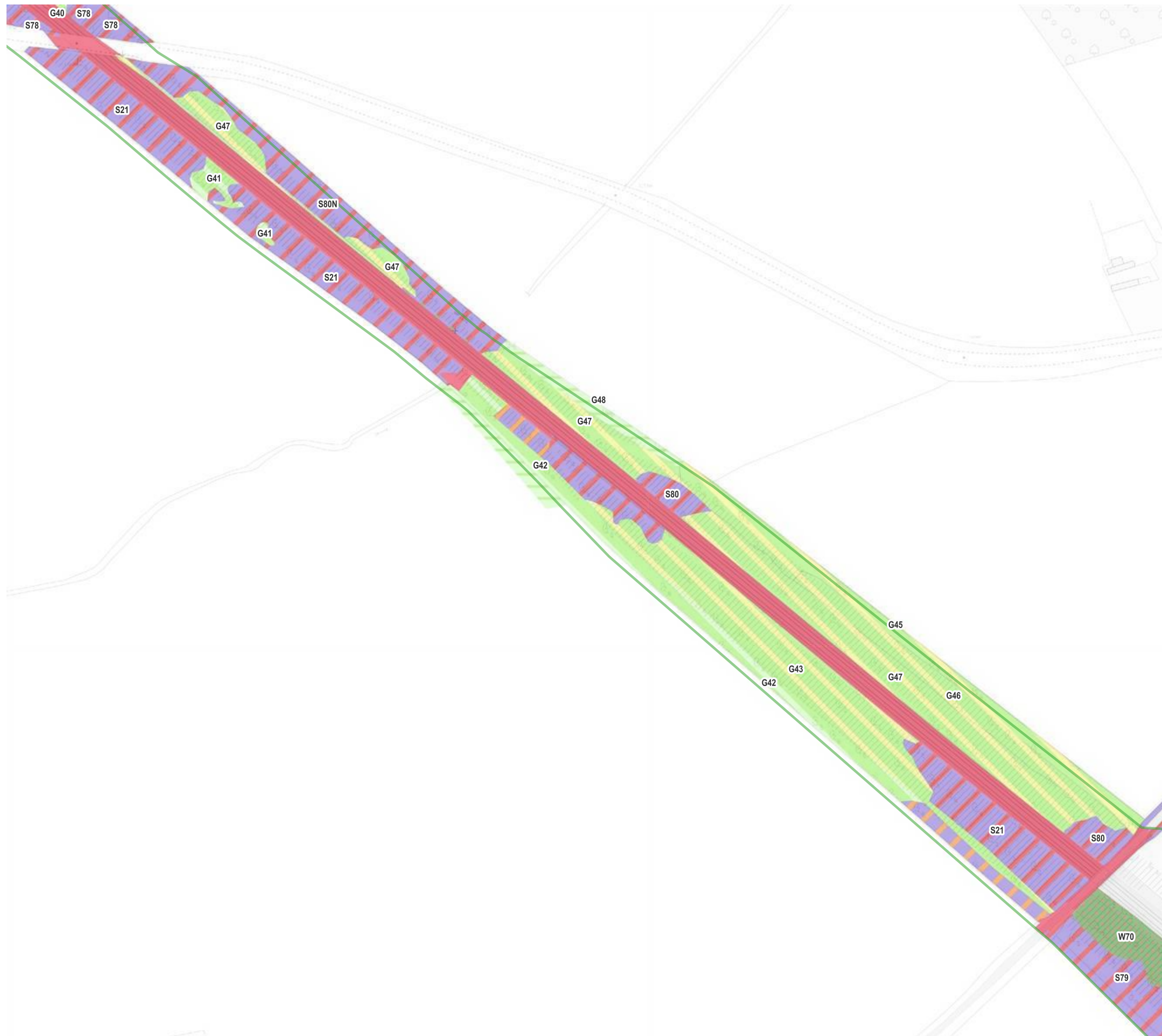
date 07/08/25 drwn/chkd
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Oxfordshire Railfreight Ltd.

project
Oxfordshire Strategic Rail Freight Interchange

title **BASELINE HABITAT PLAN - SECTION 1** scale
1:1,100 @ A3

number **FIGURE 1** rev
-



Baseline Habitats

- Blackthorn scrub
- Bramble scrub
- Built linear features
- Lowland calcareous grassland
- Lowland meadows
- Mixed scrub
- Other neutral grassland
- Other woodland; broadleaved
- Bare ground

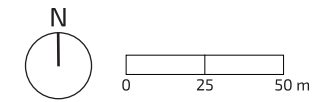
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project **Oxfordshire Strategic Rail Freight Interchange**

title **BASELINE HABITAT PLAN - SECTION 2** scale
1:1,600 @ A3

number **FIGURE 2** rev
-



Baseline Habitats

- Bramble scrub
- Built linear features
- Cereal crops
- Lowland calcareous grassland
- Lowland meadows
- Mixed scrub
- Other woodland; broadleaved

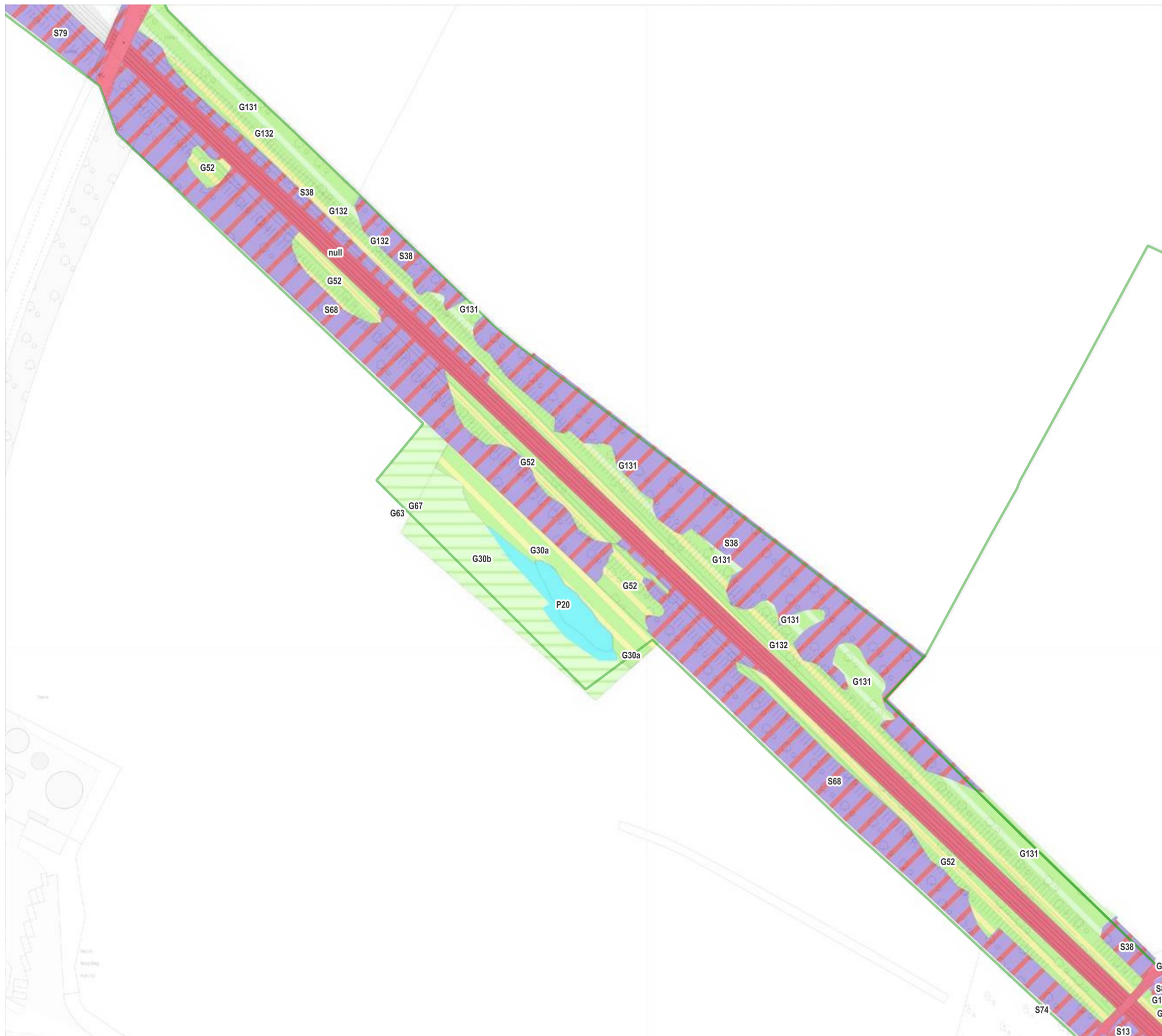
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title	scale
BASELINE HABITAT PLAN - SECTION 3	1:2,400 @ A3

number	rev
FIGURE 3	-

G39a
G131
S36
S77



- Baseline Habitats**
- Built linear features
 - Lowland calcareous grassland
 - Lowland meadows
 - Mixed scrub
 - Other neutral grassland
 - Ponds (priority habitat)

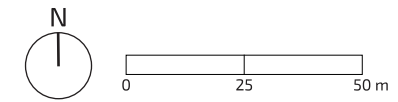
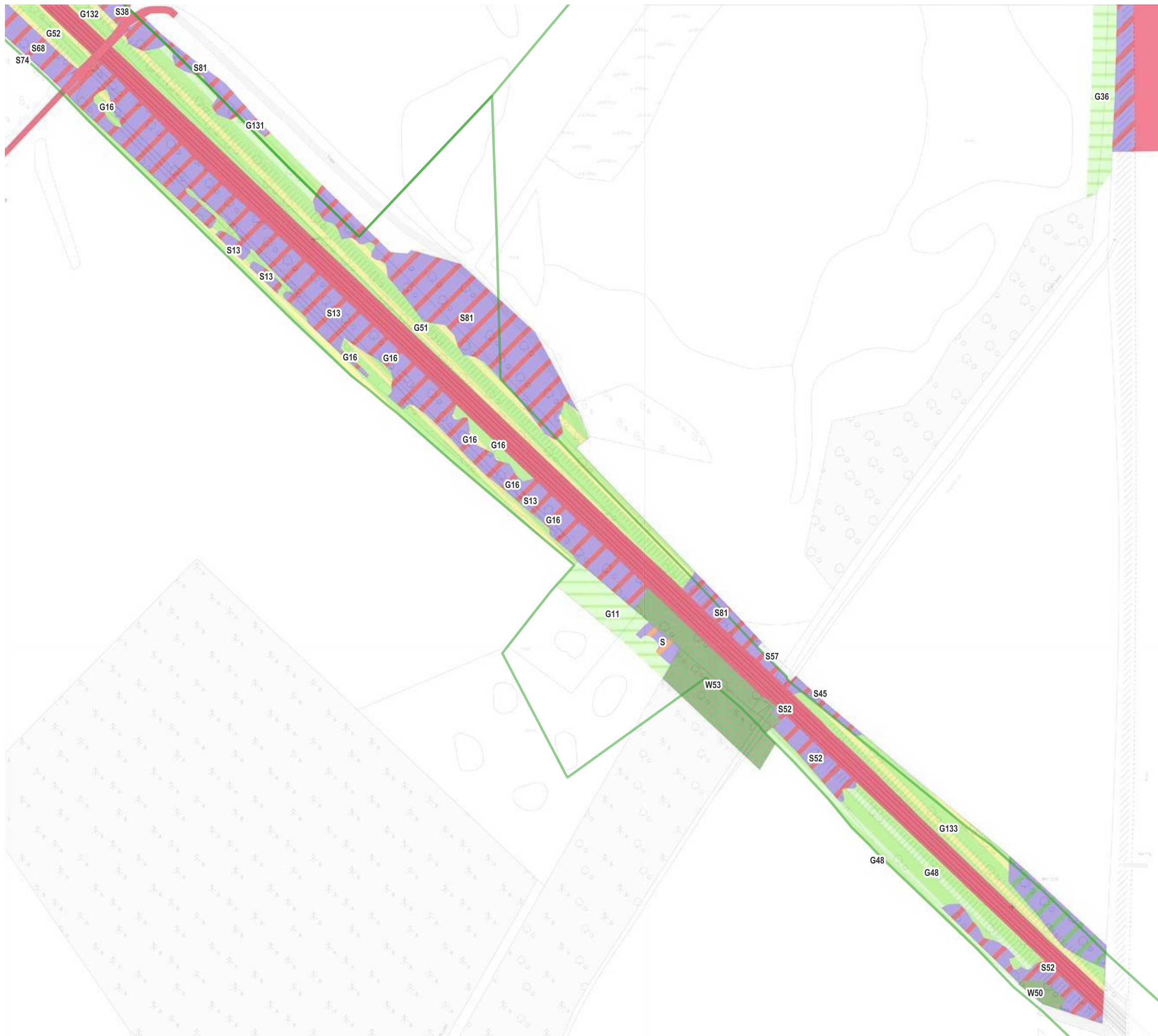
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project **Oxfordshire Strategic Rail Freight Interchange**

title **BASELINE HABITAT PLAN - SECTION 4** scale
1:1,600 @ A3

number **FIGURE 4** rev
-



- Baseline Habitats**
-  Blackthorn scrub
 -  Bramble scrub
 -  Built linear features
 -  Lowland calcareous grassland
 -  Lowland meadows
 -  Mixed scrub
 -  Other neutral grassland
 -  Other woodland; broadleaved
 -  Tall forbs

date 07/08/25 drwn/chkd IH

client **Oxfordshire Railfreight Ltd.**
 project **Oxfordshire Strategic Rail Freight Interchange**

title **BASELINE HABITAT PLAN - SECTION 5** scale 1:1,600 @ A3

number **FIGURE 5** rev -

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