

A47 DUALLING – NORTH TUDDENHAM TO EASTON

Scheme no. TR010038

BERRY HALL ESTATE, Private water supply, drainage
and Woodland Management
On behalf of A.C. MEYNELL of the [REDACTED]

IP reference 2002/8353



ACM 16

13 December 2021

The Infrastructure Planning
(Examination Procedure) Rules 2010
Regulation 10

The A47 North Tuddenham to Easton
Development Consent Order 202[x]

**BERRY HALL ESTATE, Private water supply, drainage and
Woodland Management**

On behalf of A.C. MEYNELL of the [REDACTED]

Application reference: TR 010038

Interested Party reference: 2002/8353

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Introduction

1. With this paper are attached as appendices the following papers which have been supplied by Mr Meynell to the Applicant following the ASI on 16 November 2021, at its request to inform its consideration of the impacts of the proposed Scheme on the [REDACTED]
2. At **Appendix A** are an explanatory note regarding the Estate's private water supply and field drainage, with two plans (Plan 1 and Plan 2) (not to scale) taken from a screen shot of the Ordnance Survey satellite view of the Estate, on which the lines of the pipes serving and served by the Estate's private reservoir (also shown marked on Plan 1) are drawn and the field drainage systems are shown indicatively. All locations shown are approximate. The note and plans were supplied to the Applicant on 29 November 2021.
3. At **Appendix B** is a note explaining the Woodland Management system followed by Mr Meynell on the estate, written with particular reference to the northern woodland belts visited during the ASI on 16 November 2021 and which fall within the Scheme boundary. This note was supplied to the Applicant on 2 December 2021.
4. Should the ExA or other parties have any queries on either Appendix, Mr Meynell will be happy to answer them.

GHJ 13 December 2021

Appendix A

Berry Hall Estate - Private water supply and field drainage

BERRY HALL ESTATE

Water supply and field drainage

Explanatory Note

29 November 2021

This Note refers to and is to be read in conjunction with the two plans entitled [REDACTED] - Approx. Location of private water supply to and from reservoir and field drainage”, Plan 1 – northern section and Plan 2 - southern section.

Introductory Comments.

Plans 1 and 2 comprise screenshots of the Ordnance Survey’s Online Mapping service’s Satellite View of the relevant areas of the [REDACTED]. They have not been made at a particular scale but to comprise the simplest size for viewing at an A4 print or on a computer screen.

The notations of locations on the plans are approximate and for guidance only.

The Note is written on the assumption that the reader will be familiar with the lie of the land on the Estate from being present at the Accompanied Site Visit held on 16 November 2021 or if not, that they will be able to check any queries with someone who was in attendance on that day.

Notes relating to particular items

1. Reservoir Water supply

The water supply to the reservoir shown on Plan 1 is fed from the borehole and pumphouse at the location marked “X” by a single Flow and Return Pipe, drawn in red and described as “Feed and supply” in the key. The single stop cock for the pipe is located near the reservoir at approximately the point shown marked “S”.

The reservoir (constructed in the 1920’s or 1930’s and holding approx. 10,000 gallons) was located in its current position because it is the highest point on the Estate and hence can provide a supply with the greatest head of natural water flow available within the Estate’s boundaries.

Where the Flow and Return pipe is shown on Plan 1 as being located adjacent to the Anglian Water mains supply to Berry Hall and its associated residential receptors (pipe marked in blue on Plan 1) it was laid in the same trench, located just to the west of the hedges on the west side of the Old Back Drive leading north to the A47.

The returning water flows down the Flow and Return pipe to the points where it branches off into the supply pipes marked in yellow on Plan 1.

The water supply to the reservoir was originally pumped up from the River Tud. The borehole has been drilled more recently. The present Flow and Return pipe (red on Plan 1) is newer than some of the supply pipes (yellow) which date back to the original construction of the reservoir or shortly after WWII and are made of cast iron.

2. Field Drainage pipes

The field drainage systems shown on Plan 1 in the western field (marked in purple) and the middle¹ field (marked in black) comprise perforated plastic pipes laid in trenches approx. 4 feet deep with stones around and on top of the pipes and the trenches backfilled with soil above that.

The central pipe in each field, shown with a continuous line, is in its approximate location.

The feeder pipes leading into the central pipe in each case, shown with dashed lines, are in indicative positions and show an indicative number of pipes to illustrate their approximate formation.

3. Mole drainage in western field

The mole drainage in the western field was made at right angles to the feeder pipes and with the “bullet” travelling above the drainage pipe system and approximately 3 feet below the surface of the field.

To keep Plan 1 simple the line of the lines of mole drains is not marked.

4. Outflow of the middle field’s drainage

The route of the drainage from the middle field to its discharge into the large drainage ditch to the north of the River Tud by Berry’s Bridge is shown on Plan 2.

The central field drainage pipe (black on Plan 1) runs beneath the New Back Drive² to discharge into an open ditch on the south side of that drive (marked in green on Plan 2).

The open ditch in turn discharges into a six inch dia. pipe (coloured orange on Plan 2) which travels southwards under the meadow lying to the north of the main drive and beneath the main drive close to Berry’s Lane (near the west end of the cobblestones) to discharge into a second ditch (also coloured green) just to the south of the main drive.

The second ditch runs around the east side of the meadow lying to the south of the main drive and discharges into the large drainage ditch to the north of the River Tud managed by the Internal Drainage Board (coloured dark blue on Plan 2), close to the west of Berry’s Bridge.

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¹ “Middle” to distinguish this field from the eastern field, lying north of Merrywood House on the east side of Berry’s Lane.

² leading west from Berry’s Lane








Search for a location



Approx. Location of private water supply to and from reservoir and field drainage PLAN 1 - northern section

Note: see accompanying explanatory note for further information

KEY

-  Reservoir
-  Stop cock
-  Borehole and pump house
-  Feed and supply pipe
-  Supply only pipe
-  Drinking Trough
-  Field drainage system
-  Field drainage system with mole drainage above
-  Anglian Water supply from main to Berry Hall domestic receptors



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26 Nov 2021






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Approx. Location of private water supply to and from reservoir and field drainage
PLAN 2 - southern section (field drainage to outfall at River Tud ditch)

KEY

Notations as per key to plan 1 with the following additions:

-  Open culvert
-  Six inch dia. Underground pipe
-  River Tud northern ditch

Note: see accompanying explanatory note for further information



Appendix B

Berry Hall Estate - Woodland management

A47 North Tuddenham to Easton dualling (TR010038) – Applicant: National Highways

A C Meynell – [REDACTED] (IP ref 2002/8353)

The Berry Hall Estate’s Woodland Management system.

1. Location of woodland belts affected by the Applicant’s proposed works.

There are three belts of woodland on the northern side of the Estate, shown for identification on Figure 1 attached, with their rides and access as described in this Note:

- 1) The Applicant’s Woodland Group **G227**, lying south of the A47, running westwards from the Estate’s “Old Back Drive” entrance from the A47 towards Hillcrest, finishing where Hillcrest’s drive joins the old (pre-1968) A47 (part of Mr A T Coombes’ W1 in his report at ACM 05 [REP1-058]);
- 2) The Applicant’s Woodland Group **G232**, lying south of the A47, running eastwards from the east side of the “Old Back Drive” entrance on to the A47, to Berry’s Lane’s junction with the A47 and then southwards along the west side of Berry’s Lane, finishing at the north side of the entrance of the Estate’s “New Back Drive” from Berry’s Lane (the remainder of Mr A T Coombes’ W1);
- 3) The Applicant’s Woodland Group **G159**, lying south of Dereham Road and east of Berry’s Lane, running around the north and part of the west side of the field north of Merrywood House (Mr A T Coombes’ W2).

The planting of the woodland and a brief description of Mr Meynell’s work managing it is contained in Mr Meynell’s Witness Statement (ACM 03 – [REP1-045]) at page 49 et seq (paras 136 -144) and in Mr Coombes’ report [REP1-058] (paras 4 and 5).

2. Woodland rides

Each woodland belt has a ride on its outward (northern) side nearest the adjacent public road (marked red in Figure 1), which is wide enough to take a tractor and trailer travelling one way (but not to turn). On the inward side of the ride is the rabbit fence surrounding the woodland belt and on the outward side the hedge alongside the south side of the road.

The access points are shown with blue circles in Figure 1.

The rides to the woodland belts G227 and G232 ((1) and (2) in paragraph 1 above) can be accessed by tractor at each end but nowhere else along their length.ⁱ

The ride to G159 ((3) at paragraph 1 above) can be accessed by tractor only off the public highway of Dereham Road, approximately 100 yards east of Dereham Road’s junction with Berry’s Lane. Travelling east down the ride to the south-eastern corner of the woodland, the

tractor turns in a turning space at the bottom of the ride (marked orange in figure 1).ⁱⁱ
Travelling westwards and south, the tractor backs down the ride and returns forwardsⁱⁱⁱ.

3. Management system – continuous cover

All three woodland belts are managed by the Estate on what is known as the “continuous cover” forest management basis (see for a description [REDACTED] under the heading “**continuous cover silviculture**”). This method of management creates and allows commercial woodland to develop and be harvested without the use of clear felling, by encouraging and felling individual trees in such a way as enables the forest to become permanently regenerating.

The same system is used for the management of the Estate’s Warren Plantation facing Berry Hall to the south of the River Tud and Wade’s Wood adjacent to it on the east side of Berry’s Lane.

4. Annual work

The continuous cover forest management in relation to the three woodland belts which Mr Meynell and his father have planted and established in order to become permanently regenerating timber-producing forest, involves Mr Meynell in the following work on all three woodland belts each year, which he carries out by himself;

a) Summer work

In July and August of each year Mr Meynell goes through each woodland belt on foot, inspecting each tree individually.

- i. He prunes all the trees which need pruning to remove their lower branches. The pruning work is generally done with a telescopic hand pruning saw and as the trees grow and the pruning is done regularly the lower branches may be up to 7 metres off the ground;
- ii. At the same time, he assesses and marks with tape each tree which needs to be removed the next winter in order to give its neighbours room to grow (this is known as “marking the thinnings”). To illustrate the amount this has been done, approximately 75% of the trees planted in woodland belts G227 and G232 have been removed in the 30 years since planting in order to enable the best growth of the remainder, as the trees have grown taller and their crowns broader.
- iii. The marking of the thinnings is carried out systematically to allow the most valuable trees to become what is known as the “final crop” – in belts G227 and G232, this is ultimately primarily the hybrid Cherry, (which were planted at the start in their “final crop” positions with the trees species between them chosen for their ability to nurture the final crop to best advantage), together with Sweet Chestnut (some of the second of which will be coppiced) and some western red cedar. In woodland G159 to the east of Berry’s Lane, the final crop is primarily oak, hornbeam and sycamore.

- iv. Depending on the weather, the work of pruning and marking the thinnings is carried out over the eight weeks of July and August, after the major part of the spring growth has finished.
- v. During the summer the ride will be mowed, generally also in July.
- vi. In addition the inside of the hedge on the outer side of the ride will be cut every second year.

b) Winter work

Each following winter during the winter months Mr Meynell fells the thinnings.

As the trees in each belt grow towards maturity (in deciduous hardwoods maturity, when the tree's upward growth ceases, is reached at approximately 80 years but in the case of the cherry, approximately 70) this involves felling increasingly larger specimens. The felling process is as follows:

- i. The felling is undertaken by Mr Meynell working alone with a chainsaw, working methodically the length of each woodland belt in turn;
- ii. After felling, the trunks are cut to appropriate lengths for removal, any timber able to be used for posts or other uses, or for logs for firewood, will be retained, cut to suitable lengths for its intended use and removed and the remaining brushwood left on the ground;
- iii. Timber for removal which can be lifted by hand is carried to the ride and placed on a trailer towed by one of the Estate's small tractors, moving in a single direction, downhill for safety, the length of the ride. The tractor and trailer will be brought to collect timber when weather permits;
- iv. Timber which is too large to be lifted by hand is moved by tractor with a "grab" at the back, towing the timber through the woodland to the nearest point where it can be craned on to a timber lorry. This is now happening in the case of woodland belts G227 and G232 which are beginning to have sufficiently large tree trunks, and the craning takes place at the ends of the rides at the north end of the Old Back Drive, by the A47 or, in the case of the southern portion of G232, the east end of the New Back Drive by Berry's Lane (the timber hauling direction is indicatively shown in yellow in Figure 1 with the loading points by yellow circles);
- v. Owing to the obligations under the CSSS scheme for the field margins on the south side of the woodlands (which require the 3 metres nearest the woodland to remain undisturbed) timber is only removed via the rides on the north side of the woodland and not into and through the fields to the south;
- vi. The winter work in the northern woodland belts generally occupies Mr Meynell for a period of approximately three weeks' working time spread over the winter months from January through to March as the weather permits.

End-notes.

ⁱ Note: Under the Applicant's current proposals, all the woodland forming G227 and G232, including the entire length of each ride, is to be acquired by the Applicant either permanently or temporarily. The major portion of both rides are within Plot 9/1b, proposed to be permanently acquired. The west end of the ride to Woodland G227 including the exit at that end, is partly within Plot 8/5a (temporary acquisition) and possibly partly with Plot 8/5d (permanent acquisition). The east end of the ride to G227 is within plot 9/1b (permanent acquisition) or on its boundary with Plot 9/1a (temporary acquisition). The west end of the ride to Woodland G232 is similarly situated to the east end of the ride to Woodland G227. Both these rides, giving on to the north end of the Old Back Drive, will be unable to be accessed because of the proposed stopping up of the Old Back Drive 132 metres south the A47. The south-eastern portion of the ride to Woodland G232 is within Plot 9/1a (temporary acquisition).

ⁱⁱ Note: this turning space is proposed to be acquired permanently as part of Plots 9/1g and 9/1i. The remainder of the ride from its entrance partly permanently as part of Plot 9/1i and (together with the woodland) partly temporarily with permanent rights as part of Plot 9/1f.

ⁱⁱⁱ Note: the southern portion of this part of the woodland and ride is to be temporarily acquired with permanent rights as part of Plot 9/1j; the remainder, including the entrance from Dereham Road, is proposed to be permanently acquired as part of Plot 9/1f.



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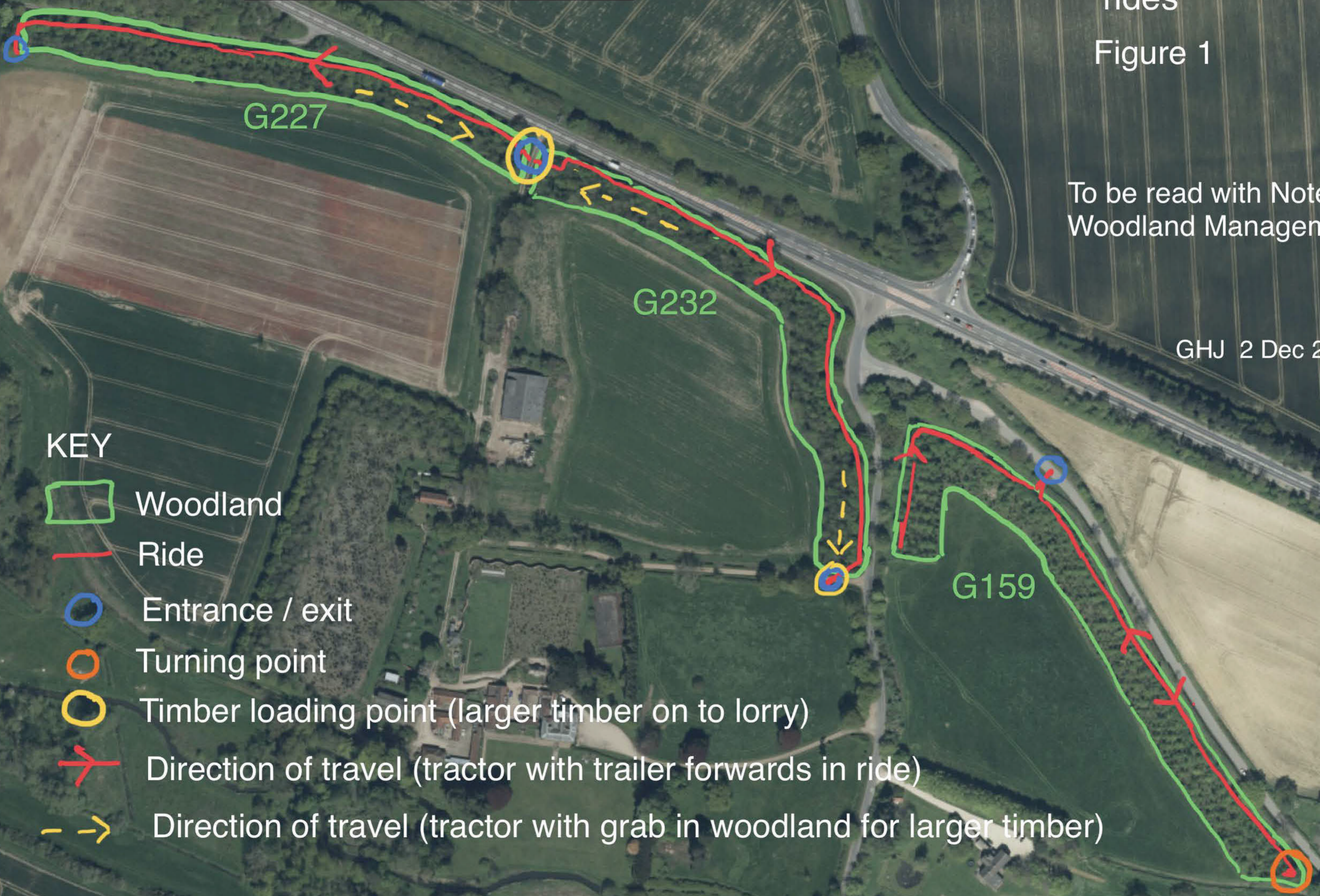


Northern woodland and rides

Figure 1

To be read with Note on Woodland Management

GHJ 2 Dec 2021



KEY

-  Woodland
-  Ride
-  Entrance / exit
-  Turning point
-  Timber loading point (larger timber on to lorry)
-  Direction of travel (tractor with trailer forwards in ride)
-  Direction of travel (tractor with grab in woodland for larger timber)

