Redwood Partnership Transportation Limited

Maritime House
Basin Road North
Portslade
Brighton
BN41 1WR

[redacted]

www.redwoodpartnership.co.uk

REDWOOD PARTNERSHIP
Consulting Engineers
Transportation Planners

GROVE FARM

TRANSPORTATION & HIGHWAY
WRITTEN REPRESENTATIONS

BY
PAUL McLAUGHLIN BSc CEng MICE MCIHT

CONCERNING

HIGHWAYS ENGLAND
DEVELOPMENT CONSENT ORDER APPLICATION (DCO)
FOR
M25, JUNCTION 28 IMPROVEMENT SCHEME

Redwood Reference: PMcL/3396d1/Feb 2021

Registered in England No. 7200530
Registered Office: The White House, 2 Meadrow, Godalming, Surrey, GU7 3HN

CONTENTS

1.0 INTRODUCTION & BACKGROUND

1.1 My name is Paul McLaughlin. I hold a Bachelor of Science honours degree in Civil Engineering. I am a Chartered Engineer; a member of the Institution of Civil Engineers (MICE) and a member of the Chartered Institution of the Highways and Transportation (MCIHT). I am a highways and transportation Planning Engineer and managing director of the Redwood Partnership Transportation Limited, a Consulting Engineers and Transportation Planning practice in business since 1990.

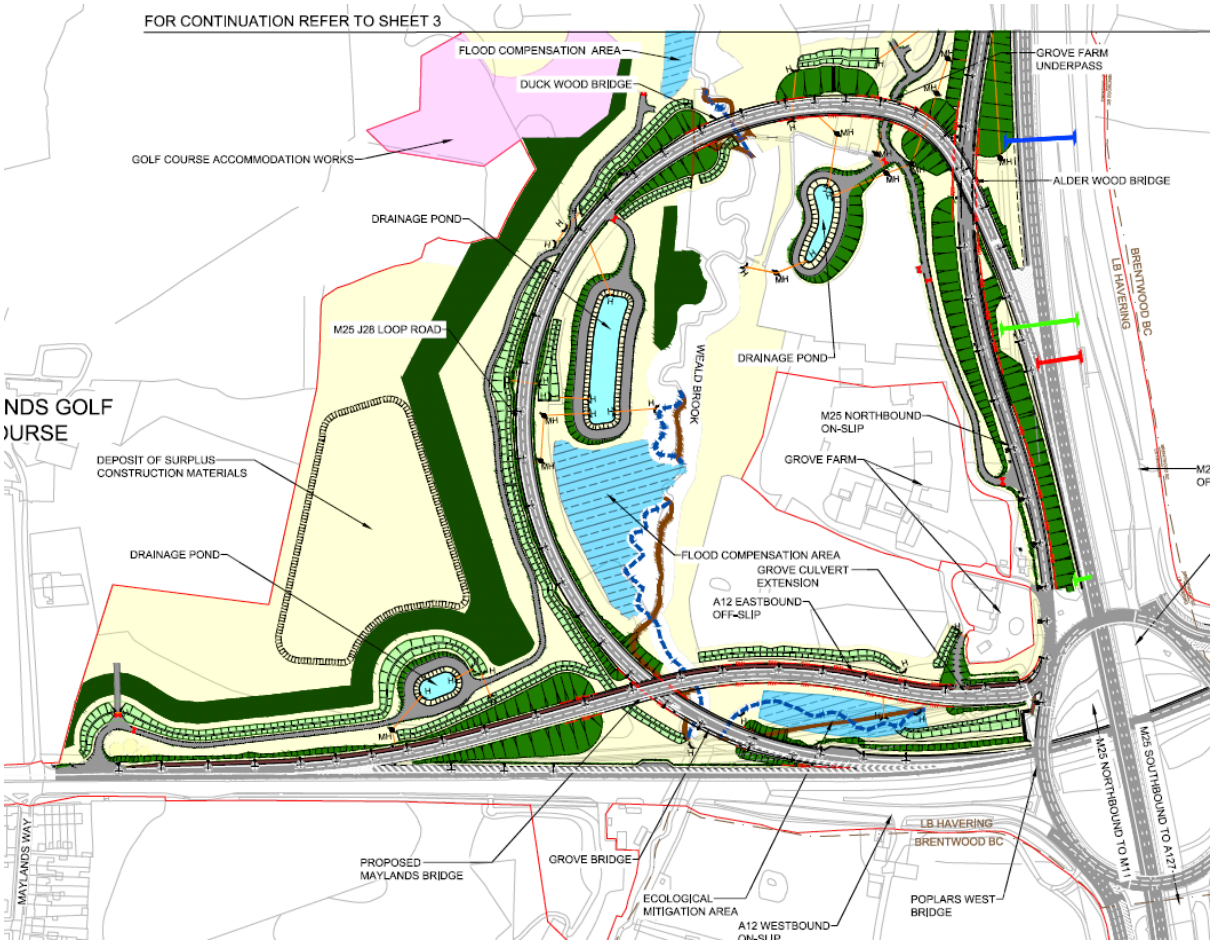
1.2 I have over thirty years of experience in providing highways and transportation planning and design advice for a range of developments including food retail, non-food retail; industrial; offices; hotels and numerous residential sites. I have visited the site for the purposes of the preparation of these Written Representations.

1.3 I have been instructed by Mr & Mrs Jones, owners of Grove Farm to prepare Transportation & Highway Written Representations on their behalf on proposals by Highways England for a Development Consent Order (DCO) to carry out a M25 Junction 28 Improvement Scheme ('The HE Scheme') which significantly affects their property. The HE Scheme is generally shown on Highways England Layout Plan, Drawing No. TR010029/APP/2.7. The HE Scheme comprises the following elements:

- A new two-lane loop road with hard shoulder, for traffic travelling from M25 to the A12 eastbound;
- Works on A12 eastbound to maintan access to Mayalnds Golf Course;
- An overbridge at the A12 eastbound exit road to allow the proposed loop road to join the A12 eastbound carriageway;
- Widening of the M25 anti-clockwise carriageway to provide proposed exit road; and
- A bridge over the M25 anti-clockwise entry road to facilitate the new loop road.

1.4 An extract of HE's detailed Layout Plan, Drawing No. TR010029/APP/2.7 is shown in **Fig 1.0**:

Fig 1.0 Extract from Atkins HE Layout Plan TR010029/APP/2.7



1.5 Grove Farm existed prior to the construction of the M25 motorway. The original access to the Grove Farm prior to its alteration by the construction of junction 28 and the new M25 motorway was from the A12 on its southern boundary. The entrance to Grove Farm was amended when junction 28 was constructed and provided with a sub-standard and unsatisafactory entry-only access from the M25 northbound on-slip immediately north of the junction 28 roundabout. An egress only from Grove Farm was located at the eastern end of the A12 eastbound off-slip near to the junction 28 roundabout.

1.6 Three dwellings are located at Grove Farm that will be the most affected by the HE Scheme. The effect will be permanent and detrimental on the living environment of the owners and residents of Grove Farm. My **Drawing No. REDW-3396-110** attached at the rear of these Written Representations shows the relative position of the three dwellings that comprise Grove

Farm. The existing A12 eastbound off-slip (shaded yellow on the plan) will be closed as part of the HE Scheme. The new alignment of the A12 eastbound off-slip can be seen to be significantly closer to the existing properties.

1.7 To rectify what I consider are inadequacies in the access proposals of the HE Scheme my Written Representations include a submission on behalf of the owners of Grove Farm for the improvement of the existing access to Grove Farm off the M25 northbound on-slip by the relocation of this access as shown our my **Drawing No. REDW-3396-111** together with the improvement of the egress from Grove Farm onto the A12 eastbound off-slip by the addition of a new access as shown our my **Drawing No. REDW-3396-112**.

1.8 The existing Grove Farm access arrangements together with the HE Scheme and the proposed Grove Farm access improvements recommended by these Written Representaions have been the subject to an independent Safety Appraisal by Highway Safety Consultants, Mayer Brown. Extracts of relevant comments from the Safety Appraisal are included in these Written Representations where appropriate and are shown in italics. The Safety Appraisal is comparable to a full Stage 1 Road Safety Audit apart from the fact that the safety audit team has not been approved by Highways England for this specific project.

1.9 Two members of the Safety Audit Team, Mr M Parr MSoRSA, MCIHT, HECoC and Mr John Reid MSc, DipHTE, MCIHT, FSoRSA, MITAI, HECoC have both been previously approved by Highways England to undertake Road Safety Audits on the Trunk Road network. Both team members hold the Highways England Certificate of Competency. (it is a requirement that one member of the Audit Team has this certificate, however both do). The audit team have a significant level of road safety experience on many highway schemes throughout the UK. A copy of their Safety Appraisal is attached in **Appendix A**.

1.10 I believe these Written Representations are accurate and true on the matters put forward. I have included all facts which I regard as being relevant to the opinions expressed I have expressed and I have drawn attention to any matters which will affect the validity of that opinion.

2.0 GROVE FARM ACCESS PROPOSALS – M25 NORTHBOUND ON-SLIP

2.1 Grove Farm is the property mostly affected by the M25 Junction 28 Improvements Scheme. The HE Scheme has not considered any improvement to the location of the Grove Farm entrance from the M25 northbound on-slip. I understand that the HE consultants Atkins have worked from the beginning of the project on the basis that the access will be retained on a 'like for like' basis without any change or improvement. It is not clear from my discussion with Atkins whether this was a specific requirement of HE or whether this was just how the HE Scheme evolved.

2.2 In my opinion, the location of the existing Grove Farm access is already a material departure from highway design standards by its very location, being so close the north-west egress of the roundabout and its retention should be re-considered. The existing Grove Farm access in this location would not gain approval for any type of new development due to inherent safety issues. A point accepted by Atkins consultants.

2.3 The Safety Appraisal (Section 2) raised safety concerns regarding the retention of the existing Grove Farm access off the M25 northbound on-slip, stating:

> *'Junctions located close to a roundabout junction create several safety concerns, namely but not limited to:*
>
> *1. Road user signalling can be misinterpreted by following vehicles. Road users indicating left to exit a roundabout may not have sufficient time to cancel their indication and re-indicate before turning left from the main road. This could result in following road users failing to anticipate the left turn manoeuvre by the proceeding vehicle. This will increase the risk of late braking and/or rear end shunt type collisions;*
>
> *2. Vehicles exiting the roundabout will likely be accelerating and gaining speed. Therefore, there will be a risk that a vehicle will start to slow before turning left of the major road, whilst the following vehicles/vehicles is/are accelerating. This will increase the risk of late braking and/or rear end shunt type collisions.'*

2.4 The HE Scheme will introduce a further detrimental effect by moving the A12 eastbound on-slip give way line at the roundabout 25 metres further north-west, moving all crossing and

merging traffic travelling on the M25 northbound on-slip even closer to the existing Grove Farm access should it remain in its present location. This relocation of the A12 eastbound on-slip give way line will reduce even further an already sub-standard distance which vehicles have in order to manoeuvre and merge across lanes to access Grove Farm after leaving the roundabout. The Safety Appraisal (Section 3) also referred to this reduction in distance from the HE Scheme as exacerbating safety issues saying:

'Safety Team comment:

3. The proposals [i.e. The HE Scheme] *as detailed appear to indicate that separation between the site access and the roundabout will be further reduced, exacerbating the existing issue highlighted previously.'*

2.5 The Safety Appraisal (Section 2) highlighted the fact that the existing deceleration lane into Grove Farm has insufficient length, stating:

'Summary of issue: *Insufficient length of deceleration lane (please refer to reference point 2.2 in* ***Appendix B****).*

Deceleration lanes allow traffic exiting a major road to slow down to a safe speed to turn off a main road without affecting the main flow of traffic.

Safety Team comment:

The deceleration lane provided at the site access is approximately 25m long, which is insufficient to comply with an 120kph design speed. As set out in 'CD 123 Revision 2', the minimum length of a nearside diverging taper or auxiliary lane should be 150m on dual carriageways'

2.6 The Safety Appraisal (Section 3) also commented that:

> *'Whilst it is accepted that vehicles will generally not have reached 120kph at the start of the deceleration lane, due to the proximity of the roundabout junction, there is still concern that this will increase the risk of late braking and/or rear end shunt type collisions. There is concern also that the stability of HGVs will be compromised if they are have not decelerated to a safe speed to negotiate the left-hand turn into the site.'*

2.7 Given the inherent safety issues arising from retaining the Grove Farm access in its present location, I can see no practical reason why the relocation of the Grove Farm access could not be facilitated as shown on my **Drawing No. REDW-3396-111**. The proposed relocation of the access into Grove Farm will coincide with a vehicular access and egress point for pond and electricity board maintenance vehicles already proposed by the HE Scheme. The proposal will not introduce any new conflicting vehicle crossing movements.

2.8 The Safety Appraisal (Section 4) highlighted that the length of the deceleration lane into Grove Farm for the proposed relocated site access off the M25 nortbound on-slip also has a shorter decelaration length and is also a departure from design standards, however overall the audit team considered there would be a nett benefit in road safety terms when compared to the existing Grove Farm access arrangements as the new access would be further away from the roundabout, stating:

> *'Whilst the access is still located relatively close to the grade separated roundabout junction. The Authors of this report consider the increased separation between the roundabout and the start of the deceleration lane provide a net benefit in road safety terms when compared with the existing access arrangements, or the proposed access arrangements that will form part of the 'Proposed M25 Jct 28 Improvement Scheme' (which will retain the existing access close to the roundabout).'*

2.9 In order to assess the extent of carriageway required to accommodate the turning of large vehicles, a software package known as 'Track' has been utilised. A track swept path defines the extent of carriageway required for the turning of large vehicles showing a snapshot of the outline of the vehicle at 2 metre intervals along its path.

2.10 The design of the proposed relocated Grove Farm access caters for the largest of vehicles likely to access Grove Farm and its associated uses. My **Drawing No. REDW-3396-113** (bottom panel) shows the track swept path of a 15.5m long farm vehicle transporter leaving the M25 nortbound on-slip and safely turning into the site. During our discussions with Atkins, it was stated by them that they would be concerned about vehicle delay and potential tail-back of vehicles accessing the pond maintenance area with vehicle entering Grove Farm. An additional concern of Atkins was that HE needed to maintain site security of the pond maintenance area.

2.11 To address these security and safety issues my **Drawing No. REDW-3396-113** (top panel) shows the track swept path of a 12 metre rigid lorry leaving the M25 nortbound on-slip and safely turning into the access road leading to the pond maintenance area in advance of the security gates. A 12 metre rigid is significantly larger than the longest vehicle expected to access the pond service area. The track shows that this vehicle can turn into a dedicated waiting area in front of the security gates without obstructing traffic entering Grove Farm.

2.12 The new access proposal shown on my **Drawing No. REDW-3396-111** maintains a secure egress onto the M25 northbound on-slip for pond maintenance and electricity board traffic only. HE security fencing will prevent Grove Farm traffic leaving the site via the M25 northbound on-slip. Access will of course still be required by Grove Farm to their woodland area north of the proposed new loop road.

2.13 The clear benefits of the amended access proposal shown on my **Drawing No. REDW-3396-111** are as follows:

i) The closure of the existing Grove Farm access will improve highway safety for Grove Farm and for the general public passing the site, removing an unsatisfactory entrance to Grove Farm;
ii) The proposal will relocate Grove Farm traffic which currently passes close to the existing 3no dwellings on the farm. Relocating vehicles further north and away from the dwellings will reduce traffic noise;
iii) The proposal will not introduce any new conflicting vehicle turning movements;
iv) The proposal will coincide with the location of the access already proposed by HE for pond maintenance and electricity board maintenance vehicles.

Improving their access by providing a deceleration lane;

v) The proposal introduces an auxiliary left turn lane in advance of the entrance, removing slowing traffic from the main carriageway accessing the M25 northbound on-slip;

vi) The proposal provides safe access for the largest of vehicles expected to service Grove Farm and HE land;

vii) The proposal provides an adequately sized waiting area in front of security gates to the pond maintenance area for the largest of vehicles;

viii) The proposal benefitically relocates the HE security gates further away from the M25 northbound on-slip;

ix) The proposal maintains HE security and prevents unauthorised egress of vehicles from Grove Farm onto the M25 northbound on-slip;

x) No material safety issues have been raised by Mayer Brown, the independent safety audit team. The audit team consider there would be a nett benefit in road safety terms by moving the Grove Farm access further north away from the roundabout.

2.14 I conclude that HE should consider the relocation of the existing Grove Farm access further north along the new alignment of the link road which connects to the M25 northbound on-slip. The HE Scheme now provides the ideal opportunity for HE to correct the inadequacies of the existing access to Grove Farm and I see no reason why important and benefitial changes to the Grove Farm access cannot be made at this stage of the procedure.

2.15 We ask that HE consider positively and include the Grove Farm Access Proposals shown on my **Drawing No. REDW-3396-111** and presented within these Written Representations and amend their Junction 28, M25 DCO application proposals to include an amended vehicular access to Grove Farm to:

i) Close the existing access to Grove Farm from the M25 northbound on slip road;

ii) Provide a new dedicated auxiliary left-turn lane access to Grove Farm to be shared with the HE access already proposed for pond maintenance and electricity board vehicles.

3.0 GROVE FARM ACCESS PROPOSALS – A12 EASTBOUND OFF-SLIP

3.1 As previously discussed, the original access to the Grove Farm was from the A12 on its southern boundary prior to its alteration by the construction of junction 28 and the new M25 motorway. The construction of junction 28 included an egress only for Grove farm onto the A12 eastbound off-slip close to the roundabout give way line. The location of the Grove Farm egress is not ideal but I do not consider there to be any other realistic option other than retaining the egress location as proposed by the HE Scheme.

3.2 As with the Grove Farm entrance from the M25 northbound on-slip, the HE Scheme has not considered any improvement to the egress onto the A12 eastbound off-slip. Again, I understand that consultants Atkins have designed the HE Scheme on a 'like for like' basis without any change or improvement.

3.3 I consider there to be a reasonable and proportionate opportunity for HE to consider providing a new access into Grove Farm from the A12 eastbound off-slip. My plans **REDW-3396-110** and **REDW-3396-112** show our proposal for a new left-turn auxiliary lane for Grove Farm traffic only. The length of the auxillairy lane can comply with Design Manual for Roads and Bridges, Road Layout design guidance CD123, Issue 2.

3.4 The Safety Appraisal (Section 4.2) highlighted that the length of the deceleration lane into Grove Farm for the proposed new site access off the A12 eastbound off-slip also has a shorter decelaration length which is a departure from design standards. It should be noted that the length of the deceleration lane shown can be extended to comply with design guidance as Grove Farm land is available for any extended works. Overall the audit team considered a new access into Grove Farm from the A12 eastbound off-slip as a significant improvement in road safety terms when compared with the existing deceleration lane provided on the M25 northbound on-slip and would reduce the number of vehicles accessing the site from the M25 nortbound on-slip, stating:

> ***'Safety Team comment:***
>
> *As part of the 'alternative' proposals, the site egress will become a site entrance and egress and a deceleration lane will be provided.*

However. the proposed deceleration lane provided on the A12 off-slip at the site access is 80m long. As set out in 'CD 123 Revision 2', the minimum length of a nearside diverging taper or auxiliary lane should be 150m on duel carriageways.

The Authors of this report acknowledge that this deceleration lane is a significant improvement in road safety terms when compared with the existing deceleration lane provided on the M25 on-slip.

Furthermore, the revised access and provision of a deceleration lane on the A12, will likely reduce the number of vehicles accessing the site from the sub-standard access provided on the M25 on-slip.'

3.5 The design of this new Grove Farm access caters for the largest of vehicles likely to access Grove Farm. My **Drawing No. REDW-3396-114** shows the track swept path of a 15.5m long farm vehicle transporter leaving the A12 eastbound off-slip and safely turning into the site. All traffic accessing the site from this direction will be removed from the roundabout.

3.6 The proposal shown on my **Drawing No. REDW-3396-112** has been subject to a Safety Review by the safety audit team. The highway safety consultant Mayer Brown raises no fundamental safety issues with regards the principle of the proposed amended access from the A12 eastbound off-slip.

3.7 The clear benefits of the new access proposal from the A12 eastbound off-slip shown on my **Drawing No. REDW-3396-112** are as follows:

i) The proposal will remove Grove Farm traffic (in many cases large and slow-moving vehicles) from impacting on the roundabout when approaching the site from the A12 eastbound direction. Left turns to the site can be achieved prior to reaching the roundabout;

ii) The proposal will not introduce any new conflicting vehicle turning movements;

iii) The proposal provides safe access for the largest of vehicles expected to service Grove Farm;

iv) No material safety issues have been raised by the proposal from Mayer Brown, the independent safety audit team. The audit team consider there would be a

nett benefit in road safety terms by an access to Grove Farm from the A12 eastbound off-slip, reducing traffic movements through the roundabout and entering the site from the M25 nortbound on-slip.

4.0 CONCLUSIONS

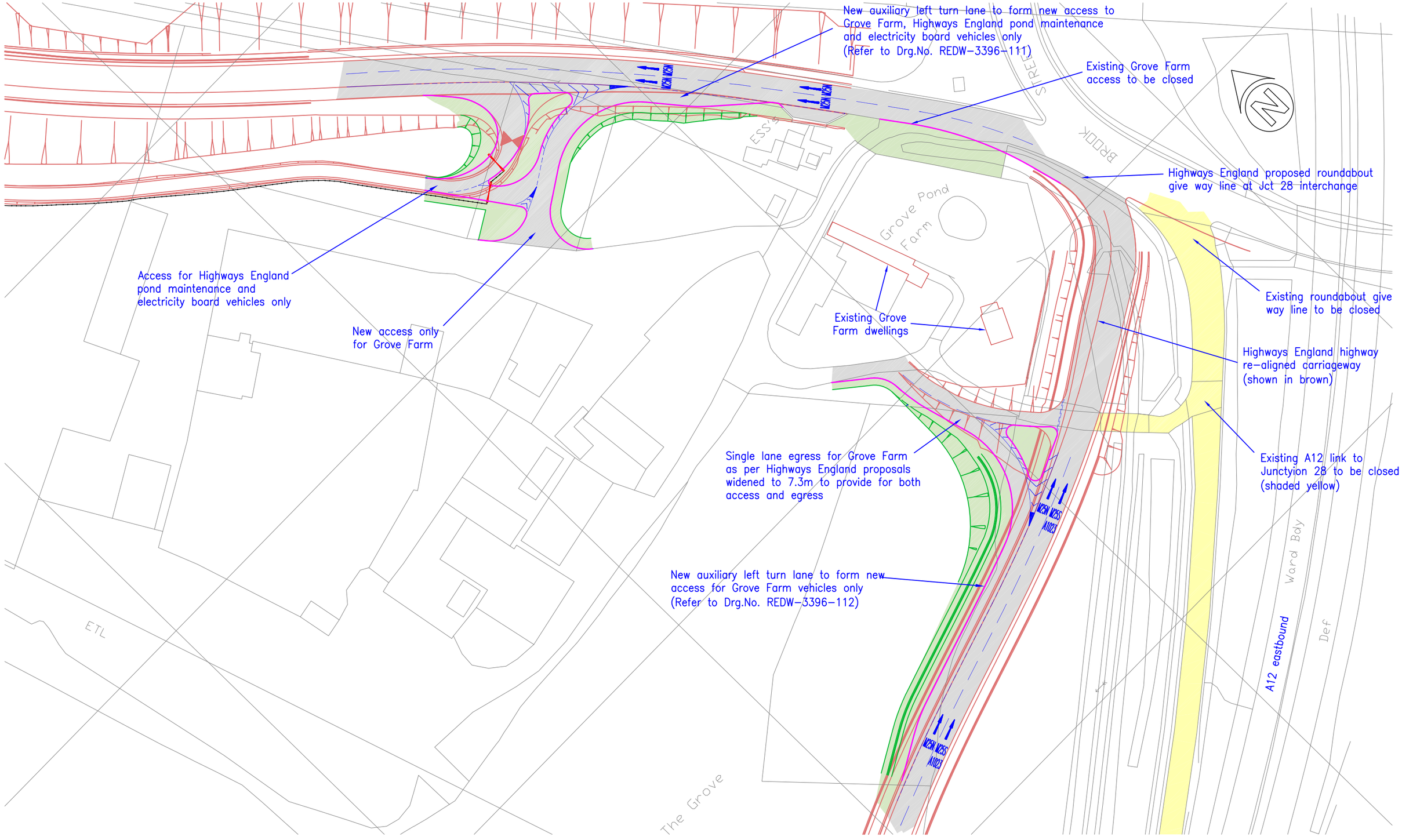
4.1 The owners of Grove Farm request that given the concerns highlighted in these Written Representations regarding the HE Scheme proposals for access to Grove Farm, that Highways England consider positively the Grove Farm access improvements presented in this document. Highways England should amend their Junction 28, M25 DCO application proposals to include amended vehicular access to Grove Farm, namely to:

i) Close the existing access to Grove Farm from the M25 northbound on-slip;

ii) Provide a new dedicated auxiliary left-turn lane access to Grove Farm from the M25 northbound on-slip to be coordinated with the HE Scheme proposal for the location of the pond maintenance egress as shown on **Drawing No. REDW-3396-111**;

iii) Provide a new dedicated auxiliary left-turn lane access to Grove Farm from the A12 eastbound on slip road to Junction 28 to be coordinated with the HE Scheme proposal for the amended egress from Grove Farm as shown on **Drawing No. REDW-3396-112**.

DRAWINGS



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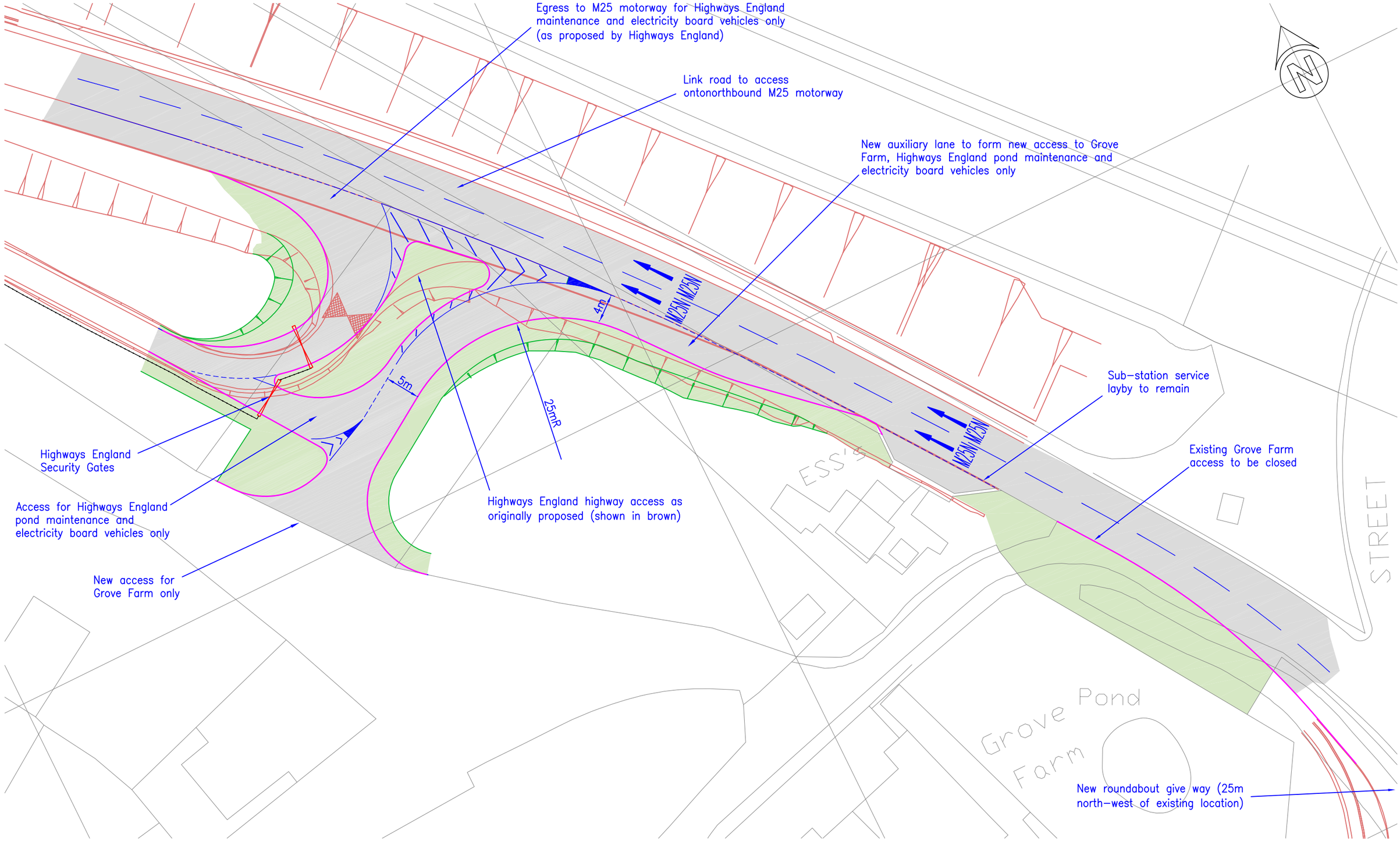
			Title: ACCESS ALTERATIONS TO GROVE FARM			
Status: FOR APPROVAL	Drawn: PL	Scale: 1:1000	Sheet Size: A3	Date: JAN 2021	Drawing No.: REDW-3396-110	Rev:

REDWOOD PARTNERSHIP
CONSULTING ENGINEERS & TRANSPORTATION PLANNERS
Maritime House, Basin Road North, Portslade, Brighton, BN41 1WR
Telephone : 01273 414515 www.redwoodpartnership.co.uk



Client: MR L JONES & MRS K JONES			Project: GROVE FARM ACCESS, JUNCTION 28 M25 NORTHBOUND SLIP LANE			
			Title: SUGGESTED ALTERATIONS TO GROVE FARM HIGHWAY ACCESS			
Status: FOR APPROVAL	Drawn: PL	Scale: 1:500	Sheet Size: A3	Date: JAN 2021	Drawing No.: REDW-3396-111	Rev:

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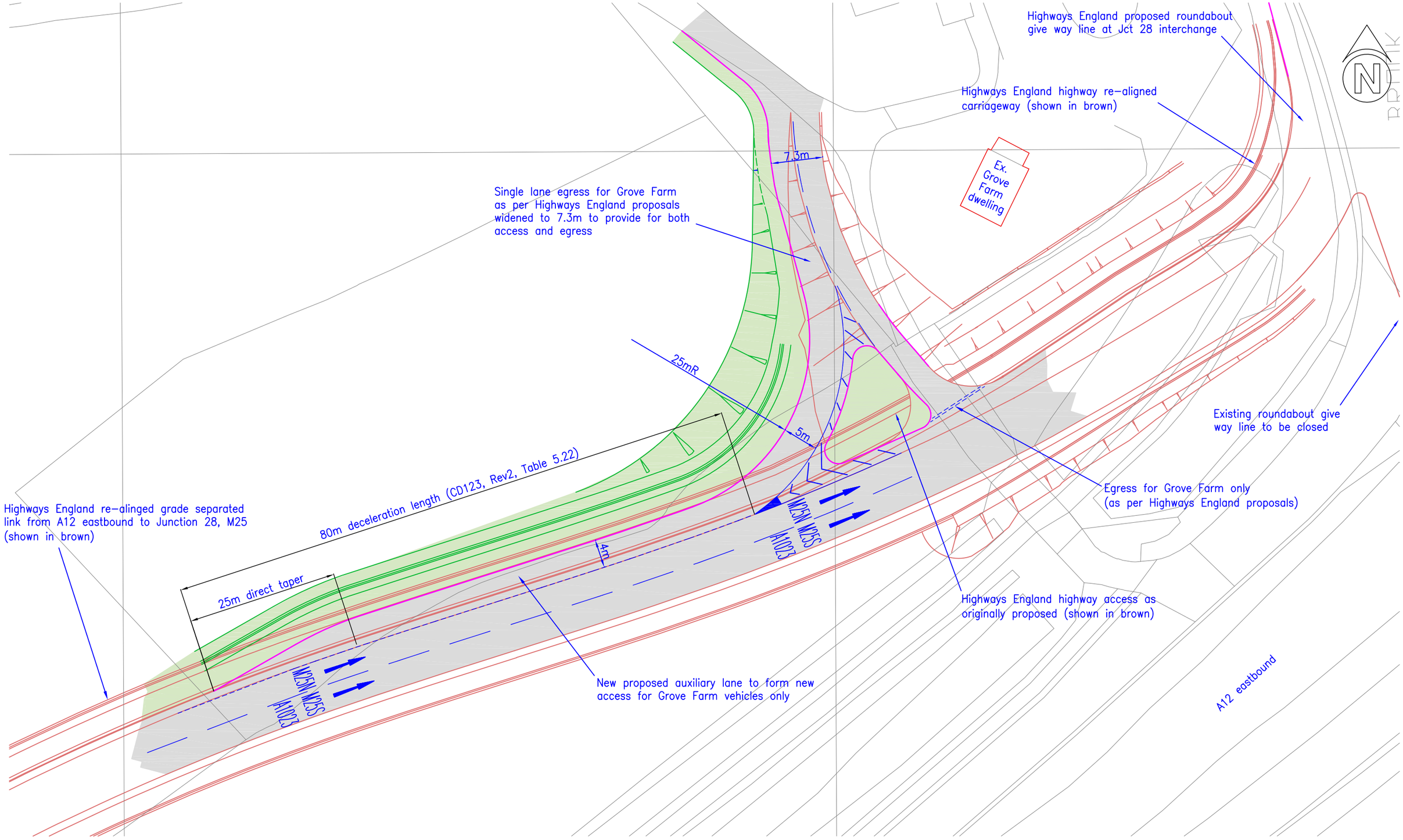

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			Title: SUGGESTED ALTERATIONS TO GROVE FARM HIGHWAY EGRESS			
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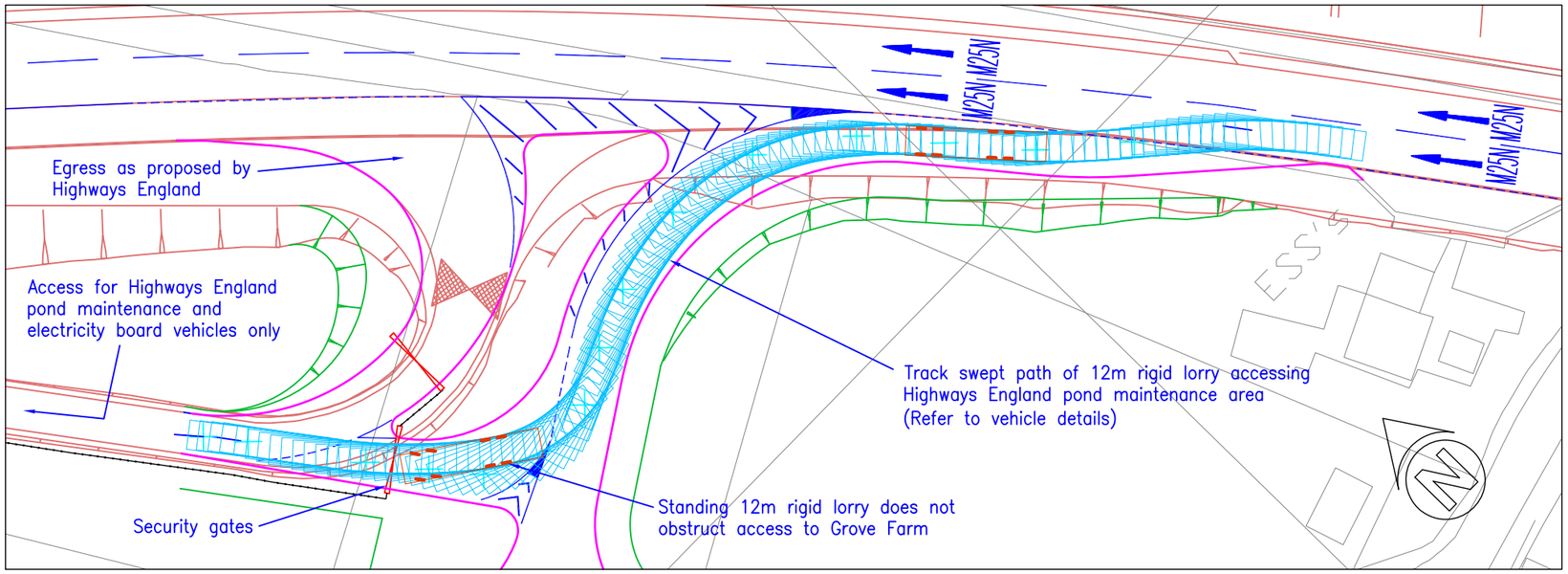
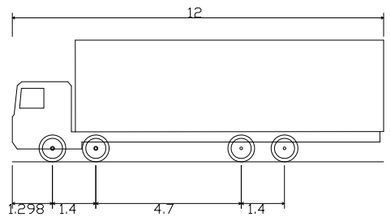
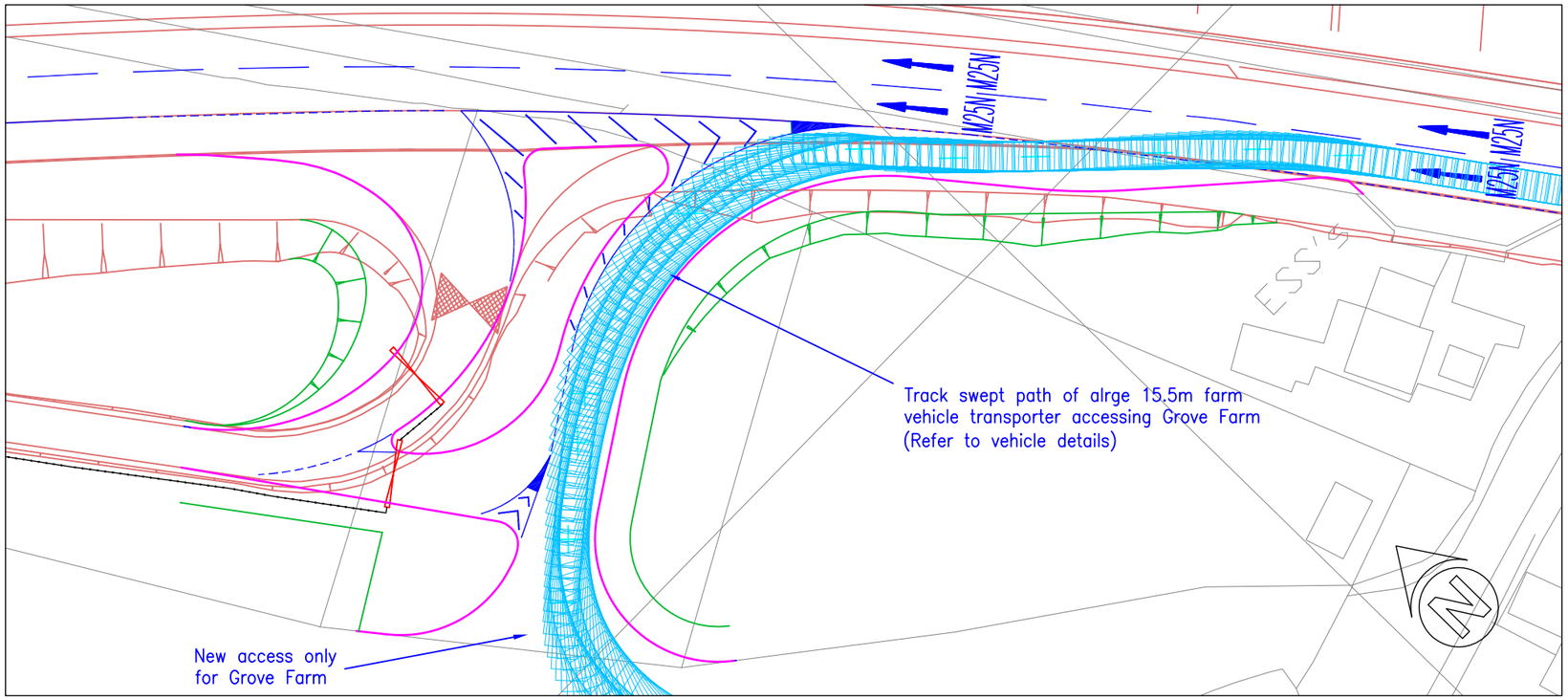


TRACK SWEPT PATH – 12m RIGID LORRY ACCESSING HIGHWAYS ENGLAND MAINTENANCE AREA

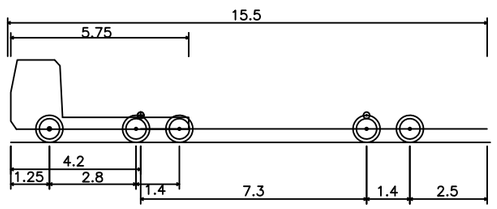


Rigid Truck	
Overall Length	12.000m
Overall Width	2.500m
Overall Body Height	3.928m
Min Body Ground Clearance	0.412m
Track Width	2.471m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	11.900m

12m rigid lorry – Vehicle Details



TRACK SWEPT PATH – 15.5m FARM VEHICLE TRANSPORTER ACCESSING GROVE FARM



Farm Vehicle Transporter (Artic Type)	
Overall Length	15.500m
Overall Width	2.500m
Overall Body Height	2.661m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	6.900m

15.5m Farm Vehicle Transporter – Vehicle Details

Client: MR L JONES & MRS K JONES			Project: GROVE FARM ACCESS, JUNCTION 28 M25 NORTHBOUND SLIP LANE			
			Title: HGV ENTRY AT PROPOSED NEW ACCESS TO GROVE FARM			
Status: FOR APPROVAL	Drawn: PL	Scale: 1:500	Sheet Size: A3	Date: JAN 2021	Drawing No.: REDW–3396–113	Rev

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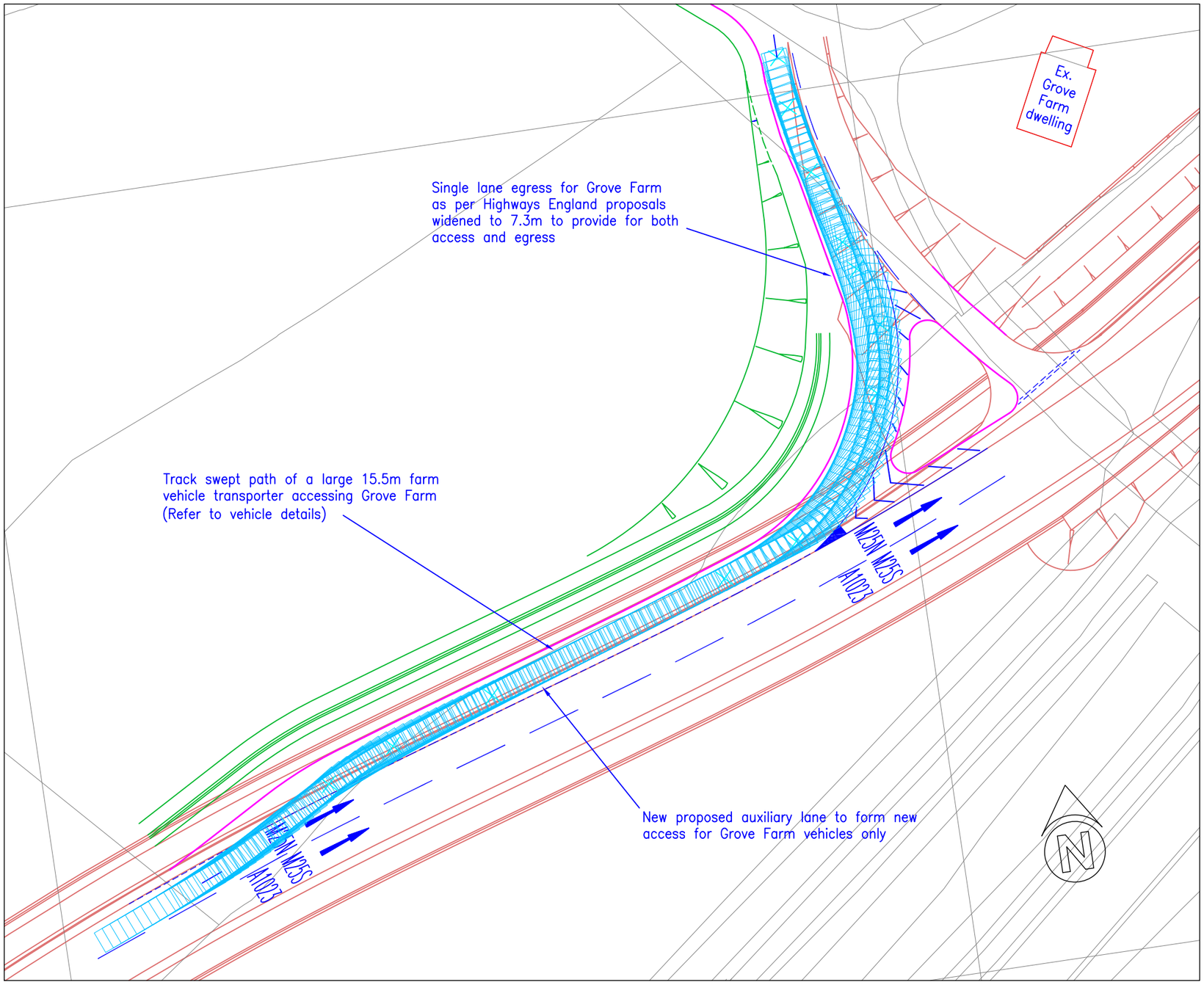
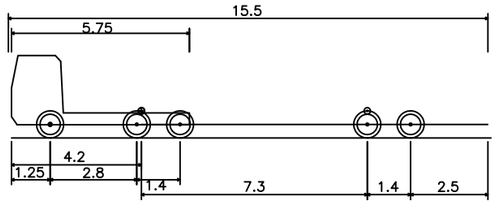


TRACK SWEPT PATH – 15.5m FARM VEHICLE TRANSPORTER ACCESSING GROVE FARM



Farm Vehicle Transporter (Artic Type)	
Overall Length	15.500m
Overall Width	2.500m
Overall Body Height	2.661m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	6.900m

15.5m Farm Vehicle Transporter – Vehicle Details

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			Title: HGV ENTRY AT PROPOSED NEW ACCESS TO GROVE FARM			
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REDWOOD PARTNERSHIP
CONSULTING ENGINEERS & TRANSPORTATION PLANNERS
Maritime House, Basin Road North, Portslade, Brighton, BN41 1WR
Telephone: 01273 414515 www.redwoodpartnership.co.uk

APPENDIX A

mayer brown

THE REDWOOD PARTNERSHIP
IMPACT OF THE PROPOSED M25 JCT 28 IMPROVEMENT SCHEME ON ACCESS ARRANGEMENTS TO GROVE FARM

SAFETY APPRAISAL

FEBRUARY 2021

the journey is the reward

Report title:	**The Redwood Partnership** **Impact of the Proposed M25 Jct 28 Improvement Scheme on Access Arrangements to Grove Farm** **Safety Appraisal**
Date:	**February 2021**
Document reference and revision:	**S/RPGroveFarm.SA.6 Rev A**
Prepared by:	**Martyn Parr - Mayer Brown Ltd**
Approved by:	**John Reid – Mayer Brown Ltd** **David Rickard - Mayer Brown Ltd**
On behalf of:	**The Redwood Partnership**
Status:	**Final**

Mayer Brown Limited, Lion House, Oriental Road, Woking, Surrey GU22 8AR
Telephone 01483 750508 Fax 01483 750437 wokingoffice@mayerbrown.co.uk www.mayerbrown.co.uk

The Redwood Partnership

Impact of the Proposed M25 Jct 28 Improvement Scheme on Access Arrangements to Grove Farm

Safety Appraisal

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Appendices

1 Introduction

1.1 This report Mayer Brown Safety Team has been instructed by The Redwood Partnership to appraise the highway safety of existing access arrangements to Grove Farm and the potential access arrangements to tie-in with the M25 Junction 28 highway alterations, as proposed by Highways England.

1.2 The brief provided to the Safety Team includes drawings detailing proposed access options and the proposed M25 Junction 28 highway alterations

1.3 For the purposes of this safety appraisal, only the access arrangements to Grove Farm (entry and egress) will be assessed in terms to their respective safety implications for road users.

1.4 The Authors of this report undertook a site inspection on Tuesday 19th January at 10:30am. During the site inspection the weather was fine, but the carriageway surface was still damp following an earlier period of precipitation. A low-moderate level of traffic was observed on the M25 on-slip and on the A12 eastbound.

1.5 Prior to the construction of the M25 motorway in the late 1970's/early 1980's access to Grove Farm was via the A12.

1.6 Following the construction of the M25 motorway, the vehicle entrance to Grove Farm was provided on the M25 slip-on (westbound), and the access on the A12 became an egress only.

1.7 The access arrangement has not been provided in accordance with relevant highway design standards.

1.8 The start of the deceleration lane that forms part of the Grove Farm vehicular entrance is circa 35m from the M25 Jct 28 roundabout junction. The deceleration lane is approximately 25m long.

1.9 Immediately to the west of the Grove Farm vehicular entrance is a maintenance bay provided for an electricity sub-station that abuts Grove Farm.

1.10 As set out by Highway England, the aims of the M25 junction 28 improvements are:

- *"reduce congestion and delay disrupting journeys on our road network and local roads."*
- *"actual and significant perceived safety concerns connected to driver movements on the roundabout"*

- *"resilience to incidents is poor, resulting in significant disruption and unreliable journey times"*
- *"poor air quality"*

1.11 As part of the M25 junction 28 improvements scheme, the existing vehicular entrance to Grove Farm will need to be relocated to ensure it ties-in with the new highway arrangement (M25 on-slip).

1.12 Highways England are proposing to provide a new access using nearly identical geometry to the existing access, which as previously identified in this report, is sub-standard.

1.13 The purpose of this Safety Appraisal is to assess:

- Safety issues arising from existing grove farm access arrangements.
- Safety issues arising from Highways England Jct 28 alterations retaining existing Grove Farm access geometry.
- Matters arising from Highways England Jct 28 alterations with proposed Grove Farm alternative access improvements.

1.14 The proposals which we are instructed to consider are shown on drawings:

- REDW-3352-400
- REDW-3396-110
- REDW-3396-111
- REDW-3396-112
- REDW-3396-113
- REDW-3396-114
- TR010029-000143

For ease of reference a copy of each these drawings is appended to this appraisal.

2 Safety Issues Arising from Existing Grove Farm Access Arrangements

2.1 **Summary of issue:** Insufficient junction visibility splay achievable at the site egress (please refer to reference point 2.1 in **Appendix B**).

The A12 adjacent to the existing site egress is currently subject to the national speed limit. On this basis, and as set out in 'CD 109 Highway link design' (formerly TD 9/93, TD 70/08) a visibility splay measuring 4.5m x 295m is the desirable minimum. However, the existing visibility splay is 4.5m x <100m.

Safety Team comment:

The junction visibility splay at the site access is significantly shorter than the desirable minimum that is set out in 'CD 109 Highway link design'. Insufficient junction visibility splays can lead to road users on a minor road failing to identify approaching traffic on the major road before emerging. Furthermore, road users on the major road should have sufficient time to react and manoeuvre appropriately should a vehicle emerge unexpectedly from a minor arm.

Further exacerbating this issue are the number of businesses within Grove Farm that generate a high proportion of HGVs. These vehicles will likely enter the A12 at a slow speed and will take a greater distance to accelerate up to an appropriate speed compared with cars and LGVs.

2.2 **Summary of issue:** Insufficient length of deceleration lane (please refer to reference point 2.2 in **Appendix B**).

Deceleration lanes allow traffic exiting a major road to slow down to a safe speed to turn off a main road without affecting the main flow of traffic.

Safety Team comment:

The deceleration lane provided at the site access is approximately 25m long, which is insufficient to comply with an 120kph design speed. As set out in 'CD 123 Revision 2', the minimum length of a nearside diverging taper or auxiliary lane should be 150m on duel carriageways, as detailed below:

The minimum length of a nearside diverging taper or auxiliary lane shall be in accordance with Table 5.22.

Table 5.22 Diverge taper, auxiliary lane and right turn lane lengths for deceleration

Design speed (kph)	Diverge taper or auxiliary lane deceleration lengths (metres)					Direct taper (metres)
	On up gradient		On down gradient			
				over 4%		
	0 - 4 %	over 4%	0 - 4 %	Dual carriageways	Single carriageway (including ghost islands and SLD locations)	
50	25	25	25	25	25	5
60	25	25	25	40	25	5
70	40	25	40	55	40	15
85	55	40	55	80	55	15
100	80	55	80	110	80	25
120	110	80	110	150	110	30

This departure from standard will increase the risk of late braking and/or rear end shunt type collisions. Whilst it is accepted that vehicles will generally not have reached 120kph at the start of the deceleration lane, due to the proximity of the roundabout junction which is located approximately 35m to the east, there is still concern that this will increase the risk of late braking and/or rear end shunt type collisions. There is concern also that the stability of HGVs will be compromised if they are have not decelerated to a safe speed to negotiate the left hand turn into the site.

2.3 **Summary of issue:** Site access located close to roundabout junction (please refer to reference points 2.3 in **Appendix B**).

The Grove Farm vehicular entrance is located approximately 35m to the north of the M25 junction 28 grade separated roundabout.

Safety Team comment:

Junctions located close to a roundabout junction create several safety concerns, namely but not limited to:

1. Road user signalling can be misinterpreted by following vehicles. Road users indicating left to exit a roundabout may not have sufficient time to cancel their indication and re-indicate before turning left from the main road. This could result in following road users failing to anticipate the left turn manoeuvre by the proceeding vehicle. This will increase the risk of late braking and/or rear end shunt type collisions.
2. Vehicles exiting the roundabout will be accelerating and still gaining speed. Therefore, there will be a risk that a vehicle will start to slow before turning left of

the major road, whilst the following vehicles/vehicles is/are accelerating. This will increase the risk of late braking and/or rear end shunt type collisions.

3. Difficulty of providing signing far enough in advance of the junction (access) without causing confusion / potential conflict for normal circulating traffic on the roundabout.

3 Safety Issues Arising from Highways England Jct 28 Alterations Retaining Existing Grove Farm Access Geometry

3.1 **Summary of issue:** Unclear whether sufficient junction visibility splays can be achieved at the A12 site egress and HE egress on M25 on-slip (please refer to reference points 3.1 in **Appendix B**).

The Atkins drawing (TR010029/APP/2.7) detailing the 'Proposed M25 Jct 28 Improvement Scheme' does not show proposed junction visibility splays.

The proposed A12 slip-off adjacent to the proposed site egress will likely be subject to the national speed limit. The M25 on-slip is subject to the national speed limit. On this basis, and as set out in 'CD 109 Highway link design' (formerly TD 9/93, TD 70/08) a visibility splay measuring 4.5m x 295m should be provided.

Safety Team comment:

Insufficient junction visibility splays can lead to road users on a minor road failing to identify approaching traffic on the major road before emerging. Furthermore, road users on the major road should have sufficient time to react and manoeuvre appropriately should a vehicle emerge unexpectedly from a minor arm.

Further exacerbating this issue are the number of businesses within Grove Farm that generate a high number of HGVs. These vehicles will likely enter the A12 at a slow speed and will take a greater distance to accelerate up to an appropriate speed compared with cars and LGVs.

On this basis, it will be important to ensure junction visibility splays provided are in accordance with 'CD 109 Highway link design'.

3.2 **Summary of issue:** Insufficient length of deceleration lane (please refer to reference point 3.2 in **Appendix B**).

Deceleration lanes allow traffic exiting a major road to slow down to a safer speed to turn off a main road without affecting the main flow of traffic.

Safety Team comment:

This issue was raised in Section 2 of this report, however as the geometry of the proposed access is same or similar to the existing access, this issue is repeated.

The deceleration lane provided at the proposed site access is approximately 25m long, which is insufficient to comply with an 120kph. design speed. As set out in 'CD 123

Revision 2', the minimum length of a nearside diverging taper or auxiliary lane should be 150m on duel carriageways.

Whilst it is accepted that vehicles will generally not have reached 120kph at the start of the deceleration lane, due to the proximity of the roundabout junction, there is still concern that this will increase the risk of late braking and/or rear end shunt type collisions. There is concern also that the stability of HGVs will be compromised if they are have not decelerated to a safe speed to negotiate the left-hand turn into the site.

3.3 **Summary of issue:** Site access located close to roundabout junction (please refer to reference point 3.3 in **Appendix B**).

The existing Grove Farm vehicular entrance is to be retained as part of the 'Proposed M25 Jct 28 Improvement Scheme'. However, the new alignment of the A12 slip-off will result in the separation between the site access and roundabout junction being reduced further.

Safety Team comment:

The proposals as detailed appear to indicate that separation between the site access and the roundabout will be further reduced, exacerbating the existing issue highlighted previously.

Junctions located close to a roundabout junction create several safety concerns, namely but not limited to:

1. Road user signalling can be misinterpreted by following vehicles. Road users indicating left to exit a roundabout may not have sufficient time to cancel their indication and re-indicate before turning left from the main road. This could result in following road users failing to anticipate the left turn manoeuvre by the proceeding vehicle. This will increase the risk of late braking and/or rear end shunt type collisions.
2. Vehicles exiting the roundabout will likely be accelerating and gaining speed. Therefore, there will be a risk that a vehicle will start to slow before turning left of the major road, whilst the following vehicles/vehicles is/are accelerating. This will increase the risk of late braking and/or rear end shunt type collisions.
3. Difficulty of providing signing far enough in advance of the junction (access) without causing confusion for normal circulating traffic on the roundabout.

4 Matters Arising from Highways England Jct 28 Alterations with Alternative Proposed Grove Farm Access Improvements

4.1 **Summary of issue:** Insufficient length of deceleration lane (please refer to reference point 4.1 in **Appendix B**).

Deceleration lanes allow traffic exiting a major road to slow down to a safe speed to turn off a main road without affecting the main flow of traffic.

Safety Team comment:

As part of the 'alternative' proposals, the site egress will become a site entrance and egress and a deceleration lane will be provided.

However. the proposed deceleration lane provided on the A12 off-slip at the site access is 80m long. As set out in 'CD 123 Revision 2', the minimum length of a nearside diverging taper or auxiliary lane should be 150m on duel carriageways.

The Authors of this report acknowledge that this deceleration lane is a significant improvement in road safety terms when compared with the existing deceleration lane provided on the M25 on-slip.

Furthermore, the revised access and provision of a deceleration lane on the A12, will likely reduce the number of vehicles accessing the site from the sub-standard access provided on the M25 on-slip.

4.2 **Summary of issue:** Insufficient length of deceleration lane (please refer to reference point 4.2 in **Appendix B**).

Deceleration lanes allow traffic exiting a major road to slow down to a safer speed to turn off a main road without affecting the main flow of traffic.

Safety Team comment:

This issue was raised in Section 2 of this report, however as the geometry of the proposed access is same or similar to the existing access, this issue is repeated.

The deceleration lane provided at the proposed site access is approximately 25m long, which is insufficient to comply with an 120kph. design speed. As set out in 'CD 123 Revision 2', the minimum length of a nearside diverging taper or auxiliary lane should be 150m on duel carriageways.

Whilst it is accepted that vehicles will generally not have reached 120kph at the start of the deceleration lane, due to the proximity of the roundabout junction, there is still concern that this will increase the risk of late braking and/or rear end shunt type collisions. There is concern also that the stability of HGVs will be compromised if they are have not decelerated to a safe speed to negotiate the left-hand turn into the site.

4.3 **Summary of issue:** Separation between the proposed site access and roundabout junction increased (please refer to reference point 4.3 in **Appendix B**).

The proposed 'alternative' Grove Farm vehicular entrance on the M25 on-slip is to be shifted to the northern side of the existing maintenance bay provided for the electricity sub-station.

Safety Team comment:

As raised previously in this report:

Junctions located close to a roundabout junction create several safety concerns, namely but not limited to:

1. Road user signalling can be misinterpreted by following vehicles. Road users indicating left to exit a roundabout may not have sufficient time to cancel their indication and re-indicate before turning left from the main road. This could result in following road users failing to anticipate the left turn manoeuvre by the proceeding vehicle. This will increase the risk of late braking and/or rear end shunt type collisions.
2. Vehicles exiting the roundabout will likely be accelerating and gaining speed. Therefore, there will be a risk that a vehicle will start to slow before turning left of the major road, whilst the following vehicles/vehicles is/are accelerating. This will increase the risk of late braking and/or rear end shunt type collisions.
3. Difficulty of providing signing far enough in advance of the junction (access) without causing confusion for normal circulating traffic on the roundabout.

Whilst the access is still located relatively close to the grade separated roundabout junction. The Authors of this report consider the increased separation between the roundabout and the start of the deceleration lane provide a net benefit in road safety terms when compared with the existing access arrangements, or the proposed access arrangements that will form part of the 'Proposed M25 Jct 28 Improvement Scheme' (which will retain the existing access close to the roundabout).

4.4 **Summary of issue:** A control barrier is to be provided within the site access to prevent unauthorised vehicles entering the Highway England compound (please refer to reference point 4.4 in **Appendix B**).

The drawings provided indicate that a 12m rigid HGV can wait at the control barrier without obstructing the access into Grove Farm.

Safety Team comment:

Any larger vehicles waiting at the control barrier will likely block the entrance to Grove Farm. As Grove Farm generates a high number of large HGV movements, there is concern that two or more articulated HGVs that are unable to enter site may result in a queue back on to the M25 on-slip, resulting in an obstruction. This will increase the risk of late braking and/or rear end shunt type collisions.

4.5 **Summary of issue:** Swept path analysis (please refer to reference points 4.5 in **Appendix B**).

Whilst details of swept paths have been provided, it will be important that all anticipated vehicles can enter/exit the site without striking the kerbs or traversing the verge or hardstanding.

Safety Team comment:

The swept path analysis provided detail the path of a 15.5m long articulated vehicle with a two-axle trailer. During the site inspection, tractor units towing 3 axle trailers were observed entering/egressing the site. Whilst the proposed highway arrangement may be sufficient to accommodate larger vehicles, this should be checked and confirmed.

4.6 **Summary of issue:** Unclear whether sufficient junction visibility splays can be achieved at the A12 site egress and HE egress on M25 on-slip (please refer to reference points 4.6 in **Appendix B**).

The proposed A12 slip-off adjacent to the proposed site egress will likely be subject to the national speed limit. The M25 on-slip is subject to the national speed limit. On this basis, and as set out in 'CD 109 Highway link design' (formerly TD 9/93, TD 70/08) a visibility splay measuring 4.5m x 295m should be provided.

Safety Team comment:

Insufficient junction visibility splays can lead to road users on a minor road failing to identify approaching traffic on the major road before emerging. Furthermore, road users on the major road should have sufficient time to react and manoeuvre appropriately should a vehicle emerge unexpectedly from a minor arm.

Further exacerbating this issue are the number of businesses within Grove Farm that generate a high number of HGVs. These vehicles will likely enter the A12 at a slow speed and will take a greater distance to accelerate up to an appropriate speed compared with cars and LGVs.

On this basis, it will be important to ensure junction visibility splays provided are in accordance with 'CD 109 Highway link design'.

5 Authors

Martyn Parr – MSoRSA, MCIHT, HECoC
Road Safety Manager
Mayer Brown Limited
Lion House
Oriental Road
Woking
Surrey
GU22 8AR

Signed [redacted]
Date 04/

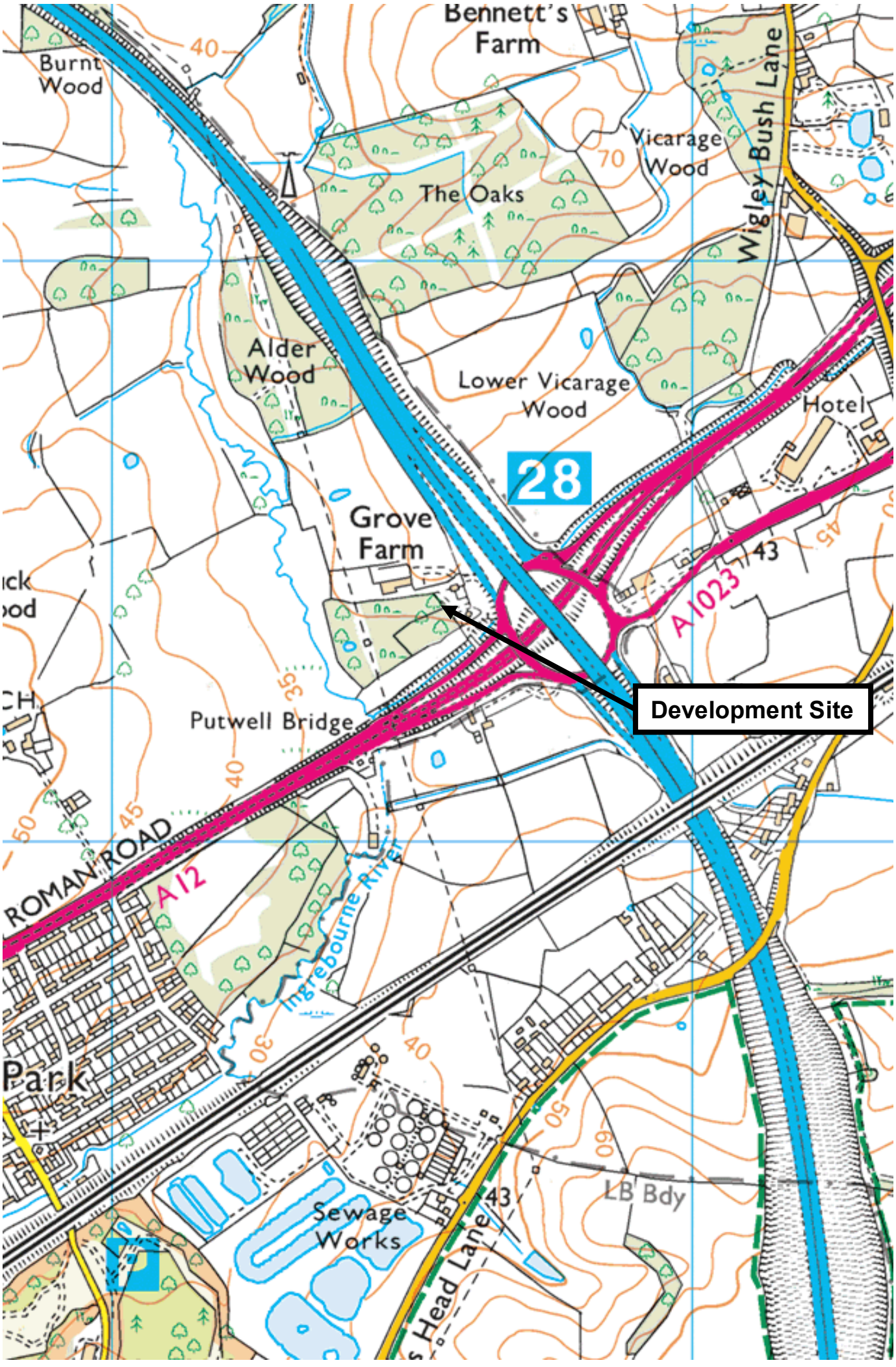
John Reid - MSc, DipHTE, MCIHT, FSoRSA, MITAI, HECoC
Technical Director (Safety)
Mayer Brown Limited
Lion House
Oriental Road
Woking
Surrey
GU22 8AR

Signed [redacted]
Date 04/02/21

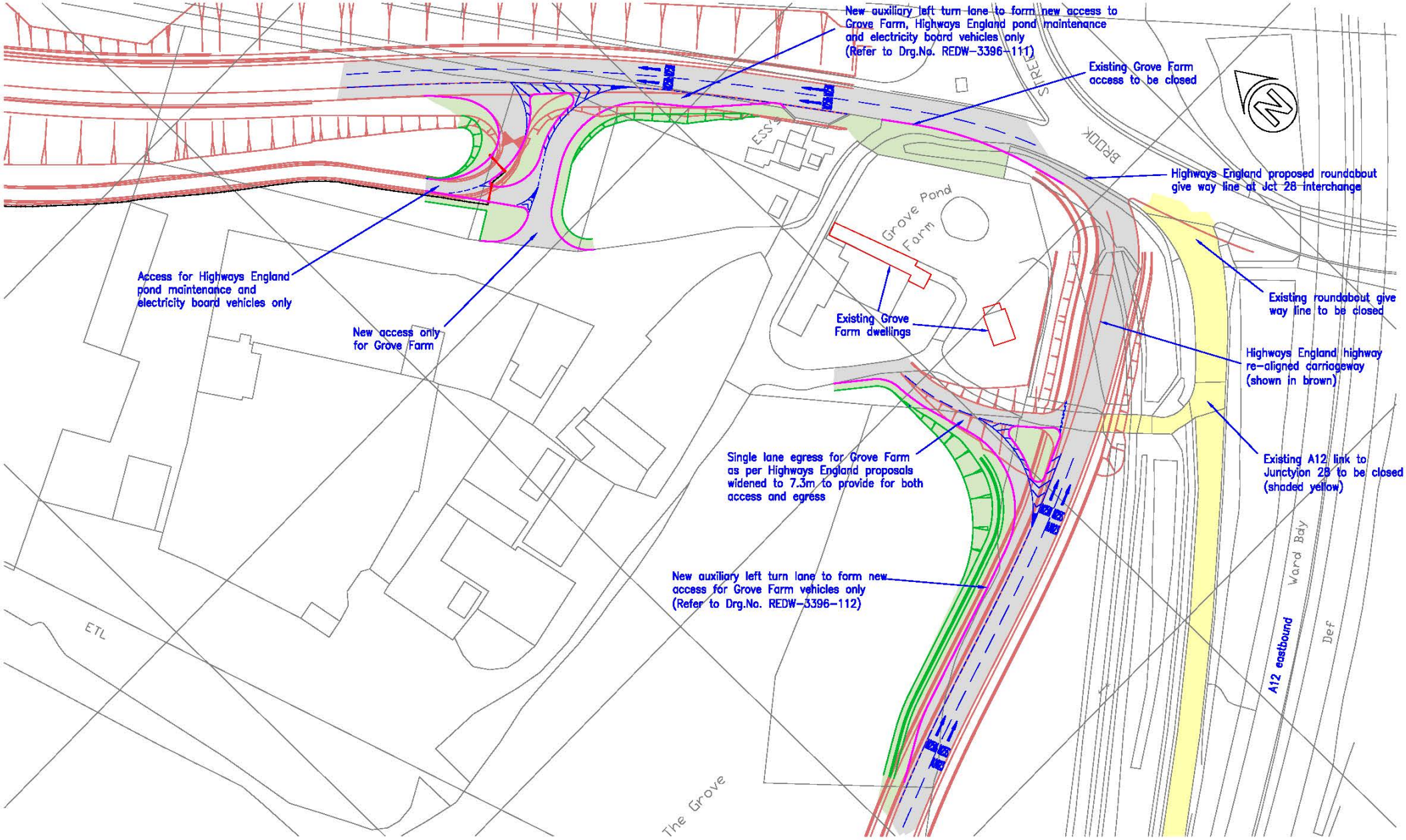
David Rickard – MCIHT
Senior Engineer
Mayer Brown Limited
Lion House
Oriental Road
Woking
Surrey
GU22 8AR

Signed [redacted]
Date 04/02/21

APPENDIX A: Site Location Plan


Bennett's Farm
Burnt Wood
Vicarage Wood
Wigley Bush Lane
The Oaks
Alder Wood
Lower Vicarage Wood
Hotel
28
Grove Farm
A1023
Development Site
Putwell Bridge
ROMAN ROAD
A12
Ingrebourne River
Park
Sewage Works
LB Bdy
Head Lane

APPENDIX B: Reference Plans



Client: MR L JONES & MRS K JONES			Project: GROVE FARM ACCESS, JUNCTION 28 M25 NORTHBOUND SLIP LANE			
			Title: ACCESS ALTERATIONS TO GROVE FARM			
Status: FOR APPROVAL	Drawn: PL	Scale: 1:1000	Sheet Size: A3	Date: JAN 2021	Drawing No.: REDW-3396-110	Rev:

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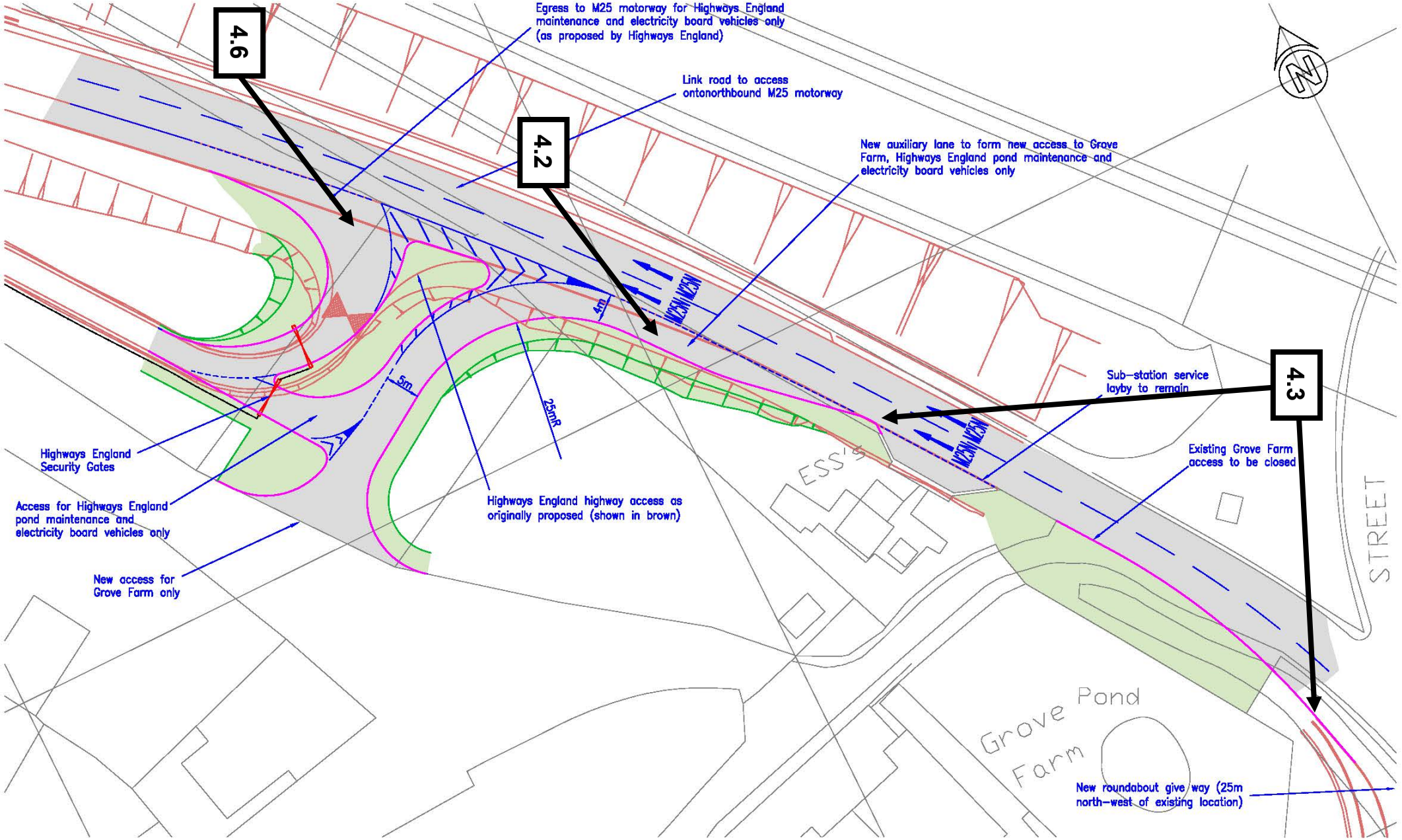
Telephone: 01273 414515 www.redwoodpartnership.co.uk



Client: MR L JONES & MRS K JONES			Project: GROVE FARM ACCESS, JUNCTION 28 M25 NORTHBOUND SLIP LANE			
			Title: SUGGESTED ALTERATIONS TO GROVE FARM HIGHWAY ACCESS			
Status: FOR APPROVAL	Drawn: PL	Scale: 1:500	Sheet Size: A3	Date: JAN 2021	Drawing No.: REDW-3396-111	Rev:

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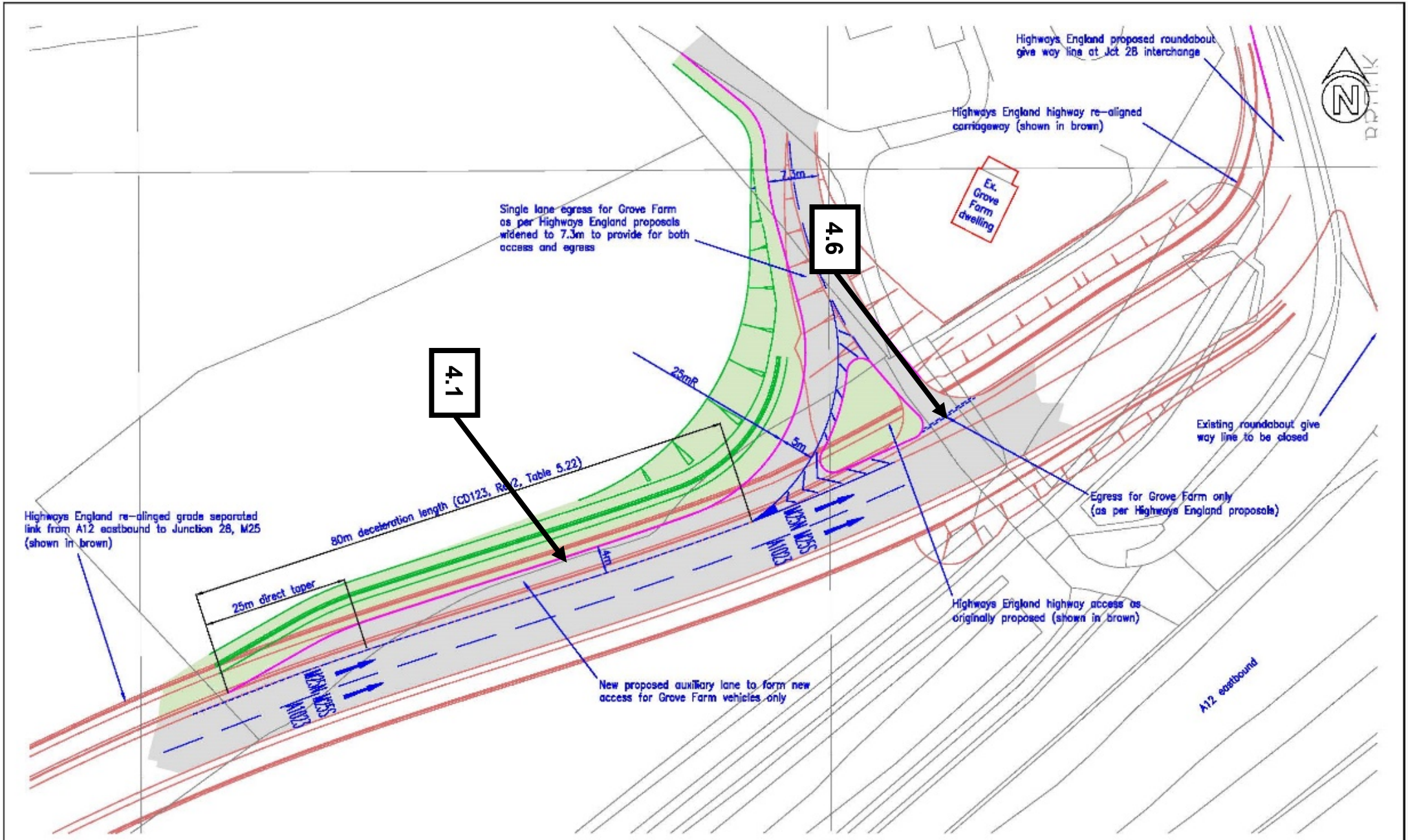

Client: MR L JONES & MRS K JONES	Project: GROVE FARM ACCESS, JUNCTION 28 M25 NORTHBOUND SLIP LANE					
	Title: SUGGESTED ALTERATIONS TO GROVE FARM HIGHWAY EGRESS					
Status: FOR APPROVAL	Drawn: PL	Scale: 1:500	Sheet Size: A3	Date: JAN 2021	Drawing No.: REDW-3396-112	Rev:

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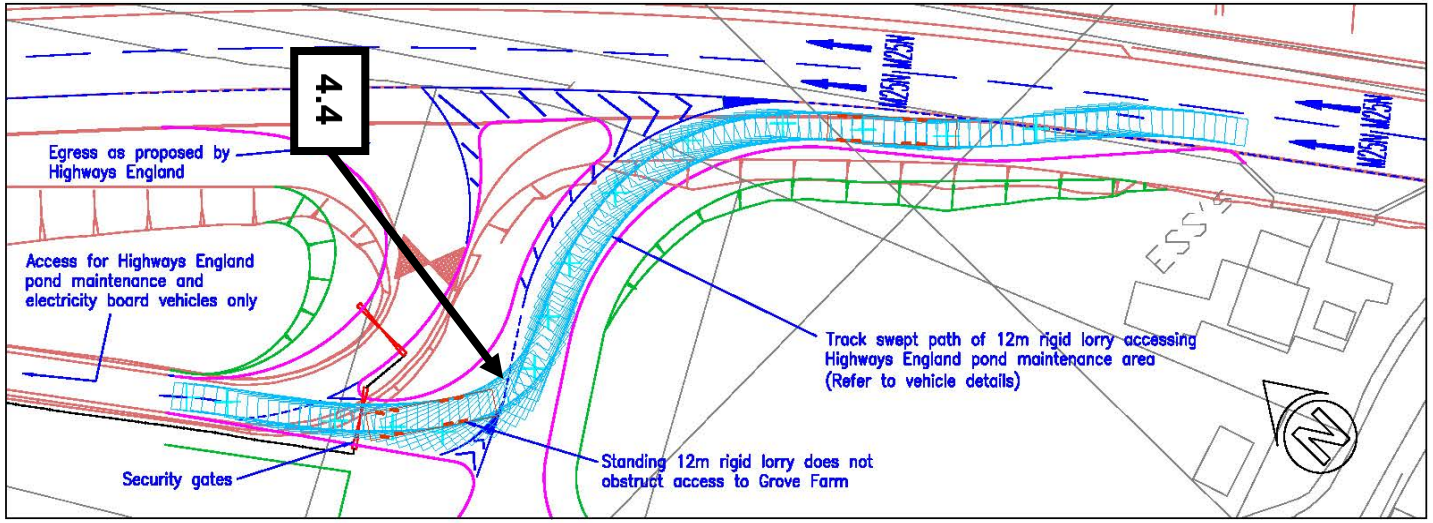
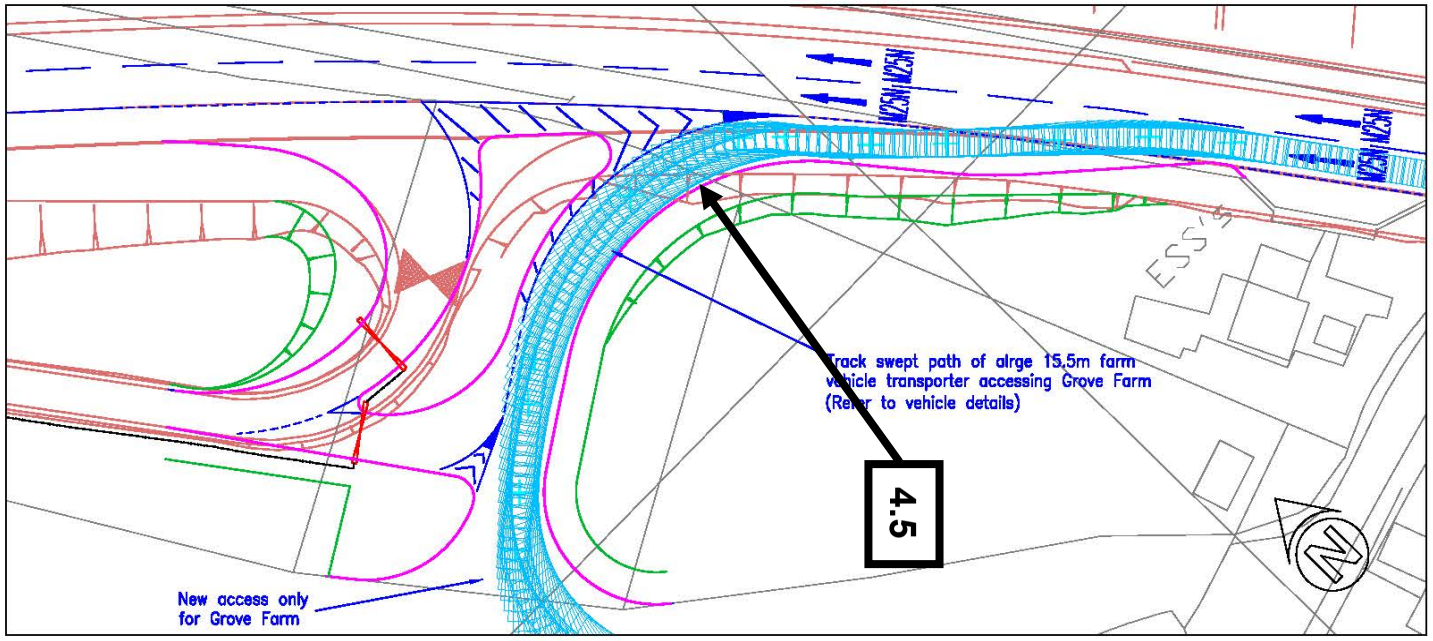
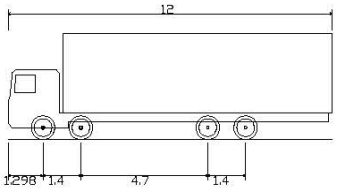


TRACK SWEPT PATH – 12m RIGID LORRY ACCESSING HIGHWAYS ENGLAND MAINTENANCE AREA

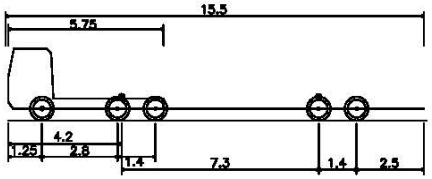


TRACK SWEPT PATH – 15.5m FARM VEHICLE TRANSPORTER ACCESSING GROVE FARM



Rigid Truck	
Overall Length	12.000m
Overall Width	2.500m
Overall Body Height	3.928m
Min Body Ground Clearance	0.412m
Track Width	2.471m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	11.900m

12m rigid lorry – Vehicle Details



Farm Vehicle Transporter (Artic Type)	
Overall Length	15.500m
Overall Width	2.500m
Overall Body Height	2.661m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	6.900m

15.5m Farm Vehicle Transporter – Vehicle Details

Client: MR L JONES & MRS K JONES			Project: GROVE FARM ACCESS, JUNCTION 28 M25 NORTHBOUND SLIP LANE			
			Title: HGV ENTRY AT PROPOSED NEW ACCESS TO GROVE FARM			
Status: FOR APPROVAL	Drawn: PL	Scale: 1:500	Sheet Size: A3	Date: JAN 2021	Drawing No.: REDW–3396–113	Rev:

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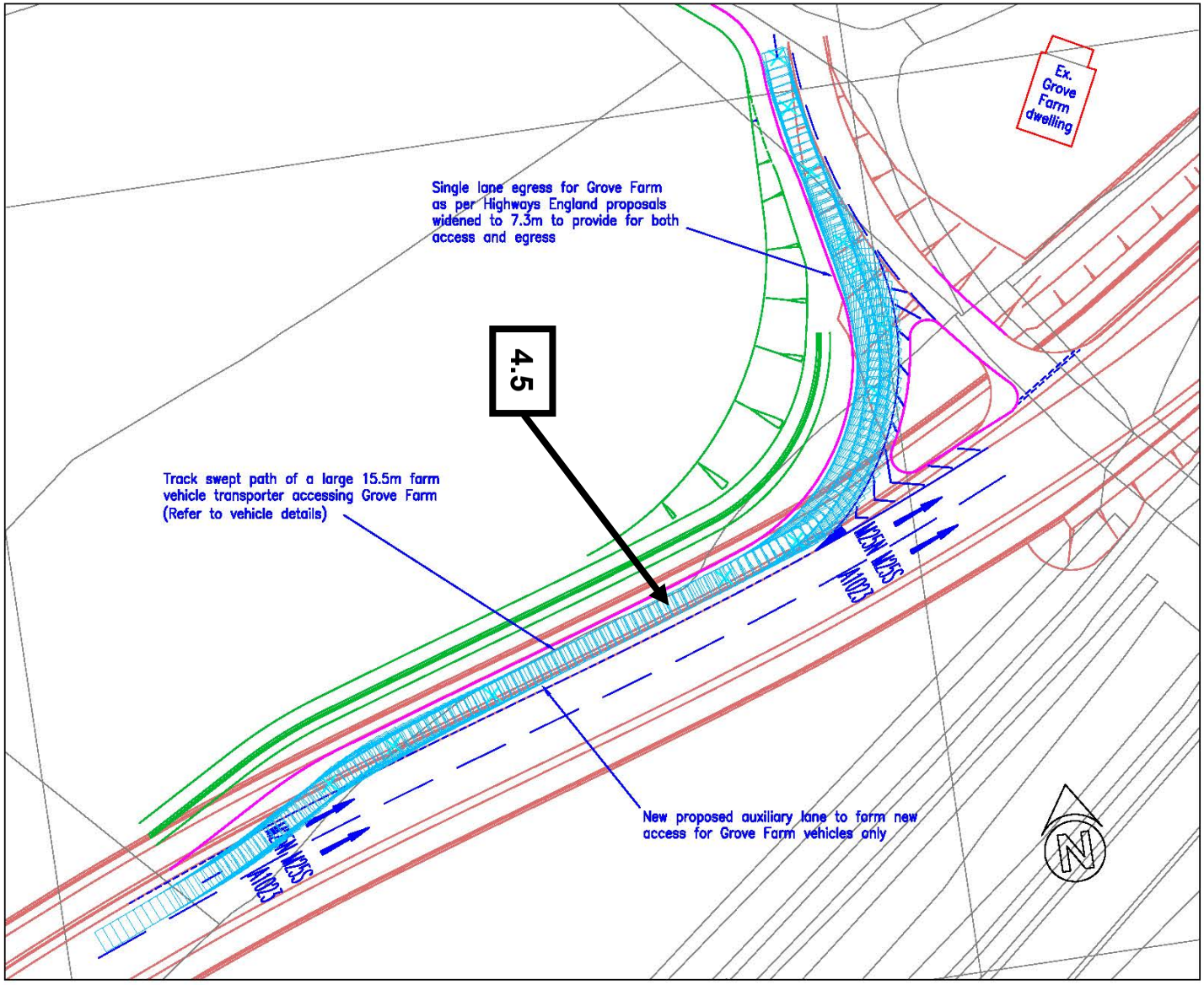
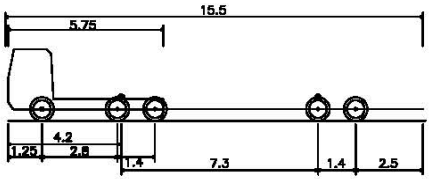


TRACK SWEPT PATH – 15.5m FARM VEHICLE TRANSPORTER ACCESSING GROVE FARM



Farm Vehicle Transporter (Artic Type)	
Overall Length	15.500m
Overall Width	2.500m
Overall Body Height	2.661m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock to Lock Time	6.00s
Kerb to Kerb Turning Radius	6.900m

15.5m Farm Vehicle Transporter – Vehicle Details

Client: MR L JONES & MRS K JONES			Project: GROVE FARM ACCESS, JUNCTION 28 M25 NORTHBOUND SLIP LANE			
			Title: HGV ENTRY AT PROPOSED NEW ACCESS TO GROVE FARM			
Status: FOR APPROVAL	Drawn: PL	Scale: 1:500	Sheet Size: A3	Date: JAN 2021	Drawing No.: REDW–3396–114	Rev:

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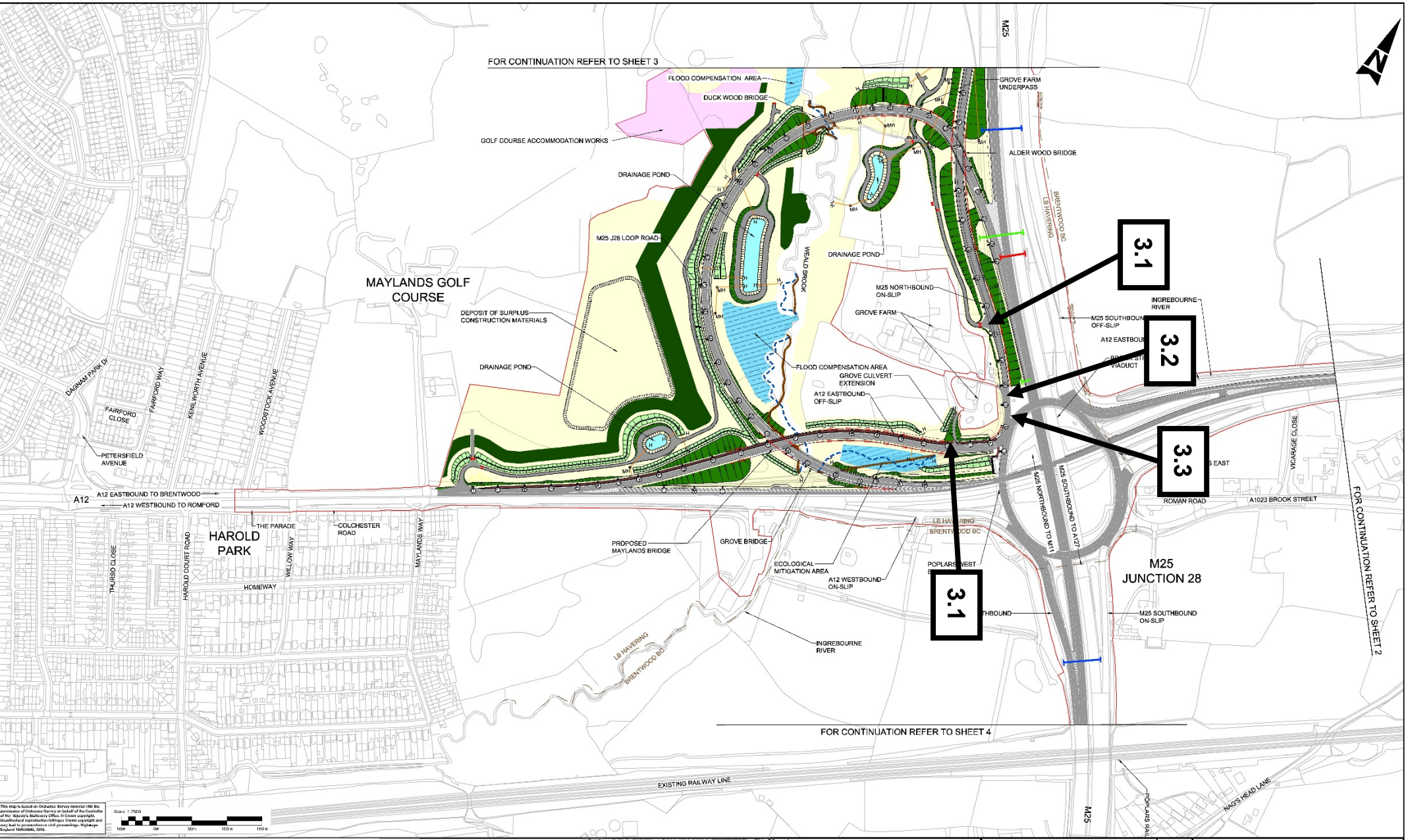

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Scale 1:2500

50m 0m 50m 100m 150m

NOTES:

1. This drawing illustrates the layout for the M25 Junction 28 Improvement scheme.

LEGEND

- DCO boundary
- Local Authority boundary
- Carriageway/ access track and existing carriageway resurfacing
- Earthworks
- Earthworks (varying slope)
- Footway
- Existing gantry (to be removed)
- Existing gantry to be retained with signs to be replaced
- Proposed Gantry / cantilever
- Retaining wall
- Realignment of watercourses
- Existing watercourse removed
- Drainage ditch
- H MH Drainage headwall and manhole outside carriageway footprint
- Drainage pipe (outside of carriageway footprint)
- Gate
- Lighting column
- Environmental mitigation area/grassland (see Figure 2.2 in the ES (application document TR010029/6.2) for further details)
- Golf Course accommodation works
- Native woodland
- Ground lowering for flood compensation or ecological mitigation

SHEET LAYOUT N.T.S

Description	Status	Revision	Drawn	Checked	Reviewed	Authorised	Issue Date
		0					

Drawing Suitability: DCO APPLICATION

Status: A4

Project Title: M25 junction 28 improvement scheme

Drawing Title: SCHEME LAYOUT PLANS REGULATION 5(2)(o) SHEET 1 OF 4

SNC·LAVALIN ATKINS
Member of the SNC-Lavalin Group
Amlin House
Atkins 4th Floor
90-96 Victoria Road
Chelmsford
Essex CM1 1QU
Tel: +44 (0)1245 245245
Fax: +44 (0)1245 345010
www.atkinsglobal.com

Client: Working on behalf of highways england

Drawing Number: TR010029/APP/2.7

Rev: 0

HE PIN: HE551519

Scale: 1:2500

Original size: A1

This Drawing is saved on ProjectWise. Plotted: 24/05/2020 18:48:55 By: KELL9073

The examiners written questions – 2nd February 2021

Relating to M25 Junction 28 - Our clients Mr and Mrs Jones Grove Farm (I.D 20025656)

Answer 1 in relation to Code NV 1.3

We have read Chapter 6 of the ES relating to noise and concur that is omits the commercial elements of Grove Farm from the list of sensitive receptors but does include the residential elements. At present, reading the noise report we are content the commercial element does not need to be added to this list of sensitive receptors for noise and vibration. However, the commercial elements will be impacted if adequate access provisions cannot be considered within our written representation.

It is noted that there are three residential dwellings at Grove Farm comprising of the main farmhouse, Bungalow 1 and Bungalow 2 that have all being occupied for residential purposes for over twenty years. These dwellings will be severely impacted by the construction phase of the proposed development. We can see that when comparing the baseline noise figures with the proposed construction noise there is a significant increase in noise during the day and night. It is understood to increase from 64db to 79db (highest) during the day and from 61db to 76db during the night, which will detrimentally impact our client's quiet enjoyment of the property over the proposed 32 months of construction, which is a significant length of time to be continually disturbed.

We agree with the recommendation at 6.8.13 that no vibratory rolling should be undertaken within 20 metres of the property to reduce the impact of vibration on the residential elements. Additionally, it is noted at six point 9.10 that Grove Farm would be shielded by temporary noise barriers providing a minimum of 10 decibels insertion loss. This will also reduce the visibility of any of the construction works for the duration of the 32 months however we request that a more substantial shielding is constructed, and this would be retained post construction to mitigate any further noise and vibration on the client's properties.

At Chapter 6.9 we understand that mitigation measures will be undertaken by the Principal Contractor, but we ask that the mitigation measures are further strengthened to alleviate the disruption to our clients. This would include, additional noise barriers, tree planting where possible, low sound road surfacing and to ensure that any works are done in parallel as much as possible.

Clearly, at 6.10.3 the noise report continues to state that there will be significant effects to Grove Farm which is located close the intersection of the A12 off slip and the M25 on slip and without mitigation there will be significant levels of construction noise for the period of 32 months. Additionally, there will be significant adverse effects during the night time for Grove Farm residents due to night time paving and road construction activities on the adjacent A12 off slip on the M25 on slip which we understand is proposed to be located closer to the residential dwellings.

This is confirmed at 6.8.36 of the noise report that night time road traffic noise levels exceeding 55db were predicted within 450 metres of the junction 28 and 150 metres of the proposed loop road. Properties adjacent to the A12 and Brook Street also have been predicted noise levels above 55db depending on their proximity of which Grove Farm is in the immediate vicinity. Therefore, we assume that Grove Farm would be within this determination and would be impacted by the night time traffic noise by more that 3db overall post scheme.

Interlinking with **code NV 1.4** within the examiners questions we strongly feel that Grove Farm should be listed as a property on the NIAs (Important Areas for Noise) list as the residential elements are immediately to the northwest of Junction 28. The Poplars is another residential address which is 12m away from junction 28 and is listed on the NIAs list. We request that the Residential elements of Grove Farm are added to this list. It is clear from Environmental Management Plan that in Chapter 9 'Protection of Sensitive Areas' that Grove Farm is noted as a sensitive area in air quality, noise and vibration, landscape and visual, people and communities and other areas of sensitivity.

Overall, it is strongly felt that the noise and vibration will detrimentally impact the residential elements of Grove Farm and should be noted down as a NIAs and further mitigation considered. We also request that any additional noise insulating barriers that are installed during construction and retained post

construction. This is because the noise will be to all side and especially the loop around the rear of Grove Farm which is in the path of the south-westerly prevailing winds.

Answer in relation to Code PC1.3

Reading Chapter 13 in relation to People and Communities we agree that Grove Farm is noted down as being highly affected and will have significant effects on land take and high sensitivity of receptors. Indeed, at 13.10.2 Grove Farm is noted down as most affected by the scheme and that although the land take has been minimised the new road widening will be moving substantially closer to the residential dwellings on a permanent basis.

It is understood at 13 point 8.2 that the permanent land take at Grove Farm is required to facilitate the construction of the new loop road and for the new A12 slip road and the M25 on slip. This includes associated earthworks flood attenuation works and landscaping. Overall, 120,370 square metres will be permanent land take and 42,401 square metres will be temporary land at Grove Farm.

Chapter 9 Landscape and Visual strengthens the point that Grove Farm will be visually impacted. 9.10.16 states that the removal of mature vegetation would increase the visibility of the road infrastructure. Additionally, the deposition of surplus construction materials would create visible elements during the construction period, further impacting the residents.

13.10.83 states that the significant residual effects to Grove Farm are expected to remain during the operational phase given the existence of the new loop road. However, we ask that in line with our written representations and proposed design alterations that these are taken into consideration as they could reduce the significant impacts.

All of this will have a detrimental and negative impact on the properties located at Grove Farm and includes in the long-term increased noise, dust, vibration, light, fumes, and smell and will overall impact their day-to-day quiet enjoyment of the property. Additionally, the living conditions could become untenable if mitigation measures are not implemented.

Answer to PC1.10

We request that no additional land take is had to Grove Farm without further consultation and discussions regarding the detrimental impact had on the clients.

REPRESENTATIONS ON BEHALF OF

LES AND KIM JONES
Grove Farm CM145NG

AND

L JONES AND SONS DEMOLItION ET.AL

IN RESPECT TO THE PROPOSED

HIGHWAY WORKS AT JUNTION 28, M25 & A12 SLIP ROAD

C.R.Bedson BSc MRICS FAAV
Paul Mclaughlin, Redwood PArtnership

Diamond Way, Stone Business Park, Stone, Staffordshire ST15 0SD
01782 713444 - hinsonparry.co.uk

CONTENTS

Introduction

These representations highlight the key points at issue with land owned and occupied by Les and Kim Jones and their businesses, located at Grove Farm, Brook Street, Brentwood, CM14 5NG.

The salient issues are:-

a. Access and egress to the site and Highways issues arising.

   This will be presented by Mr Paul McLaughlin of the Redwood Partnership of consulting engineers and transportation planners. See report attached at Appendix A.

b. Noise insulation measures and mitigation requirements.

   Presented by Roger Bedson BSc MRICS FAAV.

1. The noise mitigation requirements

2.1 Chapter 6 of the ES relates to noise mitigation measures. It should be noted that there are 3 residential dwellings at Grove Farm comprising the main farmhouse, together with bungalows 1 and 2. This can be seen very clearly on plan REDW-3396-110 which shows the position of the existing A12 slip road and the location of the new slip road highlighted in grey. It should be noted that the new slip road will be elevated as demonstrated by the embankment located to the south and east of the existing Grove Farm dwellings.

2. Noise during construction period

2.1 According to HE's noise predictions, there is likely to be a significant increase in noise during the day and night during the construction period. This is likely to increase from 64 decibels to 79 decibels during the day and from 61 decibels to 76 decibels during the night. This will be a huge impact during the 32 month construction period.

   a. We concur with recommendation 6.8.13 that no vibratory rolling should be undertaken within 20 metres of the property and we note that temporary noise barriers are proposed to be installed to provide a minimum 10 decibels noise mitigation. We should like confirmation of the specification.

   b. We request that this noise mitigation barrier be a permanent structure to alleviate not only the 32 months of construction (which could easily be 3 years) but will also assist in reducing the noise from the road permanently moving forwards. We understand that no consideration has been given to this. We would also request that the barrier be constructed so as to provide visual screening from the road.

2.2 This noise will not only prevail during the daytime but will be prevalent during the night as well. 6.10.3 of the noise report suggests that night time paving and road laying activities will be undertaken which, given the 15-decibel increase (64 decibels to 79 decibels) will be very significant.

   a. In valuation terms, we are currently settling claims under Part 1 of the Land Compensation Act 1973 against various Highways Authorities. For example, a 12.7 decibel increase is resulting in compensation claims in the region of 9% of the residential value of the property. It is, therefore, widely accepted that such increased noise levels have an impact upon the value of the property, derived from the public's perception of such an increase and indeed the nuisance that it creates.

3. Post Construction

3.1 Chapter 13 of the Environmental Impact Assessment (People and Communities) notes Grove Farm as being highly affected and is a highly sensitive "receptor". It does not however appear as an Important Area for Noise ("NIA").

a. "The Poplars" is another residential property on the scheme which is located some 12 m. away from the works. This does appear on the NIA list, which we find peculiar. Indeed, we are concerned that perhaps as a result of COVID-19 rules, the author has not been able to have a site meeting at Grove Farm and so standing on the physical boundary with representatives of the acquiring authority and the engineers has proved difficult. We should like to know what mitigation measures will be put in place elsewhere across the scheme.

b. We do note, however, it is clear from the Environmental Management Plan that at chapter 9, "Protection of Sensitive Areas", Grove Farm is noted as a sensitive area in terms of air quality, noise vibration, landscape and visual.

We would like to know more about the physical screening from the new road and landscaping measures.

c. We note that the post scheme noise *predictions* comment generally that there is no significant increase in noise post scheme. We find this difficult to comprehend. Highways England's own website states:-

- "***Our research shows that if we don't improve Junction 28 by 2037, we can expect:***
- ***Increased congestion and lengthy queues at least five times worse than at present.***
- ***A 25% reduction in average speeds through the Junction (including mainline M25 and A12);***
- ***Widespread disruption following incidents.***
- ***Constrains on future development and growth opportunities.***
- ***Local air quality issues to deteriorate."***

It is clear then that the Junction is already at least at capacity and that in 15 or so years' time, the Junction is likely to be losing functionality in a "do nothing scenario. The proposed works by HE are there to mitigate this and allow a lot more traffic to travel more efficiently and more quickly. It is difficult to perceive how this can be achieved without creating more noise.

3.2 It is noted at 6.8.36 of the noise report that night time road traffic noise levels exceeding 55db were predicted within 450 metres of the junction 28 and 150 metres of the proposed loop road. Properties adjacent to the A12 and Brook Street also have been predicted noise levels above 55db depending on their proximity. As Grove Farm is in the immediate vicinity. Therefore, we assume that Grove Farm would be within this zone and would be impacted by the night time traffic noise by an increase of more than 3db overall post scheme.

3.3 Not only will the A12 slip road be immediately in the rear garden of the main dwelling of Grove Farmhouse, the M25 Junction 28 Loop Road is at its nearest point probably only 200 m. from Grove Farmhouse which again, in terms of claims under Part 1 of the Land Compensation Act 1973 will be well within the bounds of acceptability for the acceptance by the acquiring authority for a claim under Part 1. The noise increase is likely to be significant.

4. Noise Mitigation Required

4.1 We therefore request that Highways England be directed to install permanent, rather than temporary noise mitigation measures around the residential dwellings at Grove Farm to give them some protection from the scheme going forwards.

5. Highways and Access Issues

5.1 To be presented by Paul McLaughlin of Redwood Partnership per attached.

Appendix A

Brief Curriculum Vitae **Charles Roger Bedson**

- Qualifications
- BSc Rural Land Management (Reading University)
- Member of the Royal Institution of Chartered Surveyors
- Fellow of the Central Association of Agricultural Valuers
- Higher National Certificate in Civil Engineering
- Chair of the Valuation, Compensation and Taxation Committee of the Central Association of Agricultural Valuers
- Past Chairman of the West Midlands Region of the Compulsory Purchase Association
- Former guest lecturer at Harper Adams University
- Work experience:-
    - Roll B Parliamentary Agent presenting to Parliamentary Select Committees on behalf of clients reference High Speed Rail to both House of Commons and House of Lords
    - Since 1992 predominantly engaged in land and property sales, management, town and country planning matters and compulsory purchase and compensation.
    - Settling claims for compensation against acquiring authorities nationwide for both land take and claims under Part 1 of the Land Compensation Act 1973.
    - Partner in the firm Hinson Parry & Company.

Appendix B

Report by Mr Paul McLaughlin of the Redwood Partnership

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