

Traffic & Transport Assessment including Draft Construction Traffic Management Plan

Allington Lane Solar Farm

Eastleigh Borough Council



Document Information		
Document title:	<i>Traffic & Transport Assessment including Draft Construction Traffic Management Plan</i>	
Date of issue:	<i>14th of November</i>	
Status:	<i>Approved</i>	
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Version	Date	Purpose of amendment
V1.0	<i>14/11/2023</i>	Completed document for Client review

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1. Introduction

Locogen Ltd (the Agent) have been appointed by Eastleigh Borough Council (the Applicant) to prepare a Traffic & Transport Assessment, including a draft Construction Traffic Management Plan (CTMP) to provide transport and infrastructure support for the proposed Solar Farm development at Allington Lane, Eastleigh Borough (hereafter known as 'the site').

1.1. Scope

This CTMP supports an upcoming planning application for approximately 35MW of solar. The proposed application is submitted via a local application to Eastleigh Borough Council. Eastleigh Borough Council & Hampshire County Council is responsible for the management of the local roads in the surrounding area.

From a transport perspective, the proposals would be defined by both construction, operational and decommissioning phase, in which the development will generate a variable number of vehicular movements.

The purpose of this CTMP is to quantify the HGV delivery demand associated with both the development phases and establish whether the local road network can accommodate this increased demand.

Included within the assessment is reference to the recently carried out CTMP for both the permitted development of urban expansion named One Horton Heath and the new link road to service One Horton Heath which assess similar routes and roads utilised by this CTMP (planning ref: F/20/89500 & planning ref: F/21/91185 respectively).

The CTMP has been prepared in accordance with Transport Assessment Guidance (March 2014) published by the Department for Levelling Up, Housing & Communities and Ministry of Housing, Communities & Local Government. This sets out the requirements for Transport Statements in Chapter 4.

1.2. Report Structure

The report is structured into the following sections:

- **Section 2:** describes the current baseline situation and information on the proposed development and accessibility;
- **Section 3:** outlines the legislation and traffic planning policy context relevant to the proposal;
- **Section 4:** describes the proposed development and relevant traffic and route assessments;
- **Section 5:** describes predicted impact from traffic generation of the proposals through the construction and operational phases;
- **Section 6:** outlines traffic management measures for construction and operation;
- **Section 7:** provides a summary and conclusions; and

Appendix A: Visibility Splays & Swept Path Analysis

2. Baseline conditions

2.1. Site location and local context

The site is located in Eastleigh Borough and is approximately 2km east of Eastleigh, 1km south of Bishopstoke and 1.5km north of West End, Eastleigh. The site is situated within the Eastleigh Borough Council administrative area. The site is split by a Network Rail railway line (the Ferham to Eastleigh) running northwest to southeast and by Allington Lane running north to south.

Figure 1 below illustrates site location and boundary:

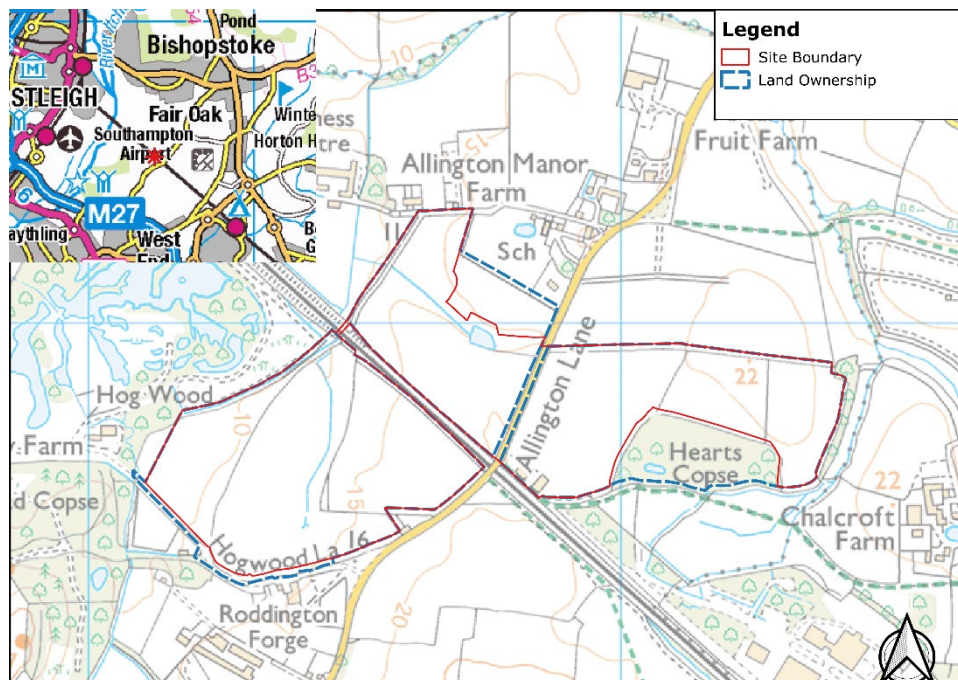


Figure 1 - Site location and boundary plan

The site is located on relatively flat unused agricultural land which was previously predominately used for grazing livestock.

Passing through the site is Allington Lane which connects Fair Oak with Southampton. The site borders more agricultural land to the east and the west is bordered by agricultural land and to the south Hogwood Lane which hosts industrial and agricultural users.

There are a few farmsteads, clusters of buildings and individual properties close to the Proposed Development. Although the land use of the site is agricultural the landscape of site is characterised by existing overhead lines, Chalcroft Solar Farm and the railway line.

The permitted One Horton Heath development, consisting of over 1,000 homes and commercial / community areas, will be located within 1km to the north east of the proposed solar development once completed.

2.2. Local Highway Network

The routes to site reflects the semi-urban location. The M27 is a motorway which runs along the northern periphery of Southampton, providing access and egress to the A27 which serves north and east Southampton, including West End.

Allington Lane is a two-way road which crosses the M27 via a bridge to provide access from Southampton to the northern towns including Fair Oak.

Two proposed traffic and transport routes have been identified and are discussed further in Section 4.2 which avoid routing traffic through the single lane railway bridge on Allington Lane between the two main Site areas. Route A & B are illustrated in Figures 2 & 3 below.

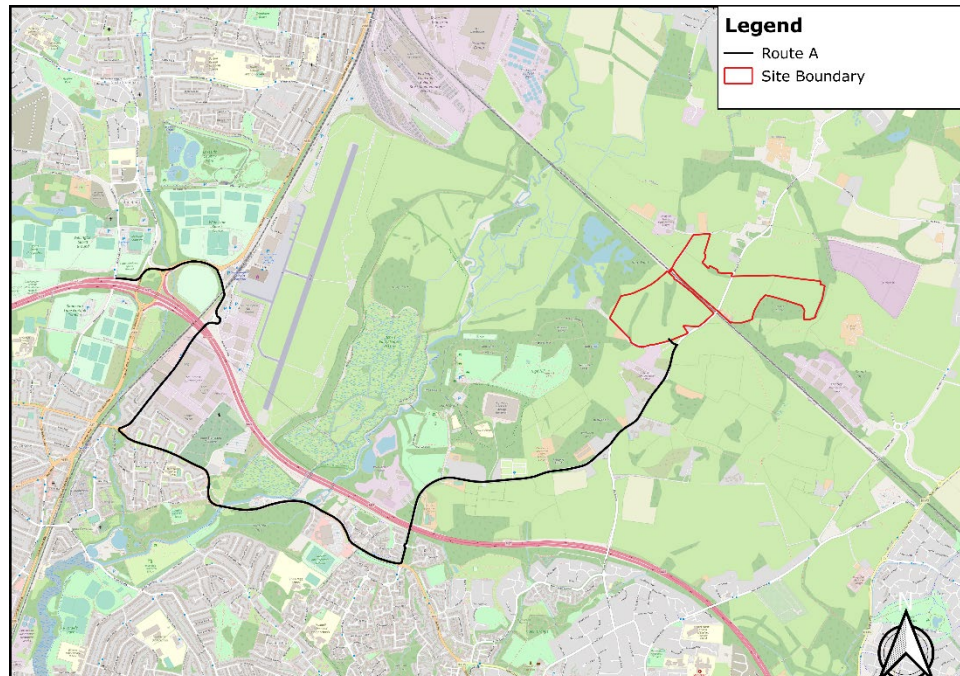


Figure 2: Route to Site A

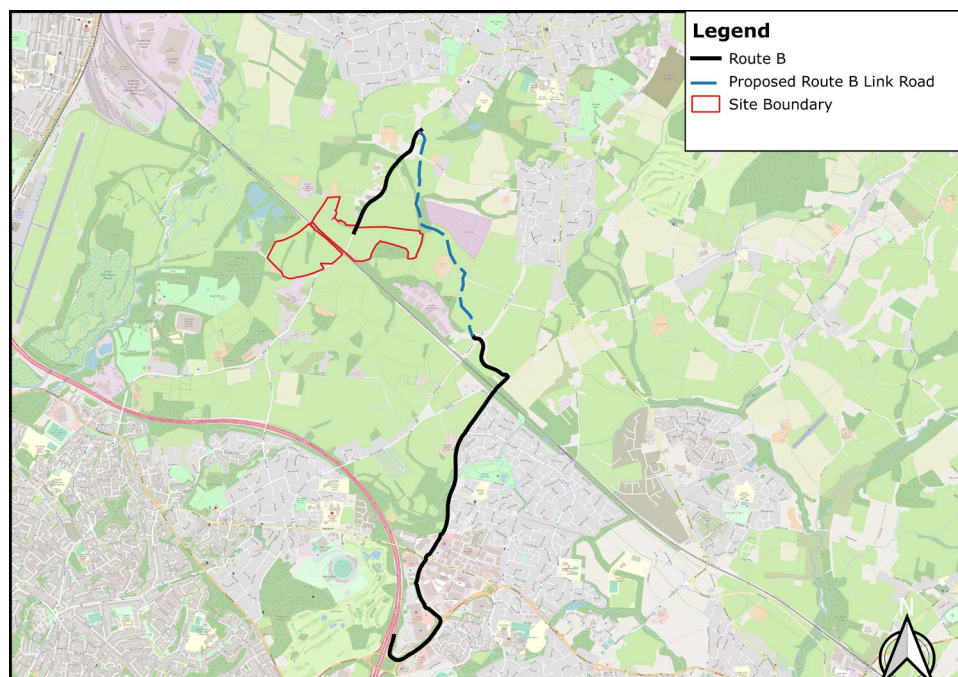


Figure 3: Route to Site B (including proposed F/21/91185 'New Link Road')

2.3. Traffic Surveys

Existing road traffic conditions have been determined through site specific surveys undertaken and publicly available Department for Transport (DfT) traffic counts¹. Table 1 below illustrates the most recent available traffic conditions on the roads within the scope of the route to site. Where the most recent traffic count is noted as 2020, 2019 has been preferred due to 2020 having reduced traffic caused by the Coronavirus Pandemic.

Table 1: Existing DfT Traffic Flow Data

Year	Count Ref	Road	Cars and taxis	Buses and coaches	Light goods vehicles	Heavy goods vehicles	All Motor Vehicles
Route A							
2009	1	Allington Lane	2988	0	442	38	3542
2019	2	A27	6245	34	673	59	7112
Route B							
2019	3	A335	13638	40	2271	509	16601
2019	4	Charles Watts Way	15027	17	3180	616	18964
2019	5	Tollbar Way	5538	32	946	163	6721

The M27 is a Motorway widely used for HGVs and it can be assumed that the development should not have any adverse impact in terms of traffic generation on this major road.

2.4. Road Traffic Collision Data

Road Traffic Collisions (RTCs) that have been registered within the last five years are available on Crashmap² and an assessment has been undertaken on the roads within the scope of the identified routes to site in order to ascertain the risk of collisions within the existing traffic conditions.

The severity of the incidents are classed as either 'slight', 'serious' or 'fatal'. 'Serious' injuries are those which result in hospitalisation or death more than 30 days after the incident. 'Fatal' results in the death of one or more persons at the scene of the collision or within 30 days of the incident. 'Slight' are those which are reported but do not meet any of the above criteria.

2.4.1. Route A RTCs

Route A has been assessed and within the last five years a total of 33 'slight', 16 'serious' and one 'fatal' incident were recorded.

¹ Road Traffic Statistics (2021), Department for Transport, Available at: <https://roadtraffic.dft.gov.uk/#6/55.254/-6.053/basemap-regions-countpoints>, Accessed on 31/08/23

² Crashmap, Available at: <https://www.crashmap.co.uk/>, Accessed on 31/08/23

Throughout the route to site there are no significant clusters noted that would indicate that the existing road network would present high risk areas for the proposed construction traffic. Wide Lane is noted as having 8 'serious' collisions within a relatively short road, these are likely due to increased traffic in the area as it is near Southampton Airport which will be considered further within Section 4.3. Section 6.1.7 shall set out further measures to safeguard traffic on Wide Lane. Given the clear use of these roads by HGVs, as indicated by Section 2.6, it would be reasonable to anticipate the suitability of the roads assessed for HGV delivery traffic. Route A RTCs are displayed in Table 2 below.

Table 2: Road Traffic Collisions along Route A

Road	Slight	Serious	Fatal	'hot spots'	Total
Stoneham Interchange	4	-	-	-	4
A335	1	-	-	-	1
A335 > Wide Lane Roundabout	2	1	-	-	3
Wide Lane	3	8	-	yes	11
Wide Lane > Mansbridge Road Roundabout	-	1	-	-	1
Mansbridge Road	16	4	1	-	21
A27 > Allington Lane Roundabout	3	-	-	-	3
Allington Lane	3	2	-	-	5
Hogwood Lane	1	-	-	-	1
Total	33	16	1	-	50

2.4.2. Route B RTCs

Route B has been assessed and within the last five years a total of 20 'slight', six 'serious' and zero 'fatal' incident were recorded.

Throughout the route to site there are no significant clusters noted that would indicate that the existing road network would present high risk areas for the proposed construction traffic. Given the clear use of these roads by HGVs, as indicated by Section 2.6, it would be reasonable to anticipate the suitability of the roads assessed for HGV delivery traffic.

Route B RTCs are displayed in Table 3 below.

Table 3: Road Traffic Collisions Route B

Road	Slight	Serious	Fatal	'hot spots'	Total
Hedge End Interchange	1	-	-	-	1
Charles Watts Way	1	2	-	-	3

Tollbar Way	12	-	-	-	12
Bubb Lane	2	1	-	-	3
Chalcroft Way	-	-	-	-	-
New 'Link Road'	N/A	N/A	N/A	-	-
Allington Lane	5	3	-	-	8
Total	20	6	0	-	25

2.5. Pedestrian, Cycle Network and Public Transport

An assessment of the Pedestrian, Cycle network and public transport for the routes has been undertaken utilising Eastleigh Borough online maps.

Allington Lane is not suitable for bus transport due to the single lane bridge between the two main site access junctions.

Off-road cycle lanes are present on Wide Lane, Mansbridge Road (A27), Charles Watts Way, Tollbar Way, Bubb Lane and Allington Lane up to the junction for Itchen Valley Country Park. Figure 4 below illustrates the PROWs and other public amenities utilising Hampshire County Council and Eastleigh Borough online maps.

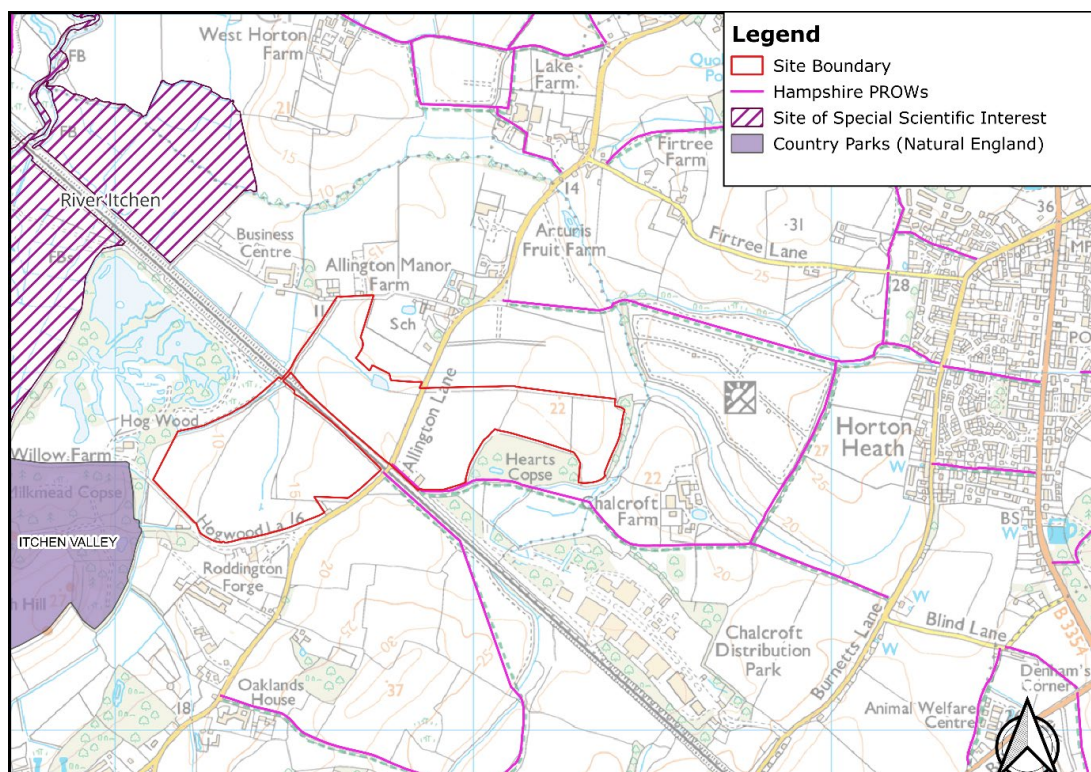


Figure 4: Public Amenities

3. Relevant Legislation

3.1.1. National Planning Framework (2023)

The National Planning Policy Framework (NPPF) is the over-arching national statement of the Government's approach to planning.

The document contains several paragraphs outlining policies in relation to transport provision for new developments.

Paragraph 111 states:

"Development should only be prevented or reduced on highways grounds if there would be an unacceptable impact to highway safety, or the residual cumulative impacts on the road network would be severe".

3.1.2. National Planning Practice Guidance (NPPG) Travel Plans, Transport Assessments and Statements in Decision Taking (2014)

This NPPG seeks to provide clarification on the issues raised within the NPPF in relation to Transport Statements and is a material consideration in the determination of applications. The NPPG defines Transport Assessments and Statements as ways of 'assessing and mitigating the negative transport impacts of development in order to promote sustainable development'.

As set out within the guidance, a Transport Statement primarily focuses on evaluating the potential transport impacts of a development proposal and proposes mitigation measures where these are necessary to avoid unacceptable or "severe" impacts. The guidance highlights a number of principles to be taken into account during the preparation of the Transport Statement, these include:

- Proportionality to the size and scope of the proposed development to which they relate and build on existing information wherever possible;
- Tailoring to particular local circumstances; and
- Works being brought forward through collaborative ongoing working between the Local Planning Authority/ Transport Authority, Transport Operators, Rail Network Operators, Highways Agency where there may be implications for the strategic road network and other relevant bodies.
- NPPG identifies that the scope and level of detail in a Transport Assessment or Statement will be site specific and the following has been considered when setting the scope of the assessment:
- Information about the proposed development, site layout, (particularly proposed transport access and layout across all modes of transport);
- Information about neighbouring uses, amenity and character, existing functional classification of the nearby road network;
- Data about existing public transport provision, including provision/ frequency of services and proposed public transport changes;
- An analysis of the injury accident records on the public highway in the vicinity of the site access for the most recent three-year period, or five-year period if the proposed site has been identified as within a high accident area; and
- A description of parking facilities in the area and the parking strategy of the development.

The trip generation from the operational phase of the Proposed Development will not reach a high enough level to be described as 'significant' as it will be limited to maintenance visits approximately once per month.

Although the guidance states a Transport Statement or Assessment is only necessary when the Proposed Development generates a 'significant' amount of movement, it was considered that an initial Assessment and draft CTMP were required to demonstrate that the traffic impacts of the proposed development were not significant. The Assessment and draft CTMP therefore focus on elements of the NPPG which are relevant to this project, namely to include details of the existing conditions and issues relating to the Proposed Development.

3.1.3. Eastleigh Borough Local Development Plan (2022)

The current Local Development Eastleigh Borough Plan states:

- "All new development must have safe and convenient access to the highway network and make provision for access to, and by, other transport modes including public transport and cycle and pedestrian routes as appropriate. Access arrangements to the highway network must:
 - a. meet national and local guidance and standards with all highway improvements meeting the standard required to be adopted by the Highway Authority;
 - b. not cause or increase danger to road users or have a significant detrimental impact on the operation or safety of the highway network; and
 - c. be provided without unacceptable environmental impact.
- All new development will be assessed to establish whether it should contribute to off-site improvements to transport infrastructure in accordance with Hampshire County Council's Transport Contributions Policy (2007), to the extent that these are necessitated by the development and proportionate to the scale of development.
- Development proposals that will generate vehicle movements likely to have an adverse impact on traffic conditions beyond the immediate vicinity of the development site must be subject to Transport Assessment and will be required to incorporate and implement mitigation measures such as:
 - a. provision of/contribution towards on and off-site highway improvements such as junction improvements and potentially new road links
 - b. on-site pedestrian, cycle and public transport infrastructure
 - c. contributions towards relevant off-site sustainable transport infrastructure, public rights of way and service improvements where appropriate
 - d. on-site measures aimed at increasing uptake of non-car travel options (e.g. Travel Plans⁴⁹) to reduce car use.
- New development intended to serve or accommodate large numbers of people will only be permitted in locations that as well as having adequate road access, or will have as a result of the development, are or can be served by means of transport other than the private car, including bus, train, cycle and pedestrian access."

4. Proposed Development

The proposal is for up to 35MW of solar panels and associated infrastructure. The site layout is shown in Figure 5 below.

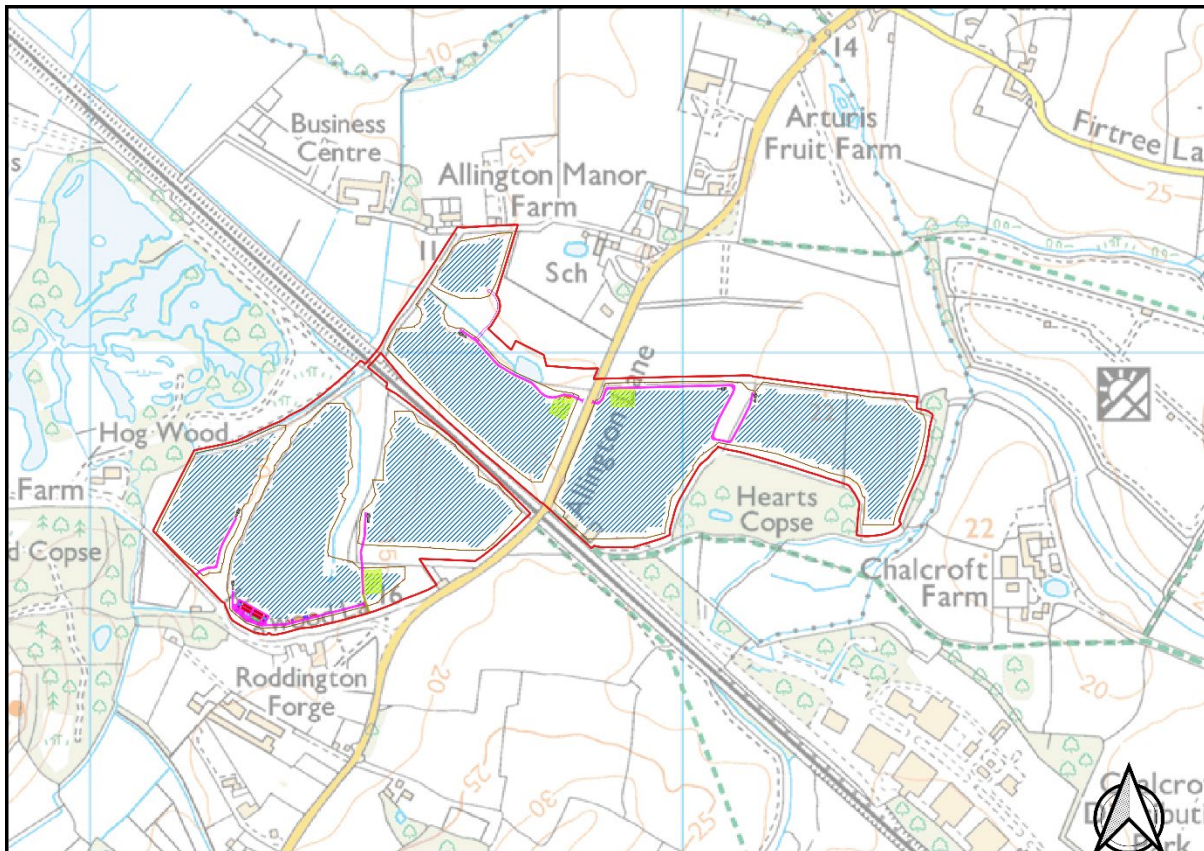


Figure 5: Site Layout

The site will be enclosed by fencing and strategically located security cameras around the perimeter of the site.

A full description of the development is contained within the Planning Design & Access Statement of the planning application.

4.1. Access

The proposals include access from 2 adjacent existing field access points on Allington Lane and 2 points on Hogwood Lane (one existing, one new). Allington Lane is a two-way road and is to be accessed via the A27 to the south and via a new link road to the north. The access points will facilitate the temporary construction and ongoing operational phases of the development.

Whilst there are no significant operational movements anticipated with the development these junctions will be needed to facilitate larger vehicles during construction and as such will be approximately 4m wide tracks abutting the road fronting the site. Whilst the use of the existing farm entrances will be intensified during construction, the operational use will be similar to that of the field access at present which will mainly be for maintenance. The field access point will benefit from a more formalised access provision.

The 4 proposed access points are shown in Figure 6 below.

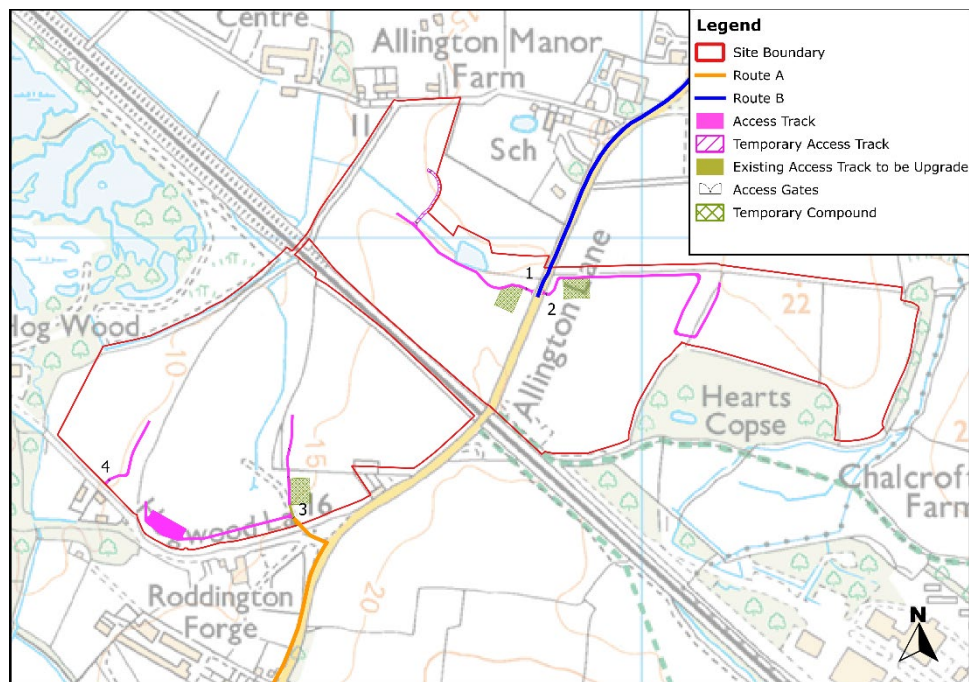


Figure 6: Proposed Site Entrance Locations

4.1.1. Swept Path Analysis / Visibility Splays

Assessments of each entrance point have been completed to determine if visibility splays are achievable/ necessary at each entrance. A setback distance of 4.5m has been used as is standard for roads of this character and speed. For the entrances on Allington Lane, an additional set-back distance of 2.4m has been shown as the initial setback of 4.5m shall require felling of Category B Trees to achieve the 120m visibility. Should the 2.4m setback be preferred due to Arboricultural interests then additional temporary mitigation measures could be introduced to ensure road safety during the construction phase such as a stop sign upon exit of the site, additional signage and if necessary, a reduced speed limit.

It is proposed that in order to safeguard the trees / hedgerows on Allington Lane that the 2.4m visibility splay is adopted, with the added mitigation during construction and benefiting from improved junction width / layout for the operational phase which will consist of a similar trip generation to the existing land use.

Appendix A illustrates the theoretically available visibility for vehicles leaving the access junction while showing the proposed layout is appropriate to accommodate larger vehicle movements (16.5m HGVs). It also shows the indicative form of the access junction demonstrating that the junction layout can accommodate larger vehicles accessing and leaving the site in a forward gear. The access junctions will be wide enough for any leaving vehicle to wait for an entering HGV to ensure traffic is not delayed on Allington Lane.

4.1.2. Access points 1 and 2

Figure 7, Figure 8, Figure 9 and Figure 10 below show the existing road conditions for access points 1 and 2 on Allington Lane southbound and northbound (Google Maps, 2023). The topography of the surrounding area and the straight nature of the road in both directions lend these existing access points being upgraded and used safely by site traffic during construction and operation. The proposed bellmouths will be directly opposite each other and will also act as an effective area to allow traffic to pass each other.



Figure 7: Site Entrance Location 1 (Northbound)



Figure 8: Site Entrance Location 1 (Southbound)



Figure 9: Site Entrance Location 2 (Northbound)



Figure 10: Site Entrance Location 2 (Southbound)

4.1.3. Access Points 3 & 4

Site entrance location 3 is an existing field entrance located on the Hogwood Lane, approximately 20m from the junction with Allington Lane and in clear visibility from the junction. Site Entrance Location 4 is a proposed new access located further west into Allington Lane where public use is limited to a single residential / farm dwelling and Greenspan industrial unit. For these entrance all vehicles will enter from the north and when exiting travel north. The bellmouth of Access Point 4 is wide enough for a vehicle to wait alongside a HGV as this stretch of Hogwood Lane is more narrow, decreasing potential impacts of operational vehicles meeting HGVs.

The visibility splays and swept path analysis for each entrance location are displayed within Appendix A and again, display both a 2.4m setback and 4.5m setback with a view to considering the nature of Hogwood Lane in being a road not used by the general public frequently, allowing more effective mitigation such as reduced speed limits and effective signage. The principal mitigation methods shall be discussed further in Section 6, however the use of Banksmen is envisaged for HGVs exiting the Site Entrances on Hogwood Lane.

Figure 13, Figure 14, Figure 15 and Figure 16 below show the surrounding road conditions for proposed access points 3 and 4 on Hogwood Lane (Google Maps, 2011). The Site Entrance for location 3 is an existing farm entrance and for location 4 will be a new access point. The topography of the surrounding area is flat and both access junctions have good visibility in either direction. The detailed positioning of access point 3 is illustrated within Appendix A.



Figure 11: Proposed Site Entrance Location 3 (Eastbound) – Towards Allington Lane

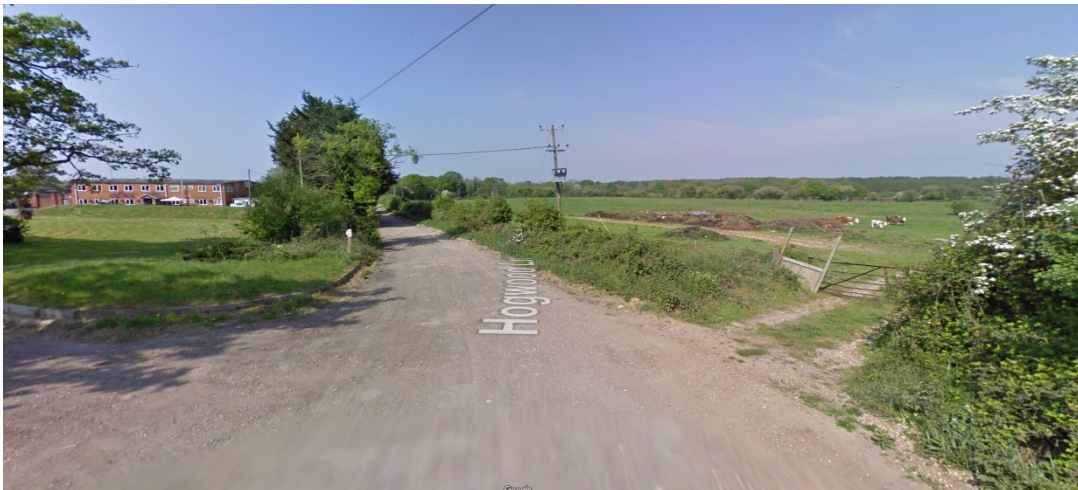


Figure 12: Proposed Site Entrance Location 3 (Westbound)



Figure 13: Proposed Site Entrance Location 4 (Northbound)



Figure 14: Proposed Site Access Location 4 (Southbound)

The northern and southern site access junctions have been carefully engineered in conjunction with the Eastleigh Borough Roads Department guidelines and are better illustrated within Appendix A Visibility Splays / Swept Paths Analysis.

The size of the junction will be reduced following completion of construction activities, with a minimum scale of access retained for maintenance and operational purposes.

4.2. Traffic Routing

The proposed traffic routes have been identified by considering the ability of the routes to physically accommodate the required vehicles, in addition to the sensitivity of the route to potential disruption by the movements of traffic to and from the site. The acceptability of the routes has also been informed using the CTMP for the new Link Road.

There are two potential routes, one from the north and off the M27 via Hedge End and one via Southampton Airport > A27 and Allington Lane. The need for two routes is dictated by the single-track bridge between the Hogwood Lane entrances and the Allington Lane entrances which would make construction traffic routing from the south to the Allington Lane entrances less favourable.

4.2.1. Route A

Route A (illustrated in Figure 2) utilises Junction 5 of the M27 eastbound. It then follows the major road 'A335' onto 'Wide Lane'. 'Wide Lane' then connects onto 'Mansbridge Road' and onto 'Allington Lane' where the southern Access Gates are positioned.

4.2.2. Route B

Route B (Illustrated in Figure 3) is sited in three parts, with access to the northern Access Gates at the Proposed Development. Route B utilised Junction 7 of the M27 onto the 'Charlie Watt's Way'. The 'Charlie Watt's Way' connects to 'Tollbar Way' and travels through the Hedge End Industrial and Retail Park. Tollbar Way then connects to the B3342 and Chalcroft Distribution Park.

There is a proposed Link Road (not shown) suggested between Chalcroft Distribution Park and Allington Lane to the north-east. From Allington Lane, the route enters the Access Gates within the north of the Proposed Development.

4.3. Route Assessment

This route assessment was conducted as both a desk-based exercise and by means of a physical survey. The roads within the vicinity of the site are in good condition, and as Table 3 displays, are in regular use by HGVs.

The load bearing capacity of any bridges or structures has not been measured. As the Proposed Development will not require abnormal roads, any bridges on the main transport network should be capable of carrying all the transport loads.

All traffic management and safety implications will be considered by suitably qualified and experienced personnel when arranging the transit of the loads and can be agreed, secured and implemented through a suitably worded planning condition.

The following roads have been assessed and are found to be suitable for the construction traffic route to Site for the Proposed Development.

Route A

4.3.1. M27 J5 Stoneham Interchange

The Stoneham Interchange is a three-lane roundabout with 3 exits and a 40mph speed limit and is served by traffic lights for traffic management. The lanes are clearly painted with dash road markings have an approximate length 3.65m and two lanes serve the A335, towards Southampton Airport.

4.3.2. A335 Eastbound

HGVs will take the second exit on the Stoneham Interchange and enter the A335 Eastbound. The A335 is a rural A Class road with an approximate total width of 7.3 m which is host to clear dash road markings. Vehicles will be subject to a 40mph speed limit. The A335 leads into Southampton Airport and Wide Lane. There is no pedestrian footway noted and the road is mainly bounded by a verge and hedgerows.

4.3.3. Wide Lane (A335) Southbound

The A335 continues on to Wide Lane via a single lane roundabout, which HGVs shall take the second exit on to lead on to Wide Lane (A335) which is a two-way single lane road with painted road markings and approximate lane width of 3.65. The speed limit continues to be 40mph and there is a pedestrian footway on the southbound side of the road. Wide Lane then continues south via a two-lane roundabout adjacent to Southampton Airport and then continues on, now with two pedestrian footways either side.

Wide Lane reduces to a 30mph speed limit approximately 350m from the two-lane roundabout upon entering a residential / industrial area. Wide Lane continues on similarly until the two-lane roundabout which leads on to Mansbridge Road.

4.3.4. Mansbridge Roads (A27) Eastbound

HGVs will take the first exit at the two-lane roundabout to enter Mansbridge Road (A27) eastbound which is a two-way single lane road of approximate lane width of 3.65 and a speed limit of 30mph. The road markings are clear and there is a persistent pedestrian walkway on either side of the road, reflecting the residential nature of this stretch of the road. The road here also passes a school area which will be assessed and considered in Section 5. Mansbridge Road then becomes less residential and the speed limit increases to 40mph and a bridleway is located adjacent but off-road. Mansbridge Road continues on through some more residential areas towards Allington Lane.

4.3.5. Allington Lane Northbound

HGVs will take the first exit at the single lane roundabout and continue northbound on Allington Lane. Allington Lane is a 40mph, single lane, two-way road with clear road markings with a bridleway adjacent which crosses the M27 over a bridge. Allington Lane then continues on northbound and the bridleway discontinues towards Itchen Valley at the junction with Itchen Valley Country Park. Allington Lane continues through a residential area which is marked for horse riding, northwards into a more rural area and towards the site. The pedestrian walkway continues on the northbound side of the road until the junction with Oaktree Park where it then stops and Allington Lane continues as a predominantly rural road until the junction with Hogwood Lane.

4.3.6. Hogwood Lane

HGVs make a left turn into the wide-access junction to Hogwood Lane which is an unclassified single-track road, predominantly serving industrial units and a single farmstead at the road end. The lane width of Hogwood Lane varies in places and is estimated to be c.3.65m with some narrower sections. There are passing places suitable for HGVs and the road is bounded by hedgerows and tree belts, along with some industrial borders. Hogwood Lane does not have a recognised speed limit and does not host any road markings. Hogwood Lane is currently in use by industrial works and is suitable for HGVs with appropriate mitigation such as banksmen being used for peak delivery periods.

Route B

4.3.7. Hedge End Interchange Junction 7 Southbound

HGVs will exit the M27 via Junction 7 southbound towards Hedge End Interchange. Hedge End Interchange is a three-lane roundabout controlled by traffic lights, with lane widths of approximately 3.65m. Towards the motorway the road widens to become three lanes, with the left-hand lane becoming a priority junction with Charles Watts Way as a left turn only lane. The speed limit is not marked and is therefore assumed to be 60mph.

4.3.8. Charles Watts Way (A334) Northbound

HGVs will travel northbound on Charles Watts Way, which is initially a three-lane road with bounded by a tree belt on to the west and a central reservation to the east with an estimated lane width of 3.65m, which then decreases to a dual-carriageway with a 40mph speed limit. HGVs will continue north towards a two-lane roundabout towards Fair Oak.

4.3.9. Tollbar Way (B3342) Northbound

HGVs will take the first exit from the two-lane roundabout onto Tollbar Way which is a similar dual carriageway to Charles Watts Way, with the addition of an off-road bridleway on the left-hand side of the road. HGVs will continue along, passing through roundabouts to continue on Tollbar Way, which shortens to single carriageway following the roundabout with Botley Road until they reach the roundabout with Chalcroft Way.

4.3.10. Chalcroft Way Westbound

HGVs will access Chalcroft Way via taking the first exit on the two-lane roundabout from Tollbar Way, following signs for Chalcroft Business Park. Chalcroft Way is a single carriageway with a 40mph speed limit and an approximate lane width of 3.65m. Chalcroft Way westbound is bounded by the road verge / grassy field. HGVs will continue on Chalcroft Way until they reach the roundabout with Burnetts Lane and Chalcroft Business Park.

4.3.11. New Link road (Under Construction) Northbound

HGVs will enter the new link road via the second exit of the roundabout onto a single carriageway road which is currently under construction. The details of the road can be found within the previously stated planning reference and this road shall be operational and fit for HGV use for the commencement of deliveries at the proposed development.

4.3.12. Allington Lane Southbound

HGVs will enter Allington Lane Southbound via the roundabout to link the new link road to Allington Lane, taking the first exit to join Allington Lane southbound. The conditions of Allington Lane are similar to the pre-described Allington Lane northbound in Section 4.3.5.

4.4. Internal Access Tracks

The internal access site tracks have been designed in order to efficiently allow access to essential site infrastructure. The site access tracks will contain approximately 1,250 m of new access tracks of approximately 4.0m width. There is also a provision of utilising existing farm tracks for approximately 30 m which may require upgrading to approximately 4.0m width and the use of temporary tracks for non-intrusive passage through sensitive habitats. The internal access tracks and site infrastructure are illustrated in Figure 3.

5. Traffic Impact

5.1. Construction phase

Construction of the Proposed Development is anticipated to occur over an eight-month period for the purposes of this assessment. It is expected that any variation in the detail of the proposed construction timetable will be reflected in the final detailed CTMP which can be controlled by a suitably worded planning condition. During this period, there will be a combination of HGVs (for the module and material deliveries) and cars / vans (for construction staff) on site. HGV movements are likely to be the most intense through the beginning of construction, decreasing in numbers towards the closing weeks. Car / van movements are likely to be continuous throughout.

5.1.1. Site Mobilisation and Demobilisation

At the commencement of the construction phase there will be a necessity for plant, equipment and facilities to be transported to site and temporary construction compounds will be created. This phase is anticipated to require up to 20 HGV deliveries or 40 HGV movements.

During the demobilisation phase, following construction, a similar number of vehicle movements are anticipated.

5.1.2. Access Track (including upgrades), Construction Compounds & Hardstands Concrete Deliveries

The access track and construction compounds are estimated to have an approximate area of 8420m² of type 1 aggregate, assumed to have a depth of 0.4 m for the purposes of this assessment and so a volume of 3705m³ (with a 10% contingency). It is assumed that the aggregate shall be delivered to Site via a tipper lorry with an assumed capacity of 9 m³ which will result in 412 vehicle loads or 823 overall vehicle movements.

5.1.3. Substation, Ancillary Compounds, Fencing and Cabling

Construction of the substation and ancillary compounds will initiate once the access tracks and temporary construction compounds are complete. This will require bulk delivery of materials as foundations are already accounted for in Section 5.1.2. These elements are assumed to require 40 HGV deliveries or 80 HGV movements.

5.1.4. Frames, Inverters and Electrical Buildings

The solar array will be ground mounted, and each string of panels will be supported on a frame. Electrical invertors and additional equipment will be imported and fitted with the panels. Approximately 58 HGV deliveries are needed for the frames and inverters, resulting in 116 HGV movements.

5.1.5. Solar Panels

Solar panels are assumed to be transported within the maximum HGV size of 16.5 m length. It is assumed that 400 panels can be delivered per HGV load. As circa 53,000

individual panels are required, 133 deliveries are anticipated for the solar panels, causing 360 vehicle movements.

5.1.7. Staff

Staff attendance is expected to vary throughout the construction phase depending on operations. A worst-case estimate of staff numbers has consequently been made. During site mobilisation and preliminary enabling works an average of 15 construction personnel will be present on site, resulting in 30 vehicle movements per day.

During the peak construction phase on average 25 construction personnel will work at the site. This would result in a maximum of 50 vehicle movements per day.

These estimates do not take into account likely streamlining due to car sharing.

5.1.8. Fuel

Fuel for plant will be required on site regularly throughout the construction phase, this is estimated to require one HGV movement per month or two vehicle movements per month.

5.1.9. Construction Traffic Volume

These expected construction traffic volumes are provided in Table 4 below.

Table 4: Estimated construction Traffic Volumes

Activity	Number of Trips	Movements
Mobilisation / Demobilisation	20	40
Access Tracks, Temporary Compounds & Hardstands	412	824
Substation, Ancillary Compounds and Cabling	40	80
Frames, Inverters & Electrical Buildings	58	116
Solar Panels	133	360
Fuel	8	8
Total	671	1342

It is possible that additional site visits may be required due to unforeseen circumstances and weather conditions. Therefore, these estimates are given only as a guideline to the impacts of the development traffic on the existing road network. Assuming a 26-day working month, over an eight-month construction period an average **peak month** daily HGV delivery estimate is anticipated, taking into account contingency, to be **six** HGV deliveries (**12** HGV movements).

The peak delivery months are estimated to be the first three months while the access tracks and compounds require concrete delivery. The remainder of the construction phase will require the delivery of electrical infrastructure and solar panels and would result in an estimated average of 2 deliveries per day.

It is also estimated that a maximum of 15 daily construction staff vehicle movements will occur during the peak months, although car sharing may streamline this figure. Construction staff will travel to site in vans and cars (light-goods vehicles -LGVs) and these vehicle movements are not assessed above due to the existing use of the road

infrastructure by similar vehicles. Therefore, the **peak** daily motor vehicle movements (HGVs + LGVs) is anticipated to be 42.

5.1.10. Traffic Flow Study

It is noted that the Hogwood Lane does not have traffic count data, however given the road is currently in use by industrial traffic, and public use of the road is likely to be limited to one farmstead, careful delivery monitoring and consultation with the road-end user at Hogwood Lane should be sufficient to allow the use of the road by the proposed development. This will be expanded upon in Section 6.

While this project has been assessed as not requiring an EIA, the standards set for assessing road traffic are a useful gauge and will be applied to the Proposed Development. The Institute of Environmental Management and Assessment (IEMA) has set out Guidelines for the Environmental Assessment of Road Traffic³ which states that further assessment is required for a proposed developed should traffic on routes be predicted to rise by 30% or more.

Therefore, the available traffic count data can be analysed to indicate whether the average peak daily HGV trip estimate would have a significant impact to the roads. This calculation is displayed below in Table 5 and convey that the highest impacts would be to Allington Lane but would fall short of the IEMA threshold of requiring further assessment. Furthermore, the development is essentially split in two by the bridge on Allington Lane and so delivery intensities for most of the haul route would likely roughly be halved dependant on construction timetabling.

Table 5: Peak Daily HGV Traffic Impact Calculation

Year	Count Ref	Road	Cars and taxis	Buses and coaches	Light goods vehicles	Heavy goods vehicles	All Motor Vehicles	% Daily HGV Increase during Peak Months
Route A								
2009	1	Allington Lane	2988	0	442	38	3542	16
2019	2	A27	6245	34	673	59	7112	10
Route B								
2019	3	A335	13638	40	2271	509	16601	1
2019	4	Charles Watts Way	15027	17	3180	616	18964	<1
2019	5	Tollbar Way	5538	32	946	163	6721	4

³ Guidelines for the Environmental Assessment of Road Traffic, IEMA (1993) Available at: https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/dc/df/dcdfa287-b475-4fbb-bd4e-a1e96b06be5d/cd71-guideline-for-the-environmental-assessment-of-road-traffic-institute-of-environmental.pdf, Accessed on 07/11/23

5.2. Operational phase

The operational phase of the solar farm is anticipated to have negligible trip generation potential with approximately 15 - 20 Light Goods Vehicles (LGVs) expected every year for scheduled maintenance checks, with additional visits required to attend to remedial issues when necessary. The operational access point for the solar farm will use the same entrance to the site as during the construction period.

5.3. Decommissioning Period Traffic Management

The number of HGVs required for the decommissioning period will be slightly higher than the construction phase due to the materials not being as neatly packed as when shipped from factory conditions. Whilst the construction phase had a total of approximately 1392 movements, the decommissioning phase will have a total of circa 1932 movements assuming tracks and aggregate are to be removed (estimate includes a 10% increase on the construction stage). This will be subject to a detailed decommissioning, restoration and aftercare plan but the likely increase is not considered to be significant at this time and shall be subject to further studies closer to this phase of the Proposed Development.

6. Traffic Management Measures

Construction vehicular traffic will be controlled through an approved Construction Traffic Management Plan (CTMP), which will confirm the route that should be used during construction activities based on the planning consent details.

The CTMP will be adhered to by the Contractor and approved through condition in advance of any construction. It is proposed that any requirements for the CTMP can be conditioned as part of the planning consent and a document submitted to Eastleigh Borough Council for agreement once an approved contractor is appointed. The expected measures that may be included within the CTMP are set out below.

6.1. Draft Construction Phase Traffic Management

6.1.1. Reduction / control of imported material

Concrete for the site will be batched offsite and transported to the Proposed Development. The concrete will be sourced locally where possible, utilising local contractors.

In addition to any import of material, upon appointment the Main Contractor shall be committed to re-using materials, such as site won soil and any additional aggregates uncovered during the course of the work (traditional cut and fill approach). This material will be stockpiled, and the majority used to landscape the site on completion of the construction activities.

6.1.2. Delivery control methods

The Principal Contractor (PC) will be required to plan and manage deliveries and collections from the site to minimise the impact on the surrounding road network and to minimise the impact on the local community. The PC, in conjunction with the Main Contractor will implement and continuously review the following measures:

- The quantity of delivery trips shall be minimised through a mixture of consolidated ordering, streamlining suppliers, and consolidated deliveries.
- Southampton airport peak times to be assessed and avoided where possible to minimise traffic on Wide Lane.
- On-site waste shall be minimised through recycling and re-use to reduce the number of collections from site.
- If possible, the PC will utilise aggregates earned from the site in order to decrease traffic flow.
- During peak construction stages, deliveries to the site will be controlled, with drivers given particular time windows for arrival on-site. The release of vehicles from the site would also be controlled to prevent large convoys of vehicles.
- Review of delivery times considering aspects such as school holidays, events in the local community, waste pickups and commercial / residential road users.
- Queuing traffic on the surrounding road network shall be given priority.
- A hierarchy of road priority is given to pedestrians and then cyclists, albeit these are not anticipated to use the roads in question surrounding the Proposed Development in significant quantities.

6.1.3. Temporary Construction Compounds

Up to three temporary construction compounds may be required during the construction phase of the Proposed Development. The proposed location of the compounds is shown on Figure 1. The compounds will likely contain the following:

- Temporary site facilities (Port-a-Cabin type) to be used for site office and welfare facilities, including welfare facilities with provision for sealed waste storage and removal.
- Container storage unit(s) for tools and equipment storage.
- Container storage unit(s) for components and materials.
- Refuelling compound for construction vehicles and machinery.
- Chemical toilets.
- Adequate parking area for cars, construction vehicles and machinery.
- Designated skips for construction waste.
- Wheel washing facility.

6.1.4. Sustainability approach

The PC, in conjunction with the Main Contractor will plan and execute construction with a demonstrably high regard to sustainability. The following objectives will be set in place:

- Minimisation of vehicle movements to / from the site.
- Promotion of shared transport arrangements for construction staff.
- Thorough pre-planning of operations on-site to optimise the redistribution of earthworks materials together with minimisation of haul distances.
- Reduce the amount of aggregates used on-site by means of alternative construction techniques.
- Apply a reduce-reuse-recycle philosophy to all waste processing activities.

6.1.5. CTMP procedures dissemination

All site staff and contractors traveling to the Proposed Development will be informed about the CTMP and the required transport procedures via several communication channels, such as emails, site safety inductions, information packs and direct one-to-one conversation. Each communication channel will require the staff member or contractor to recognise and accept the associated rules and procedures of the CTMP.

Updates, general advice and guidance will also be disseminated in a controlled fashion. Staff or those accessing the site on an ad-hoc basis will also be provided with the CTMP and the required transport procedures. It is the direct duty of the PC to provide all site staff and contractors with the CTMP and the required transport procedures for the Proposed Development.

6.1.6. Development traffic restrictions

The 'core' hours of site works are to be between 07:00hrs and 19:00hrs Monday to Friday and 08:00hrs to 16:00hrs on Saturdays.

The purpose of this restriction is to find a balance between progressing construction at an acceptable level, while minimising the impact upon the local community.

The majority of deliveries will be undertaken to coincide with the 'core' working hours highlighted above.

Whilst there may be exceptions to the above restriction, such as maintenance, dust suppression, and the testing of plant and equipment. These are likely to be limited in number and therefore will not have significant impact on the local community.

6.1.7. CTMP designated route and signage

The route to site will be disseminated through engagement with each staff member/contractor and through appropriate temporary traffic signage. The designation of this route through engagement and temporary traffic signage will ensure that wayfinding is effective and that the correct route for vehicles accessing the site is used.

Temporary traffic signage will be erected on the Allington Lane, the A27/ Allington Lane roundabout, the new link road/ Allington Lane Roundabout and Hogwood Lane.

The temporary traffic signage will provide all road users with the appropriate information to maintain road safety and efficient travel along the designated route.

Signage will be erected for Wide Lane as this has been identified as a 'hot spot' for RTCs within the last 5 years within the haul route.

6.1.8. Wheel Washing & Dust Suppression

To reduce mud and debris being deposited onto the local road network in the vicinity of the Proposed Development, means of wheel cleaning will be used which will comprise manual and mechanical cleaning as needed. This will minimise the amount of material and dirt deposited on the road surface. The Main Contractor will be responsible for implementing and managing the wheel washing facility. The targeted use of road sweepers may also be deployed in order to reduce network debris across the local network.

To reduce the amount of dust created by the works, site tracks are to be dampened down using a bowser or other suitable system (dependant on the season) and a road sweeper is to be utilised to remove loose material from highways during construction. Furthermore, all delivery lorries loaded with dry materials are to be sheeted to reduce dust and prevent spillage onto private roads.

6.1.9. Staff travel and parking arrangements

Given the rural location of the Proposed Development, site staff are likely to travel to site via cars, crew vans / buses. With various skillsets required for the construction phase, and given the rural setting of the site, it may be difficult for the Main Contractor to source all the required labour for the site locally (within walking/cycling distance or on a bus route). Therefore, a percentage of site staff will temporarily reside within the immediate area (hotels / B&Bs) during the construction phase. Car sharing and crew vans / buses will naturally form part of the travel plan as site staff are grouped together in hotels and B&Bs.

No parking or stacking of delivery vehicles will take place on the public road network. All parking arrangements will be self-contained within the site compounds. All site staff and contractors will be provided with direct guidance on this specific parking rule during the site safety induction. The PC will reinforce parking rules during regular engagement sessions with site staff.

The PC will implement a range of actions to promote car sharing and the use of crew vans / buses including:

- Proactively position site staff within the same hotels and B&Bs to create natural car and crew van sharing schemes, ideally with as many passengers as possible.

- Providing direct resources towards facilitating travel by crew vans and mini buses.
- The dissemination about travel options via staff induction, letter, and memos – displayed in staff communal areas at the site.
- Conducting workforce planning to facilitate car sharing and the use of crew vans / mini buses.

6.1.10. Route for emergency vehicles

Emergency vehicles will require to follow the same access route as other vehicles accessing the site without the restriction of using the railway bridge if travelling south from the Allington Lane entrances. The nearest hospital to the site is Southampton General Hospital which is situated in Southampton which has been assessed within the route to Site. Emergency vehicles would travel East on the along the route to Site for approximately 11 km and via the designated access route to reach the site.

6.1.11. Road Condition Surveys

The Applicant will instruct surveys before and after the construction phase on the condition of the roads to be utilised by construction traffic 200 m either side of each Site Entrance. The Applicant will be liable to repair any damage to the roads attributed to the Proposed Development.

7. Conclusions

The site has been assessed for potential impacts of construction traffic on the surrounding road network and has been informed by recent CTMPs including planning ref: F/20/89500 & planning ref: F/21/91185.

The dual haul route was determined upon after assessing the rail bridge on Allington Lane as being sub-optimal for routing HGV traffic. Both routes have been assessed as appropriate within the aforementioned planning applications. The new link road presents an ideal link to the north of Allington Lane to avoid routing traffic through the constrained bridge.

The haul route road width, structure, traffic count data and road traffic accident data have all been analysed and there are no significant effects to the road network which connects the Site to the M27.

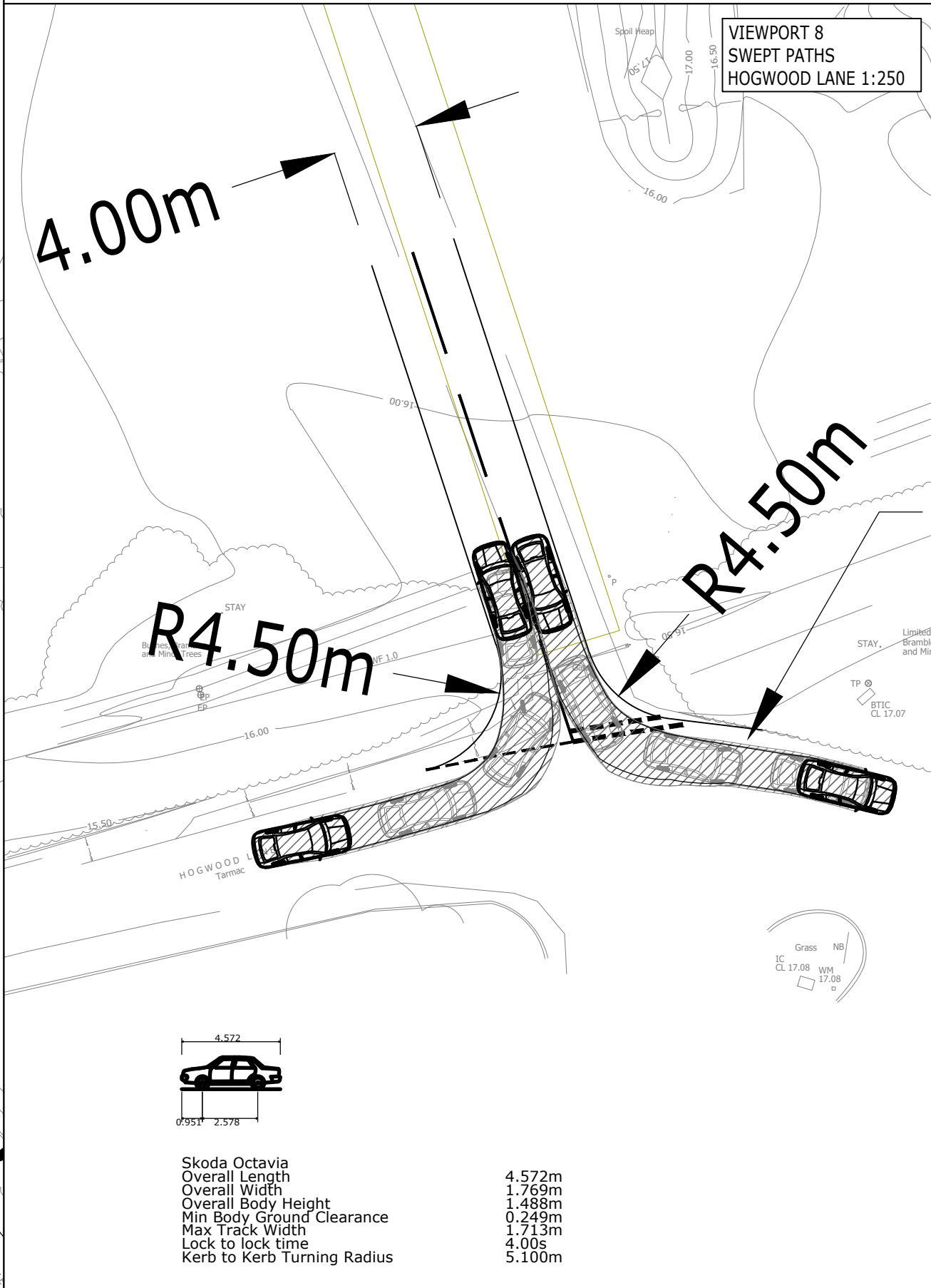
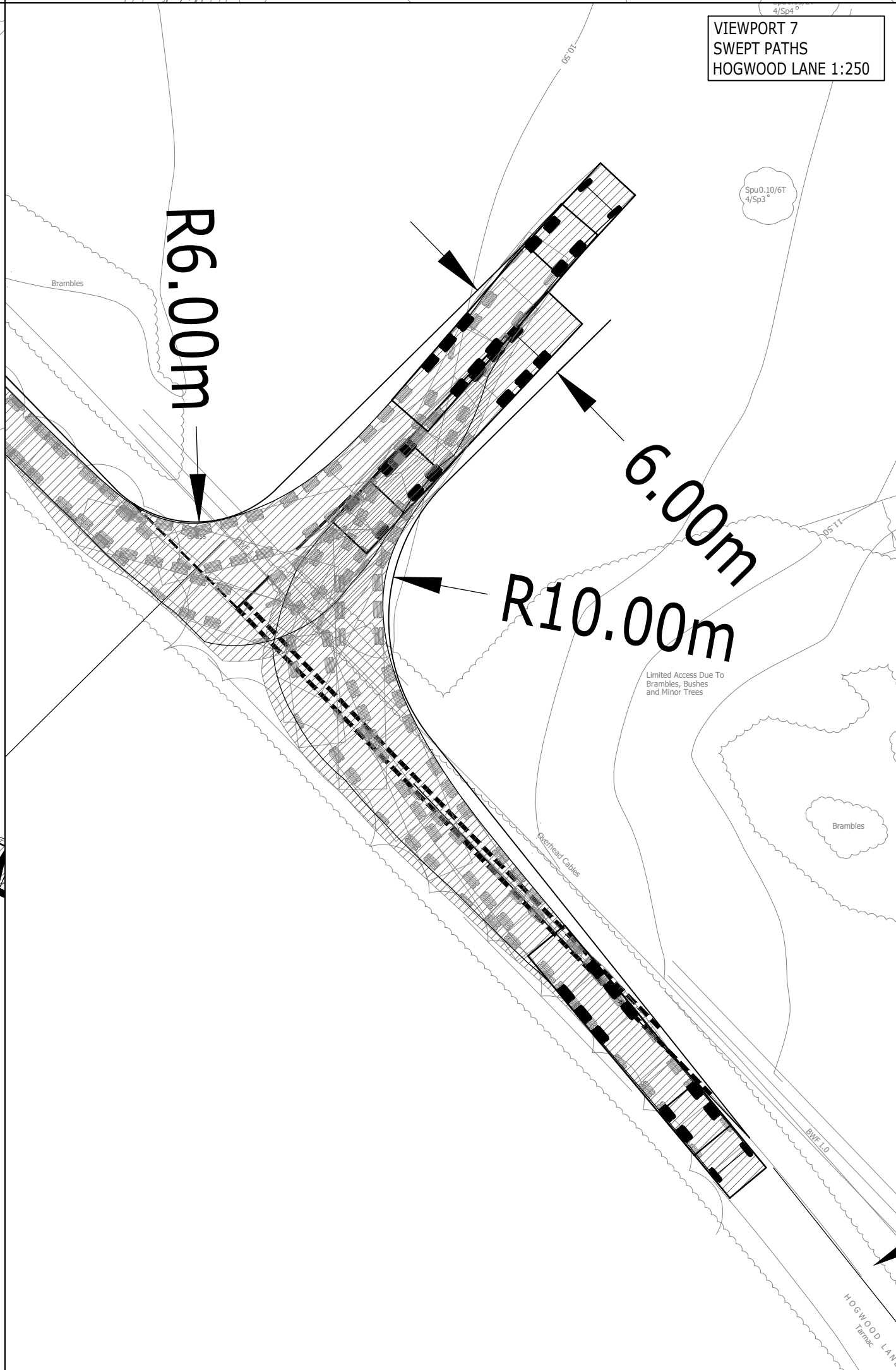
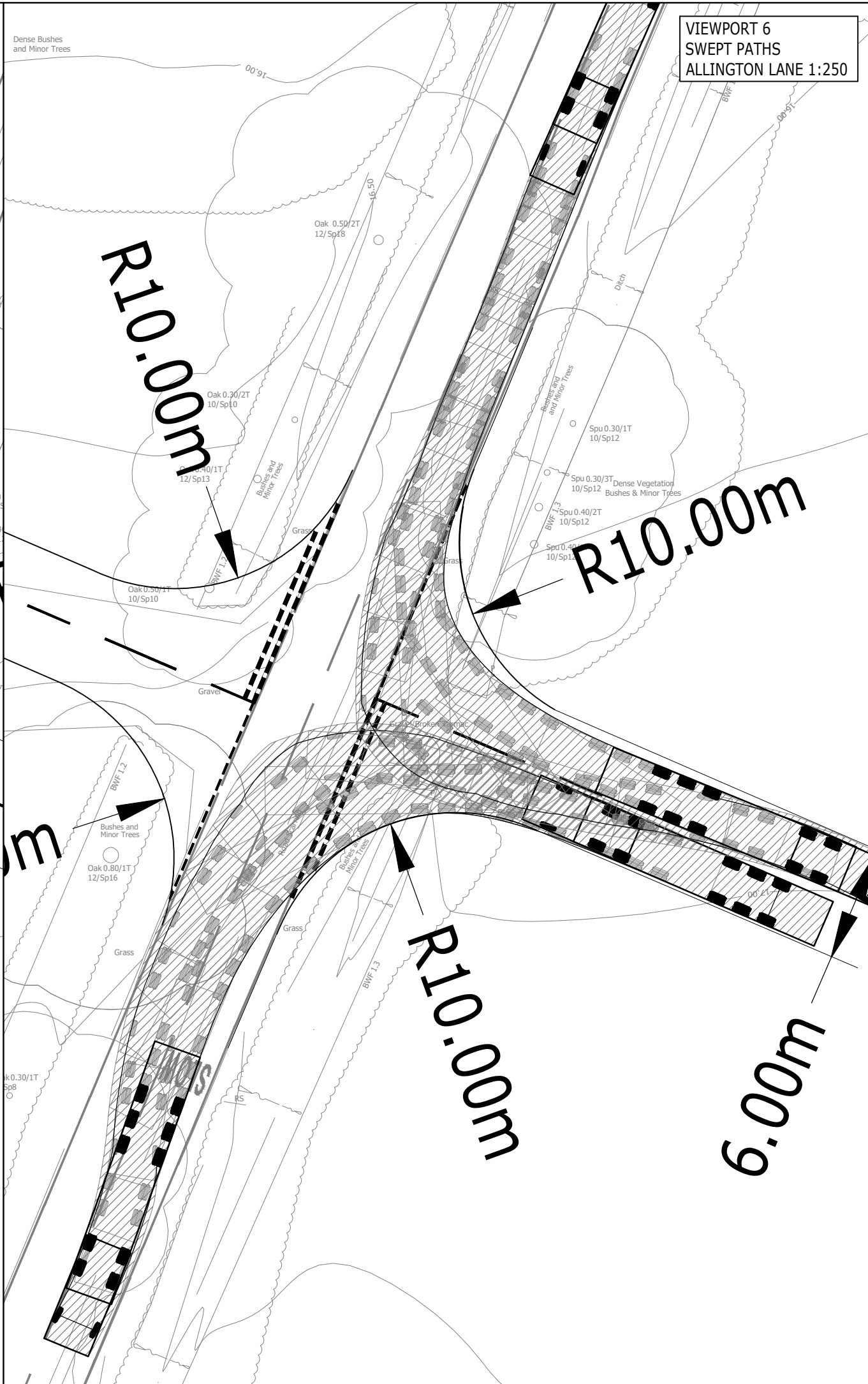
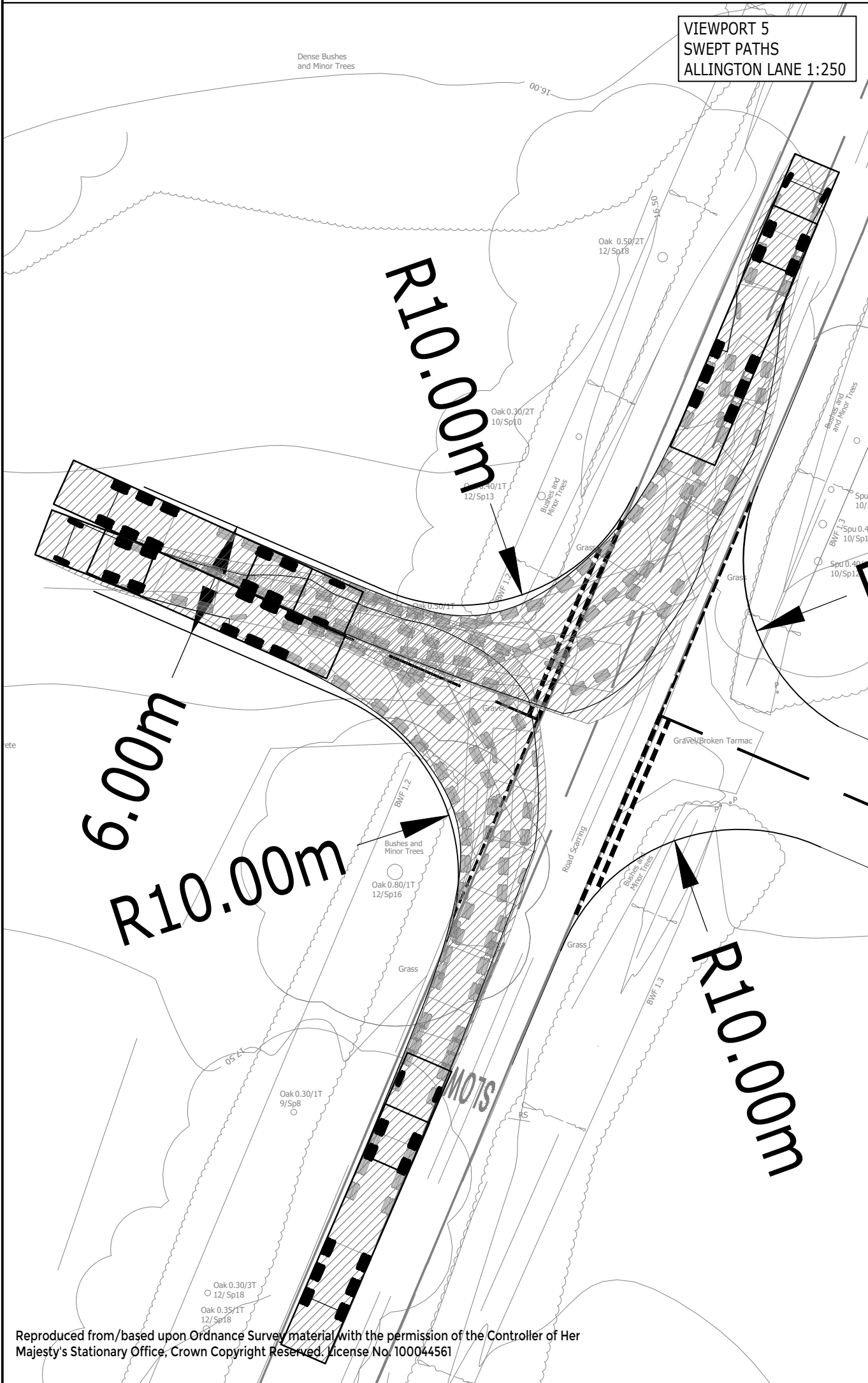
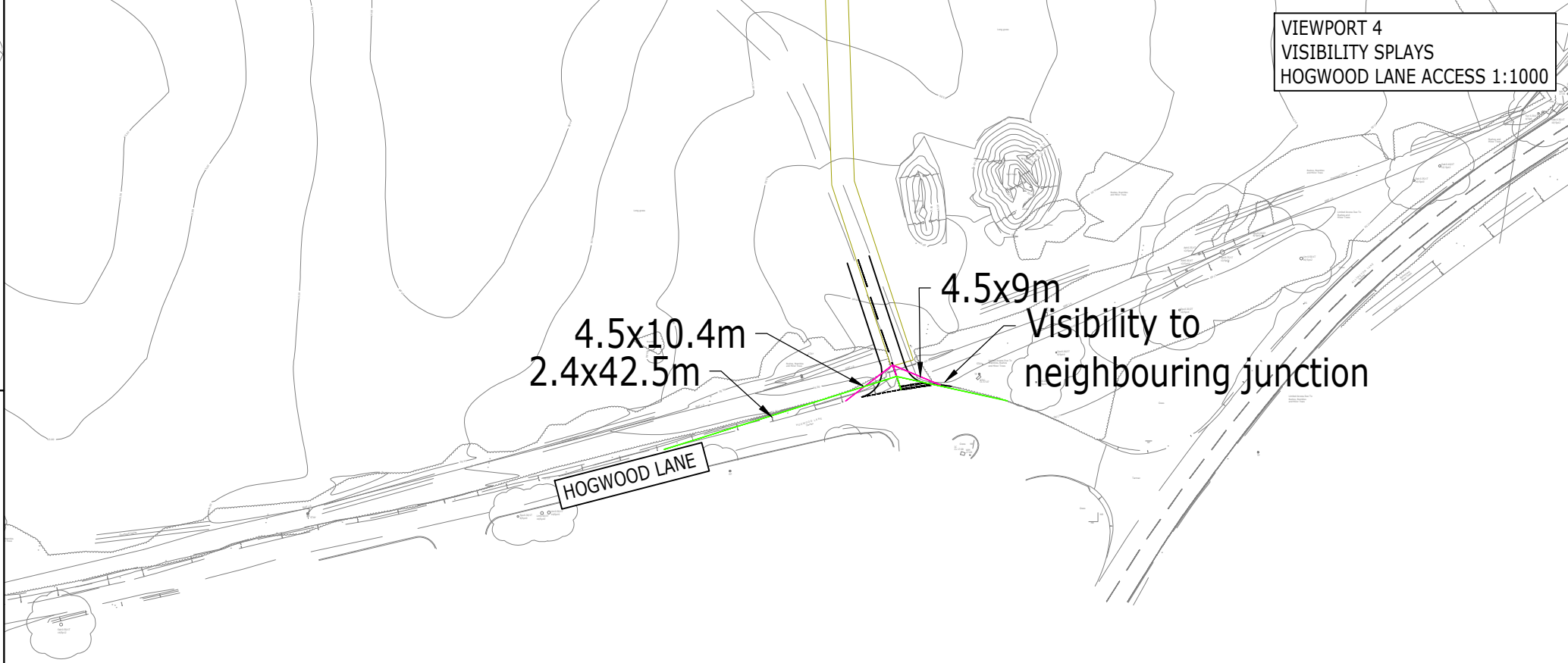
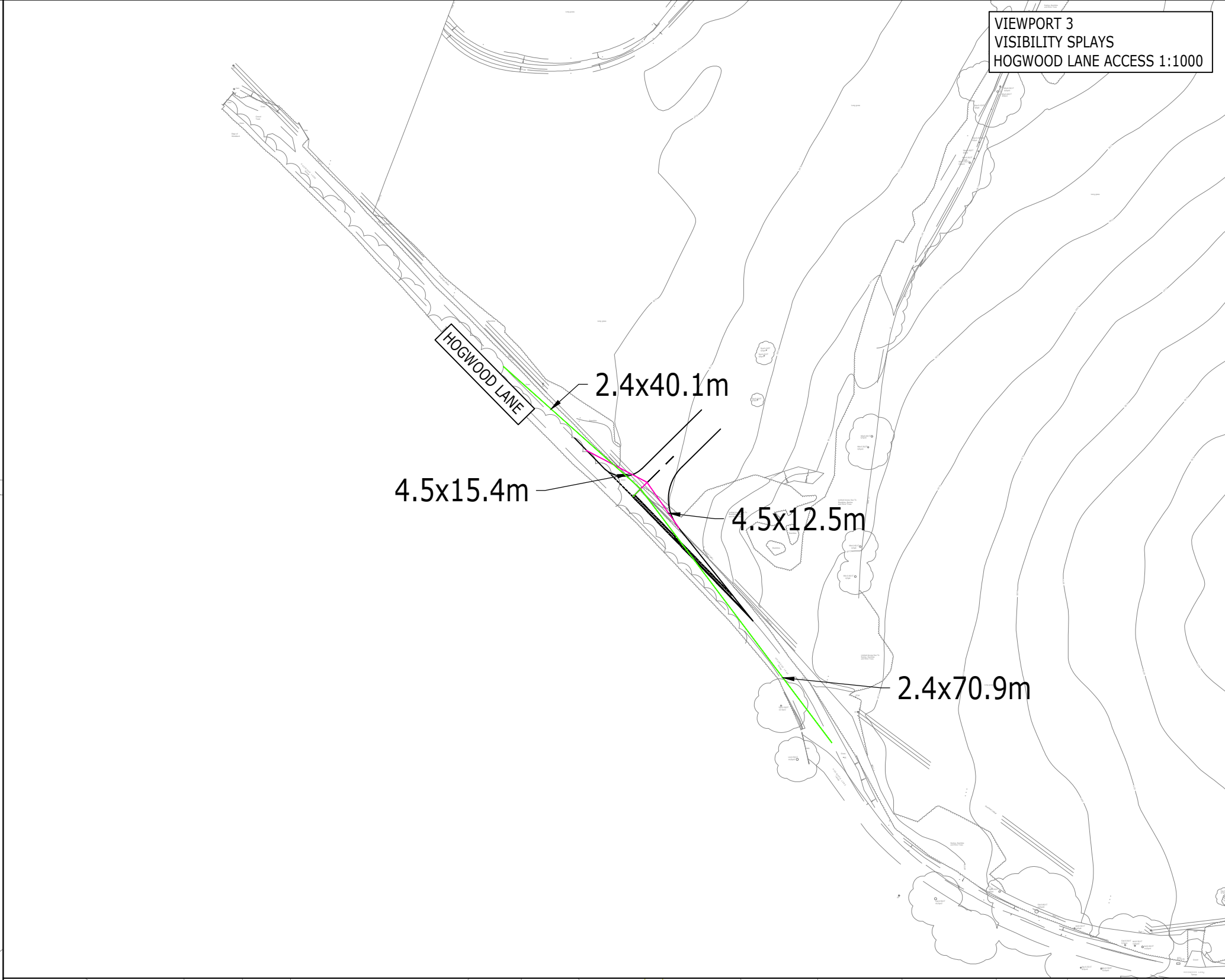
Given the rural landscape and particularly flat topography on Allington Lane, visibility and swept path of the site access junctions have been assessed and engineered to obtain a safe and practical site access arrangement. Hogwood Lane has been assessed to be unsuitable for public use except by specific road end users and so the maximum visibility achievable has been reached for the two site entrances which, along with consultation with road users will allow safe use by HGVs.

The operational use of the site is estimated to be 15 – 20 LGVs per year which is considered acceptable and a betterment to common alternative land uses such as housing development and agricultural land.

The daily peak average HGV trip has been estimated to be six, which in the context of the haul route is considered safe and acceptable impact for the construction phase of the development.

Construction Traffic Management measures have been suggested in outline the form of the draft CTMP within Section 6. A more detailed version of the CTMP can be agreed with the planning authority prior to the start of construction and can be secured through the use of suitably worded planning conditions.

Appendix A. Visibility Splays/Swept Path Analysis



VEHICLE USED:

KEY:

4.5m x 120m VISIBILITY SPLAYS

4.5m VISIBILITY SPLAY TO MINIMISE LOSS OF FOLIAGE

2.4m VISIBILITY SPLAY TO MINIMISE LOSS OF FOLIAGE

C	Final client comments	B.E-N	RH	RH	16.11.23
B	Client comments	B.E-N	RH	RH	15.11.23
A	Client comments	B.E-N	RH	RH	09.11.23
Rev	Description	Drn	Chk	App	Date

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Client: **LOCOGEN**

Project Title: **ALLINGTON LANE, EASTLEIGH**

Drawing Title: **PROPOSED ACCESS VISIBILITY AND SWEEP PATHS**

A1 Scale	Date	Designed by
	AS SHOWN	RN
Drawn by	Checked by	Approved by
RN		
Drawing Number	2306680-D001	
	Rev	C