Construction Traffic Management Plan for the Planning Application for Solar Development and Associated Works.

Land West of Boxted

On behalf of RES Ltd

Date: 30 October 2023 | Pegasus Ref: P21-2950-TR-R01A

Author: EH

Document Management.

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A	30/10/2023	EH	JB	Final Issue

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Appendices contents.

1. Introduction

1.1. This Construction Traffic Management Plan (CTMP) has been prepared by Pegasus Group on behalf of RES Ltd (the Applicant) in order to consider and address where appropriate the traffic and transportation matters associated with the construction of a new solar farm on land west of Boxted, in Suffolk.

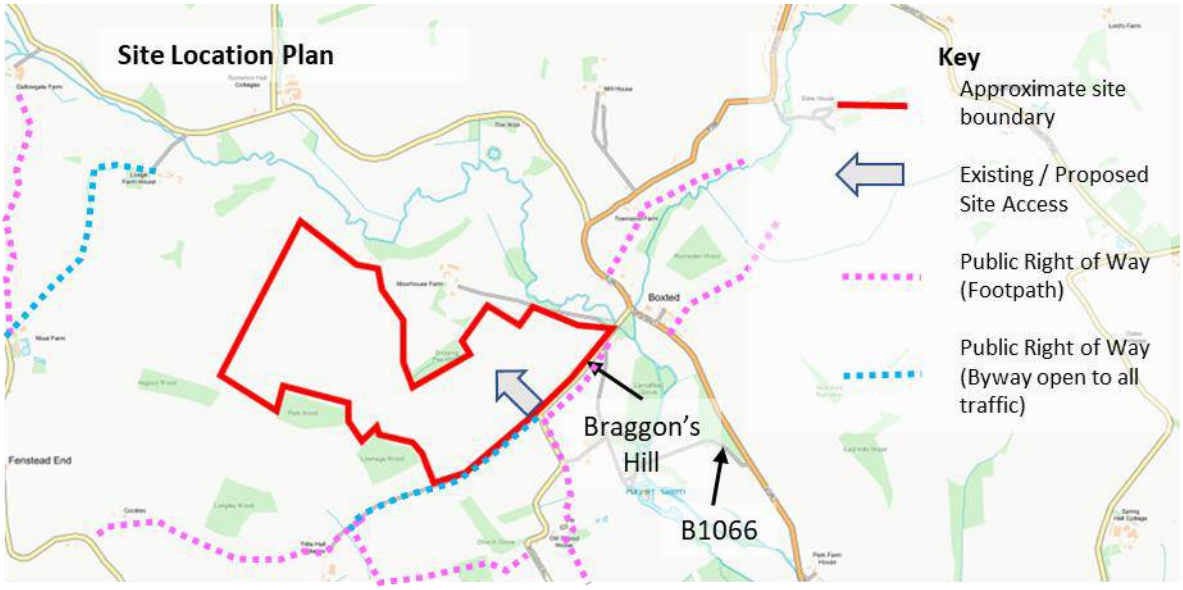
1.2. The application seeks full Planning Permission for ground-mounted solar photovoltaic (PV) development with the following description of development:

"Construction of a solar farm with all associated works, equipment, necessary infrastructure and biodiversity net gains."

1.3. This CTMP supports the proposal for the construction and to a lesser extent operation of a Solar Photovoltaic (PV) Farm and associated infrastructure. The proposed development has the potential to produce up to 20 megawatts (MW) of renewable energy. The Site Location Plan (Figure 2), and Infrastructure Layout (Figure 4) for the proposed development are included at **Appendix A.** Further details of the proposal and the technology used, together with the proposed site layout, are provided separately as part of the planning application.

1.4. The proposed site comprises parcels of open agricultural land located on land west of Boxted, which is located circa 11km south of Bury St Edmunds, in Suffolk. The location and wider context of the area is illustrated by **Plate 1.1** below (and in Figure 2 at **Appendix A**). The site is presently accessed via an existing agricultural access from Braggon's Hill, also illustrated on **Plate 1.1.** The Local Highway Authority (LHA) is Suffolk County Council (SCC).

Plate 1.1 – Site Location Plan



'Public Rights of Way' have been derived from the "Boxted 148" definitive map (which was most recently updated on 08/01/2008) available on the Suffolk County Council website (accessed on 10/05/2023).

Pre-application Consultation

1.5. Initial pre application advice was sought for the scheme, with a response provided by Babergh and Mid Suffolk District Councils as the Local Planning Authority in November 2022 (ref: DC/22/04456). Suffolk County Council (SCC) as Local Highway Authority provided highways comments, which have been summarised below and appended in full at **Appendix B**.

- The SCC Transport Development Control scoping response requested for a Transport Statement (TS) and Construction Delivery Management Plan (CDMP) to be produced. It is considered that this Construction Traffic Management Plan (CTMP) document adequately covers all the required information for both CDMP and TS documents within a single concise document.

- SCC also considers that significant volumes of Heavy Goods Vehicle (HGV) movements on Braggon's Hill from the B1066 "*may be detrimental to highway safety, even for a limited period of time"*. As such, this CTMP will set out the proposed trip generation in the context of existing traffic flows and detail the ways in which construction traffic will be managed to avoid conflicting movements and sets out mitigation measures.

- SCC suggested any access proposals be in accordance with SCC drawing DM04 (at **Appendix C)** and provide a bound surface. SCC also stated that visibility splays for the site access are to be based on DMRB requirements for the speed limit or measured speeds. It was additionally noted that *"it may be acceptable to use temporary traffic signals for a limited duration to avoid the need for large sections of vegetation to be removed to enable access for a temporary period"*, this CTMP demonstrates the achievable visibility in accordance with guidance negating the requirement for traffic control.

- SCC additionally stated that *"all access and parking or site compound areas must provide sufficient space for a vehicle to exit in a forward gear"*. This will be demonstrated via swept path analysis demonstrating vehicles can enter and exit in a forward gear, as per the swept path analysis, as set out in **Section 3.** It was requested that details of how HGV movements would be managed to avoid conflicting movements, as set out in this CTMP.

- SCC noted that, if cable routes are required within the highway and the provision of connection to the electricity grid is not being undertaken by a statutory utility company then private utility companies require a Section 50 licence and approval of the cable route. No cable routing is proposed under the public highway; therefore, cable routing has not been considered further within this document.

1.6. National Highways (NH) did not offer a view of the scope of Environmental Impact Assessment (EIA) and conferred to the Local Planning Authority on this matter.

CTMP Report Structure

1.7. This CTMP describes the arrangements that are proposed for the period of construction activities at the site and sets out the following:

i. Existing conditions in the vicinity of the site;

ii. Development proposals including site access arrangements and routing arrangements for construction traffic;

iii. Vehicle trip attraction including anticipated vehicle types, volumes, and frequencies; and

iv. Proposed traffic management and mitigation measures.

1.8. It will be the responsibility of the appointed contractors to comply with all statutory regulations and guidelines as appropriate, in relation to construction and movement activities.

1.9. The appointed contractors will be provided with a copy of this CTMP and will adhere to it as part of the planning consent. The CTMP will form part of the information provided as part of the construction personnel's on-site induction processes. The contact details of the contractor and those of the highway department at Suffolk County Council will be exchanged before commencement of the works on the site.

2. Existing Site Context

Location and Site Context

2.1. The proposed site is located on land west of the B1066, west of Boxted in Suffolk. The site is bound by open agricultural fields to the north, west and south and by Braggon's Hill to the east. Boxted village is located approximately 130m northeast of the site and Bury St Edmunds is located circa 13km to the north. It is proposed that an existing agricultural access, which is currently taken off Braggon's Hill, will be upgraded to serve the proposed site.

2.2. The site comprises approximately 44 hectares of land currently in agricultural use. The context of the local area, including key roads referenced in the report, is provided on the 'Site Location Plan' illustrated at **Plate 1.1** above**.**

Local Highway Network

Braggon's Hill

2.3. Braggon's Hill is a rural, unlit, single carriageway and is subject to the national speed limit of 60mph within the vicinity of the site access. The road connects to the B1066 to the west and Fern Hill to the south.

2.4. The carriageway varies in width between the B1066 and the existing site access. It is generally a single track narrowing to circa 3.2m at the bridge located circa 85m southwest of the junction with the B1066 however widens to up to circa 5.0m in multiple locations allowing for two-way traffic. SCC have confirmed that there is no weight restriction at the bridge, and it is therefore sufficient to accommodate vehicles up to 44t.

2.5. The existing vehicle access to the site is taken from Braggon's Hill at present, shown on **Plate 1.1.** There is no footway provision on Braggon's Hill, though an alternative pedestrian route is provided via a Public Right of Way which runs parallel to Braggon's Hill through a field to the south of the carriageway.

2.6. To inform this CTMP, two Automatic Traffic Count (ATC) surveys were undertaken (between 11 to 19 May 2023) located on Braggon's Hill on either side of the existing site access (which is proposed to also serve the site (further details in **Section 3**)).

2.7. A full copy of the survey data is included within **Appendix D** and is summarised in **Table 2.1** below, which sets out the measured 85th percentile speeds; average weekday 24hr daily traffic (by number of vehicles) and the modal percentage of HGVs out of the total vehicles utilising the road.

Table 2.1 – Braggon's Hill ATC Summary

Road and distance from B1066 / Braggon's Hill junction	Direction of traffic	Measured 85th Percentile Speed (5-day average)	Average Weekday 24hr Daily Traffic (by number of vehicles)	HGV % of total vehicles (5-day average)
Braggon's Hill (circa 250m south of the junction)	North to South	35.4mph	127	3%
	South to North	32.6mph	131	3%
Braggon's Hill (circa 580m south of the junction)	North to South	31.0mph	121	3%
	South to North	32.5mph	123	4%

2.8. The data extracted from the ATC, as summarised in **Table 2.1,** indicates that, relative to the national speed limit of 60mph, the measured speeds are significantly lower, existing traffic volumes are very low and 3-4% of existing vehicles comprise HGVs (which likely include agricultural vehicles given the locality).

B1066

2.9. The B1066 is a single carriageway road from which Braggon's Hill is accessed via a simple priority junction. The B1066 is subject to a 30mph speed limit whilst in the vicinity of the Boxted village and the junction with Braggon's Hill before increasing to the national speed limit of 60mph, to both the north and south of the village.

2.10. The carriageway measures circa 6m in width within the vicinity of the Braggon's Hill junction.

2.11. The B1066 continues south of Boxted for circa 5km where it connects to the A1092; and continues north for circa 11.7km where it connects to the A143 at Bury St Edmunds.

2.12. In addition to the ATCs on Braggon's Hill, two ATCs were also undertaken on B1066 either side of the junction with Braggon's Hill between 11 and 19 May 2023. A full copy of the survey data is included within **Appendix D** with the B1066 data summarised in **Table 2.2** below.

Table 2.2 – B1066 ATC summary

Road and distance from B1066 / Braggon's Hill junction	Direction of traffic	Measured 85th Percentile Speed (5-day average)	Average Weekday 24hr Daily Traffic (by number of vehicles)	HGV % of total vehicles (5-day average)
B1066 (circa 33m north from junction)	North to South	31.6mph	807	6%
	South to North	31.9mph	770	5%
B1066 (circa 33m south of junction)	Northwest to Southeast	28.4mph	699	5%
	Southeast to Northwest	30.8mph	663	5%

2.13. **Table 2.2** demonstrates that the B1066 is frequented by HGV traffic with circa 5% of traffic comprising HGVs, despite not being designated as an HGV route, as discussed below.

A1092

2.14. The A1092 is a single carriageway A-Road, which is located circa 5km to the south of the site. The A1092 connects to the A134 in the east and the A1017 to the west.

2.15. The 'Recommended Lorry Route Network Map' (RLRNP), published by Suffolk County Council[1], designates the A1092 as a 'local access route' which suggests that SCC considers that the road is suitable to accommodate HGV movements to the site.

A134

2.16. The A134 is a single carriageway A-road, which is accessed from the A1092. The A134 is designated as a strategic lorry route on the SCC RLRNP, which suggests that the road is suitable to accommodate HGV movements**.** Additionally, it provides access to the Strategic Road Network (SRN) via links to the A14 (near Bury St Edmunds circa 11km to the north of the site) and links to the A120 (near Braintree circa 28km to the south), both of which are part of the SRN.

Public Rights of Way

2.17. No Public Rights of Way (PRoW) route through the site, as illustrated on the Site Location Plan at **Plate 1.1.** However, it should be noted that one PRoW footpath routes immediately adjacent to Braggon's Hill to the southern side of the carriageway, which runs parallel to the southeastern site boundary. This PRoW footpath continues as a PRoW Byway,open to all traffic (referred to hereafter as 'the byway') along the southeastern boundary of the site, taking access from Braggons's Hill in the same location as the existing agricultural access.

[1] SCC Recommended Lorry Route Map
https://app.powerbi.com/view?r=eyJrIjoiNzE4MjhkM2UtMjJhZC00YjI5LWE4ZjQtNWQ3OThmMGUwZGJmIiwidCI6IjEwOWM2YWVjLTUwNDYtNGE5NS04ZjNjLTg0ZjYzYmExOGFmNCJ9

2.18. During construction, Bankspersons will be deployed at the Proposed Construction Site Access to enable pedestrians to access the byway safely. The proposed development is not therefore anticipated to have an impact of users of the byway.

Highway Safety

2.19. A traffic collision report was obtained from SCC on 16 May 2023. The data covers a 59 month period from 01 March 2018 to 01 February 2023 which represents the most recent data available at the time of writing.

2.20. The study area comprises the B1066 circa 1.2km to either side of the junction with Braggon's Hill; and Braggon's Hill between the junction with the B1066 and the existing agricultural access.

2.21. A single collision was reported in the study area throughout the 59-month study period, which was classified as slight. The full traffic collision report and location plan are appended at **Appendix E.**

2.22. The collision involved two vehicles, travelling in opposite directions, where one vehicle turned right across the path of the other. The collision occurred on the B1066 at the junction with Somerton Road (circa 400m north of the B1066 / Braggon's Hill junction), in fine weather with dry road conditions and during daylight.

2.23. It was considered "Very Likely" that one of the vehicles was Careless / Reckless / In a hurry and the following contributory factors were also listed as "Possible": "failed to look properly"; "failed to judge other person's path or speed"; "poor turn or manoeuvre"; "exceeding the speed limit"; and "road layout".

2.24. It is concluded from the recorded PIC data that there is no junction, highway feature or vehicle movement which resulted in multiple reported PICs which would indicate a common contributory factor with the existing highway layout or conditions.

2.25. It is concluded that there is no existing highway safety concern within the local highway network that would be exacerbated by the proposed development.

Summary of Existing Context

2.26. Based on the above site context review, it is concluded that the local highway network is safe and suitable for the trips associated with the proposed development, with no existing highway safety issues identified within the vicinity of the site. Braggon's Hill has been assessed utilising swept path analysis and site visit observations and has been demonstrated to be suitable to accommodate the most onerous vehicle anticipated to be associated with the site. The roads which connect Braggon's Hill with the SRN are also considered suitable to accommodate construction type vehicles with the roads being used by HGVs, as demonstrated by ATC data (for the B1066) and on the SCC RLNRP (for the wide road network). Therefore, it is considered that construction vehicles and operational traffic associated with the development can be accommodated safely on the local highway network.

3. Development Proposals and Site Access Arrangements

The development proposals associated with this application include the installation and operation of a renewable energy scheme comprising ground mounted photovoltaics which could provide up to 20MW on land west of Boxted, in Suffolk. The Site Location Plan (Figure 2), and Infrastructure Layout (Figure 4) are attached at **Appendix A** with a site context plan is provided at **Plate 1.1.**

Proposed Site Access

Proposed Construction Vehicular Access

3.1. Access is proposed to be taken from Braggon's Hill in the location of the existing agricultural access, which is proposed to be upgraded into a simple priority T-junction and widened at the entrance to the site in order to accommodate two-way HGV traffic.

3.2. Within the scoping response (appended in full at **Appendix B**), SCC Highways stated:

"Any new or increased usage of existing accesses would need to be suitable for the vehicles they would accommodate (would suggest that SCC DM04 access is used), have a bound surface and visibility splays in accordance with DMRB for the speed limit or measured speed. Any existing accesses that do not meet the above criteria would only be acceptable if there is no increase in use."

3.3. Following scoping with SCC, some standards regarding junction geometries were provided (SCC DM04) within the SCC response. SCC DM04 refers to a "industrial and farm access layout" junction, (as attached as Access Standard Detail at **Appendix C**), however, no minimum geometries were specified within the pre-application response. As a result, the geometries have been extracted from Appendix H of the SCC Design Streets Guide (DSG): for a Primary Carriageway, which requires a 6.5m minimum carriageway width; 10m junction radii and a 40m minimum junction stagger. Following a setback from the carriageway of 15m (including the 10m corner radii), in accordance with SCC DM04 requirements for a minimum setback, the carriageway will narrow to 4m within the site.

3.4. Vehicle swept path analysis has been undertaken for an 18.55m x 2.55m articulated HGV (18.55m HGV) demonstrating this vehicle can safely enter and exit the site in a forward gear, provided on drawing P21-2950 SK01 (**Appendix F**). The largest vehicle associated with the construction of the site is a 16.5m articulated HGV (and therefore less onerous than an 18.55m HGV). The swept path analysis demonstrates that an 18.55m HGV is able to safely enter the site, while a second 18.55m HGV waits at the access, without obstructing the public highway.

3.5. P21-2950 SK02 (**Appendix G**) demonstrates an 18.55m HGV can safely route along Braggon's Hill to the site access. There are several locations along Braggon's Hill where the carriageway widens, and it is demonstrated on P21-2950 SK02 that a car and 18.55m HGV will be able to pass. The tracking demonstrates access is achievable in a safe and suitable manner for the most onerous HGV anticipated to use the site.

3.6. The ATC surveys summarised at **Table 2.1** demonstrate that the measured 85th percentile vehicle speeds on Braggon's Hill are 32.5mph northbound to the south of the site access and 35.4mph southbound to the north of the site access. The measured 85th percentile speeds, therefore, are substantively below the 60mph national speed limit on Braggon's Hill, within the vicinity of the site access. SCC Highways scoping response requested for DMRB CD 109 (**Table 2.10**) to be used to calculate the required minimum Stopping Sight Speeds at the site access.

3.7. For a measured speed of between 30-40mph, a design speed of 70kph is required, which equates to a minimum stopping sight distance of 120m.Visibility splays of 2.4m x 120m is achievable for the proposed site access, as is demonstrated in drawing P21-2950 SK01 at **Appendix F.**

3.8. For robustness, a visibility splay has also been shown from the site access to the byway which routes southwest from the proposed site access. Given the byway is an unsurfaced track which is shared between vehicles, pedestrians and cyclists and the measured speeds on Braggon's Hill, Manual for Streets (MfS) (Section 7.5.3) is considered to be appropriate to calculate the required Stopping Sight Distance (SSD). 2.4m x 43m visibility splay from the site access to the byway is demonstrated to be achievable, in accordance with MfS at 30mph (**Appendix F**).

3.9. The access proposals set out above are therefore considered to provide safe and suitable access to the site in accordance with SCC comments and both local and national guidance.

3.10. Trimming back of vegetation along both Braggon's Hill and within the existing visibility splays could be undertaken as required in order to ensure visibility splays are maintained. All vegetation will be retained where possible, with trimming back to the core branches / trunks as opposed to removing vegetation entirely.

Braggon's Hill / B1066 Junction

3.11. For robustness, ATC surveys were also undertaken on the B1066, as summarised within **Table 2.1.** These surveys demonstrate that the measured 85th percentile vehicle speeds on B1066 are 31.0mph northwest bound to the south of the site access and 32.6mph southeast bound to the north of the site access and are therefore broadly in accordance with the 30mph speed limit. The junction is proposed to be retained as per the existing arrangement where there have been no recorded crashes at the junction over the five-year study period (as discussed in **Section 2**). The development will result in an increase in construction traffic which will be temporary and low in volume (as set out in **Section 4**) therefore the existing junction is considered appropriate to accommodate development traffic**.**

Proposed Operational Vehicular Access

3.12. It is anticipated that the site will operate predominately by remote access with minimal effect on the surrounding local network. The proposed access will be constructed so that it is suitable for the construction and operational phases and will be retained to serve maintenance and service vehicles during the operational phase. It is proposed to serve vehicles no larger than a 7.5t transit van, except in the potential event of a replacement of a large component, as discussed within **Section 4**.

3.13. There will be sufficient space within the site to allow for operational vehicles and service vehicles to enter, manoeuvre, park and subsequently exit the site in forward gear.

Proposed Pedestrian Access

3.14. No Public Rights of Way route through the site, however, a byway (open to all traffic) is taken from Braggon's Hill at the same point as the site access (as set out on **Plate 1.1**). This byway will remain open to all movements during the site's construction and operational phase. Given the nature of the development and the fact that all parking associated with construction and operation is to occur in designated locations within the site, volumes of pedestrians accessing the development site is anticipated to be extremely low. Any pedestrians accessing the site will use the existing byway to the south of Braggon's Hill to access the site.

Construction Traffic Routing

3.15. Construction traffic is proposed to route to the site from the A134, which is designated as a strategic lorry route on the SCC RLRNP.

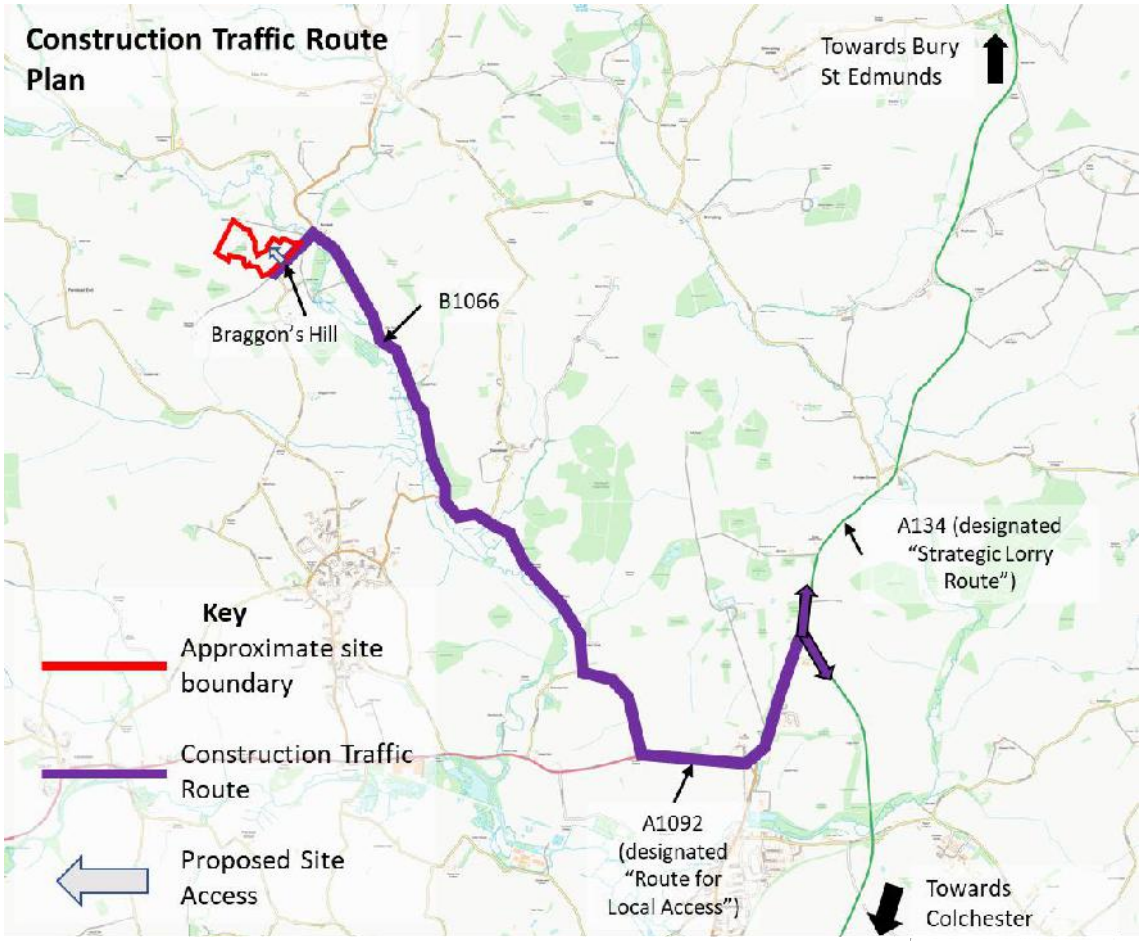
3.16. At the junction with the A1092 High Street, vehicles will turn onto the A1092 and proceed southwest through Long Melford for circa 2km. Construction traffic will then turn right onto the B1066, and will proceed north for circa 5km towards Boxted. Traffic will then turn left onto Braggon's Hill before turning right into the site access.

3.17. Vehicles exiting the site will utilising the inverse of the construction route described above, turning left from the proposed site access onto Braggon's Hill, towards the B1066.

3.18. HGVs in the construction process will only access the site via the designated construction route identified in this CTMP. Drivers will be informed of the route prior to departing for the site and will be advised not to use Sat-Nav.

3.19. The proposed route to be undertaken by construction traffic accessing the site is illustrated on the Construction Traffic Route plan, at **Plate 3.1** below, and at **Appendix F**.

Plate 3.1: Construction Traffic Route Plan



3.20. In regard to the "narrow bridge" on Braggon's Hill which is located on the proposed Construction Traffic Route, the SCC Highways scoping response requested for an examination of potential mitigation factors.

3.21. The bridge, in addition to the entirety of Braggon's Hill between the junction with the B1066 and the site access, has been subject to a swept path analysis. Drawing P21-2950 SK02 (swept path analysis of Braggon's Hill), which is attached at **Appendix G**), demonstrates that an 18.55m HGV can successfully navigate the full extent of Braggon's Hill, including the pinch point at the bridge with several opportunities to pass an oncoming vehicle also. As a result, further mitigation factors regarding the bridge are not considered necessary.

3.22. The local highway network is considered to be suitable for traffic movements associated with the development proposals. As set out in **Section 2**, the majority of routes are 'strategic lorry routes' or 'local access routes' according to SCC RLRNP while both B1066 and Braggon's Hill are currently frequented by HGVs.

Construction Compound and Internal Routing

3.23. Within the scoping response (appended in full at **Appendix B**), in regard to construction compounds, SCC Highways stated:

> *"All access and parking or site compound areas must provide sufficient space for a vehicle to exit in a forward gear."*

3.24. No parking by vehicles will be permitted on any roads within the vicinity of the site during the construction phase. Sufficient space for parking and turning will be provided within the construction compound, which is illustrated on the Infrastructure Layout at **Appendix A**. Visitors will be advised of the parking arrangements in advance of travelling to the site.

3.25. Should the construction compound parking spaces be full, there will be overspill car parking within the hardstanding areas located across the site.

3.26. Within the proposed site, the layout will include 4m wide access tracks through the site allowing for the movement of construction vehicles and during operation, maintenance vehicles. These will be completed during the initial stages of construction. The tracks will be made to withstand the loads of HGVs and reduce the propensity of debris being taken on to the adjacent access track and highway.

4. Vehicle Trip Attraction

Construction Phase

4.1. It is anticipated that the construction phase could span a period of circa six months, with the peak number of vehicles movements occurring in the three months, during the enabling works. The peak number of construction trips are anticipated to be circa 42 two-way construction vehicle trips per day (excluding construction staff trips), of which nine are expected to be HGV trips.

4.2. All traffic movements will be carried out between the hours of 07.00 to 19.00 on Monday to Friday and 08.00 to 16.00 on Saturdays. Outside of these times works are limited to a) commissioning and testing and b) Works required in an emergency where there is the potential of harm or damage to personnel, plant, equipment, or the environment, provided the developer retrospectively notifies the Council of such works within 24 hours of their occurrence.

4.3. There will also be a dedicated Community Liaison Officer to engage with local residents, throughout the construction and operational phases.

4.4. The maximum sized construction-related vehicle is anticipated to be an articulated vehicle that is 16.5m in length and 2.55m in width, however smaller HGVs, rigid trucks and LGVs will be used where possible.

4.5. It has been demonstrated as above that an 18.55m articulated HGV can safely enter and egress the proposed site as per **Appendix F**, which is more onerous than the 16.5m articulated vehicle.

4.6. Deliveries shall be reported to the site manager and will be made on the smallest possible vehicles for each item or volume. It is however acknowledged that the use of larger vehicles will, in some instances, allow additional items and materials to be transported together reducing the overall number of trips to the site.

4.7. Up to circa 25 construction operatives are anticipated to be on-site on a single day. It is anticipated that some construction operatives will travel to the site by car-share, but for robustness it has been assumed that this will result in 25 vehicle arrivals in the morning and 25 vehicle departures in the evening.

4.8. It is proposed for operatives to work on site for six-day work week from Monday to Saturday.

4.9. **Table 4.1** provides an approximate worst-case scenario breakdown of vehicle movements associated with the total six-month construction period, as provided by the applicant.

4.10. The construction vehicle movements associated with importing and exporting earthworks are not presently known and will be dependent on the Ground Investigation for the site. Materials will be re-used on site where possible.

Table 4.1 – Forecast Construction Traffic Movements over six-month construction period

Activity	Total number of vehicles accessing the site (one-way)	Total number of two-way vehicle movements
Mounting frame delivery	41	82
Module delivery	111	222
Cabinet delivery	11	22
Cable delivery	21	42
Fencing / CCTV delivery	15	30
Gravel / hard core material delivery	400	800
Battery Storage Container delivery	18	36
Construction plant equipment (delivery at start of construction period)	25	50
Construction plant equipment (removal at end of construction period)	25	50
Earthworks import/ export	To be confirmed	To be confirmed
Site compound, fencing, welfare etc (delivery at start of construction period)	20	40
Site compound, fencing, welfare etc (removal at end of construction period)	20	40
Total	**552** (excluding earthworks and staff movements)	**1,104** (excluding earthworks and staff movements)

4.11. As set out in **Table 4.1**, a total of circa 1,104 two-way vehicle movements are anticipated to be made during the full construction phase (excluding earthworks and construction worker trips to / from the site).

4.12. The worst-case trip generation for the site could generate up to circa 92 two-way daily vehicle trips (including circa 42 construction related trips and circa 50 trips associated with construction workers) during the peak construction period. The number of trips per day will fluctuate depending on the construction phase and as such the typical daily trips will be lower.

4.13. The existing and proposed average daily weekday traffic on the B1066 is set out in **Table 2.2** (for all traffic and for HGVs only). From these figures, the percentage increase in traffic as a result of the development construction peak has also been calculated, also set out within the table. The number of vehicles will fluctuate depending on the daily delivery schedule with the figures shown in **Table 4.2** considered a worst case with the daily increase less than this figure outside of the three-month enabling works stage.

Table 4.2 – Percentage trips increase

Road	Vehicle type	Current two-way vehicle movements	Development two way proposed vehicle movements	Current + Development two way proposed vehicle movements	Percentage increase from construction traffic
B1066	All construction traffic	1,469	92	1561	6%
	HGVs	143	18	160	11%
Braggon's Hill	All construction traffic	251	92	343	27%
	HGVs	40	18	57	31%

Note: existing two-way figures have been calculated as average utilising traffic moving in both directions from all ATCs

4.14. Considering the temporary nature of the construction traffic; the fact that Braggon's Hill experiences low vehicle flows, as previously demonstrated in **Table 2.1,** and the low numbers of vehicles which are proposed as part of the development, the traffic associated with the site is not anticipated to have an undue effect on the safety and operation of the existing local highway network.

4.15. Outside of the three-month enabling works stage, which is anticipated to represent the delivery peak period, construction traffic will have a reduced effect on the surrounding highway network than during the peak.

4.16. Beyond the A134 trips will dissipate along the wider road network before reaching the SRN. Background traffic and HGV volumes along regional distributor roads and the SRN are likely to be significantly higher and therefore the development impact will represent a lower percentage impact. The development impacts during the temporary construction phase are therefore not considered to have a material impact.

Abnormal Indivisible Load deliveries

4.17. Due to the nature of the scheme, there may be a requirement for a small number of large and heavy items to be brought in on vehicles that will be classed as an Abnormal Indivisible Load (AIL). An AIL is a vehicle that has any of the following characteristics:

- a weight of more than 44,000kg;
- an axle load of more than 10,000kg for a single non-driving axle;
- A width of more than 2.9 metres; and/or
- A rigid length of more than 18.55 metres.

4.18. Up to 14 AIL deliveries (28 two-way trips) could be required, associated with the delivery of a prefabricated substation measuring circa 3.5m in width; battery storage units; inverters, and a mobile crane. These AIL deliveries will be considered separately once the dimensions of the equipment are known. Details of the AIL route will be confirmed in the AIL Route Summary Report which will be prepared by the haulage company once appointed.

Operational Phase

4.19. The same access will be used during the operational phase as the construction phase. It is anticipated that the site will operate predominately by remote access and is only visited on an occasional basis with minimal effect on the surrounding local network. It is anticipated that there could be 15 LGVs accessing the site per year, equating to 30 two-way LGV trips per year in the operational phase.

4.20. Operational visits will be undertaken by maintenance staff in vehicles which are unlikely to be larger than 7.5t vans. HGVs are not anticipated to be required during the operational phase, unless in the event of a replacement of a major component.

Summary of Vehicle Trip Attraction

4.21. In summation, construction traffic generated during the construction phase is expected to reach a maximum of circa 92 two-way daily movements, including circa 50 staff movements. Of the 42 two-way construction traffic movements approximately 18 will be undertaken by HGV. This represents a worst-case trip generation however the trip generation for the site will fluctuate on a daily basis with the typical trip generation lower. Temporary traffic increases of this level are not considered to be a material increase compared to the existing baseline conditions on the B1066 or the wider highway network. The local highway network is considered to be suitable to accommodate the traffic movements associated with the development proposals.

4.22. Operational trip generation is proposed to be limited to 30 two way 7.5t transit vans per year, with the exception of the potential event of a replacement of a major component.

5. Proposed Traffic Management and Mitigation Measures

5.1. Within the scoping response (appended in full at **Appendix B**), in regard to traffic management and mitigation measures, SCC Highways stated:

> *"The route to the site from the B1066 is a narrow single track road with limited opportunities for vehicles (particularly large vehicles) to pass one another and a narrow bridge. It is considered that significant volumes of large (HGV) traffic movements on this road may be detrimental to highway safety, even for a limited period of time. Details of how this would be managed to avoid conflicting movements, including any mitigation should be clearly set out in any planning submission".*

5.2. As such, a comprehensive package of mitigation measures will be implemented in order to minimise the effects of construction works on the local highway network. The arrival and departure of HGVs at the site will be strictly managed by the Site Manager.

5.3. The contractor that is appointed to carry out the development works will introduce measures to minimise the effect on the local highway network resulting from construction activities as necessary. These will be managed by the Project Manager and the Site Manager.

5.4. The Site Manager will assume responsibility for the operation of the site. The details of the Site Manager will be provided to the SCC in advance of any works being carried out, should these be requested.

5.5. If required, a dedicated community liaison officer would be assigned, to engage with local residents throughout the construction phase.

5.6. In order to minimise the effects of HGV traffic on the wider highway network, all HGVs will only route to and from the site utilising the construction route set out at **Section 3.**

5.7. Mitigation measures will be anticipated to include a variety of measures to be agreed between the contractor and SCC in due course. This could typically include:

i. Construction signage will be placed at strategic locations along the routes for vehicles approaching the site, in accordance with The Traffic Signs Manual: Chapter 8 (2020). All signs installed as part of the construction phase will be temporary and placed outside of visibility splays. Construction signage could include a combination of the following typical examples;

- Sign Ref: 7301 – 'Works Access' at the site access;

Example signage – Temporary Construction Traffic Signage

- Sign Ref: 7305 – 'Works Traffic' directional signage along B1066 and Braggon's Hill.

Example signage P7305 from DfT Traffic Signs Manual Chapter 8 part 3

ii. Delivery drivers, contractors and visitors will be provided with a route plan in advance of delivering to site to ensure that vehicles follow the proposed routes;

iii. A compound area for contractors set up on-site, including appropriate parking spaces, set out on the Infrastructure Layout at **Appendix A**. Contractors and visitors will be advised that parking facilities will be provided on-site in advance of visits and that they should not park outside of designated parking provisions;

iv. The site will be secured at all times with appropriate security fencing;

v. There will be a requirement for engines to be switched off when not in use;

vi. If ground conditions dictate, wheel washing facilities will be provided in the form of a portable automated high-pressure washer with motion sensors to conserve water. All construction vehicles will therefore have to exit through the wheel wash area and as such will reduce the spread of mud and dirt onto the local highway network;

vii. A delivery schedule will be implemented in order to reduce the likelihood of two vehicles meeting at the site access or along Braggon's Hill. Suitable communication will also be established between the vehicles and the Site Manager to further manage the vehicles;

viii. Bankspersons will be deployed at the Proposed Construction Site Access to enable pedestrians to access the byway safely;

ix. Spraying of internal areas with water supplied as and when conditions dictate to prevent dust accumulation; and

x. Vehicles carrying any loads that have a risk of shedding materials in transit will be sheeted as appropriate.

6. Conclusion

6.1. This Construction Traffic Management Plan (CTMP) has been prepared by Pegasus Group on behalf of RES Ltd (the Applicant) in order to consider and address where appropriate the traffic and transportation matters associated with the construction of a new solar farm on land west of Boxted, in Suffolk.

6.2. This CTMP supports the proposal for the construction and to a lesser extent operation of a Solar Photovoltaic (PV) Farm and associated infrastructure with the potential to produce up to 20 megawatts (MW) of renewable energy.

6.3. The existing site is served by an agricultural access off Braggon's Hill. The existing site access will be upgraded to provide a simple priority junction and widened at the entrance to the site to accommodate two-way movement of construction vehicles. It is considered that the proposed access arrangements are suitable to accommodate the low number of construction and operational related trips associated with the proposed development.

6.4. Swept path analysis for the largest construction vehicle anticipated to be associated with the development proposals has been undertaken which shows that turning into and out of the site access to / from Braggon's Hill is achievable in a safe and suitable manner Swept path analysis has additionally been undertaken on Braggon's Hill, which demonstrates that additional mitigation is not required.

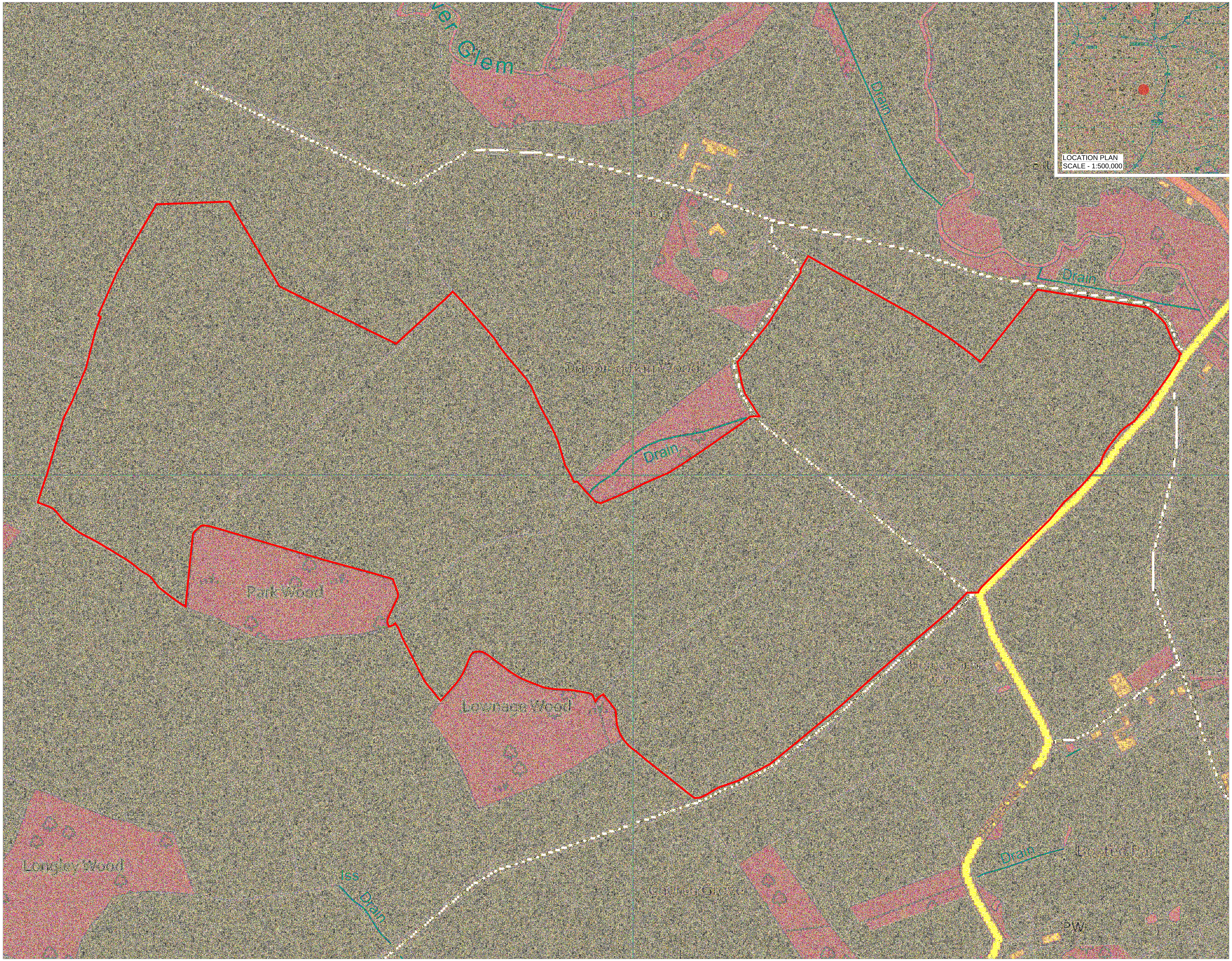
6.5. All construction vehicles will approach the site from the A134 via the A1092, B1066 and Braggon's Hill before turning right into the site access.

6.6. Additional traffic on the local highway network generated during the construction phase is expected to reach a maximum of circa 92 two-way daily movements, including circa 50 staff movements. Temporary traffic increases of this level are not considered to be a material increase compared to the existing baseline conditions on the B1066 or the wider highway network. The local highway network is considered to be suitable to accommodate the traffic movements associated with the development proposals.

6.7. Suitable mitigation will be provided in order to minimise the effects of the proposed development on the local highway network including appropriate signage, a site compound and facilities. Mitigation measures will be agreed upon and finalised between the appointed contractor and Suffolk County Council.

6.8. To conclude, this CTMP is considered to suitably demonstrate that safe delivery of components can be undertaken without any foreseeable risk to highway users, therefore, it is considered that there are no valid highway or transportation reasons which would prevent the proposed development of the site.

APPENDIX A – SITE LOCATION PLAN (Figure 2) and INFRASTRUCTURE LAYOUT (Figure 4) (DRAWING 04806-RES-LAY-DR-PT-004 rev 2)



KEY:

SITE BOUNDARY
(*OUTSIDE EDGE OF LINE DENOTES BOUNDARY*)

ISSUE	DRAWN	CHKD	APPD	DATE	REVISION NOTES
2	FG	IB	ML	2023-10-17	Site boundary update
1	FG	IB	IB	2023-10-11	First Issue

PURPOSE: PERMITTING	COORDINATES: OSGB 1936
SCALE: 1:2,000 @ A1	DATUM: N/A
LAYOUT DWG: N/A	T-LAYOUT NO.: N/A

PROJECT TITLE

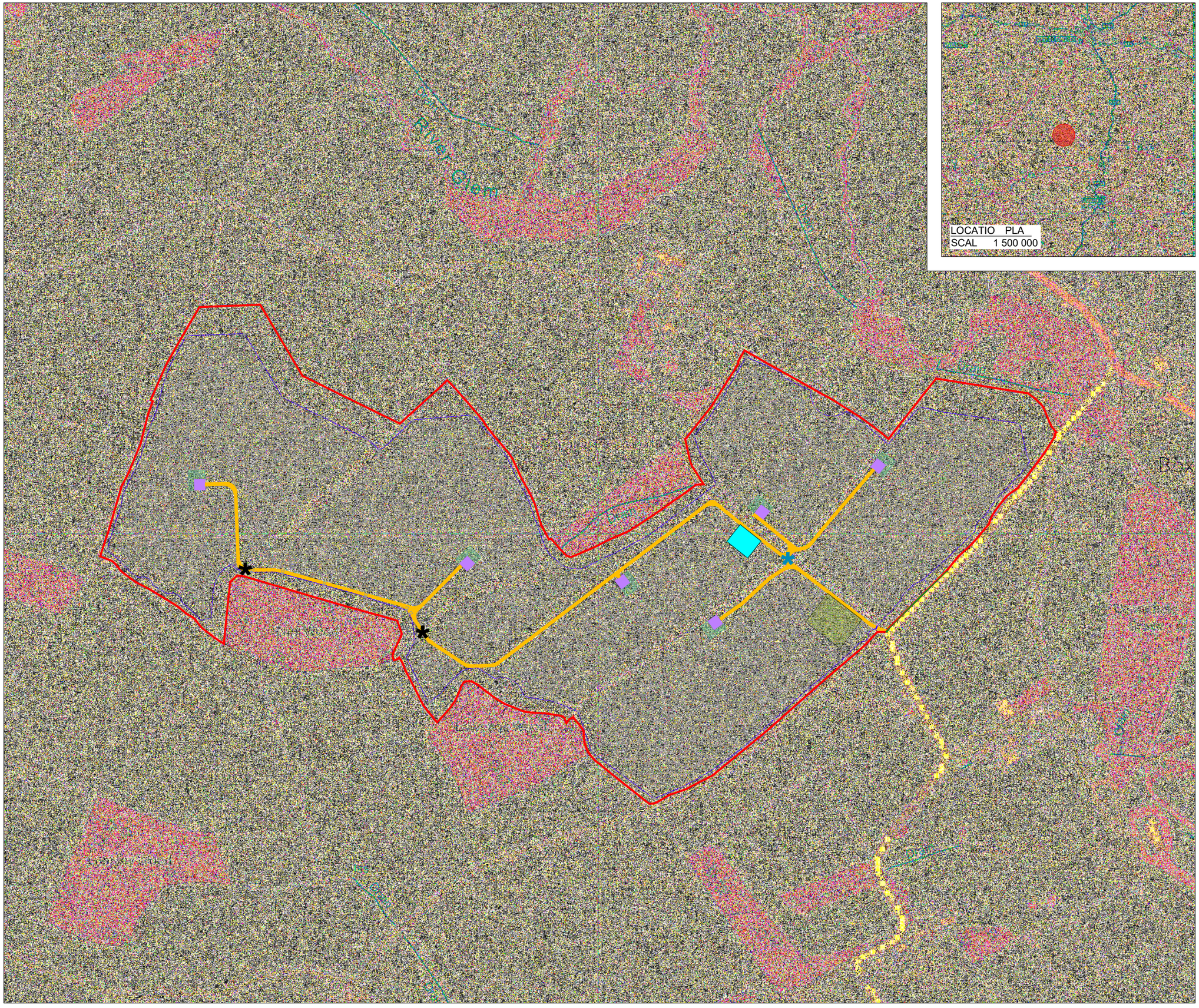
BOXTED SOLAR

DRAWING TITLE

FIGURE 2
SITE LOCATION MAP

RES DRAWING NUMBER: 04806-RES-LAY-DR-PT-002 REV: 2

BEAUFORT COURT,
EGG FARM LANE,
KINGS LANGLEY,
HERTS WD4 8LR. UK
TEL +44 (0) 1923 299200
WWW.RES-GROUP.COM



K Y

- SIT BOU DARY (*OUTSIDE OF LINE DENOTES BOUNDARY*)
- PROPOS D ACC SS TRACK
- I DICATIV SOLAR PV ARRAY
- I V RT R BATT RY STORAG AR A
- HARDSTA D
- SUBSTATIO COMPOU D
- T MPORARY CO STRUCTIO COMPOU D
- F C LI
- GAT (F C)
- DITCH CROSSI G
- CCTV
- XISTI G DITCH CROSSI G TO B UPGRAD D
- SIT TRA C VISIBILITY SPLAY

ISSU	DRAW	CHKD	APPD	DAT	R VISIO OT S
2	FG	M	ML	2023 10 18	Site boundary updated
1	FG	ML	ML	2023 09 19	First Issue

PURPOS P RMITTI G	COORDI AT S OSGB 1936
SCAL 1 5 000 A3	DATUM A
LAYOUT DRAWI G A	T LAYOUT O A

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BOXT D SOLAR

DRAWI G TITL

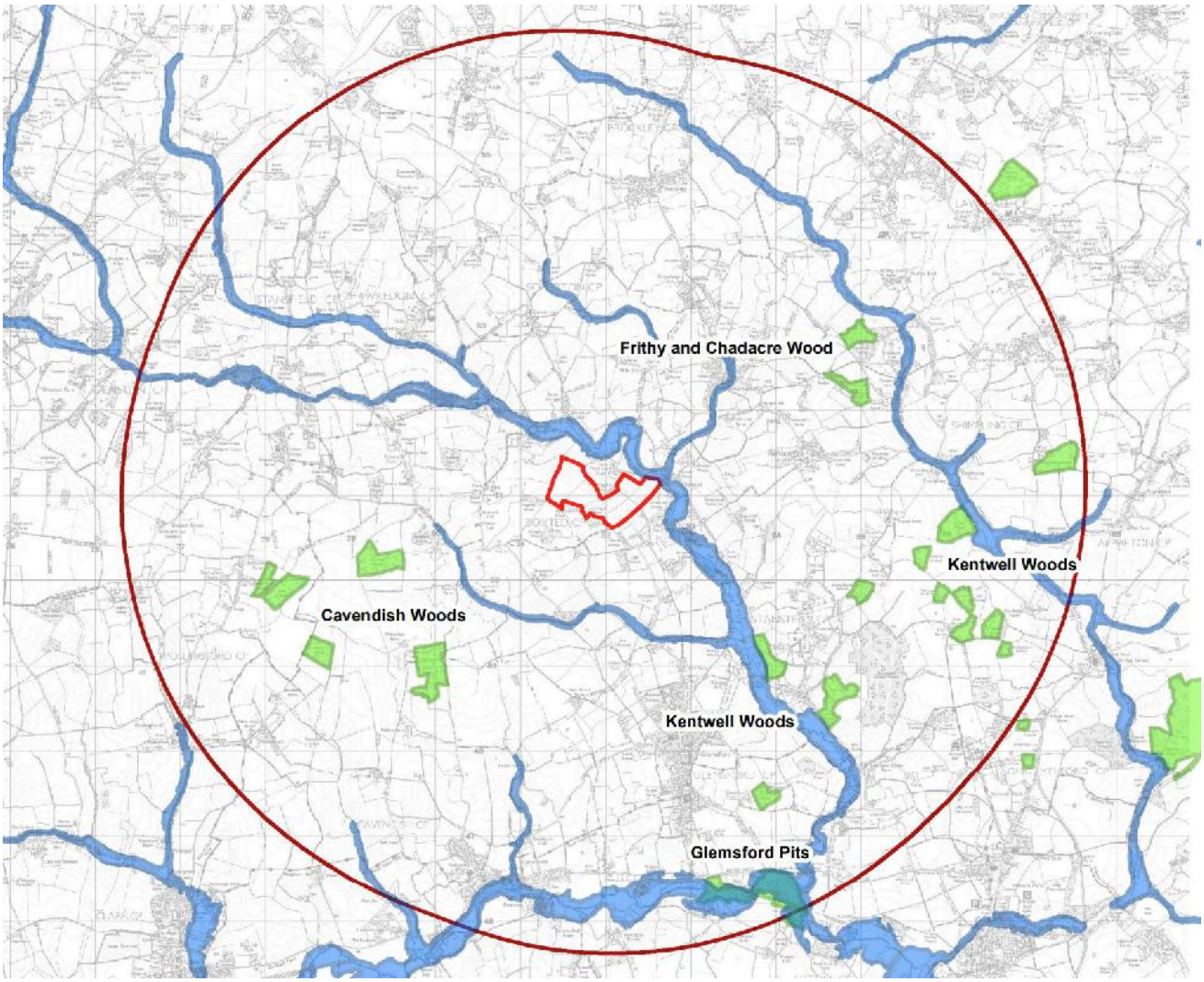
FIGUR 4
I FRASTRUCTUR LAYOUT

R S DRAWI G UMB R	R V
04806 R S LAY DR PT 004	2

B AUFORT COURT
GG FARM LA
KI GS LA GL Y
H RTS WD4 8LR. UK
T L 44 (0) 1923 299200
WWW.R S GROUP.COM

APPENDIX B –PRE-APPLICATION RESPONSE (DC/22/04456)

PRE-APPLICATION ENQUIRY DC/22/04456



Land South Of, Moorhouse Farm Lane, Boxted, Suffolk

Pre-application Enquiry

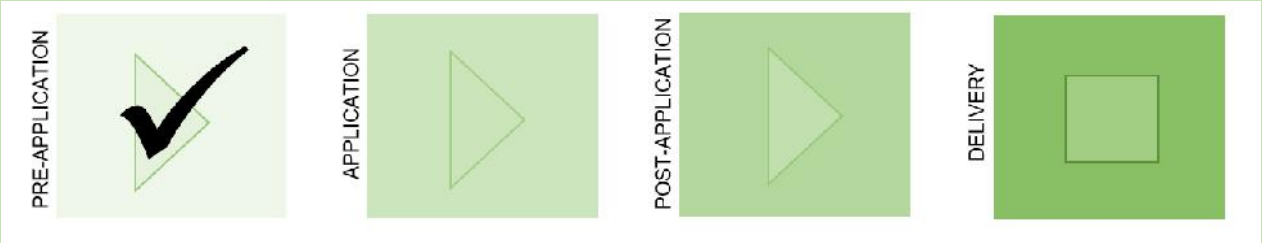
This advice is provided as part of the Council s pre-application advice service.

The advice provided here represents a professional officer opinion based on the material submitted and is given in good faith. The Council as Local Planning Authority must consider every planning application on its own merits after having regard to all material planning considerations. The advice provided here is not in respect of a planning application, has not been subject to public consultation or appropriate statutory consultations and is not necessarily accompanied by all the required supporting material and on that basis the advice is not binding on the Council as the Local Planning Authority.

This advice does not pre-determine the outcome of any subsequent planning application based on the submitted material and/or the Advice provided.

In providing this advice the Council is seeking to proactively and constructively provide support to potential applicants seeking to deliver sustainable development as encouraged by the Government within the National Planning Policy Framework [NPPF] and National Planning Practice Guidance [NPPG]

The Council is permitted to charge for this advice under the provisions of the Local Government Act 2003. The intention is to recover the cost of providing the service and not to deter applicants and their agents from engaging in pre-application discussions.



The Proposal

The proposed development is for:
Meeting and written response - Proposal Solar Development.

The supporting material comprises:
Constraints Map P21-2950_03 - Received 06/09/2022
Site Location Plan Heritage Assets P21-2950_02 - Received 06/09/2022
Defined Red Line Plan P21-2950_01 - Received 06/09/2022

Relevant Planning History

No planning history relevant to this application.

Planning Policy

Emerging Local Plan – New Joint Local Plan

The Joint Local Plan will replace the current Local Plan, for both Babergh and Mid Suffolk District Councils.

The Joint Local Plan has been at examination for review by an Inspector. Following a meeting with the Inspector in December 2021 it is proposed to split the plan into two parts.

Part 1 will include policies, setting out development which is acceptable, and restrictions to development. These Part 1 policies will then be reviewed and subject to change by the Inspector through examination. During this process the policies will gain more weight. This will mean they become more relevant when determining planning applications.

Once Part 1 of the Plan moves towards adoption, and then becomes adopted the Councils will have an up to date plan. This may affect the advice given in this pre-app enquiry.

Part 1 of the Joint Local Plan will be followed by the preparation of Part 2 as soon as possible. Part 2 will be an allocations document, detailing sites across the district for development.

You are advised to look at the progress of the Joint Local Plan as it comes forward. The new policies may impact on your proposal. Details are available on the link below:

https://www.midsuffolk.gov.uk/planning/planning-policy/new-joint-local-plan/

National Planning Policy Framework (NPPF)

The NPPF was revised in 2021, and includes, at its heart, a presumption in favour of sustainable development, however this does not affect the statutory status of the development plan (Local Plan) as the starting point for decision making.

The Council's Adopted Development Plan is:
Babergh Local Plan (2006)
Babergh Core Strategy (2014)

Babergh District Council » Babergh Mid Suffolk

Relevant Policies include:

CN01 - Design Standards
CN06 - Listed Buildings - Alteration/Ext/COU
CR04 - Special Landscape Areas
CS01 - Applying the presumption in Favour of Sustainable Development in Babergh
CS02 - Settlement Pattern Policy
CS15 - Implementing Sustainable Development
NPPF - National Planning Policy Framework
CS13 - Renewable / Low Carbon Energy

Other relevant documents include:

- Planning guidance for the development of large-scale ground mounted solar PV systems (BRE, 2014). This national guidance sets out best practice for large ground mounted arrays in respect of planning considerations and requirements.

- National Policy Statements: The policy context for the determination of NSIP scale proposals. This development is below the threshold for consideration as an NSIP but EN-1 and the revised draft EN-3 provide helpful context and an indication of the government s direction of travel in respect of renewable energy development.

- Energy Security Strategy 2022: Reinforces the net zero agenda and sets out a package of priorities, funding and policy objectives to move the country back to energy independence This includes provision for onshore wind, solar and other technology including recognition of the need for network capacity and flexibility such as battery storage.

- Net Zero strategy 2021: A decarbonisation plan setting out the UK objective of achieving net-zero emissions by 2050. Part of the plan for Building Back Better after the covid pandemic.

- Energy white paper 2020: Builds on the Ten-point plan for a green industrial revolution, addressing the transformation of our energy system, promoting high-skilled jobs and clean, resilient economic growth as we deliver net-zero emissions by 2050.

- United Kingdom Food Security Report 2021: Sets out an analysis of statistical data relating to food security.

Constraints

- The site is located in the countryside. There are no trees subject to TPOs on site.
- There is a Public Right of Way that runs east to west along the south of the site
- There are not listed buildings within the site itself but there are designated and non-designated heritage assets within the wider setting and the site has the potential for below ground assets (archaeology).
- The site is mostly within Flood Zone 1 however there are portions of the site that fall within Flood Zones 2 and 3. With this most of the site is at a very low risk of surface water flooding however some sections are within areas up to high risk of surface water flooding.
- The site consists of only Grade 3 Agricultural Land
- The site is within a Special Landscape Area
- The site does not contain but does border two designated Ancient Woodlands.

Consultation Responses

Heritage Team

The pre-application enquiry relates to the proposed solar farm on an area of agricultural farmland to the south of Moorhouse Farm. I carried out a limited site visit on 4th October from public roads. No detail has been provided on the proposed layout of the site, e.g., access points, sub stations, array distribution and pattern, or security fencing or lighting.

The landscape is designated a special landscape area with the 2006 Babergh Local Plan. It is characterised within the Babergh Mid Suffolk Landscape Character Assessment as Undulating Ancient Farmlands. This type of landscape occurs only once in the district and is predominantly an area of ancient enclosure with irregular field patterns bounded by large established hedges. The

area has retained its historic character and development has been effectively managed. Gaps in the hedgerows afford long open views of arable farmland and scattered ancient woodland.

The proposed site is typical of the characterisation. The field patterns are irregular and unchanged from the 19th century OS maps; both Park Wood and Lownage Wood are ancient woodland; the road that bounds the southeast side of the site and leads to Holy Trinity Church is narrow and winding and bound by hedges. Boxted Hall is a moated site.

The landscape gently raises to the south-west and forms the setting for a number of heritage assets, designated and undesignated. Closest to the site is Water Hall on the east side of Water Lane that bounds the south-east of the site and the group within Boxted Village. Also of note are Boxted Hall a grade II* large 16th century moated house and the grade I listed Holy Trinity Church. Moorhouse Farm, to the north of the site is identified within the Suffolk HER as a model farmstead that appears on the First dition OS map. Moors also appears on Hodgkinson s Suffolk County map of 1783. This group is therefore potentially non-designated heritage assets and the impact on its setting would be a material consideration in any future planning application.

Additional heritage assets are identified within figure 2, submitted with the pre-application enquiry, but there is no heritage statement or impact assessment upon their significance.

Not all of these assets will be affected by the proposal. For example, it is unlikely that those within Hartest will be harmed due to the distance from the site and intervening landscape. However, there may be far reaching views of the site from those assets on higher ground. The circle of influence drawn around the site is therefore a good basis from which to assess potential impact.

There will be glimpsed views of the site though gaps in the hedgerow, and from higher ground. The size of the site and the topography means that if it is fully developed, its visual impact would be considerable. It has the potential to obliterate the ancient field patterns and change the character of the visual backdrop and landscape setting in which the heritage assets are experienced. The harsh angular structures and reflective material would contrast sharply with the current rural tranquillity of the site and surroundings. Matters that require further consideration or raise concern include:

- The potential relationship between Boxted Hall and the site. Is there any historic association or visual connection? This is not apparent but should be considered given the location of the site in relation to the Hall. The Hall is set low within the landscape, and there may not be direct intervisibility between the two. However, the north-west entrance to the Hall is off Water Lane, opposite the access to Moorhouse Farm, so the site will form part of the experience of anyone using this drive.
- Views from Holy Trinity church the site can be viewed from the church yard and will be visible on approach to the church from the north-east.
- Proximity to Water Hall. This is directly opposite the site. Although it is currently well screened from view by vegetation, this is impermanent. If the vegetation were removed or cut back, there would be direct intervisibility between the site and the building.
- Views of the site from heritage assets on The Street and group northeast of the site, mentioned in the submitted preliminary enquiry letter.
- Views to and from Moorhouse Farm. Much of the surrounding farmland would be given over to the proposed solar farm and the impact on the character of its setting would be considerable

It is difficult to assess the impact of the proposed use without more detailed information. However, I do consider that harm to the setting of surrounding heritage assets is likely. This is predominantly

due to the impact on the landscape character of the site. Whilst it may be possible to reduce or mitigate harm, by looking at the location of the panels and other development and introducing planting or screening I do not believe it could be eliminated. The level of harm would be less than substantial but could range anywhere from medium to low.

As required by paragraph numbers 202 and 203 of the National Planning Policy Framework, any harm to the heritage assets should be balanced by the public benefits of the proposal.

SCC - Highways

Whilst it is accepted that the permanent traffic generation and impact of the proposal on the highway will be negligible, the impact during the construction phase would be significant, and details of the anticipated construction traffic movements, routes and all access points should be detailed within a Transport Statement or similar document.

A Construction Delivery Management Plan will be required and can be submitted and agreed at planning stage or conditioned for approval prior to commencement of construction.

The route to the site from the B1066 is a narrow single track road with limited opportunities for vehicles (particularly large vehicles) to pass one another and a narrow bridge. It is considered that significant volumes of large (HGV) traffic movements on this road may be detrimental to highway safety, even for a limited period of time. Details of how this would be managed to avoid conflicting movements, including any mitigation should be clearly set out in any planning submission.

Access:
Any new or increased usage of existing accesses would need to be suitable for the vehicles they would accommodate (would suggest that SCC DM04 access is used), have a bound surface and visibility splays in accordance with DMRB for the speed limit or measured speed. Any existing accesses that do not meet the above criteria would only be acceptable if there is no increase in use.

Any new temporary accesses (for construction) would also need to be suitable for the vehicles they would accommodate (would suggest that SCC DM04 is used) and visibility splays in accordance with DMRB for the speed limit or measured speed. However, it may be acceptable to use temporary traffic signals for a limited duration to avoid the need for large sections of vegetation to be removed to enable access for a temporary period. If applicable, the accesses would also need to reinstated as verge following completion of the construction phase.

All access and parking or site compound areas must provide sufficient space for a vehicle to exit in a forward gear.

Other Comments:
Cable route - if cable routes are required within the highway and the provision of connection to the electricity grid is not being undertaken by a statutory utility company (such as UKPN), private utility companies require a Section 50 licence and approval of the cable route, which can cause issues if verge is limited or other restrictions exist.

A Construction Management Plan will be required to ensure safe working, minimal disturbance to the existing communities and adverse impact on the public highway during the construction phase.

Ecology - Place Services

As for any proposal, a planning application will need to be supported by adequate ecological surveys and assessments to enable the LPA to determine any application submitted in line with national and local policy and its statutory duties. This will include likely impacts on designated sites (international, national and local), Protected species and Priority habitats and species - not just significant ones.

Ecological assessments should take data search records and survey information and use professional judgement to come to reasoned conclusions as to the likelihood of species being present and affected by the proposed development. All surveys must be undertaken by suitably qualified ecologists at the appropriate time of year using standard methodologies.

Effective and robust measures, in line with the mitigation hierarchy, must be also proposed which have a high degree of certainty for their deliverability in the long term. If there are residual impacts, these will need to be compensated for on site or offset and appropriate enhancements included to ensure that a Biodiversity Net Gain is demonstrated from the development

Ecological reporting
Any reporting accompanying a planning application should follow CIEEM guidelines (these also comply with BS42020). Guidelines include Preliminary Ecological Appraisal Report, Guidelines for Ecological Impact Assessment and Ecological Report Writing.

Statutory Designated Sites
There are no Statutory Designated Sites present within 1km of the site. However, the site is situated within the Impact Risk Zone (IRZ) for Kentwell Woods Site of Scientific Interest (SSSI) located 2.5km to the south-east of the site and Frithy and Chardacre Wood Site SSSI located 2.5km to the north-east of the site.

These Statutory Designated Sites are located a sufficient distance from the proposed site and the works do not trigger any further consultation with Natural England. As a result, we are satisfied that no further consideration is required.

Non-Statutory Designated Sites
There are seven non-statutory designated site that are present within a 1km radius of the proposed development. This includes the following sites:

- Lownage Wood County Wildlife Site, located immediately adjacent to the proposed site boundary.
- Park Wood County Wildlife Site, located immediately adjacent to the proposed site boundary.
- Dripping Pan Wood County Wildlife Site, located immediately adjacent to the proposed site boundary.
- Church Grove County Wildlife Site, located 0.08km to the south of the site.
- Oak Grove Boxted County Wildlife Site, located 0.28km to the south of the site
- Rochester Wood County Wildlife Site, located 0.31km to the north-east of the site
- Longley Wood County Wildlife Site, located 0.37km to the south-west of the site

These non-statutory designated sites are all ancient and semi-natural woodland, ancient replanted woodland or probable ancient woodland. Therefore, they are important due to being habitats of high

distinctiveness with associated rare woodland flora and fauna. Consequently, any ecological assessment must determine the likely impacts of the development upon these non-statutory designated sites.

Ancient woodland and veteran trees
Any ancient woodland and veteran trees present within on immediately adjacent to the site boundary should be identified as part of the proposals.

The designs must include a minimum 15m buffer around Lownage Wood and Park Wood, as well as Dripping Pan Wood (a probable ancient woodland). The buffer must be justified that this will be sufficient to avoid impacts during the construction and operation phase upon the ancient woodlands, in line with Government guidelines1 .

The proposal should also demonstrate that all veteran trees with be protected through the lifetime of the development, with protection measures in line with British Standard BS 5837: Trees in relation to design, demolition and construction.

European Protected Species
Considerations for European Protected Species must be undertaken within the ecological assessment, even if they are subsequently scoped out.

Bats
Any trees required to be felled from the proposed the development will need to be assessed for Potential Roost Features for bats. This Preliminary Roost Assessment will need to determine whether subsequent aerial surveys or emergence / dawn surveys are required to provide certainty of likely impacts on bats. However, if no trees are required to be removed, then no further information will be required for roosting bats.

In addition, the development may result in adverse impact upon on foraging and commuting bats. Therefore, it is recommended that Bat Activity Surveys may be required to identify the species of bats present, the levels of bat activity and the importance of habitats present. Alternatively, reasonable justification should be demonstrated that impacts to foraging and commuting bats can be avoided from the proposed scheme.

This level of bat survey is necessary so that the LPA has certainty of likely impacts on bats prior to determination. It is highlighted that mitigation measures will need to be outlined and the LPA will need to be satisfied that the proposed mitigation is appropriate, especially if bats are identified to be present and affected and an EPS mitigation licence is required from Natural England. Any information supplied by the applicant s ecologist must be in line with the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016).

If external lighting is required for the solar park, then a Wildlife Lighting Design Scheme will be required via a condition of any consent, which follows BCT & ILP Guidance2 . Therefore, a suitably qualified ecologist should advise the external lighting strategy, which should summarise the following measures will be implemented:

- Light levels should be as low as possible as required to fulfil the lighting need
- Warm White lights should be used at <3000k. This is necessary as lighting which emit an ultraviolet component or that have a blue spectral content have a high attraction effects on insects. This may lead in a reduction in prey availability for some light sensitive bat species.

- The provision of motion sensors or timers to avoid the amount of lit-time of the proposed lighting.
- Lights should be designed to prevent horizontal spill (e.g. cowls, hoods, reflector skirts or shields) and situated away from trees and boundary hedgerows.
- If CCTV is proposed, then this include infrared lighting.

Great Crested Newts
It is recommended that a Habitat Suitability Index assessment for Great Crested Newts (GCN) should be conducted for all ponds within 500 metres to determine the likelihood of the site supporting the species. Further surveys should then be conducted if any ponds are considered likely to support the species, unless reasonable judgement can be made why further surveys are not required. This should preferably include reference to the Natural England Rapid Risk Assessment Calculator, to justify the likelihood of an offence occurring for this European Protected Species

Any GCN surveys conducted should be completed prior to determination of a planning application to ensure that LPA has certainty of impacts for this Protected Species. If the presence of GCN is identified then the applicant s ecologist should demonstrate that the mitigation hierarchy has been applied and whether an EPS mitigation licence will be required from Natural England to allow the development to lawfully proceed.

The applicant may be interested to know that atural ngland s District Level Licensing for GC is now available in Suffolk see https://www.gov.uk/government/publications/great-crested-newts-district-level-licensing-schemes - where sites can be registered to be covered by this strategic mitigation scheme. Guidance for developers and registration forms to join the scheme are available and the LPA will need a countersigned agreement with Natural England as evidence of site registration prior to determination where this European Protected Species is likely to be present and affected by development.

Hazel Dormouse
Whilst we note no recent records of the European Protected Species present within the woodlands and hedgerows within the site boundary, we consider it highly likely that the area has never been surveyed to determine whether the species is present within the local area.

Therefore, the ecological assessment should identify whether there is a likelihood that this species will be present and affected from any vegetation removal for this scheme. If significant clearance is proposed or if clearance will affect potential commuting corridors between the local woodlands, it is recommended that a presence / likely absence survey is carried out to support this application.

Any Hazel Dormouse surveys conducted should be completed prior to determination of a planning application to ensure that LPA has certainty of impacts for this Protected Species. If the presence of Hazel Dormouse is identified then the applicant s ecologist should demonstrate that the mitigation hierarchy has been applied and whether an EPS mitigation licence will be required from Natural England to allow the development to lawfully proceed.

Opportunities may also be present within the scheme design to enhance dormouse forging and nesting opportunities and improve ecological networks for this species, if the species identified to be present within the wider landscape.

UK Protected species

Considerations for Protected Species should be undertaken within the ecological assessment, even if they are subsequently scoped out.

Badgers
It is recommended that an ecological assessment for this application should include considerations for Badger. It is advised that Badger activity should be recorded for at least 30 metres from the working area. If Badger activity is confirmed then the potential impacts on badgers, then a mitigation strategy must be provided in a separate badger report. This should be marked clearly as confidential, as this should not be issued to the public domain.

Reptiles
It is recommended that an ecological assessment should include assessment of the likelihood of reptile species being present within the site. If deemed necessary, a reptile population survey should be conducted for this application, to establish the presence/population size of reptiles present on site and inform appropriate mitigation and compensation measures.

Nesting birds
The applicant is reminded that, under the Wildlife and Countryside Act 1981, as amended (section 1), it is an offence to remove, damage or destroy the nest of any wild bird while that nest is in use or being built. Planning consent for a development does not provide a defence against prosecution under this act.

Trees and scrub are likely to contain nesting birds between 1st March and 31st August inclusive. Trees and scrub are present on the application site and are to be assumed to contain nesting birds between the above dates, unless a recent survey has been undertaken by a competent ecologist to assess the nesting bird activity on site during this period and has shown it is absolutely certain that nesting birds are not present

Priority Species
Considerations for Priority Species should be undertaken within the ecological assessment, even if they are subsequently scoped out.

Priority Farmland Birds
A Breeding Bird Survey should be conducted to establish whether Priority farmland bird species will be present and affected by a development. Any surveys conducted should preferably follow the BTO Common Bird Census methodology. If priority farmland birds are identified as a result of the survey then appropriate mitigation options should be recommended to avoid impacts to all Priority farmland bird species facilitating the site.

This should contain particular consideration for ground nesting birds, notably Skylark. This is because there is minimal evidence to suggest that Skylark will regularly nest between solar panels, albeit some nesting has been recorded in some circumstances3 . This is likely because ground-nesting birds often require an unbroken line of sight and therefore would actively avoid nesting at solar farms in most cases. However, it is acknowledged that Solar Farms will actively increase foraging opportunities in most circumstances.

As a result, a bespoke Skylark Mitigation Strategy must be provided if it is indicated that Skylark breeding territories are confirmed to be present and will not be maintained within the development site. This should be completed with consideration of the recent prototype methodology submitted in

CIEEM In Practice4 . Therefore, it is highlighted that a solution justifying that the Solar Farm will overall provide a benefit for Skylark, via the increase of foraging habitat for Skylark, will not be supported by the LPA, unless it can be demonstrated that the wider landscape has ability to support an increased carrying capacity of Skylark.

The implementation of the compensation and enhancement measures could then be secured for the lifetime of the development as a condition of any consent, if suitable compensation can be delivered in the applicant s control. However if suitable land is not available in the applicant s control then any compensation measures may be required to be secured via a legal agreement which could be brokered by the land agent Whirledge and Nott5 .

Brown Hare
Any ecological assessment should also consider likely impacts upon Brown Hare. Therefore, this Priority Species should be recorded during ecological surveys and mitigation and compensation measures should be incorporated where necessary.

Priority habitats The ecological assessment will need to identify whether Priority Habitat is present or immediately adjacent to the site and whether this habitat will be affected by the proposals. If Priority Habitats is to be affected then appropriate considerations, in line with the mitigation hierarchy, should be provided within the report. It is indicated that if Priority Habitat needs to be removed to facilitate the development, then appropriate compensation must be outlined prior to determination.

Schedule 9 Non-native invasive species (NNIS)
Considerations should also be made to any non-native invasive species or risks posed by the development to native species present in the locality.

Biodiversity enhancements and Net Gain
Biodiversity Net Gain is development that leaves biodiversity in a better state than before (CIEEM, 2016). It is also an approach where developers work with local governments, wildlife groups, landowners and other stakeholders in order to support their priorities for nature conservation. The ten principles set out in CI M s paper Biodiversity et Gain - Good practice principles for development, 2016 should be used together to demonstrate net-gain in this development.

The National Planning Policy Framework sets out that projects should provide biodiversity net gains, under paragraphs 174[d] and 180 [d]. Therefore, to ensure that measurable biodiversity net gains will be achieved, a Biodiversity Net Gain Assessment could be submitted to the local planning authority which uses the DEFRA Biodiversity Metric 3.1 (or any successor). The Biodiversity Net Gain Assessment should inform the soft landscape proposals and should ideally guidance contained within the Biodiversity Net Gain Report & Audit Templates (CIEEM, 2021)6 .

Therefore, the plan should contain the full biodiversity metric calculations, including sufficient technical information to justify the baseline habitats condition. The finalised project designs should also be informed by the ecological functionality of the site pre-intervention, with measures implemented to enhance Priority species where applicable. We also encourage the developer to explore all reasonable options to create and restore coherent ecological networks within the site, which can help deliver connectivity across the wider landscape.

It is highlighted that we expect the soft landscaping will contain woodland buffering, species-rich meadow creation on the boundaries of the solar farm and native hedgerow planting / buffering where possible. In addition, it should be determined whether sheep grazing will occur on the land around the panels. If this is the case, then particular consideration should be given to the stocking

density livestock and the timings of when they will be present, as overgrazed Solar Farms will typically provide limited biodiversity value. This should be outlined within any Landscape and Ecological Management Plan to be secured as part of the proposal.

Furthermore, we will expect that bespoke biodiversity enhancements should be incorporated into the development (bat boxes, bird boxes - including options for Barn Owl, reptile hibernacula / log piles etc).

Solar Farm Decommissioning The scheme will also need to consider the de-commissioning ecological impacts of the proposals, as Solar Farms have a relatively short lifespan. Therefore, we recommend that further information must be included within submitted planning documentation to address this matter.

Landscape - Place Services

The site is located to the west of Boxted and to the south of River Glem. The site is made of a series of arable fields divided by vegetated field boundaries sloping down towards the River Glem river valley to the north. There are two ancient woodlands adjoining the southern boundary (Park Wood and Lownage Wood) and Dripping Pan Wood to the north. The woodland blocks (designated and non-designated) and field boundaries are of historic value and contribute to the landscape character of the area.

Looking at the available aerial photography and without the benefit of a site visit, the site boundaries appear to be well vegetated, to the exception of the south-eastern boundary (along the Byway). The condition, density and coverage of the existing vegetation should be assessed through a tree and hedgerow survey. There is a PROW network to the east, part of which forms part of the promoted Glem Valley Walk. There is also a cluster of listed buildings towards the north-east corner of the site, with Water Hall (Grade II) located ad acent to the site s boundary.

Review of proposed scheme
Given this proposal will bring forth development in the countryside, we do have major concerns on the visual and landscape impact as a result. For this reason, it is important that landscape and visual harm is minimised, and existing landscape characteristics and qualities are conserved and enhanced on-site.
The UK Government s position on power is set out in the Overarching ational Policy Statement for Energy (EN-1), which recognises the importance of understanding and addressing landscape and visual impacts (Department of Energy and Climate Change, 2011). It includes a section on criteria for good design for energy infrastructure which states that

> *"Applying "good design" to energy projects should produce sustainable infrastructure sensitive to place, efficient in the use of natural resources and energy used in their construction and operation, matched by an appearance that demonstrates good aesthetic as far as possible. It is acknowledged, however that the nature of much energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area."*

Furthermore, Para 2.4.2 of the National Policy Statement for Renewable Energy Infrastructure (EN-3) also states Proposals for renewable energy infrastructure should demonstrate good design in respect of landscape and visual amenity, and in the design of the project to mitigate impacts such as noise and effects on ecology.

Proposal should have regards to NPPF (2021) Para 174 a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan).

The site is within the Stour Valley Special Landscape Area designation, which is still valid under the current adopted Local Plan (Babergh Local Plan saved Policies (2006)). Relevant Policies include, but are not limited to:

- Policy CR04 Special Landscape Areas which states that development proposals in SLAs will only be permitted where they maintain or enhance the special landscape qualities of the area and have been designed and sited to harmonise with the landscape setting and
- Policy CR07 Landscaping Schemes which re uires development to reflect the characteristics of the locality, use indigenous species and proposed landscaping must link with existing features to provide wildlife corridors. The creation of woodlands is also promoted if appropriate.

The site is also within the Stour Valley Project Area. This assigned area has been defined as a valued landscape for a number of reasons: cultural connections, historical associations, beauty and tranquillity of the countryside. New development in the Stour Valley Project Area should not significantly impact those defined qualities of the area that make it important to residents and visitors. Any new development should also conform with the Dedham Vale AONB and Stour Valley Management Plan 2021-26 and their Management Plan Policies.

Landscape Character
The site is covered by two County level landscape character types (Suffolk Landscape Character Assessment): Undulating Ancient Farmland and Rolling Valley Farmlands.

The key characteristics of the Undulating Ancient Farmland LCT can be reflected on the site and its surrounding:

- Undulating arable landscape
- Oak, ash and field maple as hedgerow trees
- Blocks of ancient woodland
- Dispersed settlement pattern of loosely clustered villages, hamlets and isolated farmsteads
- A large-scale landscape with long undulating open views trees, either in hedges or in woods, are always a prominent feature

The key characteristics of the Rolling Valley Farmlands LCT are:

- Gentle valley sides with some complex and steep slopes
- Organic pattern of fields smaller than on the plateaux

Common guidance for both LCTs below:

- Reinforce the historic pattern of sinuous field boundaries
- Recognise localised areas of late enclosure hedges when restoring and planting hedgerows
- Maintain and increase the stock of hedgerow trees
- Maintain the extent and improve the condition of woodland cover with effective management
- Maintain and restore the stock of moats and ponds in this landscape.

There are a number of elements associated with a solar farm development which have the potential to influence the significance of the impacts on landscape character and visual amenity. These include:

- Height and layout of the panels
- Colour of the panel s surrounding frames
- Treatment of the ground below and between the panels
- Perimeter fencing

As described above, the site carries a number of landscape constraints and because of this we have concerns over the negative impacts that the proposed development will have on this valued landscape and the AONB Project Area which might not be able to be mitigated. Any proposals put forward should also consider the following:

- Previous landscape studies carried out for this area such as the Valued Landscape Assessment Stour Valley Additional Pro ect Area (March 2020) by Alison Farmer Associates.
- Impact on the setting of nearby listed building, Water Hall in particular.
- Appropriate sitting of the solar array and associated infrastructure. The site consists of a series of north facing sloping fields. The topography could increase the negative effects of this development in the landscape.
- Sensitive design, materials and colour of any security/boundary fencing, maintenance tracks and other elements (battery storage, transformer, etc).
- Appropriate landscape mitigation that contributes to the landscape character (Undulating Ancient Farmland and Rolling Valley Farmlands).
- Enhancement planting strengthening of existing field boundaries and vegetation. There are opportunities for hedgerow creation, new hedgerow trees and to strengthen existing vegetations and field boundaries.
- Deliver improvements to biodiversity through wildlife buffer areas and meadow planting under and within the solar array areas.

If the applicant is forthcoming with a planning application, we would recommend the following:

LVIA
An LVIA will be required to accompany any future application. We would expect the principles set out in the third edition of "Guidelines for Landscape and Visual Impact Assessment" (GLVIA3) to be followed. We suggest that methodology, viewpoints and visualisation representation are agreed with the LPA prior to the assessment being undertaken to ensure all parties agree with the approach. All visual representations should also be in line with The Visual Representation of Development Proposals Technical Guidance ote (TG) 06 19 (Landscape Institute September 2019) to ensure the assessment of visual impact is accurate and in turn an appropriate judgement of the assessed impacts can be made. For instance, although the majority of the views may be Type 1 visualisations. Where relevant, we would expect photomontages (Type 3) to be used for those views that will be greatly impacted and/or have the most sensitive receptors.

The LVIA should assess views at worst case scenario and therefore the assessment should be carried out during the winter months, where visual impact is at is maximum.

The LVIA should take into consideration the SLA qualities and valued characteristics when judging the landscape impact and any proposed mitigation. An assessment of the landscape value will be required and should be included in the LVIA. The Landscape Institute has produced technical guidance on this: TGN 02-21: Assessing landscape value outside national designations.

Landscape mitigation recommendations should form part of the LVIA report. For example, the presence of ancient woodlands and woodland areas will require sufficient standoff buffer areas to protect and enhance these habitats.

Trees and Hedgerows
At this stage there is no detail on the proposed solar array layout, but we would expect that this considers the existing field patterns, hedgerows and hedgerow trees. In turn we would expect a Tree Survey and an Arboricultural Impact Assessment to be submitted and approved by the LPA to ensure the development does not have an adverse impact on existing landscape feature. This assessment should be undertaken in accordance with BS 5837:2012 Trees in relation to design demolition and construction recommendations and should provide details on trees and shrubs to be retained and/or removed, the impact on them and any constraints.

Similarly, a Hedgerow Assessment (in accordance with the Hedgerows Regulations 1997) assessing wildlife and landscape value, as well as archaeological and historic value will be required to assess the value of any hedgerows on site or site s boundaries and the impact on them.

Landscape Enhancements
We advise that a Landscape Strategy is submitted as part of any future application. This document should set the overarching principles proposed as part of the scheme. This should include detail on mitigation measures (highlighted in the LVIA), retained landscape features, landscape enhancements and green corridors and connectivity. This should be accompanied by a detailed plan for long term management that details vegetation management techniques such as grazing, mowing and strimming.

Habitat creation opportunities should be explored. These would improve the value and character of the landscape, whilst contributing to local distinctiveness. For example, site buffers and spacings between array rows should be planted with appropriate wildflower mixes and foraging plants. Natural England Technical Information Note (TIN101) provides guidance on how to maximise the environmental benefits of solar parks.

Layout and Design
Because of the topography of this site, the sitting of the solar array and associated infrastructure needs careful consideration, and the proposed development should demonstrate that it does not have a negative effect on the landscape.

Security lighting should be minimised; passive infra-red (PIR) technology should be designed and installed to minimise glare, light pollution and impacts on biodiversity (particularly bats).

Details of how surface water run-off will be managed is needed, especially if new tracks are proposed. Where possible, soft engineered approaches should be incorporated to ensure landscape character is not impacted further and to enhance the green infrastructure network.

SCC - Flood & Water Management

Flood Risk

1) Fluvial Zone 1 Low Probability, land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%)

2) Fluvial Zone 2 Medium Probability, land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% 0.1%) in any year
3) Fluvial Zone 3 High Probability, land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year

Flood Risk Vulnerability Classification					
Flood Zones	**Essential Infrastructure**	**Highly Vulnerable**	**More Vulnerable**	**Less Vulnerable**	**Water Compatible**
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test Required	✓	✓	✓
Zone 3a†	Exception Test Required †	✗	Exception Test Required	✓	✓
Zone 3b*	Exception Test Required*	✗	✗	✗	✓*

Key:

✓ Development is appropriate

X Development should not be permitted

In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.

* In Flood Zone 3b (functional floodplain) essential infrastructure that must be there and has passed the Exception Test, and water-compatible uses, should be designed and constructed to:

- remain operational and safe for users in times of flood; result in no net loss of floodplain storage;
- not impede water flows and not increase flood risk elsewhere.

4) Pluvial Surface water flooding is predicted to affect the site. Risk is low to high.
5) Groundwater None
6) Reservoir None
7) Foul None known

NPPG Surface Water Hierarchy

- Infiltration Mixture of soil type across site, but likely to be permeable.
- Discharge to Watercourse Belstead Brook runs through part of the site
- Discharge to Surface Water Sewer None

Vulnerability Watercourse

- Source Protection Zone III - Total Catchment

Internal Drainage Board District Catchment
Suffolk County Council issue Land Drainage Act consents for most of Suffolk, however, some ordinary watercourses are managed by an Internal Drainage Board (IDB). Where a site is withing a IDB catchment district other drainage levies may also apply;

- None

National Legislation/Codes

- National Planning Policy Framework
- National Planning Policy Guidance
- Defra's Non-Statutory Technical Standards for SuDS
- Building Regulations: Approved Document H - Drainage and Waste Disposal (2015 edition)
- BS8582:2013 Code of Practice for Surface Water Management for Development Sites

Local Policy

- Suffolk Flood Risk Management Strategy and Appendices
- Babergh District Council (CS12 Sustainable Design and Construction Standards & CS15 Implementing Sustainable Development in Babergh)

Anglian Water SuDs Adoption

Anglian Water would expect surface water from the proposed development site to be disposed of using sustainable drainage systems and/or soakaways. Connection to main sewers would only be considered acceptable when evidence is provided, as part of the planning application, to show that the surface water hierarchy has been followed. This evidence should include trial pit logs from infiltration tests and investigations in respect of discharging to a watercourse.

In order for Anglian Water to assess a proposal to dispose surface water into the public network the manhole connection point and the proposed discharge rate would need to be stipulated.

If the applicant would like Anglian Water to consider adopting any on-site SuDS the Expression of Interest form, available on our website, should be completed as soon as possible.

We encourage early engagements with LLFA SuDS teams whenever the Developer indicates they want their SuDS adopted by AW, so we can shape the design even prior to planning approval. As a quick guide to our SuDS adoption criteria:

We will adopt SuDS schemes that are designed and constructed, with our joint engagement, to the criteria within our SuDS adoption manual and CIRIA C753, specifically the design must have the following:

- Effective upstream source control measures;
- Effective SuDS conveyance design;
- Effective SuDS volume control measures;
- Effective exceedance design; and
- Effective maintenance schedule demonstrating that the assets can be maintained both now and in the future with adequate access; and
- Accompanied by a RoSPA risk assessment to demonstrate all safety considerations are included in final design.

Summary
The proposal to demonstrate that they: -

- will not be increase the percentage of impermeable area
- can utilise the existing surface water drainage system or;
- they can design a surface water system in line with the national and local policy/guidance
- Ensure that they have sufficient surface water treatment stages prior to any discharge.

The applicant will need to supply a flood risk assessment and surface water drainage strategy with any applicant. The applicant will need to submit the documents in appendix A, Suffolk Surface Water Drainage (SuDs) Guidance, Standards & Information.

The applicant will need to supply a flood risk assessment and surface water drainage strategy with any application. The applicant will need to submit the documents in appendix A, Suffolk Surface Water Drainage (SuDs) Guidance, Standards & Information.

Please read the LLFA standing advice on flood risk and surface water drainage for PV/Solar farms.

Flooding Standing Advice

Introduction

Suffolk County Council as Lead Local Flood Authority (LLFA) has identified the need for additional guidance and clarification in relation to planning application for Solar Panels (PV) and Solar Farms relating to flood risk and surface water drainage. This builds on principles established by Solar Arrays which have formed part of Nationally Strategic Infrastructure Projects and neighbouring counties flood risk and SuDS guidance with respect to solar arrays.

Flood Risk

It is generally accepted that PV panels and the associated auxiliary buildings/structures have a limited impact on flood risk due to their comparatively small footprint and lack of ground contacting surfaces. However, it does not mean that this does not need to be fully considered. The LLFA will still expect a site-specific flood risk assessment (FRA) to be submitted with every PV application that is more than 1 hectare in size or is in a flood risk area. If the site is within a area at risk of flooding, the flood risk sequential and exception test maybe applied by the local planning authority.

There are several flood risks that need to be assessed, including.

- Fluvial (river)/ Tidal (sea)
- Pluvial (surface water)
- Reservoir
- Groundwater
- Foul/Sewer Flooding

The FRA should include reference to any historical flood instances that have been recorded.

For flood incident records, please contact the lead local flood authority by emailing them floods@suffolk.gov.uk .

If you need assistance with understanding what is required this is the current guidance Flood risk assessments if you're applying for planning permission - GOV.UK (www.gov.uk)

Surface Water Drainage

The density, height and number of PV panels will dictate the type of surface water management system that is required by the LLFA.

This can be done by utilising perimeter swales or filter strips every 5th row of PV panels.

Auxiliary buildings, depending on where they are located, and their plan area can normally have the surface water drainage design/built in accordance with Building Regulations Part H. However, a surface water drainage strategy utilising SuDS principles may be required if the LLFA believe this is necessary depending on the site.

Below Panel Maintenance

As below the panel will normally be laid to grass or pastureland, the type of maintenance will vary depending on how the ground below and around the panels is to be utilised.

Grass

If the area is to be laid to grass, it is recommended that a seed mix is used which provides a ratio of approximately 80/20% grass/wildflower seeds to allow for biodiversity enhancement/net gain. The management of this area should then be carried out in accordance with a management plan that focuses on the target species that are to benefit of the grass and wildflower areas, such as invertebrates and birds. Careful consideration shall be given to the use of wheeled machinery to avoid soil compaction.

Pastureland

If the area below the panels is to be used for pastureland or grazing land, consideration should be given to

- Choice of species of grazing stock (usually sheep)
- Density of livestock stocking (this would usually be expected to be at a low density)
- Intensity of grazing (intermittent conservation grazing would usually be expected)
- Avoidance of soil compaction caused by grazing

Surface Water Flow Routes

Existing flood flow routes or blue corridors should be maintained.

Ordinary Watercourses

If you want to do works to a watercourse in Suffolk, it is likely that you will need to be granted consent by either SCC LLFA, an Internal Drainage Board, or the Environment Agency.

Main rivers are the responsibility of the Environment Agency, and applications to work on main rivers must be submitted to them. You can use this map created by the Environment Agency to find out whether or not the application in question is on a main watercourse.

The responsibility to manage flood risk from ordinary watercourses (streams and ditches, etc) in Suffolk rests with us, as the Lead Local Flood Authority (LLFA). Therefore, anyone who intends to carry out works in, over, under or near an ordinary watercourse in Suffolk must contact us to obtain

Land Drainage Consent before starting the work. The reason for this is to ensure that any works do not endanger life or property by increasing the risk of flooding, or cause harm to the water environment.

More details can be found at https://www.suffolk.gov.uk/roads-and-transport/flooding-and-drainage/working-on-a-watercourse/

Advice:

Principle of Development

Core Strategy policies CS1 and CS2 support the broad principles of sustainable development and guiding development towards the most sustainable locations. Under policy CS2 settlement boundaries are identified which act as locational steers for all development. Areas within defined settlement boundaries are planned to accommodate all types of development and discourages development within the countryside. However, CS2 permits development within countryside locations in exceptional circumstances it is likely to be considered that a renewable energy scheme is one of those exceptional circumstances and is not likely to be suitable nor found within a settlement. The principle of development of a solar farm is therefore likely to be considered in accordance with the development plan.

Moreover, the principle of renewable energy development is supported by the NPPF (and other existing and emerging Government policy). It should be noted that the climate crisis and shifting and evolving world events (including energy and food security) may mean that the overall position and policy stance on renewable energy that feeds down from Central Government could change.

It is noted that Members raised particular concerns in regard to food security and the loss of agricultural land. It is therefore advised that data pertaining to the production level of the land proposed as part of the site area is submitted alongside an application to assist both Officers and Members. Such data should include what the yield of the farm area has been in recent years. Grade 3A land is classified as best and most versatile agricultural land, any adverse loss of this land is likely to warrant a refusal if not justified, Grade 3B is classed as moderate quality agricultural land which is less likely to warrant refusal if there is a significant loss of this land. This data would allow a realistic number to be used during determination and committee discussion and would help quantify the loss of agricultural land in the district and whether this will be an adverse impact.

There is no Grade 2 agricultural land allocation on the site and it is entirely made up of Grade 3 agricultural land. Soil testing will be required to confirm the agricultural land classification of the soil. Information and evidence should accompany a submission, detailing why this proposed location was chosen, especially in lieu of agricultural land available within the district, which may be of a lower graded quality.

As set out in the consultee comments above, this proposal has the potential to adversely affect the local environment including flooding, ecology but predominantly the landscape. It is therefore advised that an Environmental Impact Assessment Screening Opinion (EIA) is applied for to assess what topics should be covered (Scoped in) and omitted (Scoped out) of an environmental statement at application stage.

Ecology

The advice from Place Services Ecology is outlined above which highlights all relevant ecology concerns and constraints that are present on the site and could raise concern at application stage.

Any application submission should demonstrate the impact of the development on protected species, with appropriate assessment and recommendations for mitigation, to enable the LPA to discharge its statutory duty in determining the application.

Reports must be undertaken by an appropriately qualified person and must take account of UK and European protected species, designated sites and priority habitats and sites.

The application must detail proposals for biodiversity net gain and enhancement measures, in accordance with the NPPF, including provision for decommissioning and reinstatement of the site.

Landscaping and visual impact

The advice from Place Services Landscape is outlined above which highlights all relevant landscape concerns and constraints that are present on the site and could raise concern at application stage.

Given the countryside location, topography of the area, the nature and scale of the development, including the specific features of solar array developments such as glint and glare, and the availability of public views across the site, it is highly probable that the proposal will have a substantial visual impact on the character and appearance of the area.

The Landscape officer raises major concerns in this respect and any application submission must adequately assess the visual impact of the development and provide appropriate mitigation measures.

The site lies within a designated Special Landscape Area and, as such, the proposal is considered likely to conflict with policy CR04.

Heritage

The advice from Babergh Mid Suffolk s Heritage Team is outlined above which highlights all relevant heritage concerns and constraints that are present on the site and could raise concern at application stage.

A proposal that includes the curtilage or setting of a Listed Building or works to a Listed Building must respond to this significant consideration. The duty imposed by the Listed Buildings Act 1990 imposes a presumption against the grant of planning permission which causes harm to a heritage asset. A finding of harm, even less than substantial harm, to the setting of a listed building must be given considerable importance and weight . (Bath Society v Secretary of State for the Environment [1991] 1 W.L.R. 1303).

There are a number of heritage assets which have the potential to be impacted by the proposal through change within their setting. A Heritage Impact Assessment (HIA) will be required in accordance with paragraph 194 of the NPPF, should be proportionate and sufficient to understand the potential impact to the heritage assets significance. The heritage assessment should use the stepped approach to assessing the setting of heritage assets contained within Historic ngland s Good Practice in Planning Advice Note 3: The Setting of Heritage Assets.

Due regard should be given to non-designated heritage assets.

The Heritage Team have assessed there is likely to be a low to medium amount of less than substantial harm cause by this proposal. Paragraph 202 of the NPPF would be a relevant consideration and a balanced judgement between the level of harm and the public benefits would be required.

Highways

The advice from Suffolk County Council s Highways is outlined above which highlights all relevant highways concerns and constraints that are present on and around the site and could raise concern at application stage.

The operation of the proposed development is unlikely to generate significant traffic movements, such that it would have an unacceptable highway impact. However, the impact of traffic associated with the construction and decommissioning phases are likely be significant, such that a Construction Management Plan will likely be required.

An application submission should include details of anticipated vehicle types, volumes, access points and routes.

The route to the site from the B1066 is a narrow single track road with limited opportunities for vehicles (particularly large vehicles) to pass one another and a narrow bridge. It is considered that significant volumes of large (HGV) traffic movements on this road may be detrimental to highway safety, even for a limited period of time. Details of how this would be managed to avoid conflicting movements, including any mitigation should be clearly set out in any planning submission.

Accesses must be constructed appropriately for their intended use including provision of sufficient visibility splays.

Flood risk

The advice from Suffolk County Council s Floods is outlined above which highlights all relevant flooding concerns and constraints that are present on and around the site and could raise concern at application stage.

It is generally accepted that PV panels and the associated ancillary buildings/structures have a limited impact on flood risk due to their comparatively small footprint and lack of ground contacting surfaces.

An application submission will need to include a Flood Risk Assessment and Surface Water Drainage Strategy and should have regard to the SCC standing advice for solar developments.

The site is mostly contained within Flood Zone 1 (low fluvial flood risk) however parts of the site are located within Flood Zone 2 (medium fluvial flood risk) and 3 (high fluvial flood risk). Having reviewed surface water flooding maps again, most of the site is at a very low risk of surface water flooding but there are portions that are in areas which have up to a high risk of surface water flooding.

Any land that is at risk of pluvial (low, medium or high) and fluvial (Flood Zones 2 and 3) flooding, should be excluded from the site area (site location plan). All development should be within areas at the very lowest risk of flooding in order for the development to pass the flood risk sequential test as there would reasonably be other agricultural land wholly at a very low risk of flooding within the district. Therefore, if any of the proposed site is vulnerable to flooding an application would likely fail the sequential test.

Conclusions/ Planning Balance

Planning policy is generally supportive of appropriate renewable energy development providing the impacts of the development are or can be made acceptable.

In this instance there are a number of likely impacts that would need to be addressed and demonstrated in any application submission. There is particular concern regarding the adverse visual impact of the development. An application for planning permission will be refused if it cannot be demonstrated, to the satisfaction of the LPA, that the visual impact of the development is or can be made acceptable.

The development also has the potential for heritage, residential amenity, biodiversity, flooding and highway impacts that are material considerations and will need to be adequately assessed and demonstrated together with recommendations for appropriate mitigation to ensure the impacts are or can be made acceptable.

Planning Risk Assessment

Although policies generally to support renewable energy proposals, it is important to note the changing political climate could have an impact on the acceptability of this scheme if an application were put forward. Solar farm proposals create a high profile and a lot of public interest which results in multiple comments being submitted that will be considered during determiantion. All material planning considerations that affect this proposal should be addressed at application stage through the supporting materials noted below. Harm cause to any designated assets including heritage assets and designated landscape assets should be mitigated as much as reasonably possible, if this is not done to an acceptable level then the application is unlikely to be supported. The harm caused and mitigation methods provided will be fully assessed by statutory consultees and support is subject to their full assessment.

Expected Supporting Material in the Event of a Planning Application

Our Joint Local Validation Checklist sets out the details required for each application and this is available at https://www.babergh.gov.uk/planning/development-management/apply-for-planning-permission/national-and-local-validation-requirements/ However on the basis of the information provided I would particularly draw your attention to the need to provide:.....

- Landscape Visual Assessment
- Hedgerow Assessment
- Landscape Enhancement Scheme
- Ecological Assessment
- Preliminary Roost Assessment
- Bat Activity Survey
- Wildlife Suitability Index Assessment for Great Crested Newts
- Breeding Bird Survey

- Skylark Mitigation Strategy
- Transport Statement
- Site Specific Flood Risk Assessment
- Surface Water Drainage Strategy
- Construction Management Plan
- Heritage Impact Assessment

This is not an exhaustive list of all documents and information which need to support your application, as mentioned above please consult the Joint Local Validation Checklist.

- For Householder development (not suitable for joint Listed Building Application) you can submit electronically on our website https://www.midsuffolk.gov.uk/planning/development-management/apply-for-planning-permission/

- For all types of development you can submit electronically via the Planning Portal https://www.planningportal.co.uk/info/200232/planning_applications (please note that applying via this site may incur a submission charge)

- For all types of development you can download the relevant application form from the Planning Portal and send to us by email or post https://www.planningportal.co.uk/info/200126/applications/61/paper_forms

Application Progress

If you submit a formal application we recommend you track its progress by searching using your application reference on our Public Access webpage and reviewing any comments received.

Technical Consultees are expected to provide formal comments within 21 days from the validation date but may do so sooner. By tracking the progress of your application this can allow you to review comments and provide any additional information during the course of the application.

Note: Pre-applications are not available to search online.

You can register and sign up to receive alerts for your application and any others in your area. Details of how to register can be found on our website via this link:

https://www.babergh.gov.uk/assets/DM-Planning-Uploads/Idox-PA-3.1-for-Planning-User-Guide.pdf.pdf

Contributions

Community Infrastructure Levy

Applications for development are subject to Community Infrastructure Levy (CIL).

All new build development over 100sqm (internal), including residential extensions and annexes and all new dwellings regardless of size must pay CIL.

CIL is payable on Permitted Development as well as Planning Permission development

CIL is payable when the development is commenced and you must notify of commencement using the appropriate forms

Failure to submit a Form 6 Commencement Notice and give a minimum of 1 days notice of commencement will result in the loss of exemptions, relief and/or the right to pay CIL by instalments.

As part of any application you will need to submit the appropriate CIL form. Further information is available on our website:
https://www.midsuffolk.gov.uk/planning/community-infrastructure-levy-and-section-106/community-infrastructure-levy-cil/

The CIL forms are also available online:
https://www.planningportal.co.uk/info/200126/applications/70/community_infrastructure_levy/5

The phasing of community infrastructure levy (CIL) payments may be very important to your cash flow and viability of a development, especially for major developments and any development with Self Build Housing aspirations. If it is intended at any time that your development will be phased then you will need to ensure such phasing is expressly detailed in the planning application prior to determination. You should ensure phasing is clear within the description of development, any conditions imposed and any planning obligations. You will need to also ensure the planning case officer is fully aware of the intention to phase the development and include a phasing plan that shows the relevant phases of the development as well as a clear linear sequence of such phases that would align with the phasing of CIL payments you would find acceptable.

Building Control

Pre-application advice is also available from our Building Control Team. Find information online: https://www.midsuffolk.gov.uk/building-control/ or contact the Building Control Manager, Paul Hughes, on 01449 724502. We can offer specialist support, local knowledge and a quality service with expert independent and impartial advice.

Charges include access to the surveyor appointed for any query that may arise before or during construction as well as a tailored inspection regime including inspections which only need to be booked by 10am on the day the inspection is required.

We can also provide carbon emission / fabric energy efficiency calculations at pre-application stage to support planning applications and the necessary Part L calculations and Energy Performance Certificates for Building Regulations compliance and our partners at LABC Warranty can offer a very competitive warranty for all new dwellings which we would be happy to provide further details for / liaise with on your behalf.

NOTES

Please note that any advice provided by the Council s Officers is informal opinion only and is made without prejudice to any formal determination which may be given in the event of an application being submitted. In particular, it will not constitute a formal response or decision of the Council with regard to any future planning applications, which will be subject to wider consultation and publicity. Although the Case Officer may indicate the likely outcome of a subsequent planning application, no guarantees can or will be give about the decision.

This advice is based on the information provided, background details and constraints at the current time. These circumstances can change and this may affect the advice you have received. You may wish to seek confirmation that the circumstances have not changed if you are considering submitting an application and any substantial amount of time has passed since the date of this advice.

Isaac Stringer

Planning Officer

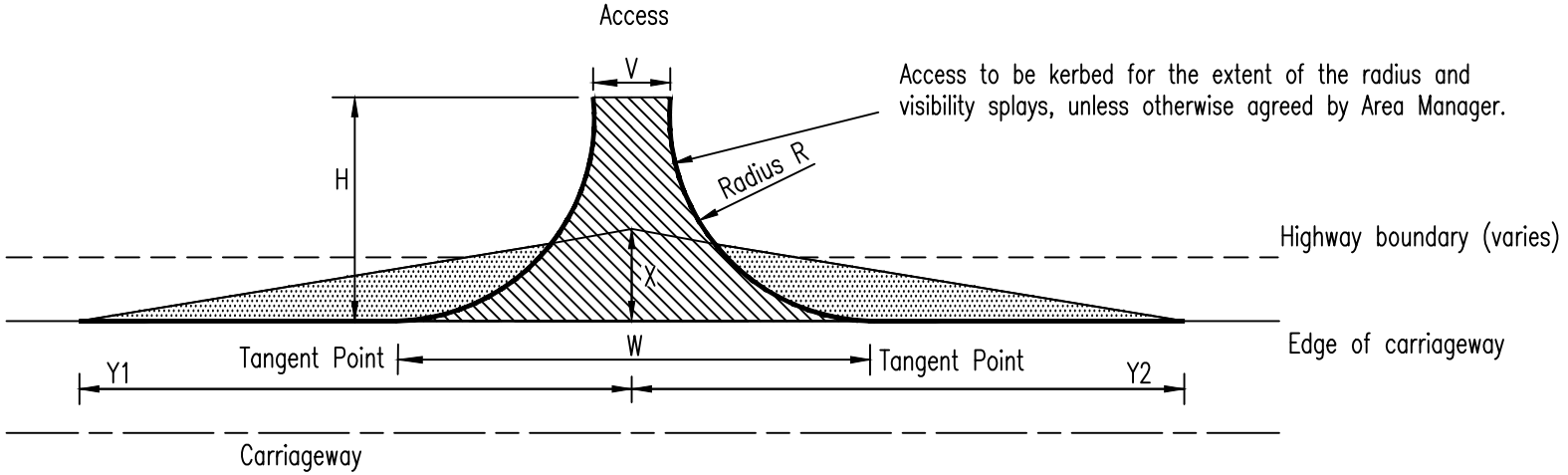
Tel:

Email: isaac.stringer@baberghmidsuffolk.gov.uk

8th November 2022

Any questions please contact us

APPENDIX C – SUFFOLK COUNTY COUNCIL DEVELOPMENT MANAGEMENT DRAWING DM04.



LAYOUT DM04

NOTES

1. It is an offence to carry out any works within the public highway without permission of the Highway Authority.
2. Any conditions which the Local Planning Authority may give involving the use of this drawing do NOT give the applicant permission to carry out works within the Public Highway.
3. Unless otherwise agreed in writing all works within the Highway will be carried out by the County Council at the applicant's expense.
4. To gain permission to construct, Suffolk Highways must be contacted. Information is shown opposite.
5. Area to be constructed to the satisfaction of the Local Planning Authority in consultation with the County Council as Highway Authority.
6. Visibility Splay areas to be free from all obstructions to visibility exceeding h above carriageway level.
7. Sufficient sustainable drainage will be required to prevent surface water entering the Highway.
8. Gate should be set back a minimum of 20m (or dimension to suit regular use) and open inwards.

Dimensions in Metres (min):		
Entrance Position	H	15.0
Visibility Height	h	0.6
Visibility Splay Set Back	X	2.4**

** Unless conditioned otherwise

Radius	R	
Entrance Width	V	
Access Width	W	

Specify min dimensions in planning response.

	Speed limit:	30mph (MfS)*	30mph (where MfS* does not apply)	40mph	50mph	60mph
Visibility Splay	Y1 & Y2	43/59#	90	120	160	215

* MfS Manual for Streets – SCC can advise where these standards apply.
# 43m is appropriate where actual speeds are considered to be within the 30mph speed limit. 59m includes an allowance of a small margin for speeds in excess of the speed limit.

CONTACT INFORMATION

Contact Suffolk Highways via:
customer.service@suffolk.gov.uk or
tel: 0345 606 6067

Suffolk County Council

Growth, Highways and Infrastructure
Suffolk County Council
Endeavour House,
8 Russell Road
Ipswich
IP1 2BX

INDUSTRIAL AND FARM ACCESS LAYOUT

REV.	DESCRIPTION	CHECKED	DATE
A	Drawing Revsion	SDB	10/14
B	Contact information changed	SM	08/17	

	INIT.	DATE
ORIGINATOR	REH	09/12
CHECKER	JN	09/12
DESIGNER	SDB	09/12
REVIEWER	CAG	09/12

PROJECT TITLE: DEVELOPMENT MANAGEMENT DRAWINGS
SCALE: Not to Scale
DATE: Sept 2012
DRAWING No.: DM04

Plot date 27/02/2018

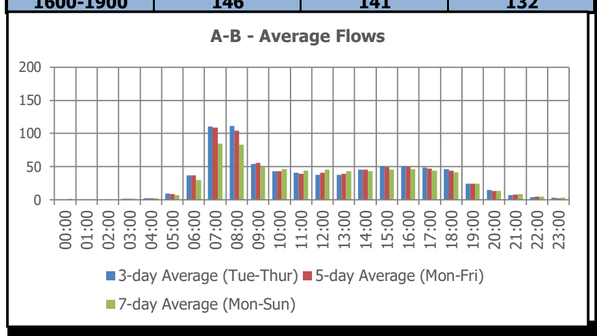
APPENDIX D – ATC SURVEY RESULTS: SPEED AND CLASS SUMMARIES

Intelligent Data Collection Limited

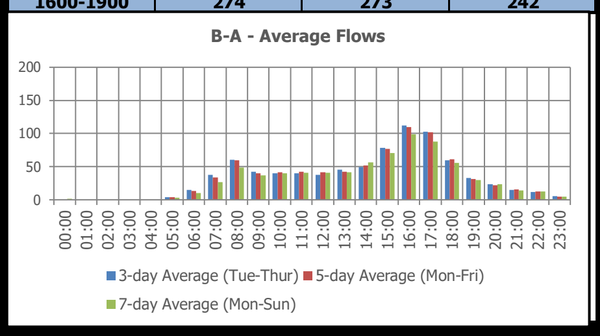
Pegasus Group
Boxted Suffolk

Flow Reporting

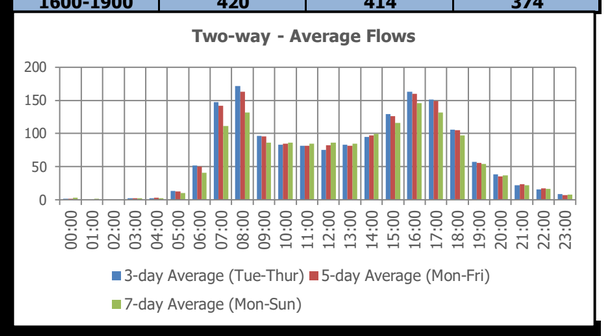
A-B Hourly Summary Data			
Time Interval	3-day Average (Tue-Thur)	5-day Average (Mon-Fri)	7-day Average (Mon-Sun)
00:00	0	1	2
01:00	0	0	1
02:00	0	1	1
03:00	1	2	2
04:00	2	3	2
05:00	9	9	7
06:00	37	37	30
07:00	110	109	84
08:00	111	104	83
09:00	54	55	49
10:00	43	43	46
11:00	41	39	44
12:00	37	41	45
13:00	38	39	43
14:00	46	45	43
15:00	51	50	45
16:00	51	50	47
17:00	49	47	44
18:00	46	44	41
19:00	24	25	24
20:00	15	13	13
21:00	7	8	8
22:00	4	5	5
23:00	3	3	4
0700-1000	**276**	**268**	**217**
1600-1900	**146**	**141**	**132**



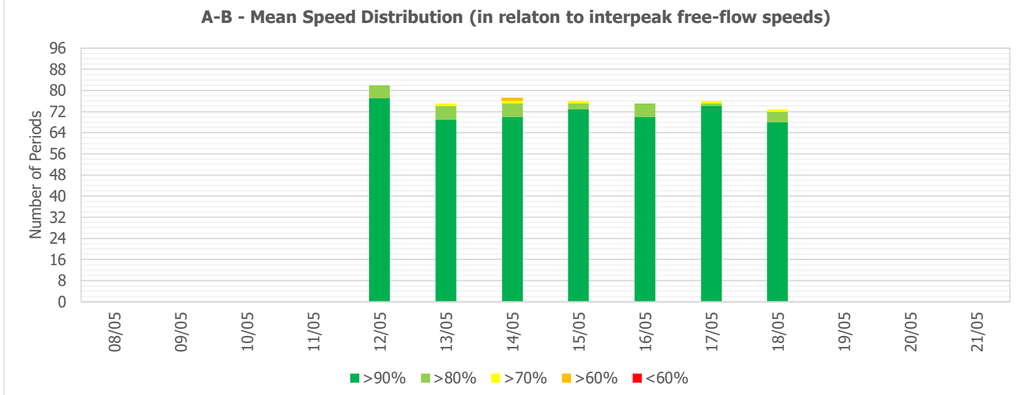
B-A Hourly Summary Data			
Time Interval	3-day Average (Tue-Thur)	5-day Average (Mon-Fri)	7-day Average (Mon-Sun)
00:00	1	1	2
01:00	0	0	1
02:00	0	0	0
03:00	1	1	1
04:00	0	0	0
05:00	4	4	3
06:00	15	13	10
07:00	37	33	27
08:00	61	59	49
09:00	42	40	37
10:00	40	42	40
11:00	40	42	41
12:00	38	41	41
13:00	45	42	42
14:00	49	52	56
15:00	78	77	71
16:00	112	110	99
17:00	103	102	88
18:00	60	61	56
19:00	33	31	30
20:00	24	22	23
21:00	15	15	14
22:00	12	13	12
23:00	5	4	4
0700-1000	**140**	**133**	**112**
1600-1900	**274**	**273**	**242**

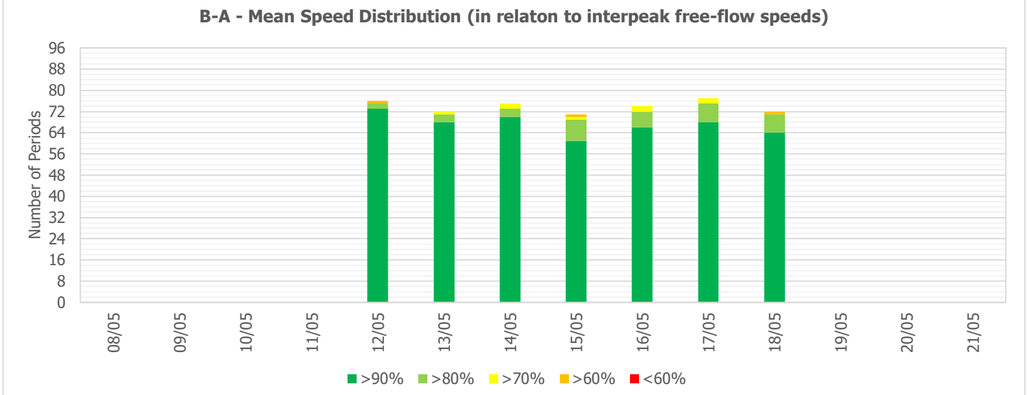


Two-Way Hourly Summary Data			
Time Interval	3-day Average (Tue-Thur)	5-day Average (Mon-Fri)	7-day Average (Mon-Sun)
00:00	1	2	3
01:00	0	1	1
02:00	1	1	1
03:00	2	2	2
04:00	3	3	2
05:00	13	12	10
06:00	52	50	40
07:00	148	142	111
08:00	172	163	132
09:00	96	96	86
10:00	83	85	86
11:00	81	81	85
12:00	75	82	86
13:00	83	82	84
14:00	95	97	100
15:00	130	126	116
16:00	163	160	146
17:00	151	149	132
18:00	106	105	97
19:00	57	56	54
20:00	39	35	37
21:00	22	23	22
22:00	16	17	17
23:00	8	7	8
0700-1000	**416**	**401**	**329**
1600-1900	**420**	**414**	**374**

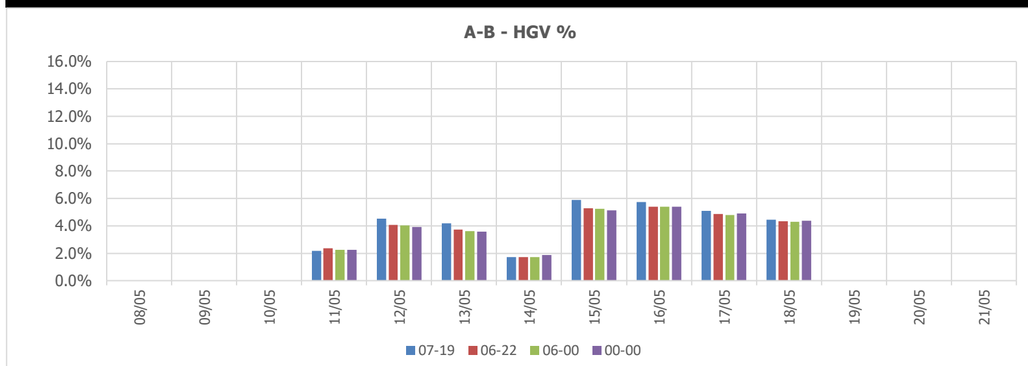


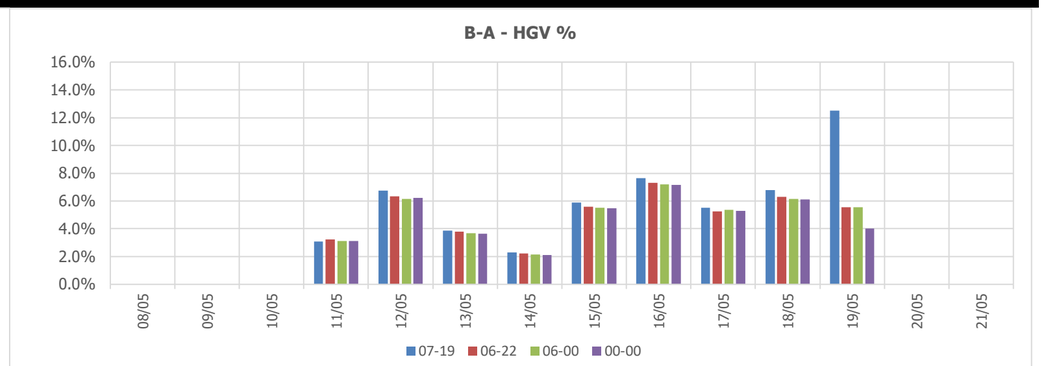
Mean Speed Distributions



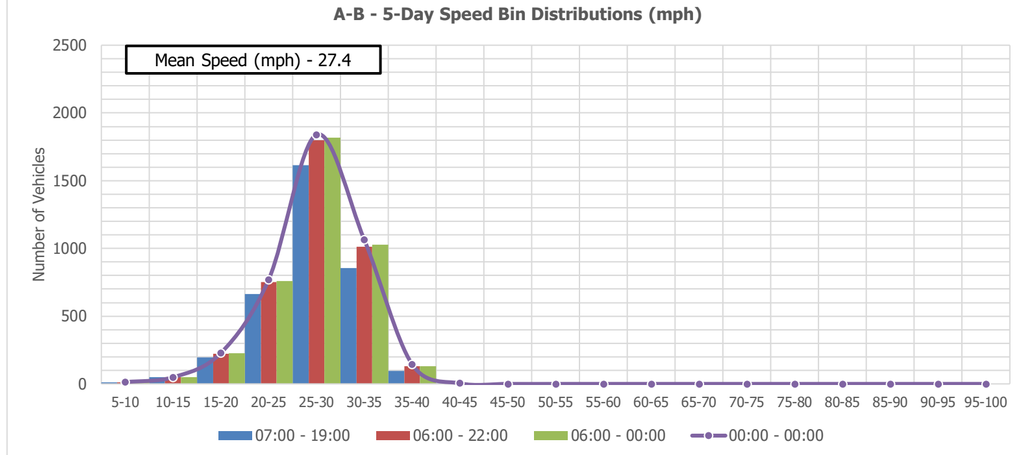


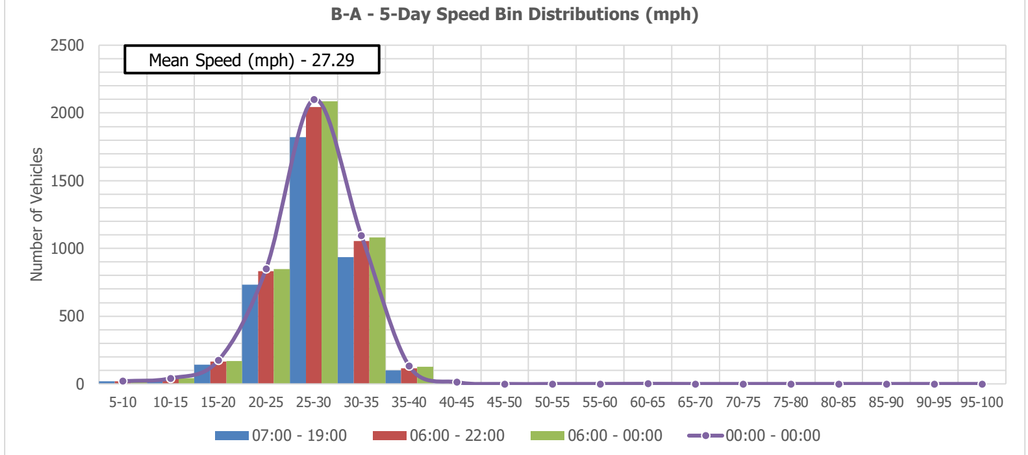
HGV%





Speed Bin Distributions



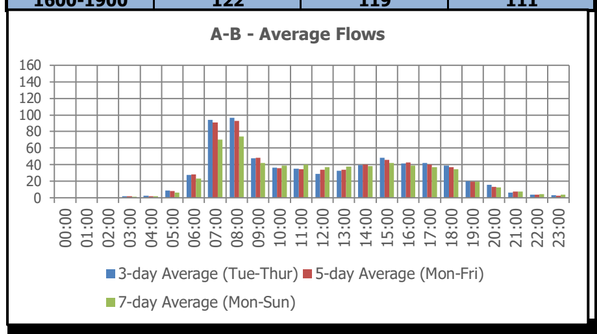


Intelligent Data Collection Limited

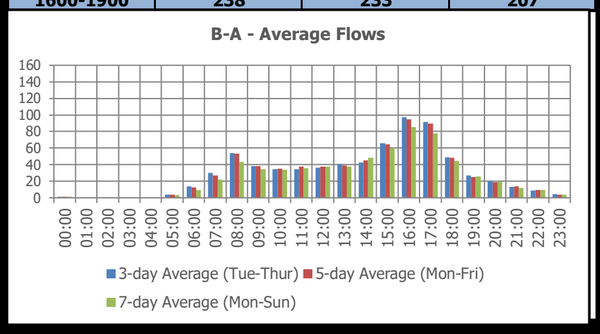
Pegasus Group
Boxted Suffolk

Flow Reporting

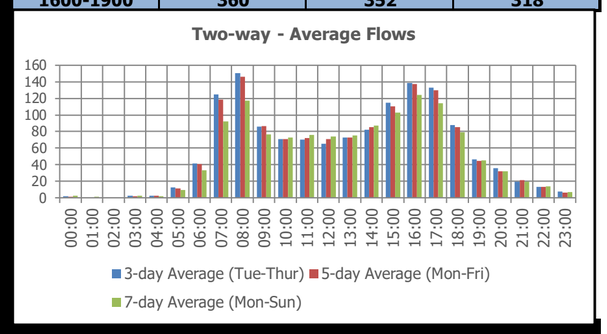
A-B Hourly Summary Data			
Time Interval	3-day Average (Tue-Thur)	5-day Average (Mon-Fri)	7-day Average (Mon-Sun)
00:00	1	1	1
01:00	0	0	1
02:00	0	1	1
03:00	2	2	2
04:00	2	2	2
05:00	9	8	6
06:00	28	29	24
07:00	94	91	70
08:00	97	93	74
09:00	48	48	42
10:00	36	36	39
11:00	35	35	40
12:00	29	34	37
13:00	32	34	37
14:00	40	40	38
15:00	49	46	42
16:00	42	42	39
17:00	42	40	37
18:00	39	37	35
19:00	20	20	20
20:00	16	13	13
21:00	6	8	8
22:00	4	4	4
23:00	3	2	4
0700-1000	239	232	186
1600-1900	122	119	111



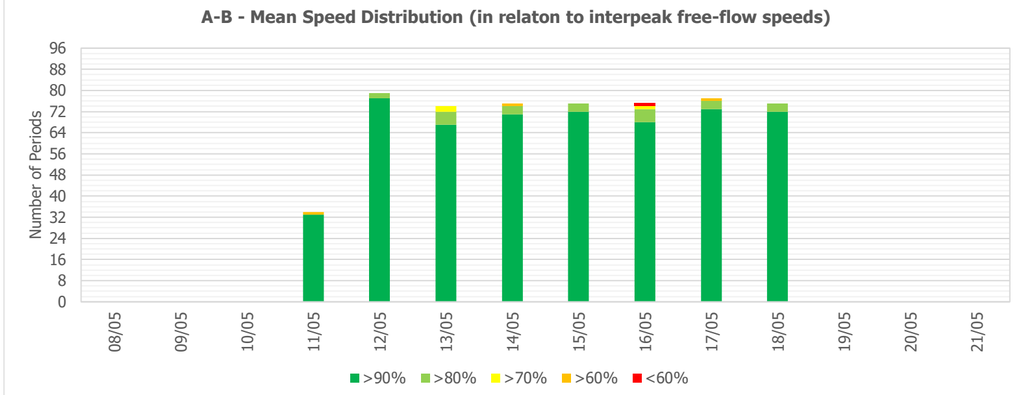
B-A Hourly Summary Data			
Time Interval	3-day Average (Tue-Thur)	5-day Average (Mon-Fri)	7-day Average (Mon-Sun)
00:00	1	1	2
01:00	0	0	1
02:00	0	0	0
03:00	1	1	1
04:00	0	0	0
05:00	4	4	3
06:00	14	13	10
07:00	30	27	22
08:00	54	53	43
09:00	38	38	35
10:00	34	35	34
11:00	35	37	36
12:00	36	37	37
13:00	41	39	38
14:00	43	45	49
15:00	66	65	60
16:00	97	95	85
17:00	92	90	78
18:00	49	48	45
19:00	27	25	26
20:00	20	19	20
21:00	13	14	12
22:00	9	10	9
23:00	5	4	4
0700-1000	122	119	100
1600-1900	238	233	207

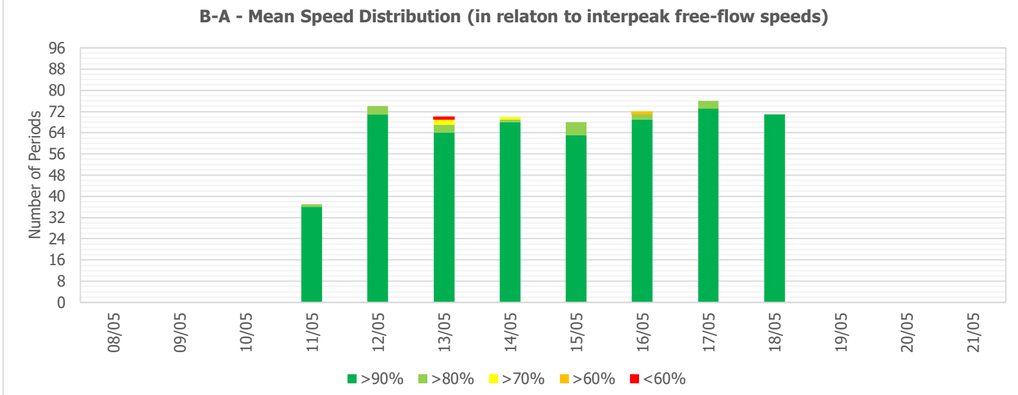


Two-Way Hourly Summary Data			
Time Interval	3-day Average (Tue-Thur)	5-day Average (Mon-Fri)	7-day Average (Mon-Sun)
00:00	2	2	2
01:00	0	1	1
02:00	1	1	1
03:00	2	2	2
04:00	3	3	2
05:00	13	12	9
06:00	41	41	33
07:00	125	118	92
08:00	151	146	117
09:00	86	87	76
10:00	71	71	73
11:00	70	72	76
12:00	65	71	74
13:00	73	73	75
14:00	82	85	87
15:00	115	110	103
16:00	139	137	124
17:00	133	130	114
18:00	88	85	79
19:00	47	45	45
20:00	36	32	32
21:00	19	21	20
22:00	13	13	14
23:00	8	6	7
0700-1000	361	351	286
1600-1900	360	352	318



Mean Speed Distributions





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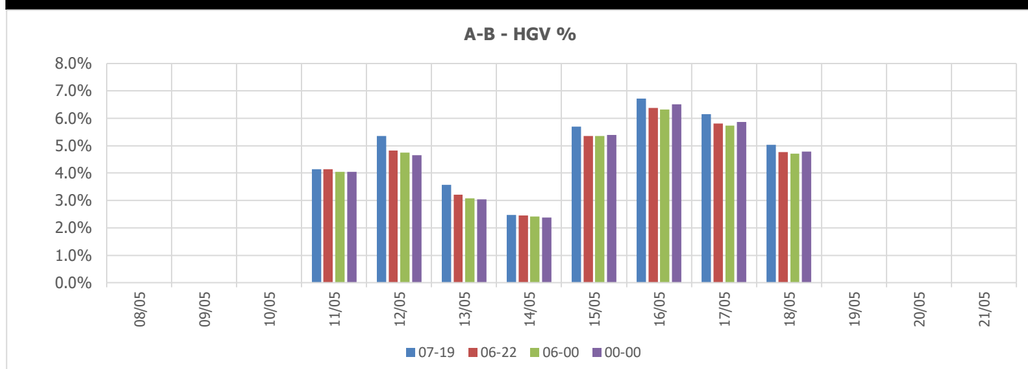
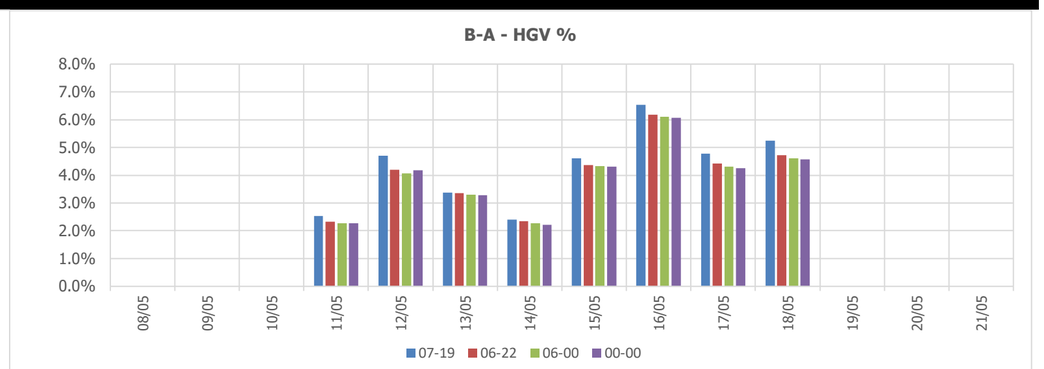
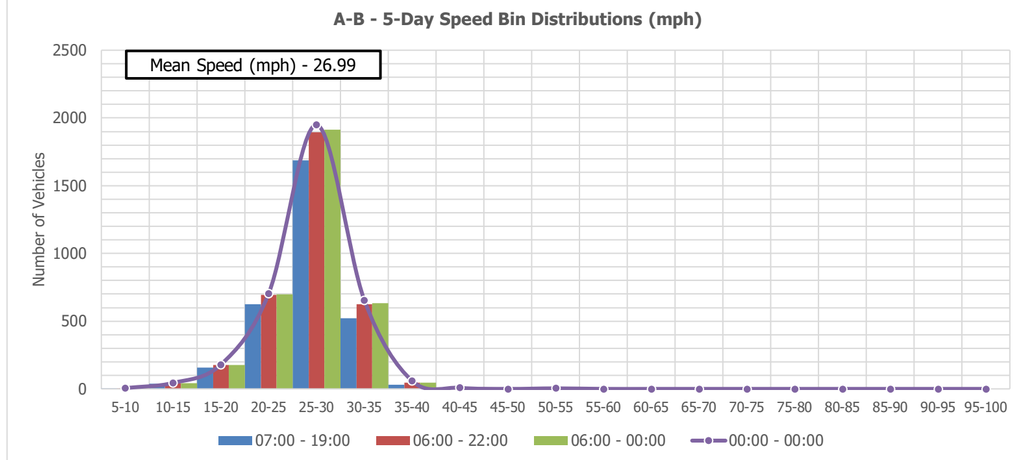
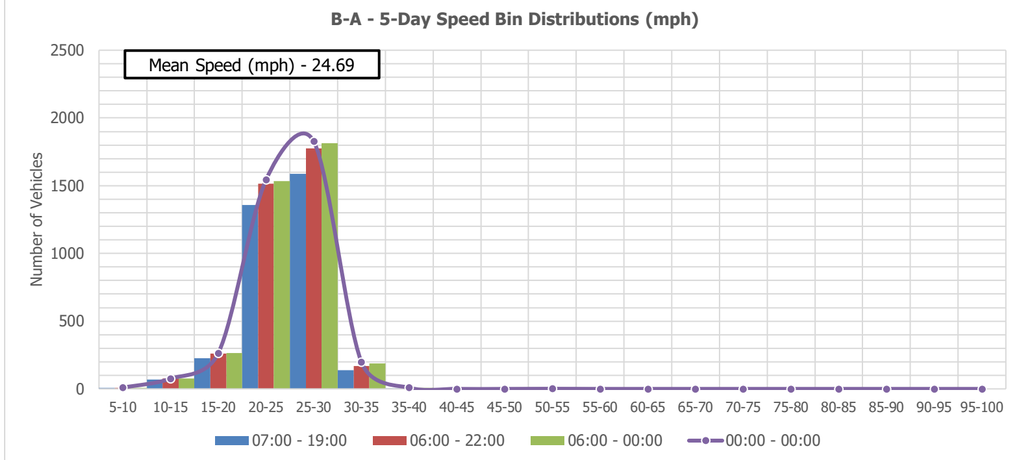




Speed Bin Distributions





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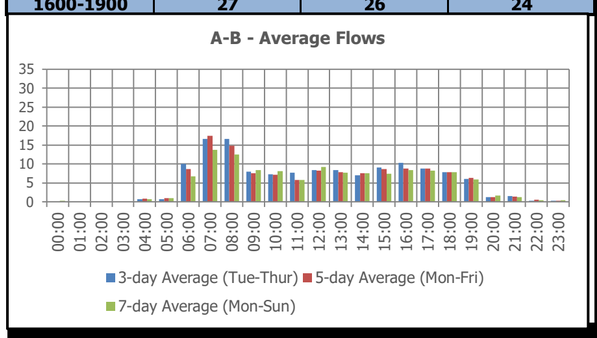
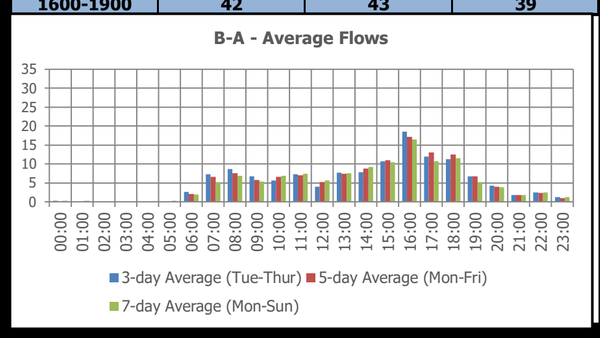
Pegasus Group
Boxted Suffolk

Flow Reporting

A-B Hourly Summary Data			
Time Interval	3-day Average (Tue-Thur)	5-day Average (Mon-Fri)	7-day Average (Mon-Sun)
00:00	0	0	0
01:00	0	0	0
02:00	0	0	0
03:00	0	0	0
04:00	1	1	1
05:00	1	1	1
06:00	10	9	7
07:00	17	17	14
08:00	17	15	12
09:00	8	8	8
10:00	7	7	8
11:00	8	6	6
12:00	8	8	9
13:00	8	8	8
14:00	7	8	8
15:00	9	9	7
16:00	10	9	8
17:00	9	9	8
18:00	8	8	8
19:00	6	6	6
20:00	1	1	2
21:00	2	1	1
22:00	0	1	0
23:00	0	0	0
0700-1000	41	40	35
1600-1900	27	26	24



B-A Hourly Summary Data			
Time Interval	3-day Average (Tue-Thur)	5-day Average (Mon-Fri)	7-day Average (Mon-Sun)
00:00	0	0	0
01:00	0	0	0
02:00	0	0	0
03:00	0	0	0
04:00	0	0	0
05:00	0	0	0
06:00	3	2	2
07:00	7	7	5
08:00	9	8	7
09:00	7	6	5
10:00	6	7	7
11:00	7	7	7
12:00	4	5	6
13:00	8	7	8
14:00	8	9	9
15:00	11	11	10
16:00	19	17	17
17:00	12	13	11
18:00	11	13	12
19:00	7	7	5
20:00	4	4	4
21:00	2	2	2
22:00	3	2	3
23:00	1	1	1
0700-1000	23	20	17
1600-1900	42	43	39



Two-Way Hourly Summary Data			
Time Interval	3-day Average (Tue-Thur)	5-day Average (Mon-Fri)	7-day Average (Mon-Sun)
00:00	0	0	1
01:00	0	0	0
02:00	0	0	0
03:00	0	0	0
04:00	1	1	1
05:00	1	1	1
06:00	13	11	9
07:00	24	24	19
08:00	25	22	19
09:00	15	13	14
10:00	13	14	15
11:00	15	13	13
12:00	12	13	15
13:00	16	15	15
14:00	15	16	17
15:00	20	20	18
16:00	29	26	25
17:00	21	22	19
18:00	19	20	19
19:00	13	13	11
20:00	6	5	6
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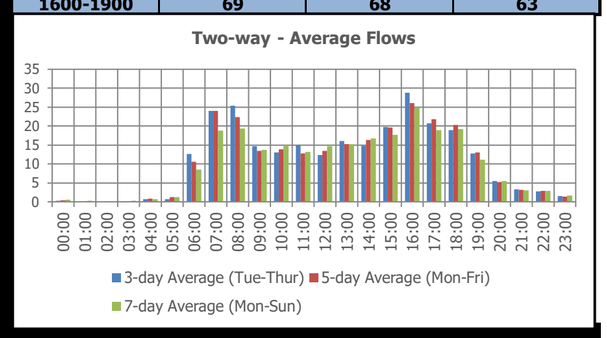
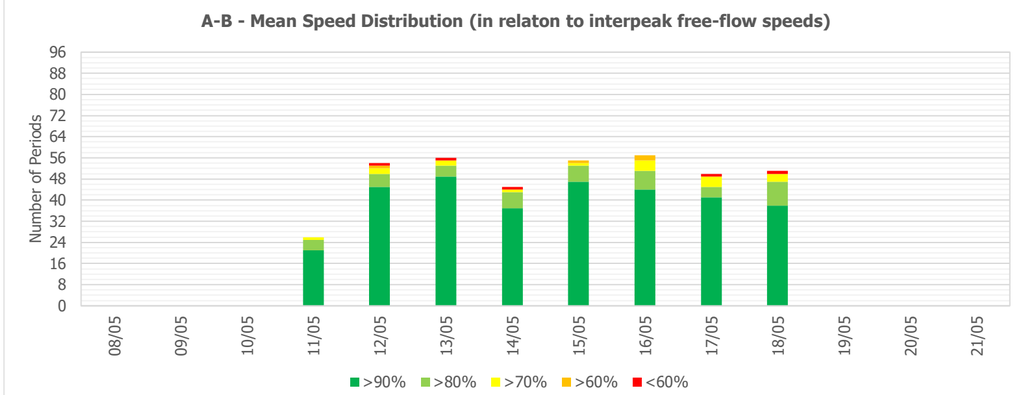
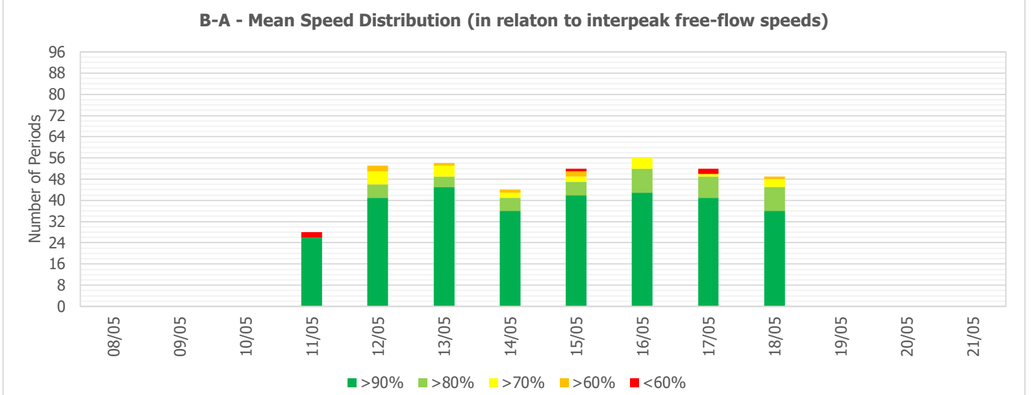
22:00	3	3	3
23:00	2	1	2
0700-1000	64	60	52
1600-1900	69	68	63

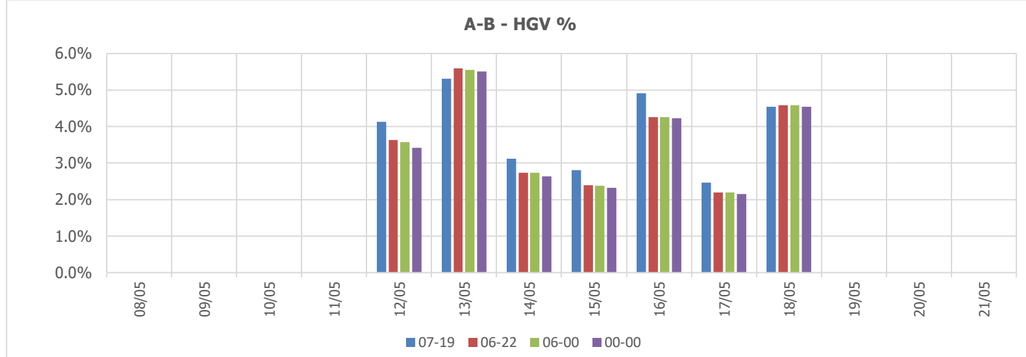


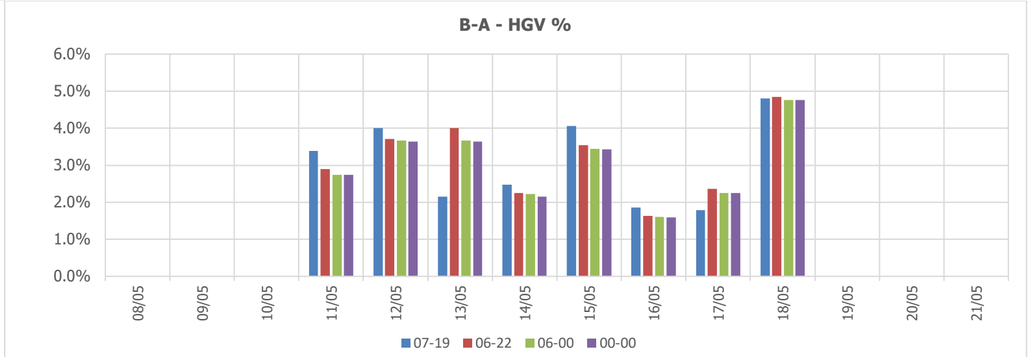
Mean Speed Distributions



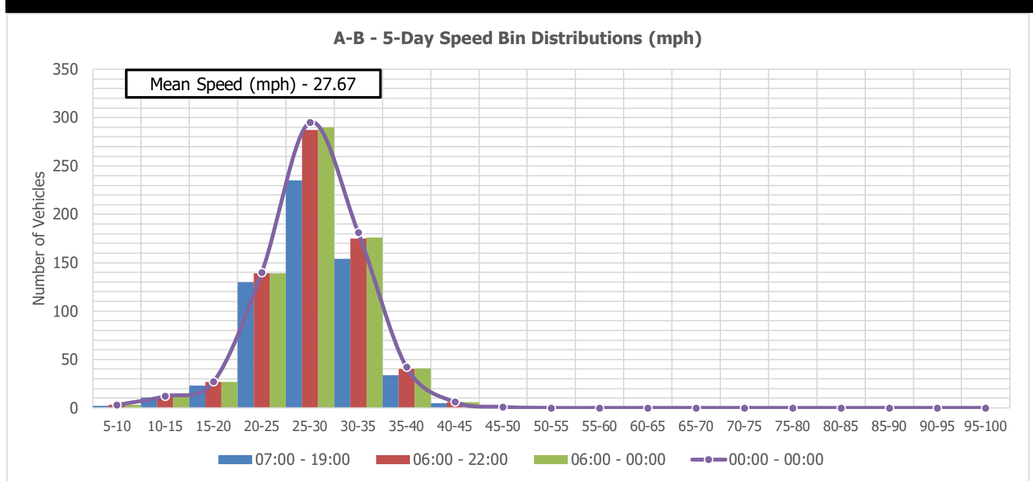


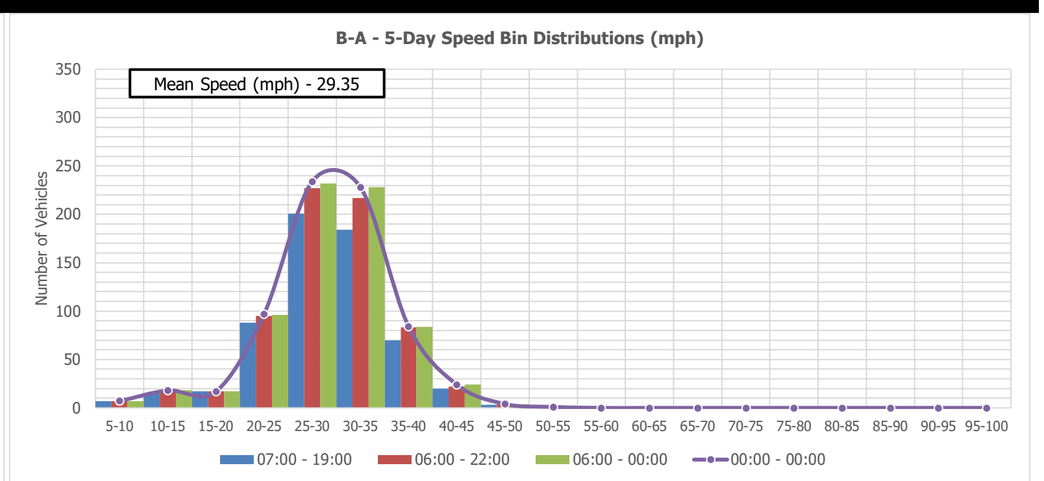
HGV%





Speed Bin Distributions





Intelligent Data Collection Limited

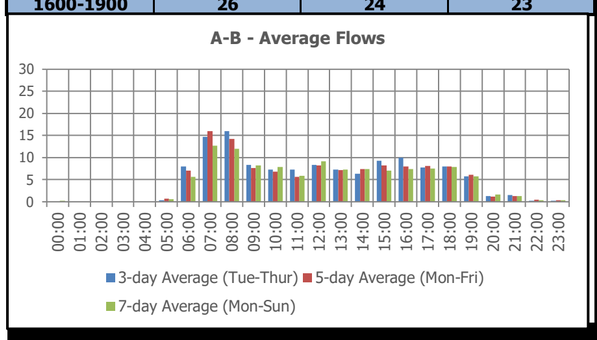
Pegasus Group
Boxted Suffolk

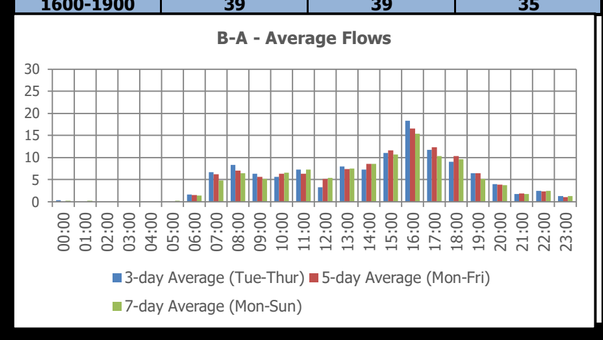
Flow Reporting

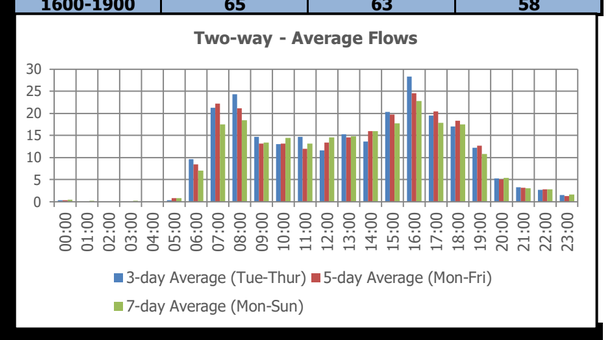
A-B Hourly Summary Data			
Time Interval	3-day Average (Tue-Thur)	5-day Average (Mon-Fri)	7-day Average (Mon-Sun)
00:00	0	0	0
01:00	0	0	0
02:00	0	0	0
03:00	0	0	0
04:00	0	0	0
05:00	0	1	1
06:00	8	7	6
07:00	15	16	13
08:00	16	14	12
09:00	8	8	8
10:00	7	7	8
11:00	7	6	6
12:00	8	8	9
13:00	7	7	7
14:00	6	7	7
15:00	9	8	7
16:00	10	8	7
17:00	8	8	8
18:00	8	8	8
19:00	6	6	6
20:00	1	1	2
21:00	2	1	1
22:00	0	1	0
23:00	0	0	0
0700-1000	39	38	33
1600-1900	26	24	23

B-A Hourly Summary Data			
Time Interval	3-day Average (Tue-Thur)	5-day Average (Mon-Fri)	7-day Average (Mon-Sun)
00:00	0	0	0
01:00	0	0	0
02:00	0	0	0
03:00	0	0	0
04:00	0	0	0
05:00	0	0	0
06:00	2	2	1
07:00	7	6	5
08:00	8	7	6
09:00	6	6	5
10:00	6	6	7
11:00	7	6	7
12:00	3	5	5
13:00	8	7	8
14:00	7	9	9
15:00	11	12	11
16:00	18	17	15
17:00	12	12	10
18:00	9	10	10
19:00	7	7	5
20:00	4	4	4
21:00	2	2	2
22:00	3	2	3
23:00	1	1	1
0700-1000	21	19	16
1600-1900	39	39	35

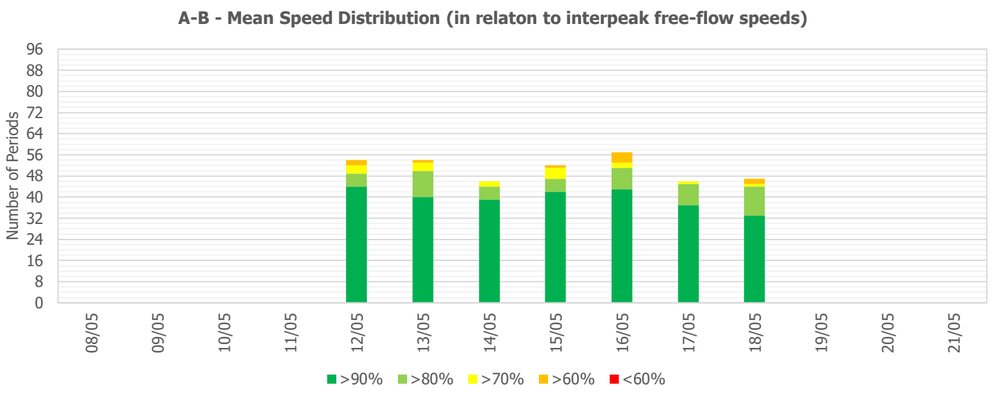
Two-Way Hourly Summary Data			
Time Interval	3-day Average (Tue-Thur)	5-day Average (Mon-Fri)	7-day Average (Mon-Sun)
00:00	0	0	1
01:00	0	0	0
02:00	0	0	0
03:00	0	0	0
04:00	0	0	0
05:00	0	1	1
06:00	10	9	7
07:00	21	22	18
08:00	24	21	18
09:00	15	13	13
10:00	13	13	14
11:00	15	12	13
12:00	12	13	15
13:00	15	15	15
14:00	14	16	16
15:00	20	20	18
16:00	28	25	23
17:00	20	21	18
18:00	17	18	18
19:00	12	13	11
20:00	5	5	5
21:00	3	3	3
22:00	3	3	3
23:00	2	1	2
0700-1000	60	57	49
1600-1900	65	63	58

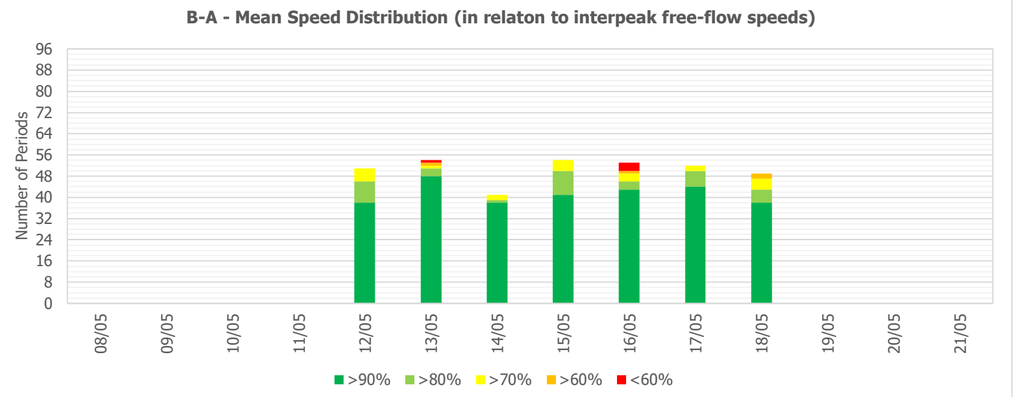




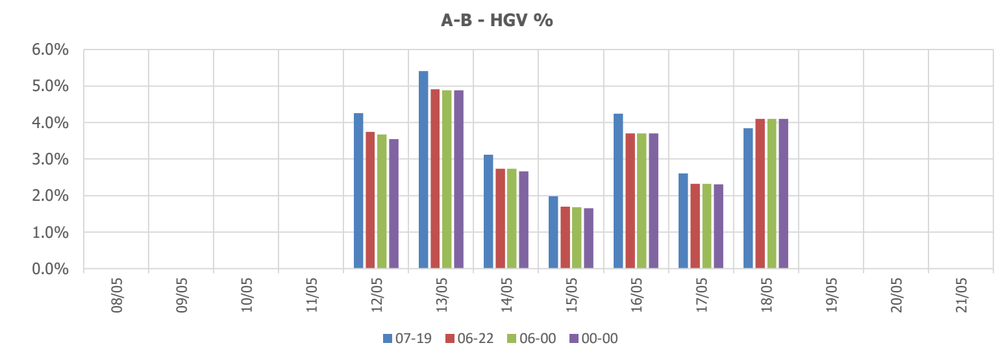


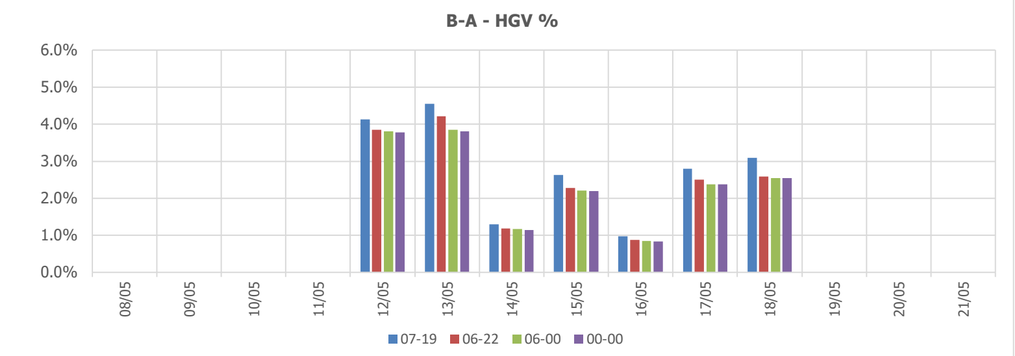
Mean Speed Distributions



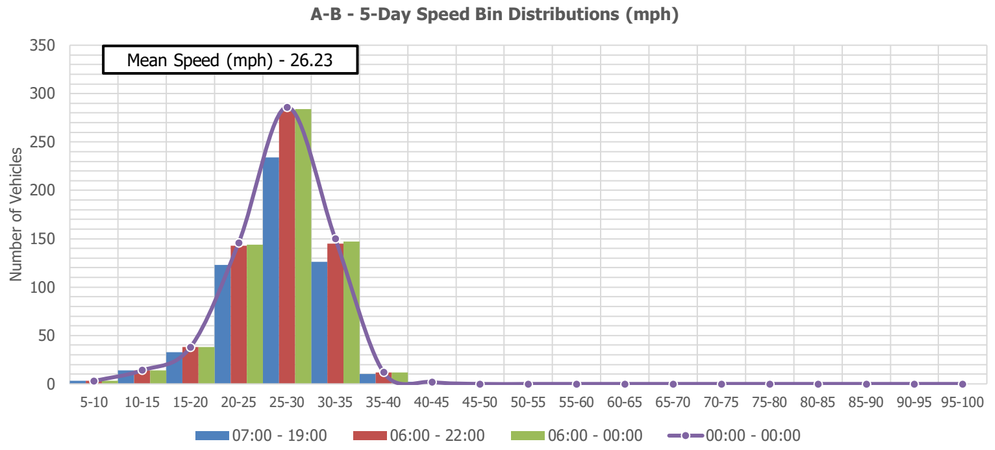


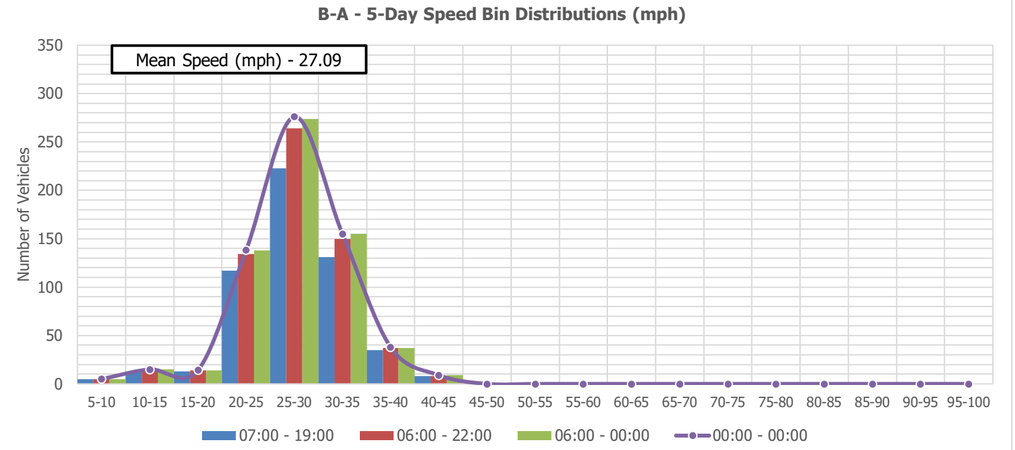
HGV%





Speed Bin Distributions





APPENDIX E – SCC HIGHWAYS PIC REPORT & STUDY AREA PLAN

Accidents between dates **01/03/2018 and 01/02/2023** (59) months
Selection: **Notes:**
Selected using Manual Selection

211061211 26/06/2021 Saturday Time 1005 Vehicles 2 Casualties 1 Slight
Fine without high winds Road surface Dry Daylight
Special Conditions None Road Type Single 2 lanes
VEHICLES TRAVELLING IN OPPOSITE DIRECTIONS. V1 HAS TURNED RIGHT AND GONE ACROSS PATH OF V2.

Occurred on THE STREET (B1066) AT JUNCTION WITH SOMERTON ROAD

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 2	Possible
2nd:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely
3rd:	Failed to judge other persons path or speed	Vehicle 1	Possible
4th:	Poor turn or manoevre	Vehicle 1	Possible
5th:	Exceeding speed limit	Vehicle 2	Possible
6th:	Road layout (eg bend, hill crest)	Vehicle 2	Possible

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Turning right
No skidding, jack-knifing or overturning
First point of impact Nearside Age of Driver 59 Breath test Negative
Vehicle direction NE to W

Journey Purpose: Journey as part of work

Vehicle Reference 2 Car Going ahead other
No skidding, jack-knifing or overturning
First point of impact Front Age of Driver 24 Breath test Negative
Vehicle direction S to NE

Journey Purpose: Other/Not known

Casualty Reference: 1 Age: 24 Female Driver/rider Severity: Slight

Accidents between dates **01/03/2018** **and** **01/02/2023** (59) months

Selection:

Selected using Manual Selection

Notes:

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	0	0	1	1
2-wheeled motor vehicles	0	0	0	0
Pedal cycles	0	0	0	0
Horses & other	0	0	0	0
Total	0	0	1	1

Casualties:

	Fatal	Serious	Slight	Total
Vehicle Driver	0	0	1	1
Passenger	0	0	0	0
Motorcyclist	0	0	0	0
Cyclist	0	0	0	0
Pedestrian	0	0	0	0
Other	0	0	0	0
Total	0	0	1	1

Accidents between dates **01/03/2018** **and** **01/02/2023** (59) months

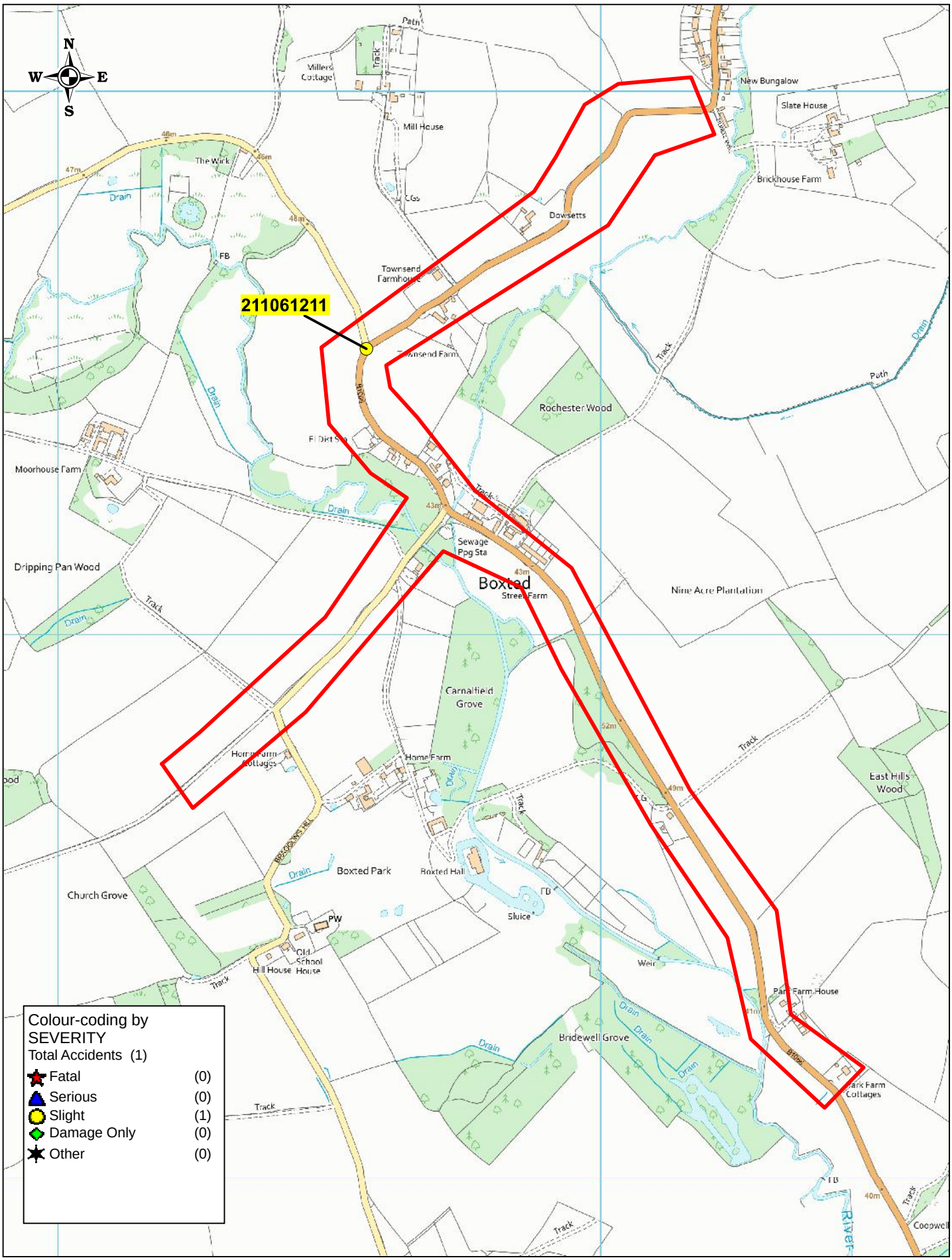
Selection:

Selected using Manual Selection

Notes:

Police Ref.	Acc Class	Date	Day	Time	Grid References	Casualties Ftl	Ser	Slt	Causation Factors/ Prob	Ped L M D	Light	Weather	Road Surface	Vehicle Types
211061211	Slight	26/06/2021	Sat	1005	582569 251525	0	0	1	405V2B 602V1A 406V1A 403V1B 306V2B 703V2B	0 0 0	Light	Fine without high winds	Dry	19 9
Column Totals	**Slight :** 1					0	0	0			**Light :** 1		**Dry :** 1	
	Serious : 0										**Dark :** 0		**Wet :** 0	
	Fatal : 0													

Total number of accidents listed: 1

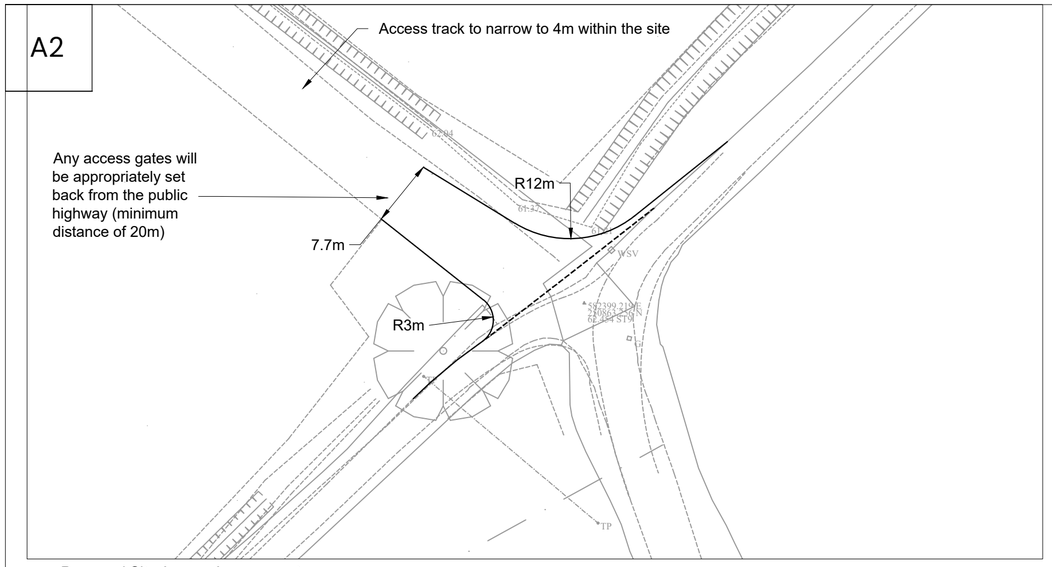


Pegasus_Boxted_010318-010223_Location Plan

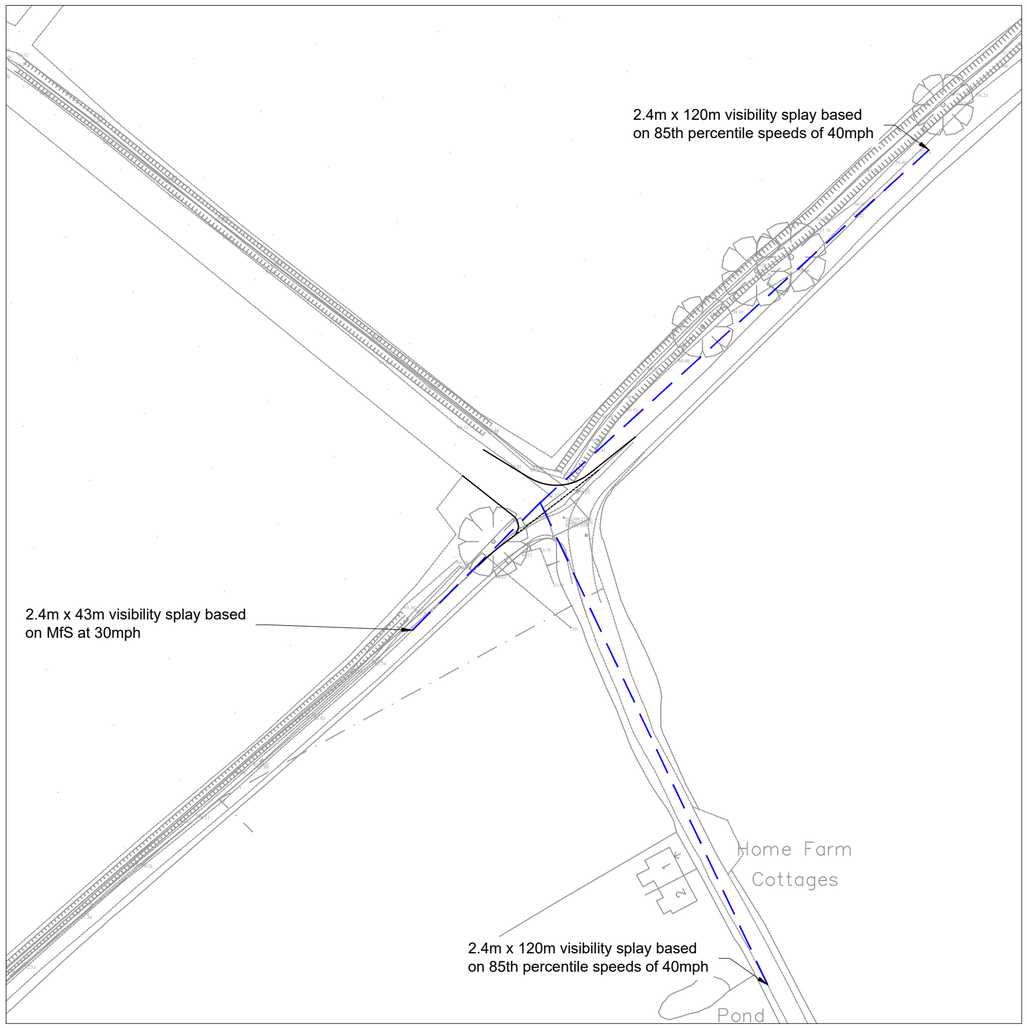
SCALE	1 : 9230
DATE	16/05/2023
DRAWING No.	
DRAWN BY	

APPENDIX F – DRAWING P21-2950 SK01: PROPOSED SITE ACCESS ARRANGEMENT AND PROPOSED CONSTRUCTION ROUTING PLAN

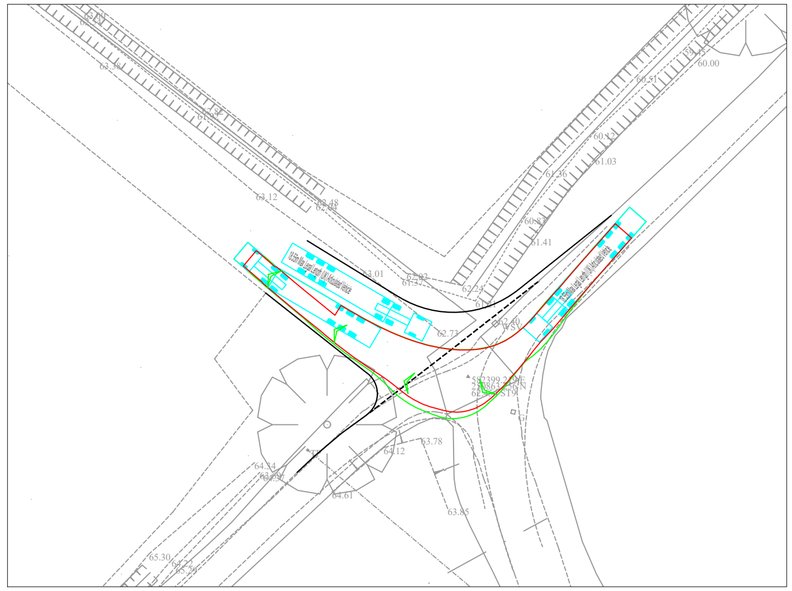
A2



Proposed Site Access Arrangement
Scale 1:500

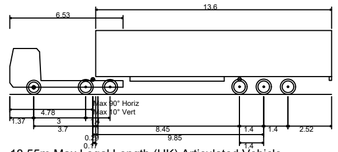


Visibility Splays from Proposed Site Access
Scale 1:1000



Swept Path Analysis of an 18.55m Articulated Vehicle ntering and gressing Proposed Site Access
Scale 1:500

N



18.55m Max Legal Length (UK) Articulated Vehicle

Overall Length	18.550m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

REV	DATE	DESCRIPTION	REVISED BY	APPROVED BY
A	26.10.2023	Access Sketch Updated	EH	JB

PROPOSED SITE ACCESS ARRANGEMENT

BOXTED SOLAR FARM, COLCHESTER

CLIENT:
RES LTD

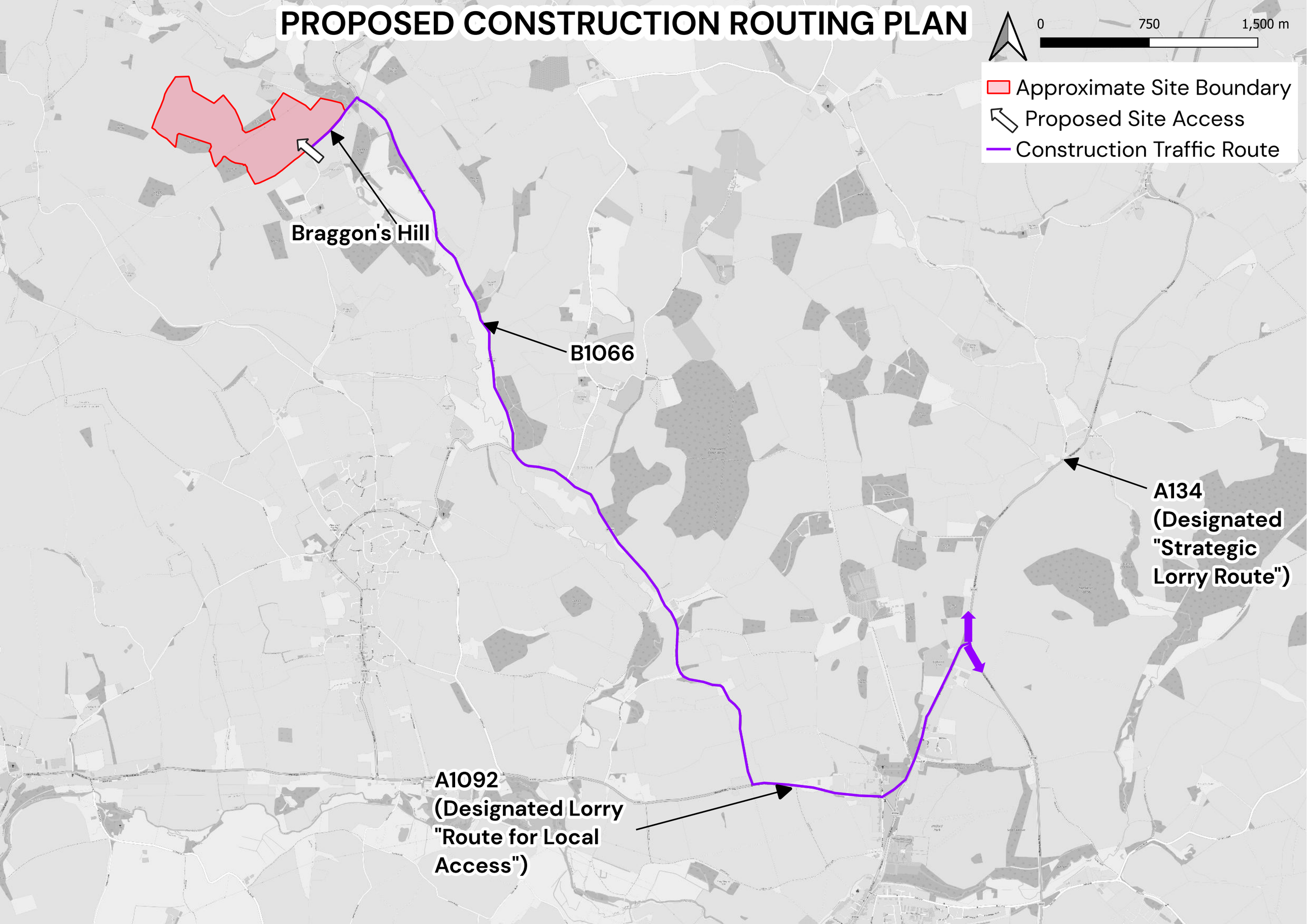
DATE:	SCALE:	DRAWN/CHECKED BY:	APPROVED BY:
28/09/2023	AS SHOWN	JAN	JB

DRAWING NUMBER: P21-2950 SK01

REVISION No: A

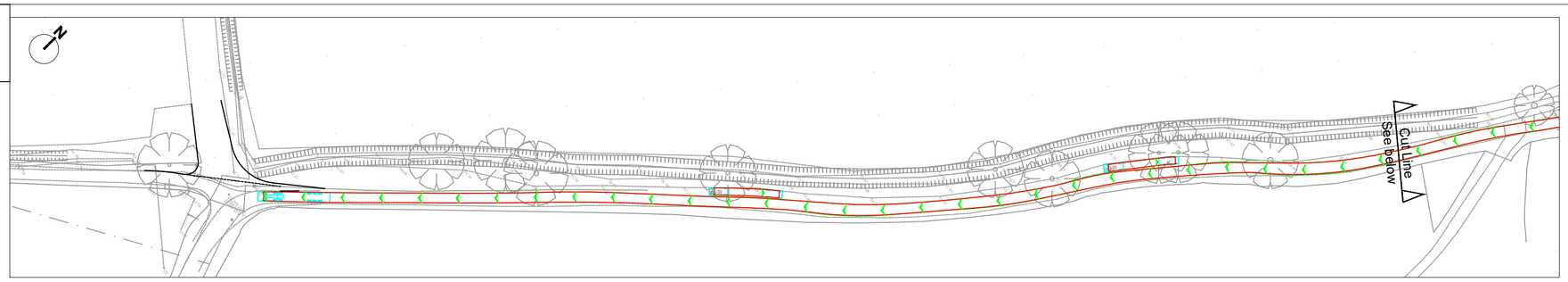
PEGASUS GROUP

PROPOSED CONSTRUCTION ROUTING PLAN

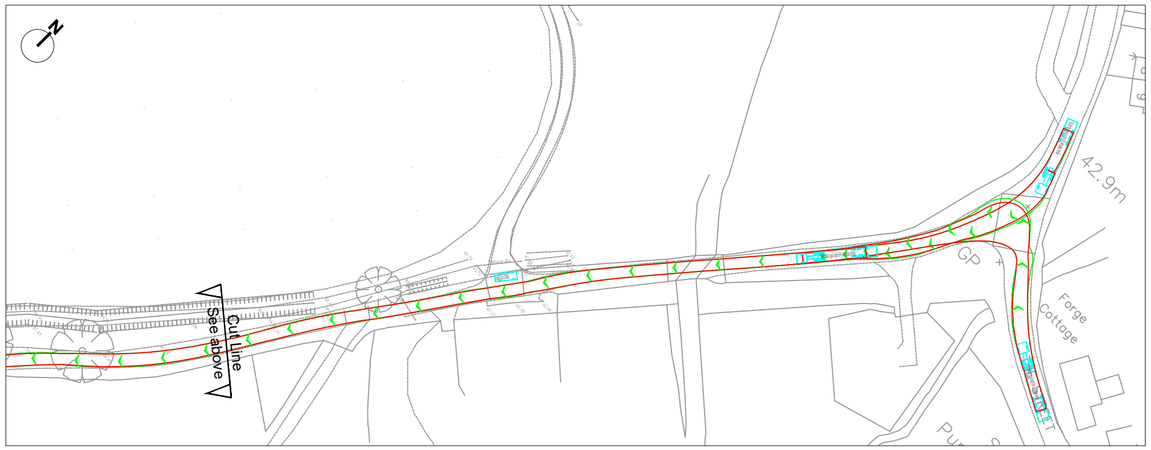


APPENDIX G – DRAWING P21-2950 SK02: SWEPT PATH ANALYSIS OF A 18.55m HGV

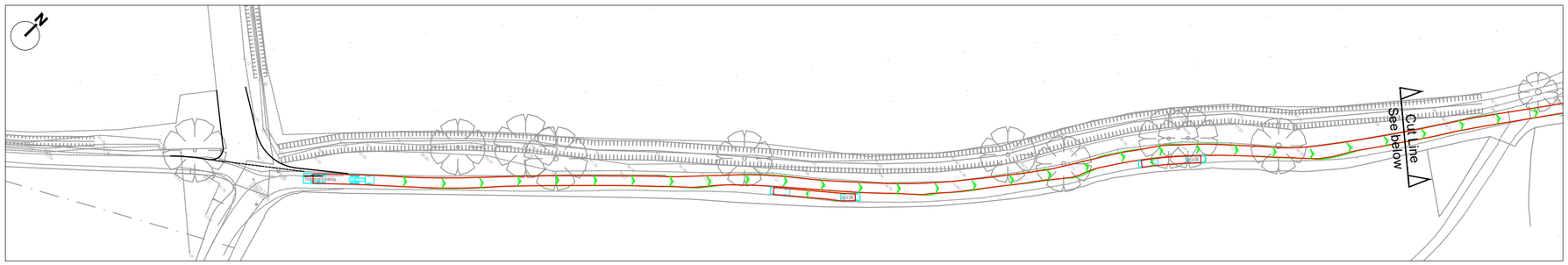
A2

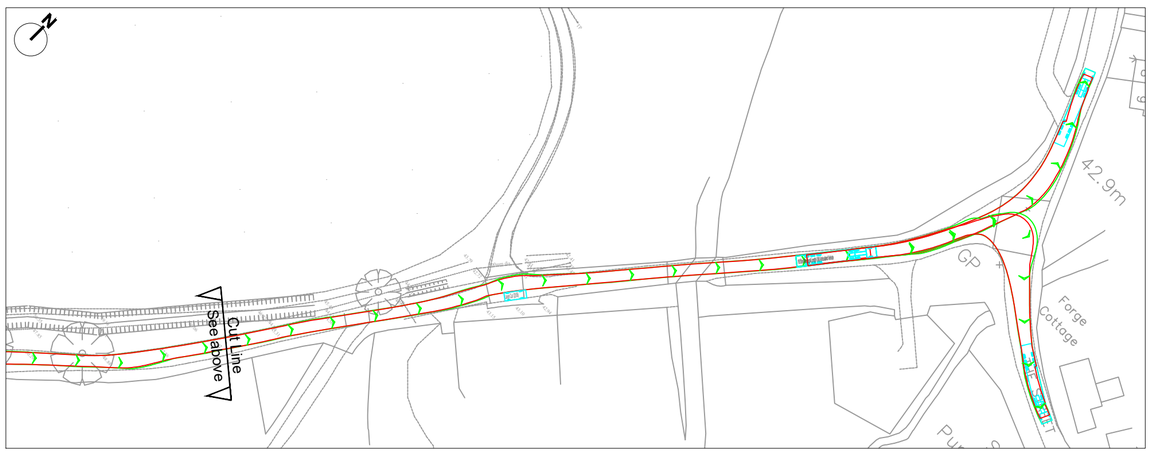


1:1000
0 25m 50m

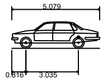


Swept Path Analysis of a 18.55m Articulated Vehicle Travelling Towards Site Access from B1066

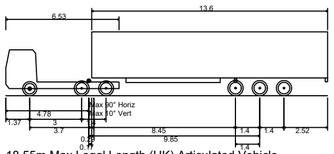




Swept Path Analysis of a 18.55m Articulated Vehicle Travelling Towards B1066 from Site Access



Large Car (2006)	
Overall Length	5.079m
Overall Width	1.872m
Overall Body Height	1.525m
Min Body Ground Clearance	0.310m
Max Track Width	1.831m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.900m



18.55m Max Legal Length (UK) Articulated Vehicle	
Overall Length	18.550m
Overall Width	2.550m
Overall Body Height	3.681m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.530m

REV	DATE	DESCRIPTION	REVISED BY	APPROVED BY
A	26.10.2023	Layout Updated	EH	JB

SWEPT PATH ANALYSIS OF A 18.55m ARTICULATED VEHICLE

BOXTED SOLAR FARM, COLCHESTER

CLIENT:
RES LTD

DATE:	SCALE:	DRAWN/CHECKED BY:	APPROVED BY:
28/09/2023	1:1000	JAN	JB

DRAWING NUMBER: P21-2950_SK02

REVISION No: A

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DESIGN | ECONOMICS | ENVIRONMENT | HERITAGE | LAND & PROPERTY | PLANNING | TRANSPORT & INFRASTRUCTURE

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